

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: William A. Lewis and John Watkins

1. Refer to the Application generally.
 - a. Provide an organizational chart of Kentucky American. Designate what city each position is located in within Kentucky, and indicate whether any position is vacant. If a position is based outside of Kentucky provide the city and state where it is located.
 - b. Provide an organizational chart of Kentucky American's parent company American Water Works Company, Inc. ("American Water"), and indicate whether any position is vacant. If a position is based outside of Kentucky provide the city and state where it is located.
 - c. Provide an organizational chart of the American Water Works Service Company ("Service Company"), which is a subsidiary of American Water, and indicate whether any position is vacant. If a position is based outside of Kentucky provide the city and state where it is located.
 - d. Provide an organizational chart that includes all of the parent companies/holding companies/affiliated companies that are associated with Kentucky American.
 - e. Provide a map of Kentucky American's water service area.
 - f. Provide a map of American Water's service area.

Response:

- a. Please refer to KAW_R_AGDR1_NUM001_081823_Attachment 1 for an organizational chart for Kentucky-American.
- b. American Water Works Company, Inc. (AWK) is the parent company and employees are in subsidiary companies.
- c. KAWC does not maintain an organization chart for the Service Company, however please refer to KAW_R_AGDR1_NUM001_081823_Attachment 2 for the current listing of open requisitions for Service Company.
- d. Please refer to KAW_R_AGDR1_NUM001_081823_Attachment 3 for the organizational chart Kentucky-American and all affiliated companies including AWK.



- e. Please refer to the Application within Exhibit A, Appendix A figure 2 on page 9 for Kentucky-American service territory.
- f. Please refer to KAW_R_AGDR1_NUM001_081823_Attachment 4 for a map of American Water's service area.



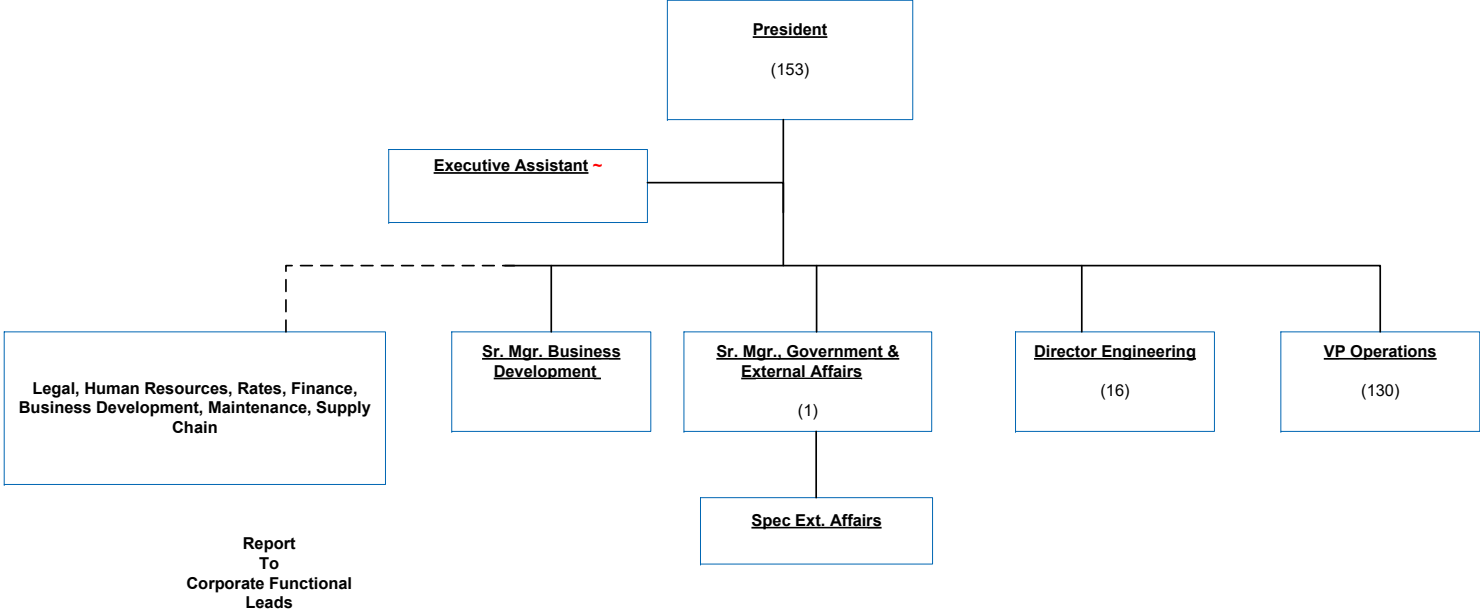
Kentucky

2023 ORGANIZATIONAL CHARTS

EFFECTIVE July 31, 2023

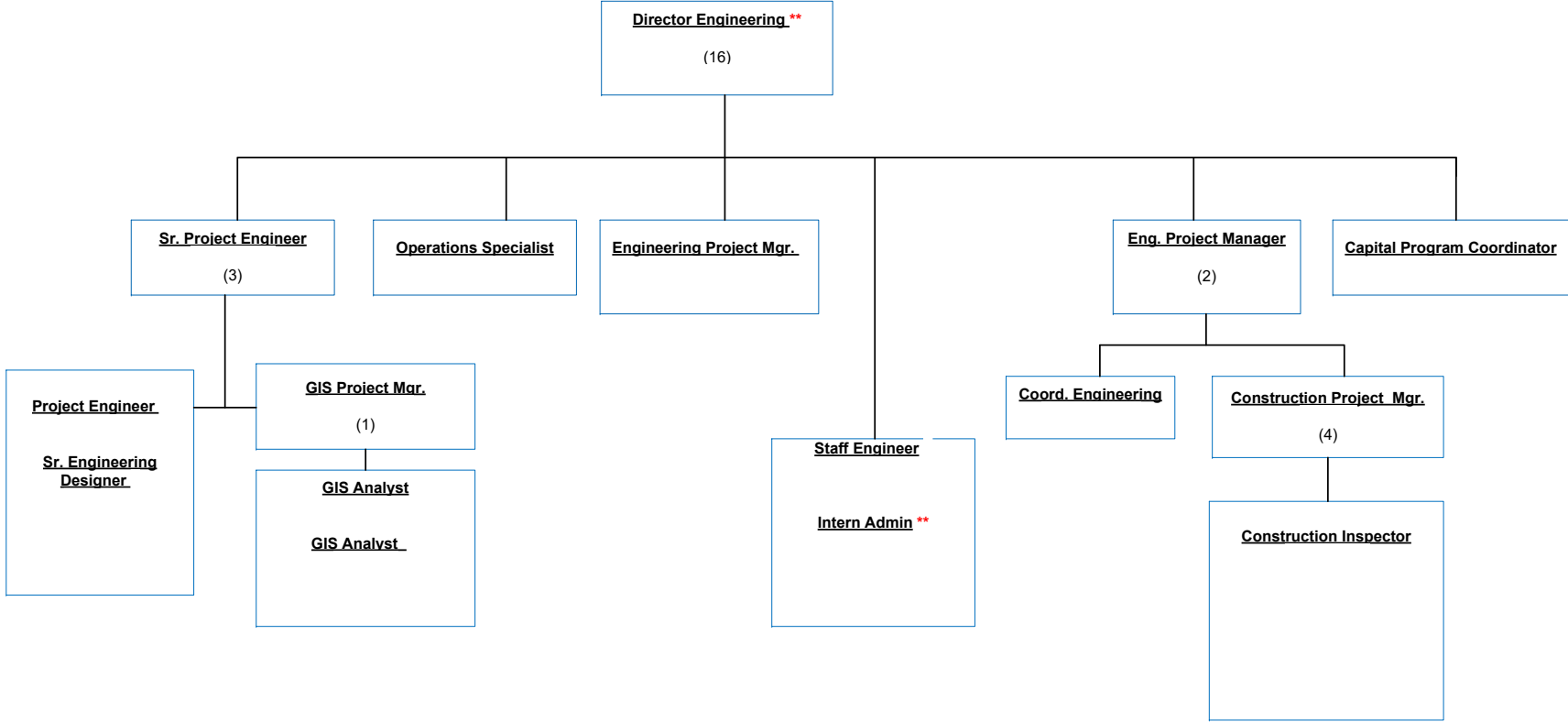
-  State
-  Service Company

Kentucky American Water Directors



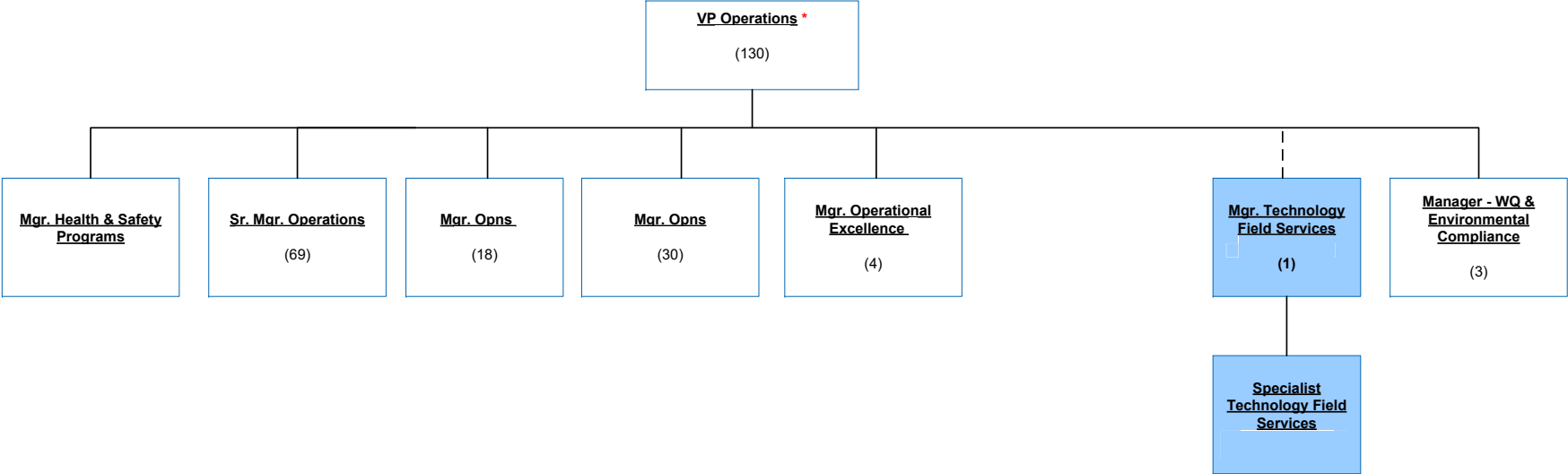
~Position also support the VP Operations – counted here

Kentucky American Water Engineering



**Position not counted here

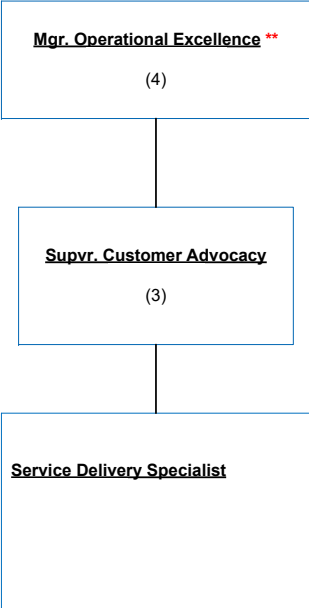
Kentucky American Water Operations



**Position not counted here

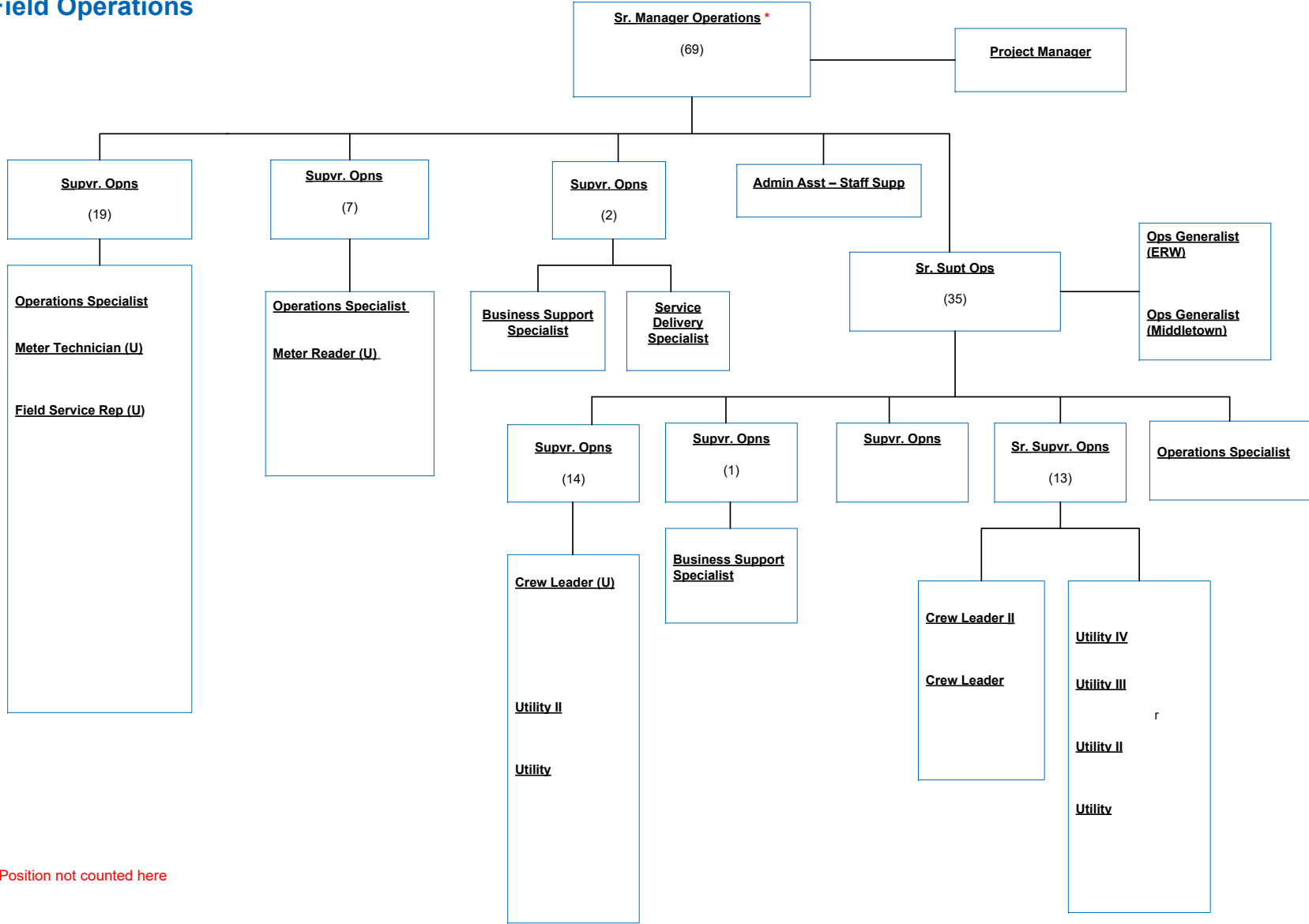
Kentucky American Water

Customer Accounts



**Position not counted here

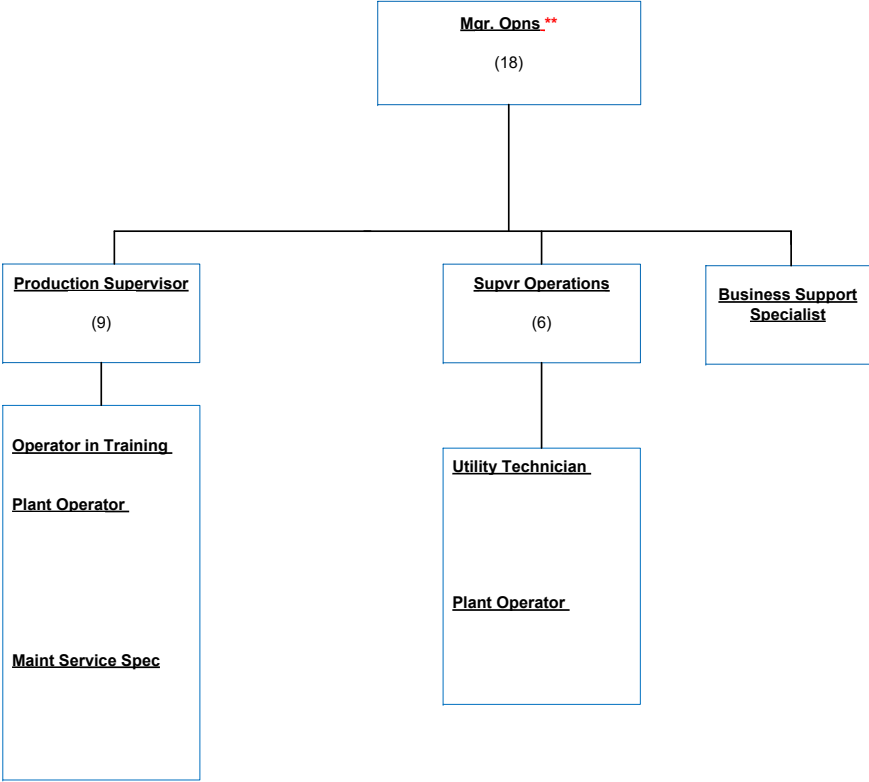
Kentucky American Water Field Operations



* Position not counted here

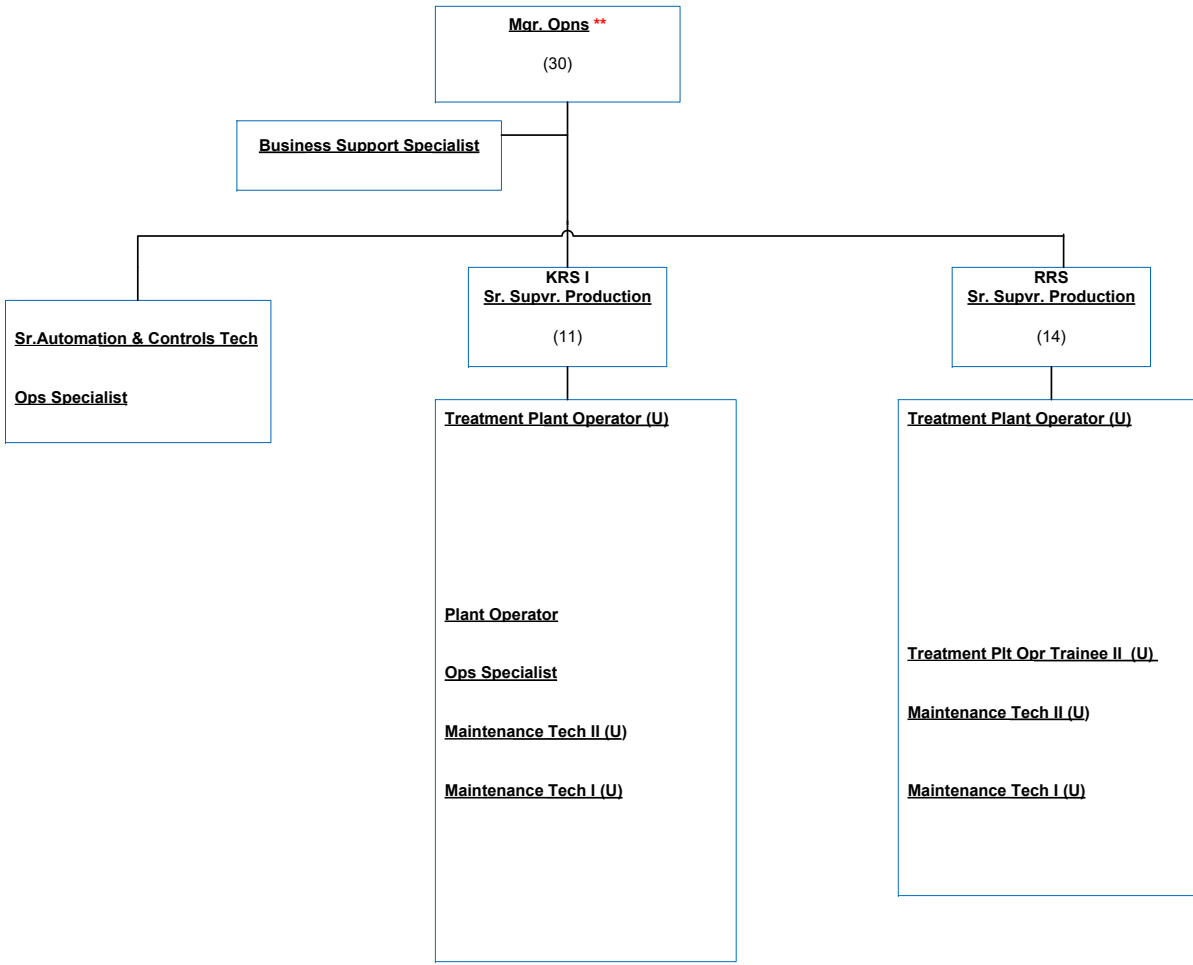
Kentucky American Water

Field Operations – Northern Division



**Position not counted here

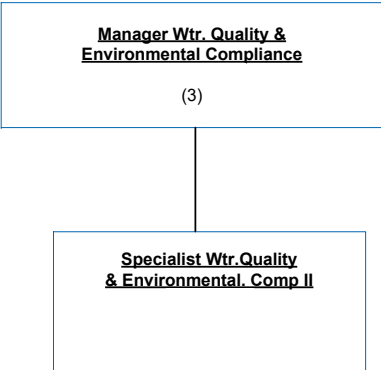
Kentucky American Water Production



** Position not counted on this page.

Kentucky American Water

Water Quality

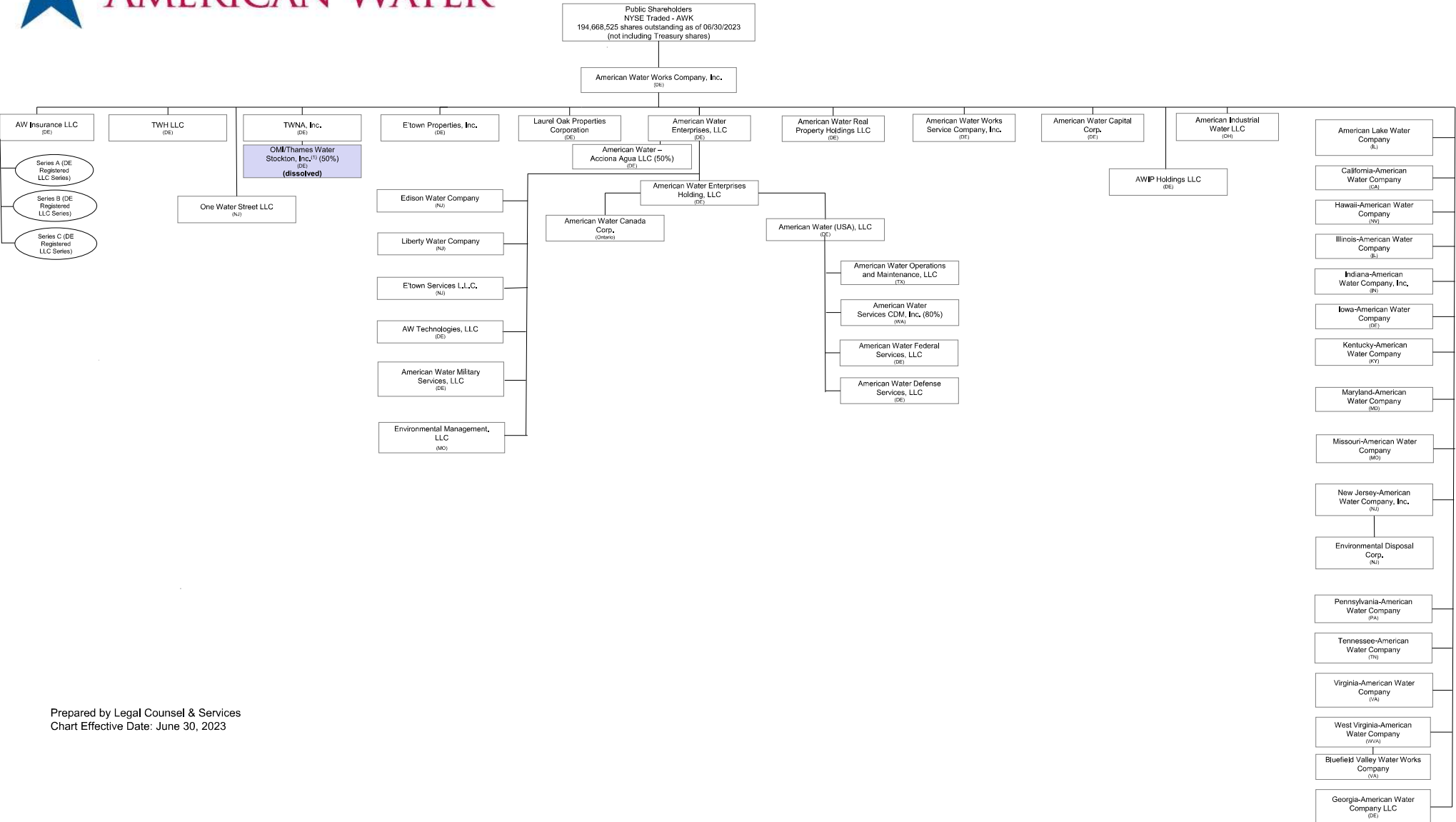


Kentucky-American Water Company
Case No. 2023-00191
Service Company Open Requisition

Salary Grade	Job Title	Location	Status	Division	Union Code	Functional Area
35	Internal Auditor III	NJSV-Camden (2430)	Open	Service Company	Non-Union	Finance
30	Internal Auditor II	NJSV-Camden (2430)	Open	Service Company	Non-Union	Finance
30	Paralegal	INSV-Greenwood (N Emerson) (2066)	Open	Service Company	Non-Union	Legal
35	Sr Financial Analyst	NJSV-Camden (2430)	Open	Service Company	Non-Union	Finance
40	Senior Technologist	NJSV-Camden (2430)	Open	Service Company	Non-Union	Information Technology
L99	Intern Ops	NJSV-Camden (2430)	Open	Service Company	Non-Union	Engineering
40	Senior Solution Engineer	NJSV-Camden (2430)	Open	Service Company	Non-Union	Information Technology
30	Financial Analyst	NJSV-Camden (2430)	Open	Service Company	Non-Union	Finance
30	Fleet Ops Specialist	SVAW-Remote (2456)	Open	Service Company	Non-Union	Supply Chain
30	Fleet Ops Specialist	SVAW-Remote (2456)	Open	Service Company	Non-Union	Supply Chain
30	Fleet Ops Specialist	SVAW-Remote (2456)	Open	Service Company	Non-Union	Supply Chain
35	Lead Accountant	NJSV-Camden (2430)	Open	Service Company	Non-Union	Finance
	CCATRIN	SVAW-Remote (2456)	Open	Service Company	UWUA_640 CSO	Customer Service
40	Supervisor Paralegal	NJSV-Camden (2430)	Open	Service Company	Non-Union	Legal
40	Supervisor Paralegal	NJSV-Camden (2430)	Open	Service Company	Non-Union	Legal
30	Paralegal	NJSV-Camden (2430)	Open	Service Company	Non-Union	Legal
40	Principal Regulatory Analyst	MOSV-St Louis (Craig Rd) (2104)	Open	Service Company	Non-Union	Rates & Regulatory Services
40	Senior Solution Engineer	NJSV-Camden (2430)	Open	Service Company	Non-Union	Information Technology
55	VP Operations (medium state)	VASV-Hopewell (2218)	Open	Service Company	Non-Union	Direct Operations
40	Principal Planning Engineer	NJSV-Camden (2430)	Open	Service Company	Non-Union	Engineering
40	Sr Planning Engineer	NJSV-Camden (2430)	Open	Service Company	Non-Union	Engineering
35	Technologist	NJSV-Camden (2430)	Open	Service Company	Non-Union	Information Technology
50	Director Rates and Regulatory	SVAW-Remote (2456)	Open	Service Company	Non-Union	Rates & Regulatory Services
45	Principal Acquisitions	NJSV-Camden (2430)	Open	Service Company	Non-Union	Finance
40	Senior Solution Engineer	NJSV-Camden (2430)	Open	Service Company	Non-Union	Information Technology

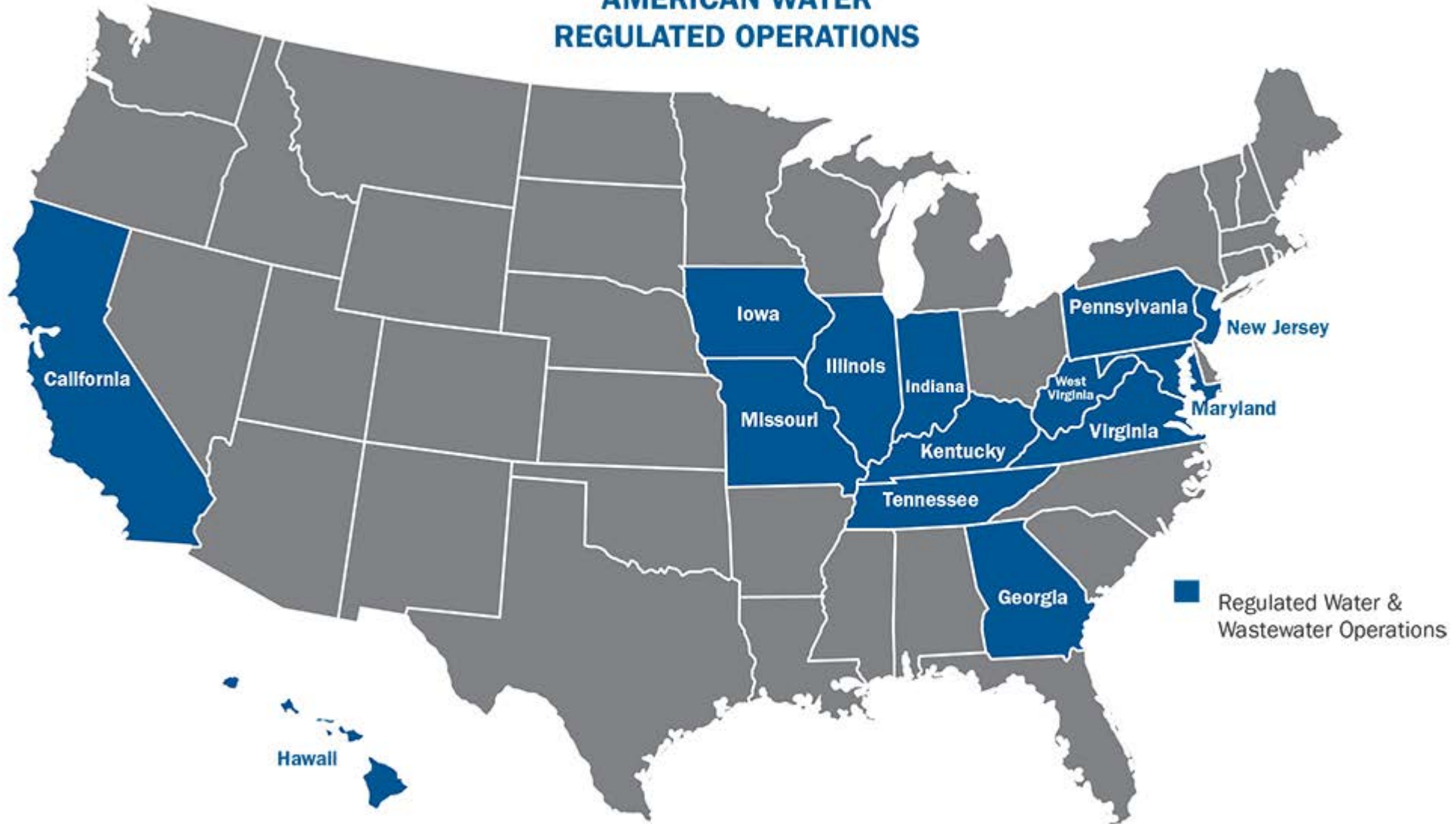


Organizational Chart – American Water Works Company, Inc.



Prepared by Legal Counsel & Services
Chart Effective Date: June 30, 2023

AMERICAN WATER REGULATED OPERATIONS



KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Charles Rea

2. Refer to the Application at 2, in which Kentucky American states that it provides water to its Central Division, consisting of Bourbon, Clark, Fayette, Harrison, Jessamine, Nicholas, Scott, and Woodford Counties; its Northern Division, consisting of Gallatin, Owen, Grant, and Franklin Counties; and, the Southern Division, consisting of Rockcastle and Jackson Counties.
 - a. Provide a detailed account of all economic issues that the Company's customers in the above-referenced counties are combating at the present time.
 - b. Provide Kentucky American's actual number of customers for 2013 – 2023, using the most updated data.
 - c. Explain in detail whether Kentucky American projects a future gain or loss of water customers, and provide copies of all projections concerning the same.
 - d. Provide Kentucky American's total annual water sales for the years 2013 – 2023, using the most updated data.
 - e. Explain whether Kentucky American expects annual water sales to increase or decrease, and provide copies of all projections concerning the same.
 - f. Based upon the most recent United States Census information, the poverty rates for Kentucky American's water service area are as follows:

Bourbon County – 15.1%,
Clark County – 11.6%,
Fayette County – 14.6%,
Harrison County – 14.1%,
Jessamine County – 13.8%,
Nicholas County – 16.5%,
Scott County – 9.5%,
Woodford County – 8.6%,
Gallatin County – 14.7%,
Owen County – 15.2%,

Grant County – 12.7%,
Franklin County – 13.3%,
Rockcastle County – 21.3%,
Jackson County 25.2%.¹

Confirm that Kentucky American is aware of the above percentages of its water customers who live at or below the poverty line.

Response:

- a. Economic issues facing Central Kentuckians are well documented. As examples, see the following:

<https://kypolicy.org/the-state-of-working-kentucky-2022/#:~:text=Job%20quality%20and%20opportunities%20lag,aid%20comes%20to%20an%20end>

<https://cber.uky.edu/news/2021/economic-impact-kentuckys-workforce>

<https://www.nku.edu/academics/cob/centers/cead.html>

- b. Please refer to the file labeled “KAWC 2023 Rate Case-Exhibits (25, 26, 37) Revenue WP Support” within the “Revenues” section of the .zip file included with the response labeled “KAW_R_PSCDR1_NUM001_071823.” Customer counts are included in this support file beginning in January of 2008 through March of 2023.
- c. Please refer to the file labeled “KAWC 2023 Rate Case-Exhibits (25, 26, 37) Revenue WP Support” within the “Revenues” section of the .zip file included with the response labeled “KAW_R_PSCDR1_NUM001_071823.” Columns C through J on the “KYAW Revenue” tab include detailed customer growth projections by meter size for each rate class.
- d. Please refer to the file labeled “KAWC 2023 Rate Case-Exhibits (25, 26, 37) Revenue WP Support” within the “Revenues” section of the .zip file included with the response labeled “KAW_R_PSCDR1_NUM001_071823.” Water Sales are included in this support file beginning in January of 2008 through March of 2023.
- e. Please refer to the file labeled “KAWC 2023 Rate Case-Exhibits (25, 26, 37) Revenue WP Support” within the “Revenues” section of the .zip file included with the response

¹<https://www.census.gov/quickfacts/fact/table/nicholascountykentucky,jessaminecountykentucky,harrisoncountykentucky,fayettecountykentucky,clarkcountykentucky,bourboncountykentucky/PST045222>;
<https://www.census.gov/quickfacts/fact/table/franklincountykentucky,grantcountykentucky,owencountykentucky,gallatincountykentucky,woodfordcountykentucky,scottcountykentucky/PST045222>;
<https://www.census.gov/quickfacts/fact/table/jacksoncountykentucky,rockcastlecountykentucky,US/PST045222>.

labeled “KAW_R_PSCDR1_NUM001_071823.” Columns C through J on the “KYAW Revenue” tab include detailed usage projections by rate class.

- f. Yes. The Company has provided an extensive analysis of the affordability of water service in this case which includes estimating the number of customers whose households incomes fall within different percentages of Federal Poverty Level by zip code.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: John Watkins

3. Refer to the Application generally. Provide the following information for Kentucky American employees, as well as all employees whose costs are allocated to Kentucky American, and separate each response by company/utility.
 - a. Provide the position title and salary for each exempt employee for the years 2018 – 2023, using the most updated data.
 - b. Provide the average raise that the exempt employees received for the years 2018 – 2023, using the most updated data. Ensure to explain whether the annual raise is directly connected to a performance review. If not, explain why not.
 - c. Provide the average bonus that each exempt employee received for the years 2018 – 2023, using the most updated data.
 - d. Provide all awards given to the exempt employees for the years 2018 – 2023, using the most updated data.
 - e. Provide all vehicle allowances given to the exempt employees for the years 2018 – 2023, using the most updated data.
 - f. Provide all incentive compensation given to the exempt employees for the years 2018 – 2023, using the most updated data.
 - g. Provide the average raise, if any, which will be given to exempt employees for 2024.
 - h. Provide a detailed explanation of the insurance benefits provided to the Company's exempt employees, including but not limited to health, dental, vision, life insurance, etc. Ensure to include all premiums paid by the Company's exempt employees, premiums paid by the Company or parent company on the exempt employees' behalf, as well as all copays, deductibles, and maximum out of pocket amounts.
 - i. Provide a detailed explanation of the retirement benefits provided to the Company's exempt employees, including but not limited to, whether there is a defined benefit plan, 401(k) matching, etc.
 - j. Provide the average employment tenure for exempt employees separately for each year 2018-2023.

- k. Explain whether any of the exempt employees are members of a union.

Response:

- a. Please refer to KAW_R_AGDR1_NUM003_081823_Attachment1_CONFIDENTIAL for the listing of position titles and salaries for each Kentucky-American exempt employee for the years 2018–2023 (pages 5-7). The total labor allocation from Service Company and position titles for the years 2018-2023 (pages 8+). The attachment is confidential and provided pursuant to a Petition for Confidential Protection.
- b. Please refer to the table below for the average raise provided to Kentucky-American exempt employees and Service Company employees (exempt and non-union hourly) for the years 2018-2023. The Company issues raises based on a performance review of each employee.

Salaried (Exempt)					
3/12/2018	3/11/2019	3/9/2020	3/8/2021	3/7/2022	3/6/2023
2.86%	3.29%	2.85%	3.13%	3.18%	3.25%

Service Company					
3/12/2018	3/11/2019	3/9/2020	3/8/2021	3/7/2022	3/6/2023
2.73%	2.61%	2.70%	3.11%	3.20%	3.30%

- c. Please refer to KAW_R_AGDR1_NUM003_081823_Attachment2_CONFIDENTIAL for the average referral, discretionary and sign-on bonuses per exempt employee during the years 2018-2023 for both Kentucky-American (page 1) and Service Company (page 2). Please note the Service Company amounts are before any allocation to the affiliates. The attachment is confidential and provided pursuant to a Petition for Confidential Protection.
- d. Please refer to KAW_R_AGDR1_NUM003_081823_Attachment3_CONFIDENTIAL for the listing of all awards received by exempt employees for the years 2018-2023 for both Kentucky-American (pages 1-2) and Service Company (pages 3+). Please note the Service Company amounts are before any allocation to the affiliates. The attachment is confidential and provided pursuant to a Petition for Confidential Protection.
- e. No vehicle allowances were given to Kentucky-American exempt employees or employees that allocate costs to Kentucky-American during the time period specified.
- f. Please refer to KAW_R_AGDR1_NUM003_081823_Attachment4_CONFIDENTIAL for the

performance pay paid to exempt employees during the years 2018-2023. Please refer to attachment KAW_R_AGDR1_NUM003_081823_Attachment1_CONFIDENTIAL for the Service Company performance pay paid to employees that was allocated to Kentucky-American. The attachments are confidential and provided pursuant to a Petition for Confidential Protection.

- g. The projected 2024 average raise given to Kentucky-American exempt employees will be 3.15%. The projected 2024 average raise given to Service Company employees will be 3.14%.
- h. Please refer to the Company's response to KAW_R_PSCDR1_NUM039_071823.
- i. Please refer to the Company's response to KAW_R_PSCDR1_NUM042_071823.
- j. Please refer to KAW_R_AGDR1_NUM003_081823_Attachment5 for the average tenure of Kentucky-American exempt employees (page 1) and Service Company employees (page 2) for the years 2018-2023.
- k. Exempt employees are not members of a union.

KAW_R_AGDR1_NUM003
Employee Salary by Position

Employee Type	Job	2018	2019	2020	2021	2022	2023
AW Union	Field Service Rep 32BJ KY						
AW Union	Treatment Plt Opr 32BJ KY U511						
AW Union	Field Service Rep F3200						
AW Union	Treatment Plt Opr F3200 U511						
AW Union	Field Service Rep F3200						
AW Union	Field Service Rep F3200						
AW Union	Treatment Plt Opr 32BJ KY U511						
AW Union	Field Service Rep F3200						
AW Union	Meter Technician F3200						
AW Union	Treatment Plt Opr 32BJ KY U511						
AW Union	Treatment Plt Opr 32BJ KY U511						
AW Union	Field Service Rep F3200						
AW Union	Field Service Rep F3200						
AW Union	Treatment Plant Operator Utility SS F320						
AW Union	Field Service Rep 32BJ KY						
AW Union	Field Service Rep F3200						
AW Union	Field Service Rep 32BJ KY						
AW Union	Treatment Plt Opr F3200 U511						
AW Union	Meter Technician 32BJ KY						
AW Union	Meter Reader F3200						
AW Union	Field Service Rep 32BJ KY						
AW Union	Field Service Rep 32BJ KY						
AW Union	Field Service Rep 32BJ KY						
AW Union	Field Service Rep 32BJ KY						
AW Union	Field Service Rep 32BJ KY						
AW Union	Field Service Rep 32BJ KY						
AW Union	Field Service Rep 32BJ KY						
AW Union	Field Service Rep 32BJ KY						
AW Union	Field Service Rep F3200						
AW Union	Utility F3200						
AW Union	Treatment Plt Opr 32BJ KY U511						
AW Union	Meter Reader F3200						
AW Union	Field Service Rep 32BJ KY						
AW Union	Meter Technician 32BJ KY						
AW Union	Crew Leader II F3200						
AW Union	Field Service Rep F3200						

KAW_R_AGDR1_NUM003
Employee Salary by Position

Employee Type	Job	2018	2019	2020	2021	2022	2023
AW Union	Treatment Plt Opr 32BJ KY U511						
AW Union	Field Service Rep 32BJ KY						
AW Union	Crew Leader 32BJ KY & U335P						
AW Union	Treatment Plt Opr 32BJ KY U511						
AW Union	Treatment Plt Opr 2 F3200						
AW Union	Utility IV 32BJ KY						
AW Union	Utility F3200						
AW Union	Meter Reader F3200						
AW Union	Treatment Plt Opr 32BJ KY U511						
AW Union	Crew Leader 32BJ KY & U335P						
AW Union	Treatment Plt Opr 32BJ KY U511						
AW Union	TREATMENT PLANT OPERATOR 3S F3200						
AW Union	Treatment Plt Opr 32BJ KY U511						
AW Union	Maintenance Technician I 32BJ KY						
AW Union	Meter Reader 32BJ KY						
AW Union	TREATMENT PLANT OPERATOR 3S F3200						
AW Union	Field Service Rep 32BJ KY						
AW Union	Maintenance Technician I 32BJ KY						
AW Union	Crew Leader II F3200						
AW Union	Field Service Rep 32BJ KY						
AW Union	Treatment Plt Opr 32BJ KY U511						
AW Union	Crew Leader 32BJ KY & U335P						
AW Union	Crew Leader 32BJ KY & U335P						
AW Union	Meter Reader 32BJ KY						
AW Union	Meter Reader 32BJ KY						
AW Union	Crew Leader 32BJ KY & U335P						
AW Union	Crew Leader 32BJ KY & U335P						
AW Union	Field Service Rep 32BJ KY						
AW Union	Utility F3200						
AW Union	Treatment Plt Opr 32BJ KY U511						
AW Union	Crew Leader 32BJ KY & U335P						
AW Union	Utility F3200						
AW Union	Treatment Plt Opr 32BJ KY U511						
AW Union	Treatment Plant Operator Trainee II						
AW Union	Utility III 32BJ KY						
AW Union	Crew Leader 32BJ KY & U335P						

KAW_R_AGDR1_NUM003
Employee Salary by Position

Employee Type	Job	2018	2019	2020	2021	2022	2023
AW Union	Treatment Plt Opr 32BJ KY U511						
AW Union	Maintenance Technician II 32BJ KY						
AW Union	Crew Leader I F3200						
AW Union	Utility IV 32BJ KY						
AW Union	Utility F3200						
AW Union	Utility IV 32BJ KY						
AW Union	Utility IV 32BJ KY						
AW Union	Meter Reader 32BJ KY						
AW Union	Utility II 32BJ KY						
AW Union	Maintenance Technician I 32BJ KY						
AW Union	Utility F3200						
AW Union	Utility IV 32BJ KY						
AW Union	Treatment Plt Opr 32BJ KY U511						
AW Union	Utility F3200						
AW Union	Utility 32BJ KY						
AW Union	Meter Reader 32BJ KY						
AW Union	Treatment Plt Opr 32BJ KY U511						
AW Union	Utility 32BJ KY						
AW Union	Utility 32BJ KY						
AW Union	Utility 32BJ KY						
AW Union	Treatment Plt Opr 32BJ KY U511						
AW Union	Treatment Plt Opr 32BJ KY U511						
AW Union	Utility 32BJ KY						
AW Union	Meter Reader 32BJ KY						
AW Union	Meter Reader 32BJ KY						
AW Union	Utility 32BJ KY						
AW Union	Utility 32BJ KY						
AW Union	Crew Leader 32BJ KY & U335P						
AW Union	Utility 32BJ KY						
AW Union	Treatment Plt Opr 32BJ KY U511						
AW Union	Utility 32BJ KY						
AW Union	Treatment Plt Opr 32BJ KY U511						
Hrly Non Union	Operations Specialist						
Hrly Non Union	Specialist Engrg (N)						
Hrly Non Union	Exec Asst (N)						

KAW_R_AGDR1_NUM003
Employee Salary by Position

Employee Type	Job	2018	2019	2020	2021	2022	2023
Hrly Non Union	Sr Spec Cross Connect (N)						
Hrly Non Union	Construction Inspector						
Hrly Non Union	Operations Specialist						
Hrly Non Union	Specialist Engrg (N)						
Hrly Non Union	Clerk Opns (N)						
Hrly Non Union	Plant Operator						
Hrly Non Union	Operations Specialist						
Hrly Non Union	Operations Generalist						
Hrly Non Union	Operations Specialist						
Hrly Non Union	Business Support Specialist						
Hrly Non Union	Operations Specialist						
Hrly Non Union	Business Support Specialist						
Hrly Non Union	Utility Technician						
Hrly Non Union	Operations Technician						
Hrly Non Union	Clerk Opns (N)						
Hrly Non Union	Technician Production (N)						
Hrly Non Union	Specialist Service Delivery						
Hrly Non Union	Operations Specialist						
Hrly Non Union	Plant Operator						
Hrly Non Union	Admin Asst - Staff Supp (N)						
Hrly Non Union	Construction Inspector						
Hrly Non Union	Plant Operator						
Hrly Non Union	Specialist Service Delivery						
Hrly Non Union	Specialist Service Delivery						
Hrly Non Union	Operations Specialist						
Hrly Non Union	Plant Operator						
Hrly Non Union	Operations Technician						
Hrly Non Union	Operations Generalist						
Hrly Non Union	Maint Service Specialist						
Hrly Non Union	Technician Production (N)						
Hrly Non Union	Construction Inspector						
Hrly Non Union	Plant Operator						
Hrly Non Union	Business Support Specialist						
Hrly Non Union	Construction Inspector						
Hrly Non Union	Exec Asst (N)						
Hrly Non Union	Operations Generalist						

KAW_R_AGDR1_NUM003
Employee Salary by Position

Employee Type	Job	2018	2019	2020	2021	2022	2023
Hrly Non Union	Sr Automation & Controls Tech						
Hrly Non Union	Specialist Service Delivery						
Hrly Non Union	Operations Specialist						
Hrly Non Union	Utility Technician						
Hrly Non Union	Construction Inspector						
Hrly Non Union	Operations Technician						
Hrly Non Union	Operations Technician						
Hrly Non Union	Plant Operator						
Hrly Non Union	Operations Technician						
Hrly Non Union	Utility Technician						
Hrly Non Union	Utility Technician						
Hrly Non Union	Plant Operator						
Hrly Non Union	Clerk Opns (N)						
Hrly Non Union	Operations Generalist						
Hrly Non Union	Intern Ops						
Hrly Non Union	Operations Specialist						
Hrly Non Union	Utility Technician						
Hrly Non Union	GIS Analyst						
Hrly Non Union	Specialist Service Delivery						
Hrly Non Union	Plant Operator						
Hrly Non Union	Coord Engrg (N)						
Hrly Non Union	Sr Automation & Controls Tech						
Hrly Non Union	Admin Asst - Staff Supp (N)						
Hrly Non Union	Business Support Specialist						
Hrly Non Union	Operations Generalist						
Hrly Non Union	Operations Generalist						
Hrly Non Union	GIS Analyst						
Hrly Non Union	Intern Admin						
Hrly Non Union	Intern Admin						
Hrly Non Union	Intern Admin						
Hrly Non Union	Operator in Training						
Hrly Non Union	Operations Generalist						
Hrly Non Union	Specialist Service Delivery						
Hrly Non Union	Utility Technician						
Salaried Exempt	Sr Manager, Government and External Affa						
Salaried Exempt	Spec Wtr Qlty & Env Compl II						

KAW_R_AGDR1_NUM003
Employee Salary by Position

Employee Type	Job	2018	2019	2020	2021	2022	2023
Salaried Exempt	Sr Supvr Operations						
Salaried Exempt	Capital Program Coordinator						
Salaried Exempt	Mgr Business Performance						
Salaried Exempt	Sr Supt Opns						
Salaried Exempt	Supvr Production						
Salaried Exempt	GIS Project Manager						
Salaried Exempt	Supvr Opns						
Salaried Exempt	Sr Mgr Operations						
Salaried Exempt	Supvr Opns						
Salaried Exempt	Sr Engineering Designer						
Salaried Exempt	Project Manager						
Salaried Exempt	Sr Supervisor Production						
Salaried Exempt	VP Operations (Large 2)	0	150	0	0	34,784	168,521
Salaried Exempt	Sr Supt Opns						
Salaried Exempt	Construction Project Manager						
Salaried Exempt	VP Operations (Large 2)	0	114,603	193,247	169,553	159,981	14,700
Salaried Exempt	Mgr Customer Accounts						
Salaried Exempt	Sr Mgr Operations						
Salaried Exempt	Capital Program Coordinator						
Salaried Exempt	VP Operations (Large 2)	161,323	119,360	20,353	12,676	0	0
Salaried Exempt	Supvr Opns						
Salaried Exempt	Spec Ext Affairs						
Salaried Exempt	Supvr Opns						
Salaried Exempt	Supvr Opns						
Salaried Exempt	Sr Supt Production						
Salaried Exempt	Dir Engineering						
Salaried Exempt	Sr Project Engineer						
Salaried Exempt	Supvr Opns						
Salaried Exempt	Supvr Opns						
Salaried Exempt	Spec Wtr Qlty & Env Compl II						
Salaried Exempt	Supt Opns II						
Salaried Exempt	Mgr Opns						
Salaried Exempt	Supvr Cross Connection						
Salaried Exempt	Mgr Health and Safety Programs						
Salaried Exempt	Spec Wtr Qlty & Env Compl II						
Salaried Exempt	Mgr Operational Excellence						

KAW_R_AGDR1_NUM003
Employee Salary by Position

Employee Type	Job	2018	2019	2020	2021	2022	2023
Salaried Exempt	Sr Supvr Operations						
Salaried Exempt	Sr Supervisor Production						
Salaried Exempt	Dir Govt Affairs (State)						
Salaried Exempt	Engineering Project Manager						
Salaried Exempt	Sr Project Engineer						
Salaried Exempt	Staff Engineer						
Salaried Exempt	Project Engineer						
Salaried Exempt	Supvr Customer Advocacy						
Salaried Exempt	Supvr Production						
Salaried Exempt	Mgr Health and Safety Programs						
Salaried Exempt	Supvr Opns						
Salaried Exempt	Sr Supt Opns						
Salaried Exempt	Dir Govt Affairs (State)						
Salaried Exempt	Sr Mgr Business Dev						
Salaried Exempt	Manager WQ & Env Compliance						
Salaried Exempt	Capital Program Coordinator						
Salaried Exempt	Spec Wtr Qlty & Env Compl II						
Salaried Exempt	President Large 2 State	0	0	0	0	384,073	249,868
Salaried Exempt	Engineering Project Manager						

Kentucky-American Water Company
Case No. 2023-00191
2018 Service Company Labor Allocations and Position Titles

Total 2018 Service Company Labor (incl. benefits) Allocation to Kentucky-American	\$5,105,878
Total 2018 Service Company Performance Pay Allocation to Kentucky-American	\$1,127,376
Total 2018 Service Company Labor Allocation to Kentucky-American	\$6,233,254

Employee Number	Position Title
60003452	Software Engineer
60003481	Software Engineer
60002614	Software Deployment Analyst ITS
60000992	Senior Technologist
60001296	Sr Category Lead
60002299	Principal Technologist
50326971	Regulatory Analyst
50380815	Insurance Claims Rep
50231146	Accountant II Cash Management
60001437	Technologist
50392907	Sr Eng Auto & Controls (SCADA)
50290616	Sr. Engineering Analyst
60000279	Technology Compliance Analyst
50542823	Principal Technologist
24007572	Manager Inventory and Investment Recover
50604492	Lead Capital Management ITS
60003061	Senior Technologist
50439320	Manager Corporate Comm & EA
60002491	Customer Exp Proj Mgr
60002012	Instructional Designer
3003464	Cash Management Specialist II (N)
60001553	Senior Technologist
60002411	Financial Analyst III
60001792	HR Recruiter
50396021	Senior Security Technology Sp
60002302	Principal Technologist
60002856	Scientist
50131871	Principal Technologist
60003265	Scientist
60001789	Senior Business Process Consultant
60003184	Manager, Plant Accounting
50627746	Technology Process Expert

50178396	Sr Telecomm Technician-Engr
60001658	Infrastructure Engineer
60002787	Intern - Accounting
50027598	Sr. Manager Regulatory Services
50220148	Category Manager
18507395	Sr. Regulatory Analyst
50015337	Senior Technologist
60000451	Senior Systems Administrator I
60002484	Principal Technologist
24018333	Sr Systems Administrator ITS
50277448	Learning Specialist
50392608	Sr Application Security Analyst
3016148	Principal Scientist
60001180	Transactional Buyer
60001562	Principal Technologist
50405288	Supply Chain Bus Intelligence Analyst
60000970	Principal Infrastructure Engineer
50449965	Accounts Payable Specialist II (N)
60001204	Accountant III
50333201	Accountant IV
50062328	Cash Management Specialist II (N)
50566912	EAM Project Manager
50099158	Sr. Manager Regulatory Services
50383035	Principal Technologist
3000370	Dir Engineering Asset Planning
50210614	VP Engineering (Corp)
60003160	Senior Technologist
60002356	Tax Accountant IV
60001580	Sr Buyer
18611053	Senior Technologist
50550472	Senior Program Coordinator
60003395	Supply Chain Support Analyst
50069219	Dir Technology Expense Management
3016948	Sr. Dir Fin Analysis & Decision Support
18506755	Cash Management Specialist III (N)
60002335	Tech I Client Support ITS
50085802	Sr Analyst Client Technology ITS
3000457	Sr. Regulatory Analyst
50300150	Regulatory Analyst
50547601	Capital Management Analyst II
60000934	Sr Systems Administrator ITS
50634743	Tax Accountant III
60002896	Buyer
3015077	Lead Computer Operator ITS (N)
60001984	Accts Payable Specialist I (N)
60002483	Senior Business Process Consultant
60001976	Fin Analyst IIB

60001695	Security Specialist
60002495	Accountant III
60001145	Network Technician Engineer
50011032	Accountant III
50269681	Internal Auditor III
3017979	Accounts Payable Specialist I (N)
50387614	Divisional Controller
60000549	Principal Reg Analyst
50323974	Principal Product Manager
50310166	Sr Program Mgr, Safety & Health
18506915	Supply Chain Support Analyst
51000252	Infrastructure Engineer
60001955	Accts Payable Spec II
60003461	Internal Auditor III
3015900	Principal Technologist
50383273	Mgr Accounting Operations
50293021	Manager ITS
60002634	Senior Software Engineer
3017573	Sr Mgr Supply Chain Support
3002566	Divisional Controller
60002640	Senior Software Engineer
3017515	Accounts Payable Specialist III (N)
50654149	Software Engineer
60001010	Accountant IV
60001269	Exec Admin
50087113	Senior Technologist
50115035	Reliability Eng Manager
50200813	Financial Analyst III
51000567	Principal Product Manager
60002002	EAM Project Mgr
50414550	Contract Analyst
50485334	Technologist
50541813	Sr Reliability Engineering Analyst
50146191	Sr Category Lead
51000271	Mgr Treasury Corporate Finance
50480255	Lead Database Analyst ITS
50568165	Supervisor Cash Management
3017576	Sr EAM Project Manager
50437062	Principal Product Manager
50579647	Senior Product Manager
60003413	Software Engineer
50478575	Senior Security Technology Sp
50077256	Mgr Cash Management
60002332	Intern Admin
60003381	Software Engineer
60003323	Senior Technologist
50289586	Mgr Budgeting & Intl Reporting

60002339	Accountant III
50140811	Senior Technologist
60003412	Senior Infrastructure Engineer
50315421	Principal Regulatory Analyst
60003393	Senior Technologist
60002218	Manager Health & Safety Prog
50566911	Sr Manager Regulatory Servs
60003171	Tax Accountant II
50135657	Senior Technologist
50559013	Service Level Analyst
60002503	Senior Technologist
60001436	Sr Technical Architect ITS
60002295	Financial Analyst IIA
18507504	Analyst Capital Management ITS
50239365	Accounts Payable Specialist II (N)
60000378	Senior Software Engineer
60002229	Intern Admin
50499769	Accountant II
60000881	Senior Technologist
50409428	Financial Analyst III
50233802	Technology Governance Process Analys
60002407	Sr EAM Project Manager
50300204	Sr Mgr Rates and Regulatory
50654123	Accountant III
60002630	Technologist
50409494	Executive Projects Coord
50437054	Internal Auditor III
50649586	Director Meter Operations
50477607	Infrastructure Engineer
50244425	Tax Specialist II
50332087	Sr Sys Admin ITS
50164869	Dir Acquisitions & Investments
50575289	Tech Client Technology ITS
50408293	Infrastructure Engineer
50444433	Senior Technologist
60002907	Intern
50528654	Senior Technologist
60000107	Senior Technologist
18507125	Divisional Controller
60003369	Sr Category Lead
60003411	Principal Infrastructure Engineer
60003453	Software Engineer
60002781	Intern - Accounting
60000989	Network Technician Engineer
18553746	Sr Sys Admin ITS
60001943	Learning Consultant
60002768	Senior Software Engineer

60003079	Senior Technologist
9015412	Mgr Automation & Controls (SCADA)
17003587	VP Regulatory Services
50295539	Senior Scientist
60001141	Network Technician Engineer
50345768	Mgr Internal Comm (Corp)
3016884	Sr Sys Admin ITS
50519031	Scientist
50551406	Senior Business Process Consultant
3017416	Senior Technologist
18623214	Financial Analyst IIB
60003416	Software Engineer
50407243	Director State Procurement
60003262	Software Engineer
60000927	Senior Technologist
60002783	Sr Buyer
60001552	Tech Client Technology ITS
60001551	Technologist
50493821	Sales Support Analyst II
50171199	Sr Mgr Internal Audit
60001240	Mgr Internal Audit
60002027	Chief Procurement Officer
50325108	Senior Technologist
18505541	Vice President Operations Excellence
60000980	Financial Analyst IIB
50135639	Sr Dir Health and Safety
60001383	Principal Technologist
60001696	Senior Technologist
60002824	Senior Technologist
50570375	Supvr Accounts Payable
60001947	Sr Specialist Safety
50622593	Principal Technologist
60002588	Sr. Manager L&D Safety Ops Trng
50654047	Senior Infrastructure Engineer
60001403	Sr Analyst Client Technology I
50437991	Principal Software Engineer
3000047	Chief Science Advisor
60003083	Senior Technologist
60003372	Senior Software Engineer
60002800	Mgr Int Comm- T&I
18678039	Principal Technologist
60002180	Chief of Enterprise Technologies
60000527	Infrastructure Engineer
50042211	Sr EAM Project Manager
60002345	Process Excellence Project Manager
50615229	Accountant II
60002863	Scientist

24007585	Financial Analyst III
3000049	Exec Asst to EMT
60003534	Intern
50031364	EVP & COO
60002813	Technologist
60003485	Tax Accountant IV
50247296	Accounts Payable Specialist III (N)
60002381	Assistant Controller
60002346	Interim Admin
60001244	Sr. Buyer
60000242	Senior Scientist
50615230	Principal Regulatory Analyst
50259471	Learning Specialist
50530573	Senior Technologist
60001498	HR Recruiter
50305173	Principal Business Process Consultant
50218969	Accountant III
50429620	Divisional Controller
60001515	Tech Client Technology ITS
50408283	Infrastructure Engineer
60000988	Principal Infrastructure Engineer
60002915	Senior Technologist
60003264	Scientist
60003314	Financial Analyst IIA
50273960	Mgr Accounting II
18507918	Senior Product Manager
60001809	Operations Specialist
60001675	Accountant II
60000933	VP Internal Audit
60002394	Mgr I Accounting
60002418	Scientist
60001260	Network Technician-Engineer
51000182	Associate Vendor Managemen
60001256	Senior Technologist
60001142	Senior Technologist
60001457	Financial Analyst III
18508241	Cash Management Specialist II (N)
60001485	Security Specialist
50201217	Senior Software Engineer
50633858	Technologist
60002847	Technologist
60001156	Tech Client Technology
50620090	Financial Analyst III
60003484	Recruiter
3001971	Lead Client Technology ITS
50506035	Project Manager - HRIS
60002819	Technologist

60003287	Software Engineer
60001719	Divisional Controller
50547633	Senior Software Engineer
50441512	Principal Business Consultant
60003178	Supervisor - Tax
50655731	Principal Technologist
60001396	Accounts Payable Specialist I (N)
50028532	Identity Management Analyst
60002166	VP Employee Relations
50323977	Senior Technologist
9004446	Sr Analyst Client Technology ITS
60002599	Senior Technologist
60001254	AP Specialist
50043538	Mgr Ext Affairs (State)
60002499	Principal Technologist
51000359	Senior Technologist
60003266	Software Engineer
60001406	Accountant IV
50520762	Principal Product Manager
60003450	Intern
60002939	Financial Analyst IIB
9011505	Learning Specialist
60001679	Senior Systems Administrator I
50026042	Financial Analyst IIB
50273031	Principal Regulatory Analyst
60003240	Principal, Corporate Finance
60002576	Software Engineer
60001373	Internal Auditor II
60001278	Accountant I
60003384	Software Engineer
60001167	Mgr Investment Rec/Inventory
3000003	Principal Regulatory Analyst
3000143	Financial Analyst III
3000234	Principal Technologist
60001268	Principal Technologist
3016456	Project Manager Operations
60003260	Software Engineer
60001243	Manager ITS
60003490	Tech Client Technology ITS
60002324	Accountant IV
50348193	Principal Technologist
50395988	Senior Technologist
60003263	Senior Product Manager
60002164	Accountant II
60002355	Sr SC Business Intelligence Analyst
50516281	Principal Business Process Consultant
60002780	Director Rates and Regulatory

50552976	Principal Product Manager
50371627	Lead Database Analyst
60002779	Senior Software Engineer
50112416	Sr Reliability Engineering Analyst
60002216	Dir Copr Procurement Categories
50502025	Sr Reliability Engineering Analyst
60000344	Senior Technologist
3016513	Senior Product Manager
60003415	Software Engineer
50596877	Mgr Revenue Analytics
50638325	Technologist
3018484	Senior Technologist
60000830	Senior Technologist
50345804	Principal Regulatory Analyst
3017835	Mgr, Learning & Development
50369122	Accounts Payable Specialist I (N)
50539667	Senior Software Engineer
60002637	Senior Software Engineer
60003311	Software Engineer
17003640	Transactional Buyer
50305144	Chief Digital Infrs & Sec Officer
60002882	HR Recruiter T&I
50064428	Senior Software Engineer
60002525	Sr. Buyer
50201159	Principal Scientist
50437990	Financial Analyst III
50481432	Sr. Director Regulatory Services
60002188	Mgr Budgeting & Int Reporting
50584125	Senior Product Manager
60000843	Principal Business Process Consultant
51000272	Principal Technologist
50285458	Sr Sys Admin ITS
50425924	Accounts Payable Specialist II
60000832	Sr Systems Administrator ITS
50323981	Sr Engineering Project Manager
60000860	Lead Client Technology ITS
60001282	Category Lead
50114015	Infrastructure Engineer
60002887	Manager Corporate Communic
3017395	Accountant II
50427037	Principal Technologist
50412396	Chief Digital Technology Enabl
60000898	Buyer
3017514	Treasury Analyst III ShortTerm Financing
60000769	Tech I Client Support ITS
60000403	Sr Dir Labor Relations
60001751	Sr Application Security Analyst

60002315	Senior Director - Water Resear
50493803	Specialist Operations
50544666	Sr Technical Architect ITS
3014904	Financial Analyst III
60001659	Senior Technologist
60003531	Sr Bus Process Consul
50330957	Senior Technologist
50267294	Chemist II
60001810	EVP & Chief Cust Strategy & Tech Officer
60002334	Tech I Client Support ITS
60002294	Accountant IV
50080217	Accountant III
60002177	Mgr External Affairs (Corp)
50527001	Senior Technologist
60000613	Mgr Sup Chain Bus Perf
60001135	Supply Chain Bus Intelligence Analyst
50513037	Senior Software Engineer
50297720	Accountant IV
3018018	Cash Management Specialist II (N)
60000957	Mgr Internal Audit
50552234	Senior Technologist
50332082	Accountant II Cash Management
17003513	Sr Analyst Client Technology ITS
60002528	Principal Technologist
60003483	Recruiter
60000133	Sr Manager Procurement - RG
60002929	Sr. Buyer
50420233	Director Delivery System Operations &
60001071	Sr Manager Procurement
50295540	Internal Auditor IV
18505111	Sr EAM Project Manager
50434554	Regulatory Analyst
50344468	Senior Technologist
60002682	Principal Technologist
50568199	Principal Program Coordinator
50257564	Health & Safety Programs Ope
60003467	Intern Admin
60000996	Financial Analyst III
60000746	Scientist
60000282	Network Technician-Engineer
60002684	Senior Technologist
60003330	Scientist
60001826	Principal Technologist
60003396	Senior Technologist
50411481	Principal Technologist
60001219	Principal Technologist
60002636	Technologist

3002229	Accounts Payable Specialist I (N)
60000810	Scientist
50652081	Principal Technologist
50502045	Learning Consultant
18508195	Accounts Payable Specialist II (N)
50575288	Lead Capital Management ITS
3002531	Sr. Director Regulatory Services
18648403	Cash Management Specialist III (N)
50270557	Sr EAM Project Manager
50196563	Senior Scientist
60002485	Intern Ops
50036510	Senior Infrastructure Engineer
60001319	Senior Technologist
60000054	Scientist
60002309	Sr. Buyer
60003476	Financial Analyst III
24006956	Supply Chain Support Analyst
60002304	Financial Reporting Manager
60001724	VP, Tax Strategy and Compliance
60001454	Specialist Labor Relations
50270528	Lead Client Technology ITS
60001174	Spec Bill/Pynt Collection
60001525	Mgr, Learning & Development
24007249	Regulatory Analyst
50097960	Accountant III
60002242	Sr Mgr, Nat'l Supplier Diversity
60002330	Principal Business Process Consultant
3017840	Principal Regulatory Analyst
60002038	Intern Admin
50404178	Scientist
60003525	Senior Software Engineer
60000998	Senior Technologist
50075099	Category Manager
50525790	Principal - BIRS
50493791	Senior Program Coordinator
60002170	Learning System Admin
60003457	Software Engineer
60001514	Principal Product Manager
60002293	Supply Chain Support Analyst
60003417	Senior Software Engineer
24007076	Transactional Buyer

Kentucky-American Water Company
Case No. 2023-00191
2019 Service Company Labor Allocations and Position Titles

Total 2019 Service Company Labor (incl. benefits) Allocation to Kentucky-American	\$5,408,654
Total 2019 Service Company Performance Pay Allocation to Kentucky-American	\$1,317,956
Total 2019 Service Company Labor Allocation to Kentucky-American	\$6,726,610

Employee Number	Position Title
60003194	Financial Analyst IIA
60003452	Software Engineer
60003481	Software Engineer
60003319	Senior Technologist
60003814	Senior Technologist
60000992	Senior Technologist
60001296	Sr Category Lead
60003740	Intern Admin
50302498	Admin Asst IV Rates & Regulatory (N)
60003373	Senior Technologist
60002299	Principal Technologist
50326971	Regulatory Analyst
50231146	Accountant II Cash Management
60001437	Technologist
50392907	Sr Eng Auto & Controls (SCADA)
60003535	Senior Technologist
50290616	Sr. Engineering Analyst
50604492	Lead Capital Management ITS
60005180	Intern Admin
60003682	Learning Designer
60003061	Senior Technologist
60003119	Sr Buyer
60002491	Customer Exp Proj Mgr
60002012	Instructional Designer
3003464	Cash Management Specialist II (N)
60001553	Senior Technologist
60002411	Financial Analyst III
50433360	Sr Dir Internal Communication
3017934	Supvr Income Tax Reporting &
60002040	Income Tax Intern
60002302	Principal Technologist
60002856	Scientist

50131871	Principal Technologist
60003265	Scientist
60001789	Senior Business Process Consultant
60003184	Manager, Plant Accounting
60002395	Sr. Buyer
51000469	Sr Technology Expense Analys
50325156	Sr Dir Budget Int Rprtng & Rev Analytic
60001658	Infrastructure Engineer
60002787	Accountant I
50027598	Sr. Manager Regulatory Services
50220148	Category Manager
60003039	Sr Category Lead
50015337	Senior Technologist
60002484	Principal Technologist
24018333	Senior Systems Administrator ITS
60003249	Principal Software Engineer
50277448	Learning Specialist
50392608	Sr Application Security Analyst ITS
3016148	Principal Scientist
60001180	Transactional Buyer
60003748	Intern Admin
60001562	Principal Technologist
50405288	Supply Chain Bus Intelligence Analyst
60003561	Software Engineer
60000970	Principal Infrastructure Engineer
50449965	Accounts Payable Specialist II (N)
60001204	Accountant III
60001325	Accounts Payable Specialist I (N)
50333201	Accountant IV
50062328	Cash Management Specialist II (N)
50566912	EAM Project Manager
50099158	Sr. Manager Regulatory Services
50383035	Principal Technologist
60005337	Principal Procurement Specialist
60003749	Intern Admin
50210614	VP Engineering (Corp)
60003745	Intern Admin
60003160	Senior Technologist
60002356	Tax Accountant IV
60001580	Sr Manager Procurement
18611053	Senior Technologist
60003592	Intern
50550472	Senior Program Coordinator
60003556	Exec Asst to EMT (N)
60003395	Supply Chain Support Analyst
50069219	Dir Technology Expense Management
3016948	Sr. Dir Fin Analysis & Decision Support

60005261	Sr Category Lead
18506755	Cash Management Specialist III (N)
50085802	Sr Analyst Client Technology ITS
3000457	Sr. Regulatory Analyst
24013971	Mgr Cust Comm (State)
60000934	Senior Systems Administrator ITS
50634743	Tax Accountant III
60002896	Buyer
60003765	Sr Bus Process Consul
60001976	Fin Analyst IIB
60002495	Accountant III
60001712	Sr Analyst Client Technology I
60003839	Scientist
50011032	Accountant III
50269681	Internal Auditor III
3017979	Accounts Payable Specialist I (N)
50387614	Divisional Controller
50343492	SVP-Eastern Division
60000549	Principal Reg Analyst
60001793	Financial Analyst IIA
50323974	Principal Product Manager
50310166	Sr Program Mgr, Safety & Health
51000252	Infrastructure Engineer
60001955	Accts Payable Spec II
60003461	Internal Auditor III
50383273	Mgr Accounting Operations
60003584	Software Engineer
60002634	Senior Software Engineer
3017573	Sr Mgr Supply Chain Support
3002566	Divisional Controller
60005332	Sr EAM Project Manager
18709966	VP Communications
60002640	Senior Software Engineer
3017515	Accounts Payable Specialist III (N)
50654149	Software Engineer
60003719	Intern Admin
60001010	Accountant IV
60005146	Software Engineer
50115035	Reliability Eng Manager
50200813	Financial Analyst III
60001711	Financial Analyst III
51000567	Principal Product Manager
60002002	EAM Project Mgr
50414550	Contract Analyst
60003829	Multimedia Specialist- 4
50485334	Technologist
60001570	HR Business Partner

50541813	Sr Reliability Engineering Analyst
50146191	Sr Category Lead
51000271	Mgr Treasury Corporate Finance
50480255	Lead Database Analyst ITS
50568165	Supervisor Cash Management
3017576	Sr EAM Project Manager
60002372	Mgr Tax Reporting & Compliance
60003803	Senior Technologist
60003248	Sr. Buyer
50566916	Sr Category Lead
60003587	Software Engineer
60003413	Software Engineer
50077256	Mgr Cash Management
60003381	Software Engineer
60003323	Senior Technologist
60003414	Senior Technologist
50289586	Mgr Budgeting & Intl Reporting
60003761	Senior Infrastructure Engineer
60002339	Accountant III
60003412	Senior Infrastructure Engineer
50315421	Principal Regulatory Analyst
60003393	Senior Technologist
60003690	External Comm. Specialist
60002218	Manager Health & Safety Prog
60003804	Accountant IV
60003760	Senior Technologist
50566911	Sr Manager Regulatory Servs
60005341	EAM Project Mgr
60003171	Tax Accountant II
60005056	Program Manager - Strategic Planning
60002503	Senior Technologist
50090809	Tech Client Technology ITS
60003815	Software Engineer
50239365	Accounts Payable Specialist II (N)
60000378	Senior Software Engineer
50499769	Accountant II
60000881	Senior Technologist
50409428	Financial Analyst III
60002407	Sr EAM Project Manager
50300204	Sr Mgr Rates and Regulatory
60005258	Senior Product Manager
50654123	Accountant III
60002630	Technologist
50409494	Executive Projects Coord
50437054	Internal Auditor III
50649586	Director Meter Operations
50477607	Infrastructure Engineer

50244425	Tax Specialist II
50332087	Senior Systems Administrator ITS
50164869	Dir Acquisitions & Investments
50575289	Tech Client Technology ITS
50408293	Infrastructure Engineer
50444433	Senior Technologist
60003771	VP Technology
60003603	Software Engineer
50528654	Senior Technologist
60003659	Senior Scientist
18507125	Divisional Controller
60003369	Sr Category Lead
60003542	Admin Assistant - Staff Support
60003411	Principal Infrastructure Engineer
3018062	Process Excellence Project Manager
60005157	Sr Specialist Safety
60003453	Software Engineer
60002781	Intern - Accounting
60003756	Intern Admin
60005108	Senior Scientist
60001943	Learning Consultant
60005099	Principal Program Coordinator
60002768	Senior Software Engineer
60003079	Senior Technologist
60003468	Technologist
9015412	Mgr Automation & Controls (SCADA)
60002921	Sr Buyer
17003587	VP Regulatory Services
50345768	Mgr Internal Comm (Corp)
51000264	Tech Client Tech ITS MBB
3016884	Senior Systems Administrator ITS
50519031	Scientist
50551406	Senior Business Process Consultant
3017416	Senior Technologist
50416867	Financial Analyst IIB
18623214	Financial Analyst IIB
60003416	Software Engineer
50407243	Director State Procurement
60003806	Intern Admin
60005053	Senior Technologist
60003262	Software Engineer
60005303	Technologist
18504371	Sr Director Operations (Mega)
3002816	Dir Engineering - Tech Svcs
60002783	Sr Buyer
60001552	Tech Client Technology ITS
60001551	Technologist

50493821	Sales Support Analyst II
50171199	Sr Mgr Internal Audit
60003698	Senior Technologist
60001025	Director, Health and Safety
60005197	Software Engineer
60002027	Chief Procurement Officer
50325108	Senior Technologist
18505541	Vice President Operations Excellence
60005265	Accountant III
60001002	Sr Technology Expense Analys
60003586	Software Engineer
60001383	Principal Technologist
60003743	Senior Technologist
60001696	Senior Technologist
60002824	Senior Technologist
50570375	Supvr Accounts Payable
60003404	Dir National Gov't & Regulatory Affairs
60001947	Sr Specialist Safety
50622593	Principal Technologist
60005088	Intern Admin
60002588	Sr. Manager L&D Safety Ops Trng
50654047	Senior Infrastructure Engineer
60005181	Software Engineer
60000244	Sr EAM Project Manager
50424631	Principal Infrastructure Engineer
50437991	Principal Software Engineer
60003083	Senior Technologist
60003372	Senior Software Engineer
60005260	Senior Software Engineer .NET
18678039	Principal Technologist
60002180	Chief of Enterprise Technologies
60000527	Infrastructure Engineer
50042211	Sr EAM Project Manager
50352090	Financial Analyst III
60002345	Process Excellence Project Manager
50615229	Accountant II
60002863	Scientist
24007585	Financial Analyst III
60003580	Accountant II
60003799	HR Business Partner
60003534	Intern
50031364	EVP & COO
51000192	Tech Client Tech ITS MBB
60002813	Technologist
60003709	Contracts Manager
60003485	Tax Accountant IV
50247296	Accounts Payable Specialist III (N)

60002381	Assistant Controller
60001244	Sr. Buyer
60000541	Financial Analyst III
50615230	Principal Regulatory Analyst
60005025	Accountant I (N)
50259471	Learning Specialist
50305215	Dir WQ Environ Compliance(Mega)
60001498	HR Recruiter
50305173	Principal Business Process Consultant
50218969	Accountant III
50429620	Divisional Controller
60001515	Tech Client Technology ITS
50408283	Infrastructure Engineer
60000988	Principal Infrastructure Engineer
60002915	Senior Technologist
60003264	Scientist
50459685	Accounts Payable Specialist I (N)
60005007	Intern Admin
50273960	Mgr Accounting II
60001907	Learning Specialist
60001809	Operations Specialist
60001675	Accountant II
50199914	VP Bus. Supp Ser & Chief M&A Counsel
60002394	Mgr I Accounting
60002418	Scientist
51000182	Associate Vendor Managemen
60001076	Senior Infrastructure Engineer
60001256	Senior Technologist
18508241	Cash Management Specialist II (N)
60005334	Senior Infrastructure Engineer
50201217	Senior Software Engineer
60003687	Admin Assistant -Staff Support
60005185	Sr Specialist Health & Safety
60002847	Technologist
60003484	Recruiter
3001971	Lead Client Technology ITS
50491468	Divisional CFO
50506035	Project Manager - HRIS
60002819	Technologist
60002458	Infrastructure Engineer
60003287	Software Engineer
60003807	Intern Admin
60001719	Divisional Controller
50547633	Senior Software Engineer
50441512	Principal Business Consultant
60003178	Supervisor - Tax
50655731	Principal Technologist

60001396	Accounts Payable Specialist I (N)
60001401	Financial Analyst III
50028532	Identity Management Analyst
60003672	Software Engineer
60002166	VP Employee Relations
50323977	Senior Technologist
60005177	Technical Internal Comm Mgr
50217359	Administrator, External Affairs
60001302	Software Engineer
9004446	Sr Analyst Client Technology ITS
60005152	Software Engineer II
60002599	Senior Technologist
60001254	AP Specialist
50043538	Mgr Ext Affairs (State)
60003266	Software Engineer
50520762	Principal Product Manager
50200149	Accountant III
60005271	Intern Admin
60002301	VP Safety
60003261	Technologist
60003450	Intern
3000131	Principal Regulatory Analyst
60002939	Financial Analyst IIB
9011505	Learning Specialist
50346905	Accountant III
50026042	Financial Analyst IIB
50273031	Principal Regulatory Analyst
60003240	Principal, Corporate Finance
60002576	Software Engineer
60001373	Internal Auditor II
60002697	Senior Infrastructure Engineer
60005100	Intern Admin
60003175	Software Engineer
60003310	Technologist
60003384	Software Engineer
60003654	Software Engineer
50395995	Mgr Cust Comm (State)
60001167	Mgr Investment Rec/Inventory
50063939	Exec Asst (N)
3000003	Principal Regulatory Analyst
3000143	Financial Analyst III
18506683	Sr Mgr Field Operations
60001268	Principal Technologist
3016456	Project Manager Operations
60003260	Software Engineer
60005067	Fin Analyst IIA
60001243	Manager ITS

60003100	Webmaster
60003490	Tech Client Technology ITS
60005054	Software Engineer
60002324	Accountant IV
60003604	Software Engineer
50348193	Principal Technologist
60003263	Senior Product Manager
18712954	Sr Mgr Production
60002164	Accountant II
60002355	Sr SC Business Intelligence Analyst
50516281	Principal Business Process Consultant
60003575	Software Engineer
60002780	Director Rates and Regulatory
50552976	Principal Product Manager
60003731	Senior Product Manager
50371627	Lead Database Analyst ITS
60002779	Senior Software Engineer
50112416	Sr Reliability Engineering Analyst
60002216	Dir Copr Procurement Categories
50502025	Sr Reliability Engineering Analyst
60000344	Senior Technologist
3016513	Senior Product Manager
60003415	Software Engineer
50596877	Mgr Revenue Analytics
60005195	Intern
60001980	Buyer
60003139	Sr. Dir External Communicatio
50638325	Technologist
60003598	Mailroom Clerk
60002799	Transactional Buyer
60000830	Senior Technologist
50345804	Principal Regulatory Analyst
3017835	Mgr, Learning & Development
50369122	Accounts Payable Specialist I (N)
50539667	Senior Software Engineer
60002637	Senior Software Engineer
60003576	Software Engineer
60003311	Software Engineer
17003640	Transactional Buyer
60003259	Senior Software Engineer
60002668	Technologist
60005279	Senior Technologist
60005089	Senior Technologist
50305144	Chief Digital Infrac & Sec Officer
60005162	Infrastructure Engineer II
60002882	HR Recruiter T&I
60005161	Senior Software Engineer- Java

50064428	Senior Software Engineer
60002525	Sr. Buyer
50111360	Admin Asst IV Rates & Regulatory (N)
50481432	Sr. Director Regulatory Services
60002188	Mgr Budgeting & Int Reporting
50616321	Supvr Opns
60003747	Software Engineer
60003669	Associate Technology Expens
50584125	Senior Product Manager
50654056	Principal Product Manager
60003759	Intern Admin
60000843	Principal Business Process Consultant
60003577	Software Engineer
51000272	Principal Technologist
50031722	VP Operations (Mega)
10008361	Inventory and Investment Recovery Analys
60005144	Senior Technologist
60003818	Senior Technologist
50425924	Accounts Payable Specialist II
60005151	Principal Software Engineer
50323981	Sr Engineering Project Manager
60000860	Lead Client Technology ITS
60001282	Category Lead
50114015	Infrastructure Engineer
60002887	Manager Corporate Communic
3017395	Accountant II
50412396	Chief Digital Technology Enabl
60000898	Sr Buyer
3017514	Treasury Analyst III ShortTerm Financing
60003553	Supervisor - Tax
60005145	Senior Technologist: SAP " App Lead
60005055	Senior Technologist
60000403	Sr Dir Labor Relations
60005350	Senior Software Engineer II
60002315	Senior Director - Water Research and Dev
50049784	Process Excellence Project Ma
50557980	Sr WQ & Env Compliance Specialist
50544666	Sr Technical Architect ITS
60001659	Senior Technologist
60003531	Sr Bus Process Consul
60001810	EVP & Chief Cust Strategy & Tech Officer
60002294	Lead Accountant
50080217	Accountant III
60002177	Mgr External Affairs (Corp)
50084609	Mgr Budgeting and Internal Reporting
60000613	Mgr Sup Chain Bus Perf
60001135	Supply Chain Bus Intelligence Analyst

50513037	Senior Software Engineer
50297720	Accountant IV
3018018	Cash Management Specialist II (N)
60000957	Mgr Internal Audit
60005312	Principal Regulatory Analyst
50552234	Senior Technologist
50332082	Accountant II Cash Management
17003513	Sr Analyst Client Technology ITS
60002528	Principal Technologist
60003483	Recruiter
60000133	Sr Manager Procurement - RG
60002929	Sr. Buyer
60001071	Sr Manager Procurement
50295540	Internal Auditor IV
18505111	Sr EAM Project Manager
50434554	Regulatory Analyst
50344468	Senior Technologist
3018478	Sr. Dir Business Dev, Com&EA
50257564	Health & Safety Programs Ope
60003467	Intern Admin
60000996	Financial Analyst III
60002684	Senior Technologist
50606394	Sr Communications Specialist Strat & Dev
60003330	Scientist
50376817	Sr Supt Opns
60003396	Senior Technologist
60003742	Software Engineer
60002992	Technologist
60001219	Principal Technologist
14005713	SVP-Deputy COO
60002636	Technologist
3002229	Accounts Payable Specialist I (N)
60000810	Scientist
50502045	Learning Consultant
60002365	Mgr Income Tax Rprt Complian
18508195	Accounts Payable Specialist II (N)
50575288	Lead Capital Management ITS
3002531	Sr. Director Regulatory Services
18648403	Cash Management Specialist III (N)
50270557	Sr EAM Project Manager
60003736	Senior Technologist
18507643	Sr. Manager Regulatory Services
50196563	Senior Scientist
50036510	Senior Infrastructure Engineer
60001319	Principal Infrastructure Engineer
60000054	Scientist
60003476	Financial Analyst III

24006956	Supply Chain Support Analyst
60002304	Financial Reporting Manager
60001454	Specialist Labor Relations
50270528	Lead Client Technology ITS
60001525	Mgr, Learning & Development
60003755	Intern Admin
24007249	Regulatory Analyst
50097960	Accountant III
60002242	Sr Mgr, Nat'l Supplier Diversity
3017840	Principal Regulatory Analyst
50404178	Scientist
60003525	Senior Software Engineer
60000998	Senior Technologist
60003681	Intern
50075099	Category Manager
50525790	Principal - BIRS
50493791	Senior Program Coordinator
60002170	Learning System Admin
60003457	Software Engineer
60001514	Principal Product Manager
60001247	Sr Manager Procurement
60002293	Supply Chain Support Analyst
60003417	Senior Software Engineer
24007076	Transactional Buyer

Kentucky-American Water Company
Case No. 2023-00191
2020 Service Company Labor Allocations and Position Titles

Total 2020 Service Company Labor (incl. benefits) Allocation to Kentucky-American	\$5,969,509
Total 2020 Service Company Performance Pay Allocation to Kentucky-American	\$1,175,412
Total 2020 Service Company Labor Allocation to Kentucky-American	\$7,144,921

Employee Number	Position Title
60005126	Tax Accountant IV
60003319	Senior Technologist
60003814	Senior Technologist
60005801	Operator, Integrated Operations Center
60000992	Senior Technologist II
50302498	Admin Asst IV Rates & Regulatory (N)
60003373	Senior Technologist
60002299	Principal Technologist II
50326971	Regulatory Analyst
50564924	Associate Director Technology Governance
50231146	Accountant II Cash Management
60001437	Technologist
50392907	Sr Eng Auto & Controls (SCADA)
60003535	Senior Technologist
60005800	Operator, Integrated Operations Center
50363548	Exec Asst to EMT
50604492	Sr Technology Expense Analyst
60005180	Intern Admin
60003682	Learning Designer
60003061	Senior Technologist
60003119	Sr Buyer
60002012	Learning Designer
3003464	Cash Management Specialist II (N)
60001553	Senior Technologist
60002411	Sr Financial Analyst
50433360	Sr Dir Internal Communication
3017934	Tax Accountant Lead
60002040	Tax Specialist II
50396021	Specialist, Physical Security
60002302	Principal Technologist
60002856	Scientist
60003265	Scientist

60001789	Principal Technologist
60003184	Manager, Plant Accounting
60002395	Sr. Buyer
60005607	Intern
51000469	Sr Technology Expense Analys
60005548	Assoc Dir, Software Product Engineering
50325156	Sr Dir Budget Int Rprtng & Rev Analytic
60001658	Infrastructure Engineer
60002787	Accountant I
50027598	Sr. Manager Regulatory Services
50220148	Category Manager
60005301	Associate Director, Digital Security
60005585	SVP, Corporate Tax, Accounting Technolog
60005799	Sr. Operator, Integrated Operations Cent
60003039	Sr Category Lead
60002484	Principal Technologist II
60005640	Principal Technologist II
60003249	Principal Software Engineer
3016148	Principal Scientist
60005710	Principal- Quality Assurance
60001180	Buyer
60005804	Sr. Operator, Integrated Operations Cent
60001562	Principal Technologist II
50405288	Senior Supply Chain Support Analyst
60003561	Software Engineer
60000970	Principal Infrastructure Engineer
50449965	Accounts Payable Specialist II (N)
60001204	Accountant III
60001325	Accounts Payable Specialist I (N)
50333201	Accountant IV
50062328	Cash Management Specialist II (N)
60005732	Coordinator, Health and Safety
50566912	EAM Project Manager
50099158	Sr. Manager Regulatory Services
50383035	Principal Technologist
60005337	Principal Procurement Specialist
60003749	Intern Admin
60005277	VP Regulated Business Development
60005775	Senior Business Process Consultant
60003160	Senior Technologist
60005394	Program Manager - Strategic Planning
60002356	Tax Accountant Lead
18611053	Sr EAM Project Manager
50550472	Senior Program Coordinator
60003556	Exec Asst to EMT (N)
60003395	Supply Chain Support Analyst
50069219	Dir Technology Expense Management

3016948	Sr. Dir Fin Analysis & Decision Support
60005261	Sr Category Lead
60005796	Operator, Integrated Operations Center
18506755	Cash Management Specialist III (N)
50085802	Sr Analyst Client Technology ITS
3000457	Sr. Regulatory Analyst
60005654	Intern Admin
24013971	Mgr Cust Comm (State)
50634743	Tax Accountant III
60001984	Accts Payable Specialist I (N)
60003765	Sr Bus Process Consul
60005802	Operator, Integrated Operations Center
60001976	Financial Analyst III
60001695	Specialist, Physical Security
60002495	Accountant III
60001712	Sr Analyst Client Technology I
60005795	Supervisor, Integrated Operations Center
60003839	Scientist
50438106	Operations Specialist
50011032	Accountant III
3017979	Accounts Payable Specialist I (N)
50387614	Sr. Mgr Internal Audit
50343492	VP, Customer Service & Solutions
60000549	Principal Reg Analyst
60001793	Financial Analyst IIB
50323974	Principal Product Manager
60001955	Accts Payable Spec II
50383273	Mgr Accounting Operations
60003584	Software Engineer II
60005505	Financial Analyst IIB
60002634	Senior Software Engineer
3017573	Sr Mgr Supply Chain Support
3002566	Divisional Controller
60005353	Senior Infrastructure Engineer II
60005332	Sr EAM Project Manager
18709966	SVP Communications & External Affairs
60002640	Senior Software Engineer
3017515	Accounts Payable Specialist III (N)
50654149	Software Engineer
60005478	Software Engineer
60001010	Mgr I Accounting
60005432	Regulatory Specialist / Database Librari
60005146	Software Engineer
50115035	Reliability Eng Manager
50200813	Financial Analyst III
51000567	Sr Engineering Project Manager
60002002	EAM Project Mgr

50248959	Category Manager
50414550	Contracts Manager
60005803	Sr. Operator, Integrated Operations Cent
60005887	Infrastructure Engineer
60003829	Multimedia Specialist- 4
50485334	Technologist
60006035	Infrastructure Engineer
50541813	Sr Reliability Engineering Analyst
50146191	Sr Category Lead
51000271	Dir Acquisitions
50480255	Senior Technologist
50568165	Supervisor Cash Management
60005798	Operator, Integrated Operations Center
3017576	Sr EAM Project Manager
60005794	Supervisor, Integrated Operations Center
60002347	Accountant III
60003803	Senior Technologist
50427029	Sr Hydrogeologist
50566916	Sr Buyer
60003587	Software Engineer
60005580	AP Specialist
50077256	Mgr Cash Management
60003381	Software Engineer II
60003323	Senior Technologist
60003414	Senior Technologist II
50289586	Mgr Budgeting & Intl Reporting
60003761	Senior Infrastructure Engineer
60003412	Senior Infrastructure Engineer II
60005914	Specialist, Physical Security
60003804	Accountant IV
60003760	Senior Technologist
50566911	Sr Manager Regulatory Servs
60005341	EAM Project Mgr
60003171	Tax Accountant II
60005056	Program Manager - Strategic Planning
60005711	Infrastructure Engineer II
60002503	Senior Technologist II
50090809	Sr Tech Client Technology ITS
60002295	Financial Analyst IIB
60003815	Software Engineer
50239365	Accounts Payable Specialist II (N)
50499769	Accountant II
50409428	Financial Analyst III
50233830	Senior Regulatory Analyst
10000229	SVP Midwest Division
60005457	Mgr Health and Safety Programs
60005516	Sr Specialist Safety

60005258	Senior Product Manager
50654123	Internal Auditor II
60002630	Technologist
50409494	Dir, Corporate Strategy
60001252	Program Manager Source Water Protection
50437054	Internal Auditor III
50649586	Sr Dir, Asset Mgmt-Metering&Oper System
50477607	Infrastructure Engineer
50244425	Tax Specialist II
50164869	VP, Business Development Strategy
50575289	Sr Tech Client Technology ITS
50408293	Infrastructure Engineer
50444433	Senior Product Manager
60003771	VP Technology
60003603	Software Engineer
60003659	Senior Scientist
18507125	Divisional Controller
60003542	Admin Assistant - Staff Support
60003411	Principal Infrastructure Engineer
3018062	Project Mgr, Operational Excellence
60005157	Sr Specialist Safety
60003453	Software Engineer
60005108	Senior Scientist
60001943	Learning Consultant
60005099	Principal Program Coordinator
60003079	Senior Technologist II
60003468	Technologist
9015412	Mgr Automation & Controls (SCADA)
17003587	VP Regulatory Services
60005352	Technologist II
51000264	Tech Client Tech ITS MBB
50551406	Sr EAM Project Manager
18623214	Analyst - Tariff Administration
60003416	Software Engineer II
60005053	Senior Technologist
60003262	Software Engineer
60005303	Technologist
60005599	Supply Chain Support Analyst
18504371	Sr Dir, Environmental Leadership
60005385	Intern
3002816	Sr Dir, Eng Tech Services&Water Research
60003698	Senior Technologist
60005469	Supply Chain Bus Intelligence Analyst
60001025	Director, Health and Safety
60005197	Software Engineer
60002027	Chief Procurement Officer
50325108	Sr EAM Project Manager

18505541	Sr VP, Chief Enviro & Ops Excellence
60005265	Accountant III
60001002	Sr Technology Expense Analys
60003586	Software Engineer
60005681	Principal Technologist
60003743	Senior Technologist
60005491	Software Engineer II
60002824	Senior Technologist II
50570375	Supvr Accounts Payable
60003404	President Large1 State
60002363	Principal Bus Analys Pysl/HR
50622593	Principal Technologist II
60002588	Dir Learning & Dev.
50654047	Senior Infrastructure Engineer
60005181	Software Engineer
60000999	Accountant III
60000244	Sr EAM Project Manager
50437991	Principal Software Engineer
60003083	Senior Technologist II
60003372	Principal Software Engineer
60005260	Senior Software Engineer .NET
18678039	Sr Manager, EAM
60002180	Sr Dir, Digital Finance
60000527	Infrastructure Engineer
50042211	Sr Mgr, EAM
60005921	Senior Software Engineer II
50615229	Accountant II
60002863	Scientist
24007585	Financial Analyst III
60003580	Accountant II
60003799	HR Business Partner
60003534	Intern
50031364	EVP & COO
51000192	Tech Client Tech ITS MBB
60002813	Software Engineer
60003709	Contracts Manager
50247296	Accounts Payable Specialist III (N)
60001244	Sr. Buyer
50615230	Principal Regulatory Analyst
60005025	Accountant I (N)
50305215	Dir, Env Health & Safety Audit
60005503	Software Engineer
50305173	Principal Business Process Consultant
50429620	Divisional Controller
60001515	Tech Client Technology ITS
50408283	Infrastructure Engineer
60000988	Principal Infrastructure Engineer II

60002915	Senior Technologist
60003264	Project Mgr, Enterprise Environmental WQ
60005718	Divisional Controller
60001907	Learning Designer
60000933	VP Treasurer
50199914	VP, Corporate Business Development
51000182	Technology Procurement Analyst
60001076	Senior Infrastructure Engineer
60001256	Senior Technologist II
18508241	Cash Management Specialist II (N)
60001485	Specialist, Physical Security
60005334	Senior Infrastructure Engineer
50201217	Senior Software Engineer
60003124	Hydrogeologist
60003687	Admin Assistant -Staff Support
60005185	Sr Specialist Health & Safety
60002847	Technologist
60005357	Senior Technologist II
60003484	Talent Acquisition Partner
3001971	Lead Client Technology ITS
60001739	Manager, Integrated Operations Center
50491468	Mgr I Accounting
60005284	Software Engineer
50506035	Sr. Mgr, Financial Services
60005909	Coordinator - Physical Security
60002819	Technologist II
60001719	Divisional Controller
50547633	Senior Software Engineer
50441512	Principal Business Consultant
60003178	Supervisor - Tax
50655731	Principal Product Manager
60001396	Accounts Payable Specialist I (N)
60001401	Financial Analyst III
50028532	Senior Technologist
60003672	Software Engineer
60002166	VP Labor Relations & Community Developme
50323977	Principal Technologist
60005177	Technical Internal Comm Mgr
50217359	Program Mgr, Corporate Giving
60001302	Software Engineer
9004446	Sr Analyst Client Technology ITS
60005152	Software Engineer - Java
60005842	Intern Admin
60005427	Intern - Tax
60002599	Senior Technologist
60001254	AP Specialist
60005652	Intern Admin

50299166	Engineering Practice Lead
50043538	Mgr Ext Affairs (State)
60003266	Software Engineer
50520762	Principal Product Manager II
60005271	Intern Admin
60002301	VP Safety & Leadership
60003261	Technologist II
60003450	Accountant I (N)
3000131	Principal Regulatory Analyst
60005360	Financial Analyst IIB
60005448	Scientist
50346905	Accountant III
50026042	Senior Analyst - Tariff Administration
50273031	Principal Regulatory Analyst
60003240	Principal, Corporate Finance
60002576	Software Engineer II
60001373	Internal Auditor II
60005426	Senior Software Engineer- Java
60002697	Senior Infrastructure Engineer II
60005827	Senior Technologist II
60005472	Software Engineer
60003175	Software Engineer II
60005797	Supervisor, Integrated Operations Center
60003310	Technologist II
60003654	Software Engineer
50395995	Mgr Cust Comm (State)
50063939	Exec Asst (N)
3000003	Principal Regulatory Analyst
3000143	Financial Analyst III
18506683	Sr Mgr, EAM
60005742	Principal Business Analyst
60001268	Principal Technologist
22000088	Sr. Manager Regulatory Services
3016456	Project Manager Operations
60005722	Associate Director Technology Operations
60003260	Software Engineer
60005067	Fin Analyst IIA
60003100	Webmaster
60005054	Software Engineer
60003604	Software Engineer
50348193	Principal Technologist II
60005401	Project Manager- BD
60003263	Senior Product Manager II
18712954	Consultant (PT) Environmental WQ Project
60005519	AI Researcher
60002355	Sr SC Business Intelligence Analyst
50516281	Principal Product Manager

60003575	Software Engineer
60002780	Director Rates and Regulatory
50552976	Principal Product Manager
60003731	Senior Product Manager
60002779	Senior Software Engineer
60005386	Senior Infrastructure Engineer
50112416	Sr Reliability Engineering Analyst
60005517	Associate Director - Product Management
60002216	Dir Copr Procurement Categories
50502025	Sr Reliability Engineering Analyst
3016513	Senior Product Manager II
60003415	Software Engineer
50596877	Senior Mgr BIRS Revenue Analytics
60005195	Intern
60001980	Buyer
60003139	Sr. Dir External Communication
50638325	Technologist
60005373	Infrastructure Engineer
60005289	Senior Infrastructure Engineer
60002799	Transactional Buyer
60000830	Senior Technologist II
50345804	Principal Regulatory Analyst
3017835	Mgr, Learning & Development
50369122	Accounts Payable Specialist I (N)
50539667	Senior Software Engineer
60002637	Senior Software Engineer
60003311	Software Engineer
17003640	Transactional Buyer
60005506	Technologist II
60003259	Principal Software Engineer
60002668	Software Engineer II
60005454	Intern - Tax
60005279	Senior Technologist
60005089	Senior Technologist
50305144	Chief Digital Infrs & Sec Officer
60005162	Infrastructure Engineer II
50305073	Sr Supvr Operations
60002882	Talent Acquisition Partner
60005161	Senior Software Engineer- Java
60002525	Sr. Buyer
50111360	Admin Asst IV Rates & Regulatory (N)
50481432	Sr Principal, Finance
60002188	Mgr Budgeting & Int Reporting
50616321	Environmental Program Lead
60003747	Software Engineer
60003669	Associate Technology Expens
50584125	Senior Product Manager II

50654056	Principal Product Manager
60000843	Principal Technologist II
60003577	Software Engineer
50031722	VP Internal Audit
60005144	Senior Technologist
50425924	Accounts Payable Specialist II
60005151	Principal Software Engineer
50323981	Sr Engineering Project Manager
60000860	Lead Client Technology ITS
60001282	Sr Category Lead
60005854	Intern Admin
50114015	Infrastructure Engineer
60002887	Manager Corporate Communications
3017395	Accountant II
50412396	Chief Digital Technology Enablement Offi
60000898	Sr Buyer
3017514	Treasury Analyst III ShortTerm Financing
60003553	Supervisor - Tax
60000769	Sr. Operator, Integrated Operations Cent
60005145	Senior Technologist: SAP " App Lead
60005055	Senior Technologist
60005350	Senior Software Engineer II
60006072	Sr Analyst Client Technology ITS
50049784	Sr Mgr, Operational Excellence
50557980	Project Mgr, Enterprise Environmental/WQ
50544666	Sr Technical Architect ITS
60001659	Senior Technologist
60003531	Sr Bus Process Consul
60001810	Chief Information Officer
60005951	Director Rates and Regulatory
50080217	Accountant III
60002177	Mgr External Affairs (Corp)
60000613	Mgr Sup Chain Bus Perf
60001135	Supply Chain Business Intelligence Analy
50297720	Accountant IV
60005312	Principal Regulatory Analyst
50552234	Senior Technologist
50332082	Accountant II Cash Management
17003513	Sr Analyst Client Technology ITS
60003483	Compensation Analyst
60000133	Sr Manager Procurement - RG
60001071	Sr Manager Procurement
18505111	Sr EAM Project Manager
60003110	Director State Procurement
60005504	Senior Infrastructure Engineer
50434554	Regulatory Analyst
50344468	Senior Technologist

3018478	Sr. Dir Business Development, Com & EA
50257564	Health & Safety Programs Ope
60005655	Intern Admin
60005402	Program Manager - Strategic Planning
60000996	Financial Analyst III
60002684	Senior Technologist
50606394	Mgr Business Dev
60003330	Project Mgr, Enterprise Environmental WQ
50376817	Executive Projects Coord
60003396	Senior Technologist
60003742	Software Engineer
60002992	Technologist
60005564	Intern Admin
60002636	Senior Technologist
3002229	Accounts Payable Specialist I (N)
18508195	Accounts Payable Specialist II (N)
50575288	Sr Technology Expense Analyst
3002531	Sr. Director Regulatory Services
18648403	Cash Management Specialist III (N)
50270557	Sr EAM Project Manager
60003736	Senior Technologist
18507643	Sr. Manager Regulatory Services
50196563	Principal Scientist
50036510	Senior Infrastructure Engineer
60001319	Senior Infrastructure Engineer II
50405291	Tax Accountant Lead
60003476	Financial Analyst III
24006956	Supply Chain Support Analyst
50270528	Lead Client Technology ITS
60005456	Software Engineer
60005748	Accountant I (N)
60001525	Mgr, Learning & Development
60003755	Intern Admin
24007249	Sr Regulatory Revenue Analyst
50097960	Accountant III
60002242	Sr Mgr, Nat'l Supplier Diversity
3017840	Principal Regulatory Analyst
60003525	Senior Software Engineer II
60003681	Intern
50075099	Category Manager
60005653	Intern Admin
50525790	Principal - BIRS
50493791	Senior Program Coordinator
60002170	Learning Systems Specialist
60003457	Software Engineer II
60001514	Principal Product Manager II
60002293	Supply Chain Support Analyst

60003417	Senior Software Engineer II
60005889	Scientist
24007076	Transactional Buyer
60005459	Software Engineer

Kentucky-American Water Company
Case No. 2023-00191
2021 Service Company Labor Allocations and Position Titles

Total 2021 Service Company Labor (incl. benefits) Allocation to Kentucky-American	\$6,109,775
Total 2021 Service Company Performance Pay Allocation to Kentucky-American	\$1,480,231
Total 2021 Service Company Labor Allocation to Kentucky-American	\$7,590,006

Employee Number	Position Title
60003319	Senior Technologist
60003814	Senior Technologist
60005801	Operator, Integrated Operations Center
60000992	Principal Technologist
50302498	Admin Asst IV Rates & Regulatory (N)
50326971	Senior Regulatory Analyst
60006549	Technologist
50564924	Associate Director Technology Governance
50231146	Accountant II Cash Management
60001437	Senior Technologist
50392907	Sr Eng Automation & Controls (SCADA)
60003535	Senior Technologist
60005800	Operator, Integrated Operations Center
50604492	Sr Technology Expense Analyst
60003682	Learning Designer
60003061	Senior Technologist
60003119	Sr Buyer
60006372	Principal Project Manager
60002012	Learning Designer
3003464	Cash Management Specialist II (N)
60006550	Senior Manager, Business Analysis
60001553	Senior Technologist
60006834	Sr Financial Analyst
50433360	Sr Dir Internal Communication
60005109	Accountant II
60006237	Supply Chain Support Analyst
3017934	Tax Accountant Lead
60002040	Tax Specialist II
50396021	Specialist, Physical Security
60002302	Principal Technologist II
60002856	Scientist
60003265	Scientist

60001789	Principal Technologist
60003184	Sr. Manager, Plant Accounting
60005607	Intern
60006677	Financial Analyst
51000469	Sr Technology Expense Analys
60005548	Assoc Dir, Software Product Engineering
50325156	Sr Dir Budget Int Rprtg & Rev Analytic
60001658	Infrastructure Engineer
60002787	Accountant I
50027598	Director Rates and Regulatory
50220148	Category Manager
60005301	Associate Director, Digital Security
60005585	SVP, Corporate Tax, Accounting Technolog
60005799	Sr. Operator, Integrated Operations Cent
60002484	Director , Data Analytics & Data Managem
60006303	Sr. Manager Regulatory Services
60005940	Tax Accountant Lead
3016148	Principal Scientist
60005710	Principal- Quality Assurance
60001180	Buyer
60005804	Sr. Operator, Integrated Operations Cent
60001562	Principal Technologist II
50405288	Senior Supply Chain Support Analyst
60003561	Software Engineer
60000970	Principal Infrastructure Engineer
50449965	Accounts Payable Specialist II (N)
60001204	Accountant III
50333201	Accountant IV
50062328	Cash Management Specialist II (N)
60006445	Intern Admin
60005732	Coordinator, Health and Safety
50566912	Sr EAM Project Manager
50099158	Director Rates and Regulatory
50383035	Expert Technologist
60005277	Vice President of Business Development a
60005775	Senior Business Process Consultant
60003160	Senior Technologist
60005394	Program Manager - Strategic Planning
60002356	Tax Accountant Lead
18611053	Sr EAM Project Manager
50550472	Senior Program Coordinator
60003556	Exec Asst to EMT (N)
60003395	Transactional Buyer
50069219	Dir Technology Expense Management
60005261	Sr Category Lead
60005796	Operator, Integrated Operations Center
18506755	Cash Management Specialist III (N)

50085802	Lead Client Technology ITS
3000457	Sr. Regulatory Analyst
24013971	Mgr Cust Comm (State)
60006110	Sr. Manager, Plant Accounting
50634743	Tax Accountant III
60001984	Accountant I (N)
60006720	Director - Tax Reporting and Compliance
60003765	Sr Bus Process Consul
60005802	Operator, Integrated Operations Center
60001976	Sr. Manager Acquisitions
60001695	Specialist, Physical Security
60002495	Accountant III
60001712	Lead Client Technology ITS
60005795	Supervisor, Integrated Operations Center
60003839	Scientist
50438106	Technology Expense Analyst
50011032	Supvr, Cash Accounting
3017979	Accounts Payable Specialist I (N)
50387614	Sr. Mgr Internal Audit
50343492	VP, Customer Service & Solutions
60000549	Principal Reg Analyst
50323974	Principal Product Manager
60001955	Accts Payable Spec II
60003461	Internal Auditor III
60006624	Operational Technology Support Specialis
50383273	Sr. Manager, Accounts Payable
60005505	Financial Analyst IIB
60002634	Senior Software Engineer
3017573	Sr Mgr Supply Chain Support
3002566	Divisional Controller
60005353	Senior Infrastructure Engineer II
60006346	Senior Manager, Business Hyperautomation
60001948	Sr Specialist Payroll (N)
60005332	Sr EAM Project Manager
60006914	Principal Financial Analyst
18709966	SVP Communications & External Affairs
60002640	Senior Software Engineer II
3017515	Accounts Payable Specialist III (N)
60006451	Specialist, Technology Field Services
50654149	Software Engineer
60006629	Infrastructure Engineer
60006371	Senior Project Manager
60001010	Mgr I Accounting
60005432	Regulatory Specialist / Database Librari
60005146	Software Engineer
50115035	Reliability Eng Manager
60002002	Sr EAM Project Manager

50248959	Category Manager
50414550	Legal Operations Manager
60005803	Sr. Operator, Integrated Operations Cent
60005887	Infrastructure Engineer
60003829	Multimedia Specialist- 4
50485334	Technologist
60006035	Infrastructure Engineer
60006683	Financial Analyst
50541813	Sr Reliability Engineering Analyst
60006507	Intern Admin
50146191	Sr Category Lead
51000271	Dir Acquisitions
50480255	Senior Technologist
50568165	Mgr Cash Management
60005798	Operator, Integrated Operations Center
3017576	Sr EAM Project Manager
60005794	Supervisor, Integrated Operations Center
60002347	Accountant III
60003803	Senior Technologist
50427029	Sr Hydrogeologist
50566916	Sr Buyer
60003587	Software Engineer
60005580	AP Specialist
60006355	Transactional Buyer
60003323	Senior Technologist
60003414	Senior Technologist II
60003684	Sr Specialist Payroll (N)
60003761	Senior Infrastructure Engineer
60003412	Senior Infrastructure Engineer II
50315421	Principal Regulatory Analyst
60005914	Specialist, Physical Security
60003804	Accountant IV
60003760	Senior Technologist
50566911	Sr Manager Regulatory Servs
60005341	EAM Project Manager
60003171	Accountant III
60005056	Program Manager - Strategic Planning
60005711	Infrastructure Engineer II
60006348	Lead, Quality Assurance
60002503	Senior Technologist II
50090809	Sr Tech Client Technology ITS
60003815	Software Engineer
50239365	Accounts Payable Specialist II (N)
50499769	Accountant II
50409428	Financial Analyst III
50233830	Principal Regulatory Analyst
10000229	President, Regulated Operations & MSG

60005457	Mgr Health and Safety Programs
60005516	Sr Specialist Safety
60005258	Senior Product Manager II
50654123	Internal Auditor II
60002630	Software Engineer II
50409494	Dir, Corporate Strategy
60001252	Sr. Project Manager Env & WQ
50437054	Internal Auditor III
50649586	Sr Dir, Asset Mgmt-Metering&Oper System
50477607	Senior Specialist, Physical Security
50244425	Tax Specialist II
60006628	Accountant
60006817	Accountant
50164869	VP, Business Development Strategy
50575289	Sr Tech Client Technology ITS
50408293	Specialist, Physical Security
50444433	Senior Technologist
60003771	VP, Enterprise Technology Solutions
60003603	Software Engineer II
60003659	Senior Scientist
60006366	Sr Accountant
60003369	Sr Category Lead
60006597	Business Process Specialist II
60003542	Admin Asst - Staff Supp (N)
60006370	Senior Project Manager
60006325	Content Creator/Curator
3018062	Project Mgr, Operational Excellence
60005157	Mgr Health and Safety Programs
60005108	Senior Scientist
60001943	Learning Consultant
51005185	Principal Infrastructure Engineer
60005099	Principal Program Coordinator
60003079	Senior Technologist II
60003468	Technologist
9015412	Mgr Automation & Controls (SCADA)
17003587	VP Regulatory Services
60005352	Technologist II
51000264	Sr Analyst Client Technology ITS
50551406	Sr EAM Project Manager
18623214	Analyst - Tariff Administration
60003416	Software Engineer II
60005053	Senior Technologist
60006806	Enterprise Architect
60005599	Supply Chain Support Analyst
18504371	Sr Dir, Environmental Leadership
60005385	Intern
60001552	Sr Analyst Client Technology ITS

50171199	Sr Mgr Internal Audit
60003698	Senior Technologist
60005469	Supply Chain Bus Intelligence Analyst
60001025	Director, Health and Safety
60005197	Software Engineer
60002027	Chief Procurement Officer
50325108	Sr EAM Project Manager
18505541	SVP, Chief Operational Excellence & Safe
60005265	Accountant III
60001002	Sr Technology Expense Analys
60003586	Software Engineer
60005681	Principal Technologist
60006807	IT Business Relationship Manager
60003743	Senior Technologist
60002824	Senior Technologist II
60001395	Tax Accountant Lead
60006516	Associate Director, Delivery Management
50570375	Supvr Accounts Payable
50622593	Associate Director - Platform
60002588	Dir Learning & Dev.
50654047	Manager Physical Security
60005181	Software Engineer
60001403	Sr Analyst Client Technology ITS
60000999	Accountant III
60000244	Sr EAM Project Manager
50437991	Principal Technologist II
60003083	Senior Technologist II
60003372	Principal Software Engineer
18678039	Sr Mgr, EAM
60006856	Internal Auditor II
60002180	Sr Dir, Digital Finance
60000527	Specialist, Physical Security
3018180	Sr Analyst Prfmc Rptng CSC (N)
50042211	Sr Mgr, EAM
60006608	Principal Plant Analyst
60005921	Senior Software Engineer II
60005929	Intern Admin
50615229	Accountant II
60002277	Analyst - Tariff Administration
60002863	Scientist
51000192	Tech Client Technology ITS
60002813	Software Engineer II
60003709	Mgr, Contracts
51000521	Infrastructure Engineer
50247296	Accounts Payable Specialist III (N)
60001244	Sr. Diversity Program Lead
60006185	Principal Business Consultant

50615230	Principal Regulatory Analyst
60006209	Principal Regulatory Analyst
50305215	Dir, Env Health & Safety Audit
60005503	Software Engineer
50218969	Accountant III
50429620	Divisional Controller
60001515	Tech Client Technology ITS
50408283	Specialist, Physical Security
60000988	Associate Director - Physical Security &
60002915	Senior Technologist II
60003264	Project Mgr, Enterprise Environmental WQ
60005718	Divisional Controller
60001907	Learning Designer
60000933	VP Treasurer
50199914	VP Chief M&A Counsel
51000182	Technology Procurement Analyst
60001076	Senior Program Coordinator
60001256	Senior Technologist II
18508241	Cash Management Specialist II (N)
60001485	Specialist, Physical Security
60005334	Senior Infrastructure Engineer
50201217	Senior Software Engineer
60003124	Associate Hydrogeologist
60005185	Sr Specialist Health & Safety
60002847	Technologist
60006902	Financial Analyst IIA
60006996	Specialist, Technology Field Services
60005357	Senior Technologist II
3001971	Lead Client Technology ITS
60001739	Manager, Integrated Operations Center
50491468	Mgr I Accounting
60005284	Software Engineer
50506035	Sr. Mgr, Financial Services
60005909	Coordinator - Physical Security
60006744	Scientist
60002819	Technologist II
60001719	Divisional Controller
50547633	Senior Software Engineer
50441512	Principal Business Process Consultant
60003178	Mgr Tax Reporting & Compliance
50655731	Principal Product Manager
60001396	Accounts Payable Specialist I (N)
60001401	Financial Analyst IV
50028532	Senior Technologist
60003672	Software Engineer II
60002166	VP, Labor Affairs and Community Engagemen
50323977	Principal Technologist II

50217359	Program Mgr, Corporate Giving
60001302	Software Engineer II
60005152	Software Engineer - Java
60005842	Intern Admin
60002599	Senior Technologist
50299072	Exec Asst (N)
60001254	Project Analyst
50299166	Engineering Practice Lead
3000204	SVP, Chief Enviro Officer & NJAW Preside
60003624	Tech Client Technology ITS
60003266	Software Engineer II
60002301	VP Safety Leadership
60003261	Technologist II
3000131	Principal Regulatory Analyst
60003588	Admin Assistant-Staff Support
60005360	Financial Analyst IIB
60005448	Scientist
50273031	Principal Regulatory Analyst
60003240	Principal, Corporate Finance
60002576	Software Engineer II
60001373	Internal Auditor II
60005426	Senior Software Engineer II
60002697	Senior Infrastructure Engineer II
60002904	Spec Wtr Qlty & Env Compl II
60005827	Senior Technologist II
60005472	Software Engineer
60006113	Contract Analyst
60003175	Software Engineer II
60005797	Supervisor, Integrated Operations Center
60003310	Technologist II
60003654	Technologist
50395995	Mgr Cust Comm (State)
60001167	Mgr Investment Rec/Inventory
50063939	Exec Asst (N)
3000003	Principal Regulatory Analyst
3000143	Financial Analyst III
18506683	Sr Mgr, EAM
60005742	Principal Business Analyst
60001268	Principal Technologist
22000088	Sr. Manager Regulatory Services
3016456	Project Manager Operations
60005722	Associate Director Technology Operations
60003260	Software Engineer
60005067	Fin Analyst IIA
60003100	Webmaster
60003490	Tech Client Technology ITS
60005054	Software Engineer

60003604	Software Engineer
50348193	Director , IT Architecture & Innovation
60005401	Project Mgr Bid Development
60003263	Principal Product Manager
60002164	Accountant II
60006690	Senior Project Manager
60005519	AI Researcher
60002355	Sr SC Business Intelligence Analyst
50516281	Principal Product Manager
60003575	Software Engineer
60002780	Director Rates and Regulatory
50552976	Principal Product Manager
60005386	Senior Infrastructure Engineer
50112416	Sr Reliability Engineering Analyst
60005517	Associate Director - Product Management
60002216	Dir Copr Procurement Categories
50502025	Sr Reliability Engineering Analyst
60000344	Senior Infrastructure Engineer
60005205	Sr. Payroll Specialist
50596877	Senior Mgr BIRS Revenue Analytics
60005195	Accountant I (N)
51005283	Infrastructure Engineer
60001980	Buyer
60003139	Sr. Dir External Communication
50638325	Technologist
60005373	Specialist, Physical Security
60005289	Senior Infrastructure Engineer
60002799	Buyer
60000830	Senior Technologist II
50345804	Principal Regulatory Analyst PT
3017835	Mgr, Learning & Development
50369122	Accounts Payable Specialist I (N)
50539667	Senior Technologist II
60002637	Principal Software Engineer
60003311	Software Engineer II
17003640	Transactional Buyer
60005506	Technologist II
60003259	Principal Software Engineer
60005454	Intern - Tax
60005279	Senior Technologist
60005089	Senior Technologist
50305144	VP, Digital Infrastructure & Security
60006867	Software Engineer II
60006946	Scientist
60005162	Infrastructure Engineer II
60006387	Financial Analyst
50305073	Sr EAM Project Manager

60005161	Senior Software Engineer- Java
50481432	Sr Principal, Finance
60002188	Mgr Budgeting & Int Reporting
50616321	Sr EAM Project Manager
60006412	Director Rates and Regulatory
60003669	Associate Technology Expens
50584125	Senior Product Manager II
60005927	Intern Admin
60000843	Director , Business Partnership & Delive
60003577	Software Engineer II
50031722	VP Internal Audit
60005144	Senior Technologist
50425924	Accounts Payable Specialist II
60005151	Principal Technologist
50323981	Sr Engineering Project Manager
60000860	Principal Client Technology
60001282	Sr Category Lead
60006231	Intern Admin
50114015	Infrastructure Engineer
3017395	Accountant III
50412396	VP, Technology Strategy & Governance
50366974	Financial Analyst III
60000898	Sr Buyer
3017514	Treasury Analyst III ShortTerm Financing
60003553	Supervisor - Tax
60000769	Sr. Operator, Integrated Operations Cent
60005145	Senior Technologist II
60005055	Senior Technologist
60006877	Operator, Integrated Operations Center
60005350	Senior Software Engineer II
60006072	Sr Analyst Client Technology ITS
50049784	Sr Mgr, Operational Excellence
50557980	Project Mgr, Enterprise Environmental WQ
50544666	Principal Infrastructure Engineer
60003518	Asst Treasurer
60005198	Sr. Payroll Specialist
60001659	Senior Technologist
60003531	Senior Business Process Consultant
60006293	Principal, Operational & Process Control
60005951	Director Rates and Regulatory
50080217	Accountant III
60002177	Mgr External Affairs (Corp)
50084609	Sr Mgr, Treasury
60000613	Mgr Sup Chain Bus Perf
50297720	Accountant IV
60005312	Principal Regulatory Analyst
50552234	Senior Technologist

50332082	Accountant II Cash Management
17003513	Sr Analyst Client Technology ITS
60003483	Compensation Analyst
60000133	Sr Manager Procurement - RG
50420233	Associate Director ,Technology Strategy
60001071	Sr Manager Procurement
18505111	Sr EAM Project Manager
60003110	Director, State Procurement
60005504	Senior Infrastructure Engineer
50434554	Regulatory Analyst
50344468	Senior Technologist II
60005470	Internal Auditor II
60006826	Operator, Integrated Operations Center
60005402	Program Manager - Strategic Planning
60000996	Financial Analyst III
60006465	Infrastructure Engineer II
60002684	Senior Technologist
60003035	Supervisor,Planner
50606394	Mgr Business Dev
50376817	Dir, Operational Excellence
60003742	Software Engineer
60002992	Technologist II
60005564	Intern Admin
60003643	Sr Analyst Client Technology ITS
60001219	Principal Technologist
60002636	Senior Technologist
3002229	Accounts Payable Specialist I (N)
18508195	Accounts Payable Specialist II (N)
50575288	Sr Technology Expense Analyst
3002531	Sr. Director Regulatory Services
18648403	Supvr, Cash Operations
50270557	Sr EAM Project Manager
60003736	Senior Technologist
18507643	Sr. Manager Regulatory Services
50196563	Principal Scientist
50036510	Senior Specialist, Physical Security
60001319	Senior Infrastructure Engineer II
60006528	Principal Business Process Specialist
60003476	Financial Analyst III
50270528	Senior Infrastructure Engineer
60005456	Software Engineer
60005748	Accountant I (N)
60001525	Mgr, Learning & Development
24007249	Sr Regulatory Revenue Analyst
51005358	Principal Infrastructure Engineer
50097960	Accountant III
60002242	Sr Mgr, Nat'l Supplier Diversity

3017840	Sr. Manager Regulatory Services
60006579	Financial Analyst
50404178	Planning Engineer
60003681	Accountant I (N)
50075099	Category Manager
50525790	Principal - BIRS
50493791	Principal Program Coordinator
60002170	Learning Systems Specialist
60003457	Software Engineer II
51000568	Senior Business Analyst
60002293	Supply Chain Support Analyst
60003417	Senior Software Engineer II
60005889	Scientist
24007076	Transactional Buyer
60005459	Software Engineer

Kentucky-American Water Company
Case No. 2023-00191
2022 Service Company Labor Allocations and Position Titles

Total 2022 Service Company Labor (incl. benefits) Allocation to Kentucky-American	\$5,528,705
Total 2022 Service Company Performance Pay Allocation to Kentucky-American	\$1,373,501
Total 2022 Service Company Labor Allocation to Kentucky-American	\$6,902,206

Employee Number	Position Title
60006996	Specialist, Technology Field Services
60003319	Manager, Advanced Analytics
60003814	Senior Solution Engineer
60000992	Sr Manager, DevSecOps
50302498	Admin Asst IV Rates & Regulatory (N)
50426972	Dir Engineering (Large 2)
60000244	Sr. Program Manager, EAM-GIS
60006549	Technologist
50231146	Accountant
60001437	Senior Technologist
50392907	Sr Eng Automation & Controls (SCADA)
60003535	Senior Technologist
60005800	Sr. Operator, Integrated Operations Cent
50604492	Principal Business Process Specialist
60003682	Content Creator/Curator
60003061	Senior Solution Engineer
60002012	Content Creator/Curator
3003464	Cash Management Specialist II (N)
60006550	Senior Manager, Business Analysis
60001553	Senior Business Process Specialist
60006834	Sr Financial Analyst
50433360	Sr Dir Internal Communication
60005109	Internal Auditor II
60006237	Supply Chain Support Analyst
60007007	Intern Admin
60007827	Coordinator, Health and Safety
3017934	Manager, Tax
60002040	Tax Accountant II
50396021	Specialist, Physical Security
60002302	Associate Director, Enterprise Systems O
60003265	Scientist
60001789	Sr Manager, ESD ERP

60001437	Senior Technologist
60005607	Accountant
60006677	Financial Analyst
60005548	Associate Director, Software Engineering
50325156	Sr Dir Budget, Int Rprtng & Rev Analytics
60001658	Senior Infrastructure Engineer
50027598	Sr. Director Rates and Regulatory
50220148	Category Manager
60005301	Director, Cyber Security & Privacy
60005585	SVP, Planning, Regulatory and Financial
60000416	Dir, Eng-Electrical Design & Planning
60005799	Sr. Operator, Integrated Operations Cent
60007501	Intern Admin
60002484	Sr Dir, Data Analytics & Data Management
60006303	Sr. Manager Regulatory Services
3016148	Principal Scientist
60005710	Sr. Manager, Quality Assurance
60001180	Sr Category Lead
60005804	Specialist, Technology Field Services
60001562	Associate Director, Enterprise Systems D
60007413	Supply Chain Business Intelligence Anly
60007497	Senior Project Manager
50405288	Senior Supply Chain Support Analyst
60000970	Sr Manager End Point & Collaboration
50449965	Sr Accounts Payable Specialist
60001204	Sr Accountant
60007441	Technologist
50333201	Principal Regulatory Analyst
50062328	Cash Management Specialist II (N)
60005732	Coordinator, Health and Safety
50566912	Sr EAM Project Manager
50099158	Sr. Director Rates and Regulatory
50383035	Expert Technologist
60005775	Senior Business Process Specialist
60007762	Sr Principal Regulatory Analyst
60002356	Manager, Tax
18611053	Sr EAM Project Manager
60007719	Financial Analyst
60001076	IT Business Relationship Manager
50550472	Senior Business Process Specialist
60008118	Principal Regulatory Analyst
60003556	Exec Asst to EMT (N)
60003395	Transactional Buyer
50069219	Principal Business Process Specialist
3016948	Sr. Dir Finance
60005261	Sr Category Lead
60005796	Operator, Integrated Operations Center

18506755	Cash Management Specialist III (N)
50085802	Sr Specialist, Technical Support - Execu
3000457	Sr. Regulatory Analyst
60005500	Sr. Diversity Program Lead
24013971	Sr Mgr, External Communications
60006110	Sr. Manager, Plant Accounting
50634743	Sr Tax Accountant
60001984	Accountant
60006720	Director - Tax Reporting and Compliance
60003765	Senior Business Process Specialist
60005802	Operator, Integrated Operations Center
60007211	Financial Analyst
60001976	Sr. Manager Acquisitions
60001695	Specialist, Physical Security
60002495	Lead Accountant
60001712	Manager, Technology Field Services
60005795	Supervisor, Integrated Operations Center
60003839	Scientist
50438106	Infrastructure Engineer
50011032	Supvr, Cash Accounting
60002842	Spec Ops Support Cust Rltns
3017979	Associate AP Specialist
50387614	Director, Internal Audit
50343492	VP, Customer Service & Solutions
60000549	Principal Regulatory Analyst
50323974	HR Business Partner
60001955	Sr Accounts Payable Specialist
60003461	Mgr Internal Audit
60006624	Operational Technology Support Specialis
50383273	Sr. Manager, Accounts Payable
60002634	Senior Software Engineer
3017573	Sr Manager Supply Chain Support
3002566	Controller, Operations
60003340	VP Chief Environmental & Safety Officer
60005353	Senior Technologist II
60002801	Buyer
60006346	Senior Manager, Business Hyperautomation
60001948	Sr Specialist Payroll (N)
60005332	Sr EAM Project Manager
18709966	SVP Communications & External Affairs
60002640	Senior Software Engineer II
3017515	Lead Account Specialist
60007840	Senior Technologist
60006451	Specialist, Technology Field Services
50654149	Technologist II
60006629	Infrastructure Engineer
60007339	Procurement Specialist

60006371	Senior Project Manager
60005432	Regulatory Specialist / Database Librari
60006999	Financial Analyst
50115035	Reliability Eng Mgr
60002002	Sr EAM Project Manager
50248959	Category Manager
50414550	Legal Operations Manager
60005803	Sr. Operator, Integrated Operations Cent
60005887	Technologist
60003829	Multimedia Specialist
50485334	Senior Technologist
60006035	Infrastructure Engineer
60006683	Financial Analyst
50541813	Sr Reliability Engineering Analyst
50146191	Sr Category Lead
51000271	Asst Treasurer
50480255	Sr Manager, Data Engineering
50568165	Mgr Cash Management
60007767	Senior Solution Engineer
60005798	Operator, Integrated Operations Center
3017576	Sr Program Manager, Business Performance
60005794	Supervisor, Integrated Operations Center
60003803	Senior Technologist
50427029	Sr Hydrogeologist
50566916	Sr Buyer
60003587	Software Engineer
60006355	Transactional Buyer
60007093	Sr. Manager Acquisitions
60007089	Intern Admin
60003323	Senior Technologist
60003414	Senior Software Engineer II
50289586	Sr Mgr, Treasury
60003684	Sr Specialist Payroll (N)
60003761	Senior Infrastructure Engineer
60003412	Enterprise Architect
50315421	Sr Mgr Rates & Regulatory
60005914	Specialist, Physical Security
60003804	Mgr Accounting Operations
50220274	Specialist, Technology Field Services
60005341	Capital Program Administrator
60003171	Sr Accountant
60005056	Program Manager
60005711	Technologist II
60006348	Lead, Quality Assurance
50090809	Specialist, Technology Field Services
60003815	Technologist
60006987	Intern Admin

50239365	Sr Accounts Payable Specialist
50499769	Sr Accountant
60006914	Principal Financial Analyst
50409428	Supervisor Financial Analyst
50233830	Sr. Manager Regulatory Services
60005457	Mgr Health and Safety Programs
60007588	Sr. Manager, Cyber Security Operations
60005516	Lead Health & Safety Specialist
50538416	Project Manager Operations
50654123	Lead Accountant
50655782	Spec Ops Support Cust Rltns
60002630	Technologist II
60007641	Specialist, Technology Field Services
50427050	Engineering Practice Lead
50437054	Mgr Internal Audit
50649586	Sr Dir, Asset Mgmt-Metering&Oper System
50477607	Senior Specialist, Physical Security
50244425	Tax Specialist II (N)
60006628	Accountant
60006817	Accountant
50164869	VP, Business Development Strategy
50575289	Specialist, Technology Field Services
50408293	Senior Specialist, Physical Security
50444433	Senior Technologist
60005319	Employee Experience Business Partner
60003603	Lead Software Engineering
24007022	Project Analyst
60003659	Senior Scientist
60006366	Sr Accountant
50297742	Project Manager - Meter Operations
60003369	Sr Category Lead
60006597	Business Process Specialist II
60007569	Associate AP Specialist
24007474	Mgr Customer Relations
60003542	Admin Asst - Staff Supp (N)
60006370	Senior Project Manager
3018062	Project Mgr, Operational Excellence
60005157	Dir Health & Safety (Ops)
60001943	Learning Consultant
60005099	Sr. Manager, PMO
60003079	Enterprise Architect
60003468	Technologist
60007763	Financial Analyst
60007589	Accountant
17003587	VP Regulatory Services
60005352	Senior Technologist
60007232	Associate Project Manager EAM

51000264	Specialist, Technology Field Services
50551406	Sr EAM Project Manager
18623214	Analyst - Tariff Administration
60003416	Software Engineer II
60005053	Senior Technologist
60006806	Enterprise Architect
60005599	Supply Chain Support Analyst
18504371	Sr Dir, Environmental Leadership
60001552	Specialist, Technology Field Services
50171199	Principal Technologist
60007679	Operator, Integrated Operations Center
60005469	Supply Chain Business Intelligence Analy
60007817	Sr. Manager, PMO
60001025	Dir, Health & Safety
60005197	Software Engineer - Java
60002027	Chief Procurement Officer
50325108	Sr EAM Project Manager
18505541	SVP, Chief Operational Excellence & Safe
60005265	Sr Accountant
50655831	CSO Quality Analyst
60001002	Mgr Finance
60003586	Technologist
60001002	Mgr Finance
60002204	Sr Mgr Business Performance
60005681	Sr Manager, Enterprise Systems Operation
60006807	IT Business Relationship Manager
60007405	Principal Business Analyst Payroll/HR
60003743	Senior Solution Engineer
60002824	Senior Technologist II
60001395	Principal Tax Accountant
60006516	Associate Director, Delivery Management
50570375	Supvr Accounts Payable
50622593	Director, Software Engineering & Platfor
50654047	Manager Physical Security
60005181	Senior Software Engineer II
60001403	Manager, Technology Field Services
60007705	Senior Technologist
50437991	Enterprise Architect
60003083	Senior Technologist II
60003372	Principal Software Engineer
60006397	Accountant
18678039	Sr Mgr, EAM
60006856	Internal Auditor II
60000527	Senior Specialist, Physical Security
50042211	Sr Mgr, EAM
60002277	Analyst - Tariff Administration
60006733	Accountant

51000192	Technician, Technology Field Services
3016678	Manager, Tariff Administration
50247296	Legal Operations Coordinator
60006360	Plant Operator
60006185	Principal Business Process Specialist
50589596	WQ & Env Compliance Lead
50615230	Principal Regulatory Analyst
60007537	Sr Procurement Specialist
60006209	Principal Regulatory Analyst
50305215	Dir Env Health & Safety Audit
60005503	Technologist
50218969	Accountant III (PT)
60001515	Sr. Operator, Integrated Operations Cent
50408283	Project Coordinator
60000988	Associate Director - Physical Security &
60007586	Senior Project Manager
60002915	Senior Solution Engineer
60007879	Sr Specialist Payroll (N)
60001907	Content Creator/Curator
60000933	VP Treasurer
50657031	Spec Ops Support Cust Rltns
60001256	Enterprise Architect
60007759	Sr. Operator, Integrated Operations Cent
51000167	Supervisor - Meter Operations
18508241	Cash Management Specialist II (N)
60001485	Specialist, Physical Security
60005334	Senior Infrastructure Engineer
50201217	Senior Software Engineer
60003124	Associate Hydrogeologist
60002847	Technologist
60006902	Financial Analyst IIA
60005357	Senior Solution Engineer
3001971	Sr. Manager, Technology Field Services
60001739	Manager, Integrated Operations Center
50491468	Mgr, Accounting
60005284	Technologist
50506035	Senior Manager, Financial Services
60005909	Business Process Associate
60006744	Scientist
60001719	Controller, Operations
60007552	Dir Acquisitions
50547633	Senior Technologist
50441512	Associate Director Technology Governance
60003178	Sr Manager, General Tax Reporting & Comp
50655731	Principal Project Manager
60001396	Accounts Payable Specialist
60001401	Supervisor Financial Analyst

50028532	Senior Technologist
50323977	Sr Manager, Enterprise GIS
60002901	Dir Health & Safety (Ops)
60007125	Lead Health & Safety Specialist
60005152	Technologist
60005842	Accountant
60002599	Senior Technologist
50299072	Exec Asst to EMT (N)
60001254	EAM Project Manager
3000204	EVP & COO
60003624	Technician, Technology Field Services
60003266	Software Engineer
60001071	Sr Mgr Procurement
50200149	Sr Accountant
60002301	VP Safety Leadership
60003261	Senior Business Process Specialist
3000131	Sr. Manager Regulatory Services
60003588	Sr Specialist Payroll (N)
60005360	Financial Analyst
60002924	Accountant
60002923	Coordinator FRCC U648FC
50273031	Sr. Manager Regulatory Services
60002576	Technologist II
60001373	Regulatory Analyst
60005426	Manager, Software Engineering
60002697	Principal Infrastructure Engineer
60002904	Project Manager, WQ & Env Excellence
60005827	Manager, Enterprise Systems Operations (
60006113	Contract Analyst
60003175	Technologist II
60005797	Supervisor, Integrated Operations Center
60003310	Technologist II
60003654	Technologist
50395995	Sr Mgr, External Communications
50063939	Exec Asst (N)
3000003	Principal Regulatory Analyst
3000143	Sr. Regulatory Analyst
18506683	Sr Mgr, EAM
60005742	Principal Business Analyst
60001268	Principal Solution Engineer
60007701	Financial Analyst IIA
60005722	Associate Director Infrastructure Operat
3016132	Sr Design Engineer
60005067	Financial Analyst
60007272	Senior Infrastructure Engineer
60003100	Webmaster
60007696	Software Engineer

60005054	Software Engineer
50348193	Sr Dir, IT Architecture & Innovation
60005401	Sr Manager, Government and External Affa
60007659	Regulatory Specialist / Database Librari
60002164	Sr Accountant
60006690	Senior Project Manager
60002355	Sr Financial Analyst
50516281	IT Business Relationship Manager
60003575	Software Engineer
60002780	Director Rates and Regulatory
60005386	Senior Infrastructure Engineer
50112416	Sr Reliability Engineering Analyst
60005517	Principal Project Manager
60002216	Dir Corporate Procurement & National Cat
50284062	Manager, Tariff Administration
50502025	Sr Reliability Engineering Analyst
60000344	Senior Infrastructure Engineer
60005205	Sr Specialist Payroll (N)
50596877	Sr Mgr BIRS
60005195	Accountant
50326971	Sr. Regulatory Analyst
60003139	Sr Dir Ext Communications
60005373	Specialist, Physical Security
60005289	Senior Project Manager
60000830	Sr. Manager, Mergers & Acquisitions
60007452	Mgr Int Comm (State)
60006801	Accountant
3017835	Learning Advisor
50369122	Accounts Payable Specialist
50539667	Sr. Manager, API & Integration
60002637	Sr Manager, ESD EAM/MapCall
60007090	Sr Tax Accountant
60003311	Software Engineer II
60005506	Technologist II
60003259	Principal Software Engineer
60005279	Senior Technologist
60005089	Manager - Data Governance
50305144	VP, Digital Infrastructure & Security
60006867	Software Engineer II
60005162	Infrastructure Engineer II
60006387	Financial Analyst
50305073	Sr EAM Project Manager
60006608	Principal Plant Analyst
60005161	Senior Software Engineer- Java
60002188	Principal Regulatory Analyst
50616321	Sr EAM Project Manager
60006412	Director Rates and Regulatory

60003669	Associate Technology Expense Analyst
60007521	Intern Admin
50584125	Senior Business Analyst
60000843	Sr Dir, Business Partnership & Delivery
60003577	Technologist II
60000466	Sr Accountant
50031722	VP, Enterprise Risk and Internal Audit
60005144	Senior Solution Engineer
50425924	Lead Account Specialist
50323981	Sr Engineering Project Manager
60000860	Principal, Technology Field Services
50114015	Technologist
60002887	Executive Projects Coord
3017395	Sr Accountant
60007724	Infrastructure Engineer
50598903	Dir, Integrations
50412396	VP, Technology Strategy & Governance
50366974	Principal Regulatory Analyst
60006946	Scientist
60000898	Sr Buyer
3017514	Sr Treasury Analyst
60003553	Manager, Tax
60000769	Sr. Operator, Integrated Operations Cent
60005145	Sr Manager Data Products
60006877	Operator, Integrated Operations Center
60007491	Lead Account Specialist
60007071	Intern Admin
50049784	Sr Mgr, Operational Excellence
50557980	Manager WQ & Env Compliance
60007828	Accounts Payable Specialist
50544666	Sr. Manager, Infrastructure Operations
60003518	VP, Business Development
60005198	Sr Specialist Payroll (N)
60001659	Senior Business Process Specialist
60003531	Senior Business Process Specialist
60006293	Principal, Operational & Process Control
60007108	Infrastructure Engineer
60005951	Sr. Director Rates and Regulatory
50080217	Sr Accountant
60002177	Mgr External Affairs (Corp)
50084609	Sr Mgr BIRS
60000613	Manager Supply Chain Business Performanc
50297720	Principal Regulatory Analyst
50552234	Senior Technologist
50332082	Accountant
17003513	Specialist, Technology Field Services
50420233	Associate Director ,Technology Strategy

50420131	Sr Design Engineer
60003483	Compensation Analyst
18505111	Sr EAM Project Manager
60003110	Director, State Procurement
60005504	Manager, Network & Telephony
50434554	Sr. Regulatory Analyst
60006269	Associate, Supply Chain Rotational Progr
50344468	Manager Platform Tools
60006847	Accountant
60007018	Intern Admin
60001758	Talent Development Business Partner
60006826	Operator, Integrated Operations Center
60006866	Software Engineer II
60000996	Sr Financial Analyst
60006465	Infrastructure Engineer II
60002684	Senior Technologist
50606394	Mgr Business Dev
50376817	Dir, Operational Excellence
60003742	Technologist
60005378	Mgr Int Comm (State)
60005564	Associate, Supply Chain Rotational Progr
60003643	Specialist, Technology Field Services
60001219	Principal Technologist
60002636	Senior Technologist
24006988	Spec Ops Support Cust Rltns
18508195	Sr Accounts Payable Specialist
50575288	Principal Business Process Specialist
3002531	Sr. Director Regulatory Services
18648403	Supvr, Cash Operations
50270557	Sr EAM Project Manager
60003736	Senior Technologist
18507643	Sr. Manager Regulatory Services
50196563	Principal Scientist
50036510	Senior Infrastructure Engineer
60001319	Principal Infrastructure Engineer
60006528	Principal Business Process Specialist
60003476	Supervisor Financial Analyst
50270528	Senior Infrastructure Engineer
60007000	Software Engineer II
50217359	Mgr, Corporate and Foundation Relations
60005748	Accountant
60001525	Mgr, Learning & Development
50097960	Lead Accountant
60002242	Sr Manager National Supplier Diversity
60006579	Regulatory Analyst
50404178	Planning Engineer
50075099	Category Manager

50525790	Principal BIRS
50493791	Associate Director, Technology Spend Man
60001247	Sr Mgr Procurement
51000568	Senior Business Analyst
60006974	Intern Admin
60005889	Scientist
60000051	Coordinator FRCC U648FC

Kentucky-American Water Company**Case No. 2023-00191****YTD June 2023 Service Company Labor Allocations and Position Titles**

Total 2023 Service Company Labor (incl. benefits) Allocation to Kentucky-American	\$2,735,518
Total 2023 Service Company Performance Pay Allocation to Kentucky-American	\$835,113
Total 2023 Service Company Labor Allocation to Kentucky-American	\$3,570,631

Employee Number**Position Title**

3000129	Sr. Customer Experience(CX) Business Par
60006996	Specialist, Technology Field Services
60002865	Principal Fleet Planning Analyst
60008212	Principal Solution Engineer
60003814	Principal Solution Engineer
60007954	Senior Technologist
60000992	Sr Manager, DevSecOps
50302498	Admin Asst IV Rates & Regulatory (N)
50426972	Dir Engineering
60006549	Technologist
50231146	Accountant
60001437	Senior Technologist
50392907	Sr Engineering Project Manager (A&C)
60003535	Senior Technologist
60008143	Sr. Manager Regulatory Services
60005800	Supervisor, Integrated Operations Center
60008125	Principal Software Engineer
50604492	Principal Business Process Specialist
60003061	Senior Solution Engineer
3003464	Accounts Payable Specialist
60006550	Senior Manager, Business Analysis
17003473	Program Mgr, Customer Experience
50433360	Sr Dir Internal Communication and Employ
60005109	Internal Auditor II
60006237	Supply Chain Support Analyst
60007007	Intern Admin
60007827	Coordinator, Health and Safety
3017934	Sr. Manager, Income Tax
60002040	Tax Accountant II
50396021	Senior Specialist, Physical Security
60008314	Intern Admin
60003265	Scientist
60001789	Sr Manager, ESD ERP
60007861	Senior Technologist

50281530	Metering Systems Administrator
60005607	Accountant
60005548	Associate Director, Software Engineering
50325156	Sr Dir Budget, Int Rprtng & Rev Analytics
50502017	Sr Program Mgr, Customer Experience
60001658	Senior Infrastructure Engineer
50027598	Sr. Director Rates and Regulatory
50220148	Principal Procurement Specialist
60005301	Director, Cyber Security & Privacy
60005585	SVP Deputy CFO & Treasurer
60000416	Dir, Eng-Electrical Design & Planning
50107211	Meter Operations Technical Specialist
60005799	Sr. Operator, Integrated Operations Cent
3016671	CSO Sr. Quality Analyst
60007501	Intern Admin
60002484	Sr Dir, Data Analytics & Data Management
60008094	Business Development Specialist (Corp)
60008118	Principal Regulatory Analyst
60006303	Sr. Manager Regulatory Services
50277448	Mgr, Learning & Development
3016148	Principal Scientist
60005710	Sr. Manager, Quality Assurance
60006973	Fleet Ops Specialist
60005804	Specialist, Technology Field Services
60001562	Dir Enterprise Systems Development
60007890	Sr Customer Experience Analyst
60007413	Supply Chain Business Intelligence Analy
60007497	Senior Project Manager
50405288	Manager Supply Chain Business Performanc
60000970	Sr Manager End Point & Collaboration
50449965	Accounts Payable Specialist
60001204	Sr Accountant
50615809	Admin Asst (N)
60007441	Technologist
50333201	Principal Regulatory Analyst
50062328	Cash Management Specialist II (N)
60005732	Mgr Health and Safety Programs
50566912	Sr EAM Project Manager-W&WW
50099158	Sr. Director Rates and Regulatory
50383035	Expert Technologist
50198958	Trainer II
60005775	Senior Business Process Specialist
60007762	Sr Principal Regulatory Analyst
60002356	Manager, Tax
18611053	Sr Mgr, Meter Data Quality Control
60007719	Financial Analyst
60001076	IT Business Relationship Manager

51000821	Principal Regulatory Analyst
60003556	Exec Asst to EMT (N)
50069219	Principal Business Process Specialist
3016948	Sr Dir Business Performance
60005261	Sr Procurement Specialist
18506755	Cash Management Specialist III (N)
50085802	Sr. Specialist, Technology Field Service
3000457	Sr. Regulatory Analyst
50425978	Analyst - Tariff Administration
24013971	Sr Mgr, External Communications
60006110	Sr. Manager, Plant Accounting
50476675	Admin Asst (N)
50634743	Sr Tax Accountant
60001984	Accountant
60005802	Operator, Integrated Operations Center
60007211	Financial Analyst
60001695	Specialist, Physical Security
60002495	Lead Accountant
60001712	Manager, Technology Field Services
3000197	Sr. Customer Experience(CX) Business Par
60005795	Supervisor, Integrated Operations Center
60003839	Scientist
50438106	Senior Infrastructure Engineer
60006948	Workforce Manager
50011032	Supvr, Cash Accounting
60002410	Admin Asst (N)
50387614	Director, Internal Audit
50343492	VP Chief Customer Officer
60000549	Principal Regulatory Analyst
60001955	HR Coordinator
60003461	Mgr Internal Audit
60006624	Operational Technology Support Specialis
50383273	Sr. Manager, Accounts Payable
60002634	Senior Software Engineer
60003340	VP Chief Environmental & Safety Officer
60006768	Treasury Capital Markets Analyst III
60006976	Mgr Call Handling
60005150	SVP-Deputy COO
60001948	Sr Payroll Analyst
60005332	Sr Mgr, Meter Operations
18709966	SVP Communications & External Affairs
3017165	Trainer II
60002640	Senior Software Engineer II
3017515	Lead Account Specialist
60007840	Senior Technologist
60006451	Specialist, Technology Field Services
60007339	Procurement Specialist

50039533	HR Data Analyst
60005432	Regulatory Analyst
3017162	Sr Program Mgr, Customer Experience
60006999	Financial Analyst
50115035	Reliability Eng Mgr
60002002	Sr EAM Project Manager-W&WW
50248959	Principal Procurement Specialist
60005803	Sr. Operator, Integrated Operations Cent
60005887	Senior Infrastructure Engineer
60003829	Digital Media Manager
50053128	Trainer II
60000393	Dir Valuation Strategies
50485334	Senior Technologist
60006035	Infrastructure Engineer
60006683	Sr Financial Analyst
50541813	Sr Reliability Engineering Analyst
50146191	Sr Procurement Specialist
51000271	Asst Treasurer
50480255	Sr Manager, Data Engineering
50568165	Mgr Cash Management
60007767	Senior Solution Engineer
60005798	Operator, Integrated Operations Center
3017576	Sr Program Manager, Business Performance
60005794	Supervisor, Integrated Operations Center
60003803	Senior Technologist
50427029	Engineering Practice Lead, Hydrogeologis
50198960	Specialist Business Svcs
60006355	Associate Procurement Specialist
60007093	Sr. Manager Acquisitions
3016378	Workforce Specialist
60003323	Senior Technologist
60003414	Senior Software Engineer II
60003684	Payroll Analyst
60003761	Principal Infrastructure Engineer
60003412	Enterprise Architect
50315421	Sr Mgr Rates & Regulatory
60005914	Specialist, Physical Security
60003690	Workforce Specialist
50202870	Trainer III
60003804	Mgr Accounting Operations
50220274	Specialist, Technology Field Services
60005341	Financial Analyst
60003171	Sr Tax Accountant
60005711	Technologist II
60006348	Lead, Quality Assurance
60002503	Sr. Manager, ESD MTC
50090809	Specialist, Technology Field Services

50239365	Sr Accounts Payable Specialist
50499769	Sr Accountant
50058246	Customer Experience(CX) Business Partner
50233830	Sr. Manager Regulatory Services
60007588	Sr. Manager, Cyber Security Operations
60006381	Dir Customer Relations
3017854	CSO Sr. Quality Analyst
50538416	Project Mgr, Operational Excellence
50654123	Lead Accountant
60000785	Sr CSO Business Analyst
60002630	Technologist II
60007641	Specialist, Technology Field Services
50427050	Engineering Practice Lead
50437054	Mgr Internal Audit
50649586	Sr Dir, Asset Mgmt-Metering&Oper System
50477607	Senior Specialist, Physical Security
60008037	Principal Regulatory Analyst
60006628	Accountant
60006817	Staff Accountant
50582251	Director Customer Accounts
50164869	VP, Business Development Strategy
50575289	Specialist, Technology Field Services
50408293	Senior Specialist, Physical Security
50444433	Senior Technologist
60002285	Dir Customer Insights and Performance
60003603	Manager, Software Engineering
60003659	Senior Scientist
60006366	Lead Accountant
50297742	Project Manager - Meter Operations
60007569	Associate AP Specialist
60008302	Payroll Tax Analyst
60006370	Principal Project Manager
3018062	Project Mgr, Operational Excellence
60005157	Dir Health & Safety (Ops)
60000284	Mgr Health and Safety Programs
60003079	Enterprise Architect
60003468	Technologist
60007763	Financial Analyst
60007589	Accountant
17003587	VP Regulatory Services
60008374	Intern Admin
60007232	Associate Project Manager EAM
51000264	Specialist, Technology Field Services
50551406	Sr EAM Project Manager
3017079	Associate Project Manager/Sr Release Sup
60005053	Senior Technologist
60006806	Enterprise Architect

60005599	Supply Chain Support Analyst
18504371	Sr Dir, Environmental Leadership
60001552	Specialist, Technology Field Services
3016238	CSO Sr. Quality Analyst
50276499	Sr CSO Business Analyst
50171199	Sr. Manager, Data Governance
50198948	Sr. Customer Experience(CX) Business Par
60007679	Operator, Integrated Operations Center
60005469	Supply Chain Business Intelligence Analy
60008321	Accounts Payable Specialist
60007817	Sr. Manager, PMO
60005197	Senior Software Engineer
60002027	SVP Supply Chain & Strategic Projects
50325108	Sr EAM Project Manager-W&WW
18505541	SVP, Chief Operational Excellence Office
50655831	EAM Project Manager
60001883	Scientist
60001002	Mgr Finance
50411320	Mgr Finance
60007943	Internal Auditor III
50335865	Director Tariff Administration
60002204	Sr Mgr Business Performance
60005681	Sr Manager, Enterprise Systems Operation
60006807	IT Business Relationship Manager
60007405	Principal Business Analyst Payroll/HR
60003743	Senior Solution Engineer
60002824	Senior Technologist II
60001395	Principal Tax Accountant
60006516	Associate Director, Delivery Management
50570375	Mgr Accounting Operations
60008397	Fleet DOT Compliance Program Manager
50622593	Director, Business Solutions
50654047	Manager Physical Security
60001403	Manager, Technology Field Services
60007705	Senior Technologist
50424631	Mgr Engineering
60008043	Sr Financial Analyst
60003083	Senior Technologist II
60006397	Accountant
18678039	Sr Mgr, EAM
60002174	Meter Operations Technical Specialist
60000527	Senior Specialist, Physical Security
50042211	Sr Mgr, EAM
50027582	Sr. Customer Experience(CX) Business Par
51000192	Technician, Technology Field Services
50584105	Workforce Specialist
50247296	Legal Operations Coordinator

60006360	Internal Auditor - Operations and Compli
60000541	Principal Regulatory Analyst
60006185	Dir Corp Counsel
50589596	Sr. Project Manager Env & WQ
50615230	Principal Regulatory Analyst
60005485	Fleet Operations Manager
60007537	Sr Procurement Specialist
60008245	Financial Analyst
60006209	Principal Regulatory Analyst
60005503	Technologist
50218969	Accountant III (PT)
50408283	Senior Project Manager
60000988	Director, Business Continuity Program
60007586	Senior Project Manager
60007879	Sr Specialist Payroll (N)
60008012	Senior Manager, Intelligent Automation
60000933	VP Finance
50657031	Spec Ops Support Cust Rltns
3018081	Analyst - Tariff Administration
60001256	Enterprise Architect
60000378	Senior Technologist
60007759	Sr. Operator, Integrated Operations Cent
51000167	Supervisor - Meter Operations
18508241	Cash Management Specialist II (N)
60001485	Specialist, Physical Security
60005334	Business Continuity Program Manager
60008079	Sr. Operator, Integrated Operations Cent
50201217	Manager, Software Engineering
60003124	Associate Hydrogeologist
50198892	Project Manager Operations
60002847	Senior Technologist
60005001	Sr Financial Analyst
60005357	Principal Solution Engineer
3001971	Sr. Manager, Technology Field Services
60001739	Manager, Integrated Operations Center
50491468	Mgr, Accounting
24006612	Manager, Customer Service Center
60005284	Technologist
50506035	Senior Manager, Financial Services
60005909	Business Process Associate
60006744	Scientist
60006619	Sr Dir Business Performance
60001719	Controller, Operations
60007552	Dir Acquisitions
50547633	Senior Technologist II
50441512	Associate Director Technology Governance
60003178	Dir, General Tax

50655731	Principal Project Manager
60001396	Associate AP Specialist
50028532	Senior Technologist
50323977	Sr Manager, Enterprise GIS
60002901	Dir, Health & Safety
60008372	Intern Admin
60007125	Lead Health & Safety Specialist
60005842	Accountant
60002599	Senior Technologist II
50299072	Exec Asst to EMT (N)
60001254	EAM Project Manager
3000204	EVP & COO
60003266	Software Engineer
50200149	Sr Accountant
60003261	Senior Business Process Specialist
3016862	Sr CSO Business Analyst
60003588	Payroll Analyst
60005360	Financial Analyst
60002924	Accountant
50273031	Sr. Manager Regulatory Services
60002576	Senior Technologist
60001373	Sr. Regulatory Analyst
60005426	Principal Software Engineer
60002697	Principal Infrastructure Engineer
60002904	Project Manager, WQ & Env Excellence
60005827	Sr. Manager, Enterprise Systems Operatio
60006113	Contract Analyst
60003175	Senior Technologist
60005797	Infrastructure Engineer
50212327	Customer Experience(CX) Business Partner
50395995	Sr Mgr, External Communications
3000143	Principal Regulatory Analyst
18506683	Sr Mgr, EAM
60005742	Principal Business Analyst
60007701	Financial Analyst IIA
60008096	Sr Manager, Tax
60005722	Associate Director Infrastructure Operat
3016132	Sr Design Engineer
60008055	IT Business Relationship Manager
60003260	Senior Technologist
60005067	Sr Financial Analyst
60007272	Senior Infrastructure Engineer
60003100	Webmaster
60007696	Software Engineer
60001985	Program Mgr, Customer Experience
60005054	Senior Software Engineer
50348193	Sr Dir, IT Architecture & Innovation

60007659	Regulatory Specialist / Database Librari
60002164	Sr Accountant
50033303	Sr CSO Business Analyst
50516281	IT Business Relationship Manager
60002780	Sr. Director Rates and Regulatory
60005386	Senior Infrastructure Engineer
50112416	Sr Reliability Engineering Analyst
50113909	Workforce Analyst
60002216	Sr. Dir Supply Chain
50284062	Manager, Tariff Administration
50502025	Sr Reliability Engineering Analyst
60000344	Senior Infrastructure Engineer
50326971	Senior Analyst - Tariff Administration
60003139	Sr Dir Ext Communications
60005289	Senior Project Manager
60000830	Sr. Manager, Mergers & Acquisitions
60007452	Mgr Int Comm (State)
60006801	Accountant
50369122	Associate AP Specialist
50539667	Sr. Manager, API & Integration
60002637	Sr Manager, ESD EAM/MapCall
60007090	Sr Tax Accountant
60005506	Technologist II
60003259	Principal Software Engineer
60005279	Senior Technologist
50305144	VP, Digital Infrastructure & Security
60006867	Software Engineer II
60006387	Financial Analyst
50305073	Sr EAM Project Manager
60005161	Senior Software Engineer
50037453	Office Manager (N)
60002188	Principal Regulatory Analyst
50616321	Sr EAM Project Manager-W&WW
60006412	Director Rates and Regulatory
60003669	Associate Technology Expense Analyst
50584125	Senior Business Analyst
60000843	Sr Dir, Business Partnership & Delivery
60008010	Mgr Health and Safety Programs
60003577	Technologist II
60000466	Sr Accountant
50031722	Sr VP, Enterprise Risk, Internal Audit a
60005144	Principal Solution Engineer
50425924	Lead Account Specialist
50323981	Sr Engineering Project Manager
60000860	Associate Director, Technology Field Ser
60003322	Admin Asst (N)
50114015	Senior Technologist

60002887	Dir Corporate Comm & EA
3017395	Sr Accountant
50365813	Principal Regulatory Analyst
60007724	Infrastructure Engineer
50598903	Dir, Integrations
50366974	Principal Regulatory Analyst
60006946	Scientist
60000898	Sr Procurement Specialist
3017514	Sr Treasury Analyst
60000769	Sr. Operator, Integrated Operations Cent
60006877	Operator, Integrated Operations Center
60008176	Financial Analyst
3018007	Training Specialist II
50049784	Sr Mgr, Operational Excellence
60007828	Accounts Payable Specialist
50544666	Sr. Manager, Infrastructure Operations
50113938	Fleet Ops Specialist
60003518	VP, Business Development
60005198	Payroll Analyst
60003531	Principal Business Process Specialist
60006293	Associate Director, Operational Technolo
60007108	Infrastructure Engineer
3016788	Workforce Specialist
60005951	Sr. Director Rates and Regulatory
50080217	Sr Accountant
60000613	Director Fleet & Logistics
50297720	Principal Regulatory Analyst
60006804	Principal Program Manager
50552234	Senior Technologist
50332082	Accountant
17003513	Sr. Specialist, Technology Field Service
50420233	Associate Director ,Technology Strategy
18505111	Sr EAM Project Manager-W&WW
60003110	Director, State Procurement
60005504	Manager, Network & Telephony
50434554	Sr. Regulatory Analyst
60006269	Supply Chain Support Analyst
50344468	Senior Technologist II
51000966	Workforce Supervisor
60007018	Business Development Specialist (Corp)
60006826	Operator, Integrated Operations Center
60006465	Infrastructure Engineer II
60002684	Principal Solution Engineer
50606394	Sr Mgr Corporate BD
50376817	Dir, Operational Excellence
60003742	Analyst, Enterprise Risk Management
60005378	Mgr Int Comm (State)

60005564	Associate Procurement Specialist
60003643	Specialist, Technology Field Services
60001219	Principal Technologist
60002636	Senior Technologist
3017083	Analyst - Tariff Administration
60008373	Sr Principal Regulatory Analyst
3016239	Dir, Customer Care
18508195	Accounts Payable Specialist
50575288	Principal Business Process Specialist
50486398	Sr EAM Project Manager-W&WW
50428340	Customer Experience(CX) Business Partner
50401362	Sr Engineering Project Manager
3002531	Sr. Director Regulatory Services
18648403	Supvr, Cash Operations
50270557	Sr EAM Project Manager
3016929	Customer Experience(CX) Business Partner
18507643	Sr. Manager Regulatory Services
50196563	Principal Scientist
50036510	Business Continuity Program Manager
60001319	Principal Infrastructure Engineer
60003169	Admin Asst (N)
60006528	Principal Business Process Specialist
60003476	Supervisor Financial Analyst
50270528	Senior Infrastructure Engineer
60007000	Software Engineer II
50217359	Mgr, Corporate and Foundation Relations
60005748	Accountant
60007993	Supply Chain Support Analyst
50399062	Workforce Specialist
50097960	Lead Accountant
60002242	Sr Manager National Supplier Diversity
60006662	Accountant
60006579	Regulatory Analyst
50404178	Sr Planning Engineer
50075099	Sr Manager Supply Chain Support
50525790	Principal BIRS
50493791	Associate Director, Technology Spend Man
60008054	Senior Business Analyst
51000568	Senior Business Analyst
60006974	Intern Admin
60003417	Senior Technologist II
60005889	Scientist

KAW_R_AGDR1_NUM003
Average Bonus by Employee Type

Average Bonus per Year	2018	2019	2020	2021	2022	2023
AW Union	[REDACTED]					
Hrly Non Union	[REDACTED]					
Salaried Exempt	[REDACTED]					
# of Bonuses Awarded	2018	2019	2020	2021	2022	2023
AW Union	[REDACTED]					
Hrly Non Union	[REDACTED]					
Salaried Exempt	[REDACTED]					
Average Referral per Year	2018	2019	2020	2021	2022	2023
AW Union	[REDACTED]					
Hrly Non Union	[REDACTED]					
Salaried Exempt	[REDACTED]					
# of Referrals Awarded	2018	2019	2020	2021	2022	2023
AW Union	[REDACTED]					
Hrly Non Union	[REDACTED]					
Salaried Exempt	[REDACTED]					

KAW_R_AGDR1_NUM003
Average Bonus for Service Co Employees

Average Referral per Year	2018	2019	2020	2021	2022	2023
Non-Union (exempt/hourly)	[REDACTED]					
Union	[REDACTED]					
# of Referrals Awarded	2018	2019	2020	2021	2022	2023
Non-Union (exempt/hourly)	[REDACTED]					
Union	[REDACTED]					

**KAW_R_AGDR1_NUM003_081823_ATTACHMENT 3_CONFIDENTIAL
FILED UNDER SEAL PURSUANT TO THE PETITION FOR
CONFIDENTIAL TREATMENT FILED ON AUGUST 18, 2023**

KAW_R_AGDR1_NUM003
Annual Performance Plan Pay by Position

Employee Type	Job	2018	2019	2020	2021	2022	2023
AW Union	Field Service Rep 32BJ KY						
AW Union	Treatment Plt Opr 32BJ KY U511						
AW Union	Field Service Rep F3200						
AW Union	Treatment Plt Opr F3200 U511						
AW Union	Field Service Rep F3200						
AW Union	Field Service Rep F3200						
AW Union	Treatment Plt Opr 32BJ KY U511						
AW Union	Field Service Rep F3200						
AW Union	Meter Technician F3200						
AW Union	Treatment Plt Opr 32BJ KY U511						
AW Union	Treatment Plt Opr 32BJ KY U511						
AW Union	Field Service Rep F3200						
AW Union	Field Service Rep F3200						
AW Union	Field Service Rep 32BJ KY						
AW Union	Field Service Rep F3200						
AW Union	Field Service Rep 32BJ KY						
AW Union	Treatment Plt Opr F3200 U511						
AW Union	Meter Technician 32BJ KY						
AW Union	Meter Reader F3200						
AW Union	Field Service Rep 32BJ KY						
AW Union	Field Service Rep 32BJ KY						
AW Union	Field Service Rep 32BJ KY						
AW Union	Field Service Rep 32BJ KY						
AW Union	Field Service Rep 32BJ KY						
AW Union	Field Service Rep 32BJ KY						
AW Union	Field Service Rep 32BJ KY						
AW Union	Field Service Rep 32BJ KY						
AW Union	Field Service Rep 32BJ KY						
AW Union	Field Service Rep F3200						
AW Union	Utility F3200						
AW Union	Treatment Plt Opr 32BJ KY U511						
AW Union	Meter Reader F3200						
AW Union	Field Service Rep 32BJ KY						
AW Union	Meter Technician 32BJ KY						
AW Union	Crew Leader II F3200						
AW Union	Treatment Plt Opr 32BJ KY U511						
AW Union	Field Service Rep 32BJ KY						

KAW_R_AGDR1_NUM003
Annual Performance Plan Pay by Position

Employee Type	Job	2018	2019	2020	2021	2022	2023
AW Union	Crew Leader 32BJ KY & U335P						
AW Union	Treatment Plt Opr 32BJ KY U511						
AW Union	Treatment Plt Opr 2 F3200						
AW Union	Utility IV 32BJ KY						
AW Union	Meter Reader F3200						
AW Union	Treatment Plt Opr 32BJ KY U511						
AW Union	Crew Leader 32BJ KY & U335P						
AW Union	Treatment Plt Opr 32BJ KY U511						
AW Union	TREATMENT PLANT OPERATOR 3S F3200						
AW Union	Treatment Plt Opr 32BJ KY U511						
AW Union	Maintenance Technician I 32BJ KY						
AW Union	Meter Reader 32BJ KY						
AW Union	TREATMENT PLANT OPERATOR 3S F3200						
AW Union	Field Service Rep 32BJ KY						
AW Union	Maintenance Technician I 32BJ KY						
AW Union	Crew Leader II F3200						
AW Union	Field Service Rep 32BJ KY						
AW Union	Crew Leader 32BJ KY & U335P						
AW Union	Crew Leader 32BJ KY & U335P						
AW Union	Meter Reader 32BJ KY						
AW Union	Meter Reader 32BJ KY						
AW Union	Crew Leader 32BJ KY & U335P						
AW Union	Field Service Rep 32BJ KY						
AW Union	Treatment Plt Opr 32BJ KY U511						
AW Union	Crew Leader 32BJ KY & U335P						
AW Union	Utility F3200						
AW Union	Treatment Plt Opr 32BJ KY U511						
AW Union	Treatment Plant Operator Trainee II						
AW Union	Utility III 32BJ KY						
AW Union	Crew Leader 32BJ KY & U335P						
AW Union	Maintenance Technician II 32BJ KY						
AW Union	Crew Leader I F3200						
AW Union	Utility IV 32BJ KY						
AW Union	Utility F3200						
AW Union	Utility IV 32BJ KY						
AW Union	Utility IV 32BJ KY						

KAW_R_AGDR1_NUM003

Annual Performance Plan Pay by Position

Employee Type	Job	2018	2019	2020	2021	2022	2023
AW Union	Meter Reader 32BJ KY						
AW Union	Utility II 32BJ KY						
AW Union	Maintenance Technician I 32BJ KY						
AW Union	Utility IV 32BJ KY						
AW Union	Treatment Plt Opr 32BJ KY U511						
AW Union	Utility 32BJ KY						
AW Union	Meter Reader 32BJ KY						
AW Union	Treatment Plt Opr 32BJ KY U511						
AW Union	Utility 32BJ KY						
AW Union	Treatment Plt Opr 32BJ KY U511						
AW Union	Utility 32BJ KY						
AW Union	Meter Reader 32BJ KY						
AW Union	Meter Reader 32BJ KY						
AW Union	Utility 32BJ KY						
AW Union	Utility 32BJ KY						
AW Union	Crew Leader 32BJ KY & U335P						
AW Union	Utility 32BJ KY						
AW Union	Treatment Plt Opr 32BJ KY U511						
AW Union	Crew Leader 32BJ KY & U335P						
Hrly Non Union	Operations Specialist						
Hrly Non Union	Specialist Engrg (N)						
Hrly Non Union	Exec Asst (N)						
Hrly Non Union	Sr Spec Cross Connect (N)						
Hrly Non Union	Construction Inspector						
Hrly Non Union	Operations Specialist						
Hrly Non Union	Specialist Engrg (N)						
Hrly Non Union	Clerk Opns (N)						
Hrly Non Union	Plant Operator						
Hrly Non Union	Operations Specialist						
Hrly Non Union	Operations Generalist						
Hrly Non Union	Operations Specialist						
Hrly Non Union	Business Support Specialist						
Hrly Non Union	Operations Specialist						
Hrly Non Union	Business Support Specialist						
Hrly Non Union	Utility Technician						
Hrly Non Union	Operations Technician						

KAW_R_AGDR1_NUM003

Annual Performance Plan Pay by Position

Employee Type	Job	2018	2019	2020	2021	2022	2023
Hrly Non Union	Clerk Opns (N)						
Hrly Non Union	Technician Production (N)						
Hrly Non Union	Specialist Service Delivery						
Hrly Non Union	Operations Specialist						
Hrly Non Union	Plant Operator						
Hrly Non Union	Admin Asst - Staff Supp (N)						
Hrly Non Union	Construction Inspector						
Hrly Non Union	Plant Operator						
Hrly Non Union	Specialist Service Delivery						
Hrly Non Union	Operations Specialist						
Hrly Non Union	Plant Operator						
Hrly Non Union	Operations Technician						
Hrly Non Union	Operations Generalist						
Hrly Non Union	Maint Service Specialist						
Hrly Non Union	Construction Inspector						
Hrly Non Union	Plant Operator						
Hrly Non Union	Business Support Specialist						
Hrly Non Union	Construction Inspector						
Hrly Non Union	Exec Asst (N)						
Hrly Non Union	Operations Generalist						
Hrly Non Union	Sr Automation & Controls Tech						
Hrly Non Union	Specialist Service Delivery						
Hrly Non Union	Operations Specialist						
Hrly Non Union	Utility Technician						
Hrly Non Union	Construction Inspector						
Hrly Non Union	Plant Operator						
Hrly Non Union	Operations Technician						
Hrly Non Union	Utility Technician						
Hrly Non Union	Utility Technician						
Hrly Non Union	Plant Operator						
Hrly Non Union	Operations Generalist						
Hrly Non Union	Operations Specialist						
Hrly Non Union	Utility Technician						
Hrly Non Union	GIS Analyst						
Hrly Non Union	Specialist Service Delivery						
Hrly Non Union	Plant Operator						

KAW_R_AGDR1_NUM003

Annual Performance Plan Pay by Position

Employee Type	Job	2018	2019	2020	2021	2022	2023
Hrly Non Union	Coord Engrg (N)						
Hrly Non Union	Sr Automation & Controls Tech						
Hrly Non Union	Admin Asst - Staff Supp (N)						
Hrly Non Union	Business Support Specialist						
Hrly Non Union	Operator in Training						
Salaried Exempt	Sr Manager, Government and External Aff						
Salaried Exempt	Spec Wtr Qlty & Env Compl II						
Salaried Exempt	Sr Supvr Operations						
Salaried Exempt	Capital Program Coordinator						
Salaried Exempt	Mgr Business Performance						
Salaried Exempt	Sr Supt Opns						
Salaried Exempt	Supvr Production						
Salaried Exempt	GIS Project Manager						
Salaried Exempt	Supvr Opns						
Salaried Exempt	Sr Mgr Operations						
Salaried Exempt	Supvr Opns						
Salaried Exempt	Sr Engineering Designer						
Salaried Exempt	Project Manager						
Salaried Exempt	Sr Supervisor Production						
Salaried Exempt	VP Operations (Large 2)						49,136
Salaried Exempt	Construction Project Manager						
Salaried Exempt	VP Operations (Large 2)			40,788	42,352	36,732	26,465
Salaried Exempt	Mgr Customer Accounts						
Salaried Exempt	Sr Mgr Operations						
Salaried Exempt	Capital Program Coordinator						
Salaried Exempt	VP Operations (Large 2)	32,922	28,189				
Salaried Exempt	Supvr Opns						
Salaried Exempt	Spec Ext Affairs						
Salaried Exempt	Supvr Opns						
Salaried Exempt	Supvr Opns						
Salaried Exempt	Sr Supt Production						
Salaried Exempt	Dir Engineering						
Salaried Exempt	Sr Project Engineer						
Salaried Exempt	Supvr Opns						
Salaried Exempt	Supvr Opns						
Salaried Exempt	Spec Wtr Qlty & Env Compl II						

KAW_R_AGDR1_NUM003

Annual Performance Plan Pay by Position

Employee Type	Job	2018	2019	2020	2021	2022	2023
Salaried Exempt	Supt Opns II						
Salaried Exempt	Mgr Opns						
Salaried Exempt	Supvr Cross Connection						
Salaried Exempt	Mgr Health and Safety Programs						
Salaried Exempt	Spec Wtr Qlty & Env Compl II						
Salaried Exempt	Mgr Operational Excellence						
Salaried Exempt	Sr Supvr Operations						
Salaried Exempt	Sr Supervisor Production						
Salaried Exempt	Dir Govt Affairs (State)						
Salaried Exempt	Engineering Project Manager						
Salaried Exempt	Sr Project Engineer						
Salaried Exempt	Staff Engineer						
Salaried Exempt	Project Engineer						
Salaried Exempt	Supvr Customer Advocacy						
Salaried Exempt	Supvr Production						
Salaried Exempt	Mgr Health and Safety Programs						
Salaried Exempt	Supvr Opns						
Salaried Exempt	Sr Supt Opns						
Salaried Exempt	Dir Govt Affairs (State)						
Salaried Exempt	Sr Mgr Business Dev						
Salaried Exempt	Manager WQ & Env Compliance						
Salaried Exempt	Capital Program Coordinator						
Salaried Exempt	Spec Wtr Qlty & Env Compl II						
Salaried Exempt	President Large 2 State						65,735
Salaried Exempt	Engineering Project Manager						

KAW_R_AGDR1_NUM003

Average Tenure by Employee Type

	2018	2019	2020	2021	2022	2023
Union	11.8	11.9	11.8	11.2	9.9	10
Salaried	12.3	12.8	11.6	12.1	10.6	7.9
Non-Union Hourly	15.1	15.7	15.1	11.4	9.7	9.4

KAW_R_AGDR1_NUM003_081823

Average Tenure for Service Company Employees by Employee Type

	2018	2019	2020	2021	2022	2023
Union	8.74	10.33	11.68	10.62	10.65	10.24
Salaried	8.72	8.66	8.86	9.11	9.36	9.46
Non-Union Hourly	10.73	10.6	9.63	9.79	9.72	9.03

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: John Watkins

4. Refer to the Application generally. Provide the following information for Kentucky American employees, as well as all employees whose costs are allocated to Kentucky American, and separate each response by company/utility.
 - a. Provide the position title and wages for each non-union hourly employee for the years 2018 – 2023, using the most updated data.
 - b. Provide the average raise provided to the non-union hourly employees for the years 2018 – 2023, using the most updated data. Ensure to explain whether the annual raise is directly connected to a performance review. If not, explain why not.
 - c. Provide the average bonus provided to the non-union hourly employees for the years 2018 – 2023, using the most updated data.
 - d. Provide all awards given to the non-union hourly employees for the years 2018 – 2023, using the most updated data.
 - e. Provide all vehicle allowances given to the non-union hourly employees for the years 2018 – 2023, using the most updated data.
 - f. Provide all incentive compensation given to the non-union hourly employees for the years 2018 – 2023, using the most updated data. Explain in detail whether the incentive compensation is
 - g. Provide the average raise, if any, which will be given to non-union hourly employees for 2024.
 - h. Provide a detailed explanation of the insurance benefits provided to the Company's non-union hourly employees, including but not limited to health, dental, vision, life insurance, etc. Ensure to include all premiums paid by the Company's non-union hourly employees, premiums paid by the Company or parent company on the non-union hourly employees' behalf, as well as all copays, deductibles, and maximum out of pocket amounts.
 - i. Provide a detailed explanation of the retirement benefits provided to the Company's non-union hourly employees, including but not limited to, whether there is a defined benefit plan, 401(k) matching, etc.

- j. Provide the average employment tenure for non-union hourly employees separately for each year 2018-2023.

Response:

- a. Please refer to KAW_R_AGDR1_NUM003_081823_Attachment1_CONFIDENTIAL for the listing of position titles and salaries for each non-union hourly employee for the years 2018-2023 (pages 3-5). Please refer to KAW_R_AGDR1_NUM003_081823_Attachment1_CONFIDENTIAL for the total Service Company labor allocation and position titles (pages 8+).
- b. Please refer to the table below for the average raise provided to Kentucky-American non-union hourly employees for the years 2018-2023. The Company issues raises based on a performance review of each employee. Please refer to the response to KAW_R_AGDR1_NUM003_081823 for the Service Company employee average raise.

Non-Union Hourly					
3/12/2018	3/11/2019	3/9/2020	3/8/2021	3/7/2022	3/6/2023
2.60%	2.67%	2.73%	2.91%	3.10%	3.33%

- c. Please refer to KAW_R_AGDR1_NUM003_081823_Attachment2_CONFIDENTIAL for the average referral bonus per non-union hourly employee awarded during the years 2018-2023 for both Kentucky-American (page 1) and Service Company (page 2).
- d. Please refer to KAW_R_AGDR1_NUM003_081823_Attachment3_CONFIDENTIAL for the listing of all awards received by non-union hourly employees for the years 2018-2023 for both Kentucky-American (pages 1-2) and Service Company (pages 3+).
- e. No vehicle allowances were given to Kentucky-American non-union hourly employees or employees that allocate costs to Kentucky-American during the time period specified.
- f. Please refer to KAW_R_AGDR1_NUM003_081823_Attachment4_CONFIDENTIAL for the performance pay paid to non-union hourly employees during the years 2018-2023. Please refer to the response to KAW_R_AGDR1_NUM003_081823 for the Service Company allocation of performance pay.
- g. The projected 2024 average raise given to Kentucky-American non-union hourly employees will be 3.15%. Please refer to the response to KAW_R_AGDR1_NUM003_081823 for the Service Company average raise.
- h. Please refer to KAW's response to KAW_R_PSCDR1_NUM039_071823.
- i. Please refer to KAW's response to KAW_R_PSCDR1_NUM042_071823.
- j. Please refer to KAW_R_AGDR1_NUM003_081823_Attachment5 for the average tenure of Kentucky-American non-union hourly employees (page 1) and Service Company employees (page 2) for the years 2018-2023.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: John Watkins

5. Refer to the Application generally. Provide the following information for Kentucky American employees, as well as all employees whose costs are allocated to Kentucky American, and separate each response by company/utility.
 - a. Provide the position title and wages for each union hourly employee for the years 2018 – 2023, using the most updated data.
 - b. Provide the average raise provided to the union hourly employees for the years 2018 – 2023, using the most updated data. Ensure to explain whether the annual raise is directly connected to a performance review. If not, explain why not.
 - c. Provide the average bonus provided to the union hourly employees for the years 2018 – 2023, using the most updated data.
 - d. Provide all awards given to the union hourly employees for the years 2018 – 2023, using the most updated data.
 - e. Provide all vehicle allowances given to the union hourly employees for the years 2018 – 2023, using the most updated data.
 - f. Provide all incentive compensation given to the union hourly employees for the years 2018 – 2023, using the most updated data. Explain in detail whether the incentive compensation is
 - g. Provide the average raise, if any, which will be given to union hourly employees for 2024.
 - h. Provide a detailed explanation of the insurance benefits provided to the Company's union hourly employees, including but not limited to health, dental, vision, life insurance, etc. Ensure to include all premiums paid by the Company's union hourly employees, premiums paid by the Company or parent company on the union hourly employees' behalf, as well as all copays, deductibles, and maximum out of pocket amounts.
 - i. Provide a detailed explanation of the retirement benefits provided to the Company's union hourly employees, including but not limited to, whether there is a defined benefit plan, 401(k) matching, etc.

- j. Provide the average employment tenure for union hourly employees separately for each year 2018-2023.

Response:

- a. Please refer to KAW_R_AGDR1_NUM003_081823_Attachment1_CONFIDENTIAL for the listing of position titles and salaries for each union employee for the years 2018–2023 (pages 1-3). Please refer to KAW_R_AGDR1_NUM003_081823_Attachment1_CONFIDENTIAL for the total Service Company labor allocation and position titles (pages 8+).
- b. Please refer to the table below for the average raise increase provided to Kentucky-American union employees for the years 2018-2023. Wage increases for union employees are based on their respective collective bargaining agreements.

Kentucky-American Union				
11/1/2018	11/1/2019	11/1/2020	3/2/2022	11/1/2022
2.65%	2.75%	2.75%	5.00%	3.00%

Please refer to the table below for the average raise increase provided to Service Company union employees for the years 2018-2023.

Service Company Union					
2018	2019	2020	2021	2022	2023
2.27%	2.80%	2.87%	2.88%	2.75%	2.75%

- c. Please refer to KAW_R_AGDR1_NUM003_081823_Attachment2_CONFIDENTIAL for the average referral bonus per union employee awarded during the years 2018-2023 for both Kentucky-American (page 1) and Service Company (page 2).
- d. Please refer to KAW_R_AGDR1_NUM003_081823_Attachment3_CONFIDENTIAL for the listing of all awards received by union employees for the years 2018-2023 for both Kentucky-American (pages 1-2) and Service Company (page 17) . Please note the Service Company amounts are before any allocation to the affiliates.
- e. No vehicle allowances were given to Kentucky-American union employees or employees that allocate costs to Kentucky-American during the time period specified.
- f. Please refer to KAW_R_AGDR1_NUM003_081823_Attachment4_CONFIDENTIAL for the performance pay paid to union employees during the years 2018-2023. Please refer to the response to KAW_R_AGDR1_NUM003_081823 for the Service Company allocation of performance pay.
- g. The projected 2024 average raise given to Kentucky-American union employees will be 2.5%. The projected 2024 average raise given to Service Company union employees will be 2.60%.
- h. Please refer to KAW's response to KAW_R_PSCDR1_NUM039_071823.
- i. Please refer to KAW's response to KAW_R_PSCDR1_NUM042_071823.

- j. Please refer to KAW_R_AGDR1_NUM003_081823_Attachment5 for the average tenure of Kentucky-American union employees (page 1) and Service Company employees (page 2) for the years 2018-2023.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: John Watkins

6. Refer to the Application generally.
- a. Provide a detailed explanation of all salary and benefits provided to the members of the Board of Directors during the years 2018 – 2023. Ensure to provide the salary amounts, and specific details regarding all benefit packages including but not limited to health, dental, vision, accidental death and disability, life insurance, bonuses, awards, vehicle allowances, and the like.
 - b. Provide the total amount of the Board of Directors' fees for the test year.
 - c. Provide a breakdown of the total amount of the Board of Directors' fees for the test year.
 - d. Discuss if there will be any changes to the Board of Directors' salaries and/or benefit packages for 2024.
 - e. When setting the Board of Directors' fees and benefits did Kentucky American review other similarly situated water companies' fees and benefits? If so, explain in detail the findings. If not, explain in detail why not.

Response:

- a. The Board of Directors currently consists of three Internal (employed by KAW) Directors and one External Director who has no employment affiliation with the Company. The Internal Directors do not receive additional salary or benefits for their service on the Board of Directors. Each External Director receives an Annual Retainer and a Per Meeting Fee, but no additional benefits. There are four Board of Directors meetings per year. The below chart lists the Annual Retainer and Per Meeting fee received by each External Director during the years 2018 – 2023:

<u>Year</u>	<u>Annual Retainer</u>	<u>Per Meeting Fee</u>
2018	\$2,000.00	\$2,500.00
2019	\$3,000.00	\$3,000.00
2020	\$4,000.00	\$4,000.00
2021	\$5,000.00	\$5,000.00
2022	\$5,000.00	\$5,000.00
2023	\$2,500.00	\$2,500.00

- b. The total amount of the Board of Directors' fees for External Directors (Retainer and Per Meeting Fee) for the test year in this case was \$99,023.
- c. Breakdown of the total amount of the Board of Directors' fees for the forecasted test year as filed assumed three Board members attending all 4 meetings and receiving the Annual Retainer at the 2022 levels ($4 \times \$5,000 + \$5,000 = \$25,000$ per member). The fourth member was assumed to be attending 2 meetings and receiving the Annual Retainer at the 2022 levels ($2 \times \$5,000 + \$5,000 = \$15,000$). This totals \$90,000. The account also had an inflationary adjustment which added \$9,023 to bring the total amount in the forecasted test year to \$99,023. Kentucky-American has subsequently planned to reduce both the Annual Retainer and Per Meeting Fee to \$2,500 each and reduce the number of external directors to two. The Company will update the total amount of the Board of Directors' fees for the forecasted test year when it files its base period update after the base period closes. In that update, Kentucky-American will assume two external directors attending all 4 meetings and receiving the Annual Retainer at the current (2023) levels ($4 \times \$2,500 + \$2,500 = \$12,500$ per member) and will remove the inflationary adjustment since the Company does not currently plan to make any changes to the Board of Directors' retainer amounts or meeting fees for External Directors for 2024. The updated forecasted test year total will be \$25,000.
- d. Kentucky-American does not currently plan to make any changes to the Board of Directors' retainer amounts or meeting fees for External Directors for 2024.
- e. Kentucky-American believes that the Retainer and Per Meeting Fee received by External Directors is reasonable given the size of the Company, governance responsibilities, and the experience and talent level desired. Given the customer size and workload differential between water and wastewater, Kentucky-American does not believe an allocation of the External Directors' fees to wastewater customers should be made.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: John Watkins

7. Refer to the Application generally. Provide the amount of Supplemental Executive Retirement Plan (“SERP”) costs included in the test year O&M expenses. Provide the amounts broken down between Kentucky American directly incurred costs and costs allocated separately from each other affiliate.

Response:

There are no Supplemental Executive Retirement Plan (“SERP”) costs included in the test year O&M expenses.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Robert Mustich

8. Refer to the Application generally. Provide a copy of all formal studies conducted that compare Kentucky American's wage and benefit information to the local wage and benefit information for the geographic area in which Kentucky American operates. If no study exists, explain why not.

Response:

Willis Towers Watson ("WTW") performed a study of KAWC's employee compensation and benefits. This study contains comparisons of both the national and regional talent markets KAWC competes in for talent. A copy of this study was provided confidentially with KAWC's application as an exhibit to Mr. Mustich's testimony.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: John Watkins

9. Refer to the Application generally. Explain the current process of awarding wage/salary increases to salaried versus non-salaried and union versus non-union employees.

Response:

The Company may award merit increases on an annual basis. The compensation team regularly reviews the salary structure to ensure alignment with the outside market. Employees must be hired into a non-union (salaried or hourly) position by September 30 of the prior year in order to be eligible for a merit increase during the annual year-end compensation process. Wage increases for union employees are based on their respective collective bargaining agreements.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: John Watkins

10. Refer to the Application generally. Explain whether any vacant position costs are included in the proposed revenue requirement. If so, provide the job title, salary/wage/benefit amounts, necessity of the position, date the job was created and vacated, explanation as to why the position is currently vacant, and an estimated date as to when the position will be filled.

Response:

All vacant positions at the time of filing included in the proposed revenue requirement have been filled as of this data request.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Shelley Porter

11. Refer to the Application generally. Has Kentucky American obtained and/or is the Company seeking any funds/grants from federal, state, or local sources which have been or will be made available? If so, identify the source and amount of those funds/grants. If not, and funds/grants are available for which the Company is eligible, explain why the Company is foregoing those opportunities.

Response:

Kentucky American Water has assisted public entities in the preparation of application submissions to obtain grant funding from Kentucky's American Rescue Plan Act (ARPA) Fiscal Recovery Fund - Better Kentucky Plan, providing drinking water infrastructure grants to fund water main extensions to rural areas. Owen County Fiscal Court was successful in obtaining grant funding in the amount of \$400,351 to fund a developer project to extend a water main to serve 13 customers along Point of Rock Road from the intersection of Monterey Pike to Ballard Lane.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: William A. Lewis

12. Refer to the Application generally.
- a. Explain whether Kentucky American has any utility office in Kentucky open for a customer to pay bills, obtain customer service, etc.
 - b. If Kentucky American does not have any utility offices in Kentucky for a customer to pay bills, obtain customer service, etc. then explain whether the Commission granted Kentucky American a deviation from the applicable regulations.² If a deviation was granted then provide all of the corresponding case numbers regarding the same. If no deviation was granted, explain why a deviation from the regulations were not required.

Response:

- a. Yes, customer representatives are available at Kentucky American's office located at 2300 Richmond Road, Lexington, KY, Monday through Friday, 9 a.m. to 4 p.m.
- b. Not applicable.

² See 807 KAR 5:006, Section 14, <https://apps.legislature.ky.gov/law/kar/titles/807/005/006/> (Requiring each utility to designate at least one representative to answer customer questions, resolve disputes, and negotiate partial payment plans at the utility's office.); See 807 KAR 5:006, Section 23, <https://apps.legislature.ky.gov/law/kar/titles/807/005/006/> (Requiring each utility to have system maps and records on file at its principal office located within the state.); See 807 KAR 5:006, Section 24, <https://apps.legislature.ky.gov/law/kar/titles/807/005/006/> (Requiring all records pursuant to 807 KAR Chapter 5, to be kept in the office of the utility and made available to representatives, agents, or staff of the commission upon reasonable notice at all reasonable hours.)

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: William A. Lewis

13. Refer to the Application generally. Provide a copy of each customer satisfaction survey that Kentucky American and/or its parent company, American Water, has been included in, such as the J.D. Power Customer Satisfaction Study, for 2022 and 2023.

Response:

American Water conducts the following customer satisfaction surveys. Please see KAW_R_AGDR1_NUM013_081823_Attachment.

1. Residential NPS/Driver Study – A web-based relationship survey, conducted quarterly with residential customers. Includes a Quality & Conservation module fielded monthly.
2. Non-Residential NPS/Driver Study – A web-based relationship survey, conducted annually with non-residential customers.
3. Service Transaction Study – A web-based transaction survey, conducted daily. This survey measures customer satisfaction among customers with a recently completed service appointment.
4. Phone Transaction Study - A web-based transaction survey, conducted daily. This survey measures customer satisfaction among customers with a recently completed call to the call center.
5. Web Intercept Study - A web intercept survey that displays for MyWater users. This survey measures customer satisfaction with the web portal, MyWater.

American Water also subscribes to the syndicated J.D. Power Water Utility Residential Customer Satisfaction Study.

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NPS/Driver Study - Residential

INTRO & SCREENER

Please take a few minutes to respond to our survey about your overall experience with [STATE] American Water.

This survey will take approximately 5 minutes to complete. Thank you in advance for your participation.

SS2. Do you have responsibility or share the responsibility with regard to payment of your household bills?

Question Label: Bill Responsibility

<input type="checkbox"/>	1	Yes
<input type="checkbox"/>	2	No THANK & DISQUALIFY
<input type="checkbox"/>	99	Prefer not to answer THANK & DISQUALIFY

SS3. Are you at least 18 years old?

Question Label: Age Requirement

<input type="checkbox"/>	1	Yes
<input type="checkbox"/>	2	No THANK & DISQUALIFY

DEFINE 'EN1. NPS_DISPLAY GROUP':

WATER	Account Type <> Sewer
SEWER	Account Type = Sewer

DEFINE 'WATER_SEWER PIPE TEXT'

DISPLAY GROUP = WATER	"water"
DISPLAY GROUP = SEWER	"sewer"

NPS

REQUIRED

N1. On a scale from 0-10, how likely are you to recommend [STATE] American Water to a friend or neighbor?

Question Label: Willingness to Recommend

Not at Likely										Extremely Likely
0	1	2	3	4	5	6	7	8	9	10
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

DEFINE: N1_NPS_GROUP:

- **Detractor: N1=0-6**
- **Passive: N1=7-8**
- **Promoter: N1=9-10**

H4. What is the reason for your rating? *Optional*

Question Label: NPS Reason

_____ - open end

RANDOMIZE PRESENTATION OF THE FOLLOWING SECTIONS:

- **BILLING & PAYMENT**
- **PRICE**
- **COMMUNICATION**
- **QUALITY & CONSERVATION**
- **CUSTOMER SERVICE**

BILLING & PAYMENT

REQUIRED

NB1. Please rate your overall billing and payment experience with [STATE] American Water within the last 12 months.

Question Label: Overall Billing & Payment

Poor	Fair	Good	Very good	Excellent	Don't know
1	2	3	4	5	99
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

NB2. In particular, how would you rate the...

Question Label: Billing & Payment Factors

RANDOMIZE QUESTIONS	Poor	Fair	Good	Very Good	Excellent	Don't know
	1	2	3	4	5	99
NB2_1 Usefulness of information on your bill	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NB2_2 Amount of time given to pay your bill	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NB2_3 Variety of methods to pay your bill	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NB2_4 Ease of paying your bill	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PRICE

REQUIRED

NP1. Please rate the overall price of [water/sewer] service provided by [STATE] American Water within the last 12 months.

Question Label: Overall Price

Poor	Fair	Good	Very good	Excellent	Don't know
1	2	3	4	5	99
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

NP2. In particular, how would you rate the...

Question Label: Price Factors

RANDOMIZE QUESTIONS	Poor	Fair	Good	Very Good	Excellent	Don't know
	1	2	3	4	5	99
NP2_1 Ease of understanding your pricing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NP2_2 Fairness of pricing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NP2_3 Total cost of your [water/sewer] service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

NP3. Have you recently heard or read about potential [water/sewer] rate changes by [STATE] American Water?

Question Label: Heard About Rate Changes

<input type="checkbox"/>	1	Yes, a rate increase
<input type="checkbox"/>	2	Yes, a rate decrease
<input type="checkbox"/>	3	No

COMMUNICATION**REQUIRED**

NC1. Within the last 12 months, how would you rate [STATE] American Water on overall communication?

Question Label: Overall Communication

Poor	Fair	Good	Very good	Excellent	Don't know
1	2	3	4	5	99
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

RANDOMIZE PRESENTATION OF NC3 AND NC4

NC3. Now thinking about the last three months, do you recall seeing, reading, or hearing any communications (e.g., bill insert, advertisement, email, direct mail, online, etc.) from [STATE] American Water?

Please consider communications **created by [STATE] American Water** and not those you may recall from other sources (e.g., media news stories, etc.).

Question Label: AW Comms Recall

<input type="checkbox"/>	1	Yes
<input type="checkbox"/>	2	No
<input type="checkbox"/>	99	Don't know

NC4. Thinking about the last three months, do you recall seeing, reading, or hearing news stories about [STATE] American Water?

Please consider communications **about [STATE] American Water in the media** and not communications created by American Water.

Question Label: Media Recall

<input type="checkbox"/>	1	Yes
<input type="checkbox"/>	2	No
<input type="checkbox"/>	99	Don't know

QUALITY & CONSERVATION**REQUIRED**

NQ1. Within the last 12 months, how would you rate [STATE] American Water on...?

Question Label: Overall Quality & Conservation

RANDOMIZE QUESTIONS		Poor	Fair	Good	Very Good	Excellent	Don't know
		1	2	3	4	5	99
NQ1	Overall conservation (e.g. water conservation, environmental impact, protecting water supply, etc)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NQ1	Overall quality and reliability of [water/sewer] service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CUSTOMER SERVICE

C4. In the last three months, have you contacted [STATE] American Water for any reason using the methods below? *Please select all that apply*

Question Label: Recent Contact Methods

<input type="checkbox"/>	1	Phone
<input type="checkbox"/>	2	Online self-service (amwater.com or your MyWater online account)
<input type="checkbox"/>	3	Email or web form
<input type="checkbox"/>	4	Online chat
<input type="checkbox"/>	5	Social media
<input type="checkbox"/>	6	Text message
<input type="checkbox"/>	8	Another method (SPECIFY)
<input type="checkbox"/>	9	I have not contacted [STATE] American Water in the last 3 months - EXCLUSIVE

F9. In the last three months, has [STATE] American Water visited your home or property for a scheduled service appointment?

Question Label: Recent Service Visit

<input type="checkbox"/>	1	Yes
<input type="checkbox"/>	2	No
<input type="checkbox"/>	3	Don't Know

IF C4 = 8/9 ONLY AND F9 = 2/3, SKIP TO OPEN ENDED FEEDBACK

REQUIRED

NS1. Considering all aspects of your customer service experience(s) within the past 3 months, please rate your overall customer service experience with [STATE] American Water.

Question Label: Overall Customer Service

Poor	Fair	Good	Very good	Excellent	Don't know
1	2	3	4	5	99
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

IF C4 <> 1-6, SKIP

REQUIRED

B3_RNP-B8_RNP. In particular, how would you rate the experience with the contact method(s) listed below?

Question Label: Overall Channel Experience

RANDOMIZE QUESTIONS DISPLAY C4 SELECTIONS ONLY		Poor	Fair	Good	Very Good	Excellent	Don't know
		1	2	3	4	5	99
B3_R NP	Phone call	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B4_R NP	Online self-service (amwater.com or your MyWater online account)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B5A_ RNP	Email or web form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B5B_ RNP	Online chat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B5C_ RNP	Social media	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B5D_ RNP	Text message	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

IF F9 <> 1, SKIP

REQUIRED

B2_RNP. Now, please think specifically about the last time [STATE] American Water visited your home or property for a scheduled service visit.

Please rate the overall service appointment experience?

Question Label: Overall Service Appointment

Poor	Fair	Good	Very good	Excellent	Don't know
1	2	3	4	5	99
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ASSISTED ONLINE EXPERIENCE

IF 3-6 NOT SELECTED IN C4, SKIP TO OPEN ENDED FEEDBACK

IF 2+ ARE SELECTED, RANDOMLY PICK 1 AND FILL:

- **EMAIL**
- **CHAT**
- **SOCIAL MEDIA**
- **TEXT**

G1_RNP_1A-4A. Regarding your most recent [PIPE] experience with [STATE] American Water, how many contacts did it take to answer your question/resolve your issue?

Question Label: Issue Resolution 1

<input type="checkbox"/>	1	Answered/resolved on first contact
<input type="checkbox"/>	2	Answered/resolved on second contact
<input type="checkbox"/>	3	Required three to five

<input type="checkbox"/>	4	Required six or more contacts
<input type="checkbox"/>	5	Still unresolved
<input type="checkbox"/>	99	Don't know

DEFINE:

	Yes	No	Don't Know
G1_RNP_1 – Email Issue Resolution	G1_RNP_1A = 1-4	G1_RNP_1A = 5	G1_RNP_1A = 99
G1_RNP_2 – Chat Issue Resolution	G1_RNP_2A = 1-4	G1_RNP_2A = 5	G1_RNP_2A = 99
G1_RNP_3 – Social Media Issue Resolution	G1_RNP_3A = 1-4	G1_RNP_3A = 5	G1_RNP_3A = 99
G1_RNP_4 – Text Issue Resolution	G1_RNP_4A = 1-4	G1_RNP_4A = 5	G1_RNP_4A = 99

G2_RNP_1-4. Regarding your most recent [PIPE] experience with [STATE] American Water, how easy or difficult was it to resolve your issue?

Question Label: Customer Effort Score

Extremely Difficult	Difficult	Neutral	Easy	Extremely Easy	Don't Know
1	2	3	4	5	99
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

OPEN ENDED FEEDBACK

H5A. What does [STATE] American Water do well to earn your satisfaction? *Optional*

Question Label: Reason Satisfied

_____ - open end

H5B. For factors other than price, what can [STATE] American Water do to improve your overall satisfaction? *Optional*

Question Label: Improvement Opportunities

_____ - open end

DEFINE 'H3. OPEN END COMBINED'

- **CONCATENATE H4+H5A+H5B**

DEMOGRAPHICS

These final questions are for classification purposes only.

DD1. In which of the following categories does your age fall?

Question Label: Age Categories

<input type="radio"/>	1	18 to 34
<input type="radio"/>	2	35 to 44
<input type="radio"/>	3	45 to 54
<input type="radio"/>	4	55 to 64
<input type="radio"/>	5	65+
<input type="radio"/>	99	Prefer not to answer

DD2. What is your gender?

Question Label: Gender

<input type="radio"/>	1	Male
<input type="radio"/>	2	Female
<input type="radio"/>	3	Prefer to self-describe [SPECIFY]
<input type="radio"/>	99	Prefer not to answer

DD3. Do you own or rent the place where you live?

Question Label: Ownership Type

<input type="radio"/>	1	Own
<input type="radio"/>	2	Rent
<input type="radio"/>	3	Unsure
<input type="radio"/>	99	Prefer not to answer

DD4. Which of the options below best describes the general area where you live?

Question Label: Neighborhood Type

<input type="radio"/>	1	Urban
<input type="radio"/>	2	Suburban
<input type="radio"/>	3	Rural
<input type="radio"/>	99	Prefer not to answer

CLOSE

Thank you very much for your time. Your comments are greatly appreciated.

[NPS/Driver Study – Quality & Conservation Monthly Module](#)

INTRO

Please take a few minutes to respond to our survey about your experience with [STATE] American Water.

This survey will take approximately 5 minutes to complete. Thank you in advance for your participation.

SCREENER

SS2. Do you have responsibility or share the responsibility with regard to payment of your household bills?

Question Label: Bill Responsibility

<input type="checkbox"/>	1	Yes
<input type="checkbox"/>	2	No THANK & DISQUALIFY
<input type="checkbox"/>	99	Prefer not to answer THANK & DISQUALIFY

SS3. Are you at least 18 years old?

Question Label: Age Requirement

<input type="checkbox"/>	1	Yes
<input type="checkbox"/>	2	No THANK & DISQUALIFY

DEFINE 'DISPLAY GROUP':

WATER	Account Type <> Sewer
SEWER	Account Type = Sewer

DEFINE 'WATER_SEWER PIPE TEXT'

DISPLAY GROUP = WATER	"water"
DISPLAY GROUP = SEWER	"sewer"

RANDOMIZE PRESENTATION OF THE FOLLOWING SECTIONS:

- **QUALITY & RELIABILITY**
- **CONSERVATION**

QUALITY & RELIABILITY

The following section asks about the quality and reliability of the [water/sewer] service provided by [STATE] American Water.

REQUIRED

NQ1_EQC. Please rate [STATE] American Water on the overall quality and reliability of [water/sewer] service within the last twelve months.

Question Label: Overall Quality & Reliability

Poor	Fair	Good	Very good	Excellent	Don't know
1	2	3	4	5	99
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

NQ2. In particular, how would you rate the...

Question Label: Quality & Reliability Factors

RANDOMIZE QUESTIONS		Poor	Fair	Good	Very Good	Excellent	Don't know
		1	2	3	4	5	99
NQ2 _1	Reliability of [water/sewer] service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NQ2 _2	SKIP IF DISPLAY GROUP = SEWER Quality of water (e.g., taste, color, odor, hardness, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NQ2 _3	Efforts to maintain the [water/sewer] infrastructure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**ASK NQ3-NQ9 IF DISPLAY GROUP = WATER, ELSE SKIP
RANDOMIZE PRESENTATION OF NQ3-NQ5**

NQ3. How often do you drink tap water?

Question Label: How often drink tap water

<input type="checkbox"/>	1	Never
<input type="checkbox"/>	2	Occasionally
<input type="checkbox"/>	3	Always

NQ4. How safe do you feel it is to drink unfiltered tap water?

Question Label: Unfiltered water safety

<input type="checkbox"/>	1	Not at all safe
<input type="checkbox"/>	2	Unsafe
<input type="checkbox"/>	3	Safe

<input type="checkbox"/>	4	Very Safe
--------------------------	----------	-----------

NQ5. How would you describe your water mineral content?

Question Label: Water mineral content

<input type="checkbox"/>	1	Soft (Contains few or no minerals, water that lathers with soap easily)
<input type="checkbox"/>	2	Normal
<input type="checkbox"/>	3	Hard (Has a high mineral content, soap and detergents work less well and can leave scales on your dishes and plumbing)
<input type="checkbox"/>	99	Don't know

RANDOMIZE PRESENTATION OF NQ7 AND NQ9

REQUIRED

NQ7. In the last three months, which of the following, if any, caused a problem with water delivery at your residence?

Question Label: Water service interruptions

<input type="checkbox"/>	1	Weather
<input type="checkbox"/>	2	Water pipeline work in the area
<input type="checkbox"/>	3	Accidental water pipeline/main damage (e.g. pipeline was damaged while digging, etc.)
<input type="checkbox"/>	4	Household pipe damage
<input type="checkbox"/>	5	Household equipment failure
<input type="checkbox"/>	6	Water quality issue (e.g. low pressure, color of water, etc.)
<input type="checkbox"/>	7	Other, specify
<input type="checkbox"/>	8	Did not experience any water service interruptions
<input type="checkbox"/>	99	Don't know

DEFINE 'NQ6. RECENT WATER SERVICE INTERRUPTION'

1	Yes	NQ7 <> 8 OR 99
2	No	NQ7 = 8
99	Don't know	NQ7 = 99

REQUIRED

NQ9. In the last three months, which of the following, if any, have you experienced with your water provided by [STATE] American Water?

Question Label: Water quality issues

<input type="checkbox"/>	1	Pressure too low
--------------------------	----------	------------------

<input type="checkbox"/>	2	Bad taste
<input type="checkbox"/>	3	Poor clarity/Discolored
<input type="checkbox"/>	4	Bad smell
<input type="checkbox"/>	5	High lead/mineral content
<input type="checkbox"/>	6	Scaling/Water hardness
<input type="checkbox"/>	7	Boil advisory
<input type="checkbox"/>	8	Temperature (e.g. drinking water is not cold enough, etc.)
<input type="checkbox"/>	9	Have not experienced any issues
<input type="checkbox"/>	99	Don't know

DEFINE 'NQ8. RECENT WATER QUALITY ISSUE'

1	Yes	NQ9 <> 9 OR 99
2	No	NQ9 = 9
99	Don't know	NQ9 = 99

**ASK NQ11 IF DISPLAY GROUP = SEWER
REQUIRED**

NQ11. In the last three months, have you experienced any sewer-related problems? *Please select all that apply.*

Question Label: Sewer problems

<input type="checkbox"/>	1	Yes, within your home
<input type="checkbox"/>	2	Yes, at the street
<input type="checkbox"/>	3	Did not experience any sewer-related problems
<input type="checkbox"/>	99	Don't know

DEFINE 'NQ10. RECENT SEWER PROBLEM'

1	Yes	NQ11 <> 3 OR 99
2	No	NQ11 = 3
99	Don't know	NQ11 = 99

WATER ISSUE ALERTS**ASK NQ13A-NQ15A IF:**

- **DISPLAY GROUP = WATER
AND**
- **(NQ7 = 1,2,3, OR 6) OR (NQ9 = 7)**

NQ13A. Now please think specifically about the most recent water service interruption/water quality issue. Did you receive any alerts or notifications from [STATE] American Water regarding the interruption/issue via the method(s) listed below? *Please select all that apply.*

Question Label: How water alerts received

<input type="checkbox"/>	1	Email
<input type="checkbox"/>	2	Text
<input type="checkbox"/>	3	Automated phone call
<input type="checkbox"/>	4	Other, please specify
<input type="checkbox"/>	5	I did not receive any alerts or notifications regarding the interruption/issue
<input type="checkbox"/>	99	Don't know

DEFINE 'NQ12A. RECEIVED WATER ALERT'

1	Yes	NQ13 <> 5 OR 99
2	No	NQ13 = 5
99	Don't know	NQ13 = 99

ASK NQ14A-NQ15A IF NQ12A = 1

RANDOMIZE PRESENTATION OF NQ14A-NQ15A

NQ14A. How useful was the information provided in helping you manage the water service interruption/issue?

Question Label: Usefulness of water alert

<input type="checkbox"/>	1	Not at all useful
<input type="checkbox"/>	2	Somewhat useful
<input type="checkbox"/>	3	Very useful
<input type="checkbox"/>	99	Don't know

NQ15A. How would you describe the frequency of updates regarding the water service interruption/issue?

Question Label: Frequency of water alerts

<input type="checkbox"/>	1	Not often enough
<input type="checkbox"/>	2	Just right
<input type="checkbox"/>	3	Too often
<input type="checkbox"/>	99	Don't know

SEWER ISSUE ALERTS

ASK NQ13B-NQ15B IF:

- **DISPLAY GROUP = SEWER
AND**
- **NQ10=1**

NQ13B. Now please think specifically about the most recent sewer problem. Did you receive any alerts or notifications from [STATE] American Water regarding the problem via the method(s) listed below?
Please select all that apply.

Question Label: How sewer alerts received

<input type="checkbox"/>	1	Email
<input type="checkbox"/>	2	Text
<input type="checkbox"/>	3	Automated phone call
<input type="checkbox"/>	4	Other, please specify
<input type="checkbox"/>	5	I did not receive any alerts or notifications regarding the sewer problem
<input type="checkbox"/>	99	Don't know

DEFINE 'NQ12B. RECEIVED SEWER ALERT'

1	Yes	NQ17 <> 5 OR 99
2	No	NQ17 = 5
99	Don't know	NQ17 = 99

**ASK NQ14B-NQ15B IF NQ12B = 1
RANDOMIZE PRESENTATION OF NQ14B-NQ15B**

NQ14B. How useful was the information provided in helping you manage the sewer problem?

Question Label: Usefulness of sewer alert

<input type="checkbox"/>	1	Not at all useful
<input type="checkbox"/>	2	Somewhat useful
<input type="checkbox"/>	3	Very useful
<input type="checkbox"/>	99	Don't know

NQ15B. How would you describe the frequency of updates regarding the sewer problem?

Question Label: Frequency of sewer alerts

<input type="checkbox"/>	1	Not often enough
<input type="checkbox"/>	2	Just right
<input type="checkbox"/>	3	Too often
<input type="checkbox"/>	99	Don't know

DEFINE:

- **NQ12 RECEIVED WATER/SEWER ALERT**
 - DISPLAY GROUP = WATER - NQ12A
 - DISPLAY GROUP = SEWER - NQ12B
- **NQ13 HOW WATER/SEWER ALERTS RECEIVED**
 - DISPLAY GROUP = WATER - NQ13A
 - DISPLAY GROUP = SEWER - NQ13B
- **NQ14 USEFULNESS OF WATER/SEWER ALERTS**
 - DISPLAY GROUP = WATER - NQ14A
 - DISPLAY GROUP = SEWER - NQ14B
- **NQ15 FREQUENCY OF WATER/SEWER ALERTS**
 - DISPLAY GROUP = WATER - NQ15A
 - DISPLAY GROUP = SEWER - NQ15B

QUALITY & RELIABILITY OPEN END

ASK H6 IF DISPLAY GROUP = WATER

H6. What, if anything, could be improved with your water quality (e.g., taste, color, odor, hardness, etc.) and reliability from [STATE] American Water? *Optional*

Question Label: Quality & Reliability Improvement Opportunities

_____ - open end

DEFINE 'H3. OPEN END COMBINED = H6'

CONSERVATION

The following section asks about [STATE] American Water's conservation efforts.

REQUIRED

NO1_EQC. Please rate [STATE] American Water on overall conservation (e.g. water conservation, environmental impact, protecting water supply, etc.) within the last twelve months.

Question Label: Overall Conservation

Poor	Fair	Good	Very good	Excellent	Don't know
1	2	3	4	5	99
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

NO2. In particular, how would you rate the...

Question Label: Conservation Factors

RANDOMIZE QUESTIONS	Poor	Fair	Good	Very Good	Excellent	Don't Know
	1	2	3	4	5	99

NO2_1	Actions to take care of the environment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NO2_2	SKIP IF DISPLAY GROUP = SEWER Variety of water conservation programs offered	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NO2_3	Planning for the future	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

NO3. Which of the following, if any, are you aware of [STATE] American Water doing?

Question Label: Conservation effort awareness

RANDOMIZE QUESTIONS		Aware	Not Aware
		1	0
NO3_1	Efforts made to improve their impact on the environment	<input type="checkbox"/>	<input type="checkbox"/>
NO3_2	SKIP IF DISPLAY GROUP = SEWER Water conservation programs to help you with ways to use less water	<input type="checkbox"/>	<input type="checkbox"/>
NO3_3	SKIP IF DISPLAY GROUP = SEWER Ensuring adequate supplies of water in the future	<input type="checkbox"/>	<input type="checkbox"/>
NO3_4	Watershed management (i.e., managing land that water flows across on its way to lake, river, or stream)	<input type="checkbox"/>	<input type="checkbox"/>
NO3_5	SKIP IF DISPLAY GROUP = SEWER Water recycling	<input type="checkbox"/>	<input type="checkbox"/>
NO3_6	Protecting [water/sewer] supplies (e.g., threats from terrorism)	<input type="checkbox"/>	<input type="checkbox"/>
NO3_7	Providing public open space around lakes and reservoirs (e.g., parks, recreation area, land use, boating, etc.)	<input type="checkbox"/>	<input type="checkbox"/>
NO3_8	Protecting and restoring native fish and wildlife	<input type="checkbox"/>	<input type="checkbox"/>

DEMOGRAPHICS

These final questions are for classification purposes only.

DD1. In which of the following categories does your age fall?

Question Label: Age Categories

<input type="radio"/>	1	18 to 34
-----------------------	----------	----------

<input type="radio"/>	2	35 to 44
<input type="radio"/>	3	45 to 54
<input type="radio"/>	4	55 to 64
<input type="radio"/>	5	65+
<input type="radio"/>	99	Prefer not to answer

DD2. What is your gender?

Question Label: Gender

<input type="radio"/>	1	Male
<input type="radio"/>	2	Female
<input type="radio"/>	3	Prefer to self-describe [SPECIFY]
<input type="radio"/>	99	Prefer not to answer

DD3. Do you own or rent the place where you live?

Question Label: Ownership Type

<input type="radio"/>	1	Own
<input type="radio"/>	2	Rent
<input type="radio"/>	3	Unsure
<input type="radio"/>	99	Prefer not to answer

DD4. Which of the options below best describes the general area where you live?

Question Label: Neighborhood Type

<input type="radio"/>	1	Urban
<input type="radio"/>	2	Suburban
<input type="radio"/>	3	Rural
<input type="radio"/>	99	Prefer not to answer

CLOSE

Thank you very much for your time. Your comments are greatly appreciated.

NPS/Driver – Non Residential

Section Name	Section Title	Level	Order Group	Order
Introduction	INTRODUCTION			
Screening	INTRODUCTION			
Billing and Payment	BILLING & PAYMENT			Randomize

Section Name	Section Title	Level	Order Group	Order
Price	PRICE			Randomize
Account Lead	ACCOUNT LEAD			Randomize
Customer Service	CUSTOMER SERVICE			Randomize
Communications	COMMUNICATIONS			Randomize
Quality & Reliability	Quality & Reliability			Randomize
Corporate Responsibility	Corporate Responsibility			Randomize
Overall Satisfaction	OVERALL SATISFACTION			
Firmographics	DEMOGRAPHICS			

SCREENER

S1 Please indicate what activities you are involved in at your company. **[All that apply] (Do not terminate based on answers)**

- 1 Operations/Facility management
- 2 Contacting **[pipe in state]** American Water when there is a problem with the water service
- 3 Reviewing and/or paying the **[pipe in state]** American Water bill
- 4 Other activities related to **[pipe in state]** American Water **(specify)**

NPS1. Using a scale where 0 is not at all likely and 10 is extremely likely, how likely are you to recommend **[pipe in state]** American Water to a friend, relative or colleague?

[PROG: SINGLE RESPONSE, FORCED, ORDER=FIXED]

- 0 Not at all likely
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10 Extremely likely

NPS2. What is the reason for your rating?

[PROG: TEXT, FORCED, 1024 CHARACTER LIMIT]

[TEXT BOX]

98 No comment **[PROG: EXCLUSIVE]**

[RANDOMIZE SECTIONS]

BILLING AND PAYMENT [IF S1_3=YES, ELSE SKIP TO NEXT SECTION]

BP1. Do you receive a summary bill for multiple business locations?

- 1 Yes

- 0 No
- 98 Not Anymore
- 99 Don't Know

[PROG. ASK BP1_2 IF BP1=0 OR 99]

BP1_2. What is the reason you have not combined your American Water bills to 1 summary?

[PROG: SINGLE RESPONSE, FORCED, ORDER=FIXED]

- 1 Only one account (not necessary)
- 2 Not interested in a summary bill
- 3 Didn't know it was available
- 4 Other [PROG: SPECIFY]
- 99 Don't Know

[PROG. ASK BP1_1 IF BP1=0 OR 99]

BP1_1. If you had the ability to combine your American Water bills to 1 summary, would you be interested?

[PROG: SINGLE RESPONSE, FORCED, ORDER=FIXED]

- 1 Yes
- 0 No
- 99 Don't Know

BP2 During the past 12 months, which issues, if any, have you experienced with billing and payment? **["Mark all that apply."]** [A: Issues with billing and payment (last 12 months)] **[PROG: MULTIPLE RESPONSE]**

- 1 Inaccurate statement
- 2 Problem with processing a payment
- 3 Problem with applying funds to multiple accounts
- 4 Lack of billing flexibility/options
- 5 Adjustment to a prior bill
- 6 Timeliness of receiving the bill
- 7 Not receiving the bill
- 97 Other **[PROG: SPECIFY]**
- 98 I have not experienced any issues with billing and payment **[PROG: EXCLUSIVE]**
- 99 Don't know **[PROG: EXCLUSIVE, DO NOT PROBE]**

BP3. Is American Water responsive to your billing questions or issues **[If BP2 <98]**

- 1 Yes
- 0 No
- 99 Don't Know

BP4 Using a 1 to 10 scale where 1 is Unacceptable 5 is Average and 10 is Outstanding, how would you rate the following:

- A. Usefulness of information on your bill [A: Usefulness of information on bill]
- B. Amount of time given to pay your bill [A: Amount of time given to pay bill]
- C. Variety of methods to pay your bill [A: Variety of methods to pay bill]
- D. Ease of paying your bill [A: Ease of paying bill]

Z. Using a 1 to 10 scale where 1 is Unacceptable 5 is Average and 10 is Outstanding, how would you rate the overall billing and payment experience?

[PROG: STANDARD ATTRIBUTE GRID, SINGLE RESPONSE, FORCED] [If S3=1]

99 Don't know

BP5. What, if anything, could be done to either improve the billing statement or the payment process?

[CAPTURE VERBATIM] [If S3=1]

98 No comment **[PROG: EXCLUSIVE]**

99 Don't know

PRICE

P2 Using a 1 to 10 scale where 1 is Unacceptable 5 is Average and 10 is Outstanding, how would you rate the following:

- A. Total monthly cost of water service
- B. Efforts of **[pipe in state]** American Water to help manage your facility/company's monthly usage
- C. Fairness of pricing for your water service

Z. Overall price [A: OSAT: Price]

99 Don't Know

[PROG: STANDARD ATTRIBUTE GRID, SINGLE RESPONSE, FORCED] Asked for all respondents

Account Lead

AL1. Do you have a **[pipe in STATE]** American Water Account Manager or Lead assigned to your business?

[PROG: SINGLE RESPONSE, FORCED] Asked for all respondents, will initiate skip pattern [If answer 0 or 99, skip to NEXT SECTION]

1 Yes

0 No

99 Don't know

AL2. What is the name of your Account Lead?

[TEXTBOX]

99 Don't know

AL3. In the past 12 months, how many times did you contact your Account Lead?

[NUMBER BOX] [RANGE 0 to 98]

Don't know 99

AL4. In the past 12 months, how many times did your Account Lead contact you?

[NUMBER BOX] [RANGE 0 to 98]

Don't know 99

AL5. Does your Account Lead show a genuine concern for your business needs?

1 Yes

0 No

99 Don't know

AL6. Typically when you call your account lead with a question or problem, do you have to follow up to get a resolution?

1 Yes

0 No

99 Don't know/Not applicable

AL7 To what extent do you agree with the following statement:

My account manager makes it easy for me to resolve my issues.

1 Strongly disagree

2 Disagree

3 Neither agree nor disagree

4 Agree

5 Strongly Agree

99 Don't know/Not applicable

AL8 How would you describe the level of communication your account manager provides?

1 Not Enough

2 Just right

3 Too Much

99 Don't know

“Joint planning is a strategic exercise between two companies to understand your needs, learn about upcoming plans and develop steps to meet expectations”

AL9. In the past 12 months, have you engaged in a Joint Planning session either over the phone or in person with your account manager? **[A: Joint planning session] IF NO, SKIP AL10**

1 Yes

0 No

99 Don't know **[PROG: EXCLUSIVE]**

AL10. How helpful are the joint planning sessions? **[A: Helpfulness of joint planning sessions] [PROG: SINGLE RESPONSE]**

1 Not at all helpful

2 Somewhat helpful

3 Very helpful

99 Don't know **[PROG: DO NOT PROBE]**

AL11. In the past 12 months, has your account manager...? **[PROG: GRID, SINGLE RESPONSE]**

1 Yes

0 No

99 Don't know

[PROG: ROWS, ORDER=RANDOMIZE]

- A. Invited you to a hospitality event
- B. Introduced a product, service, or program that has helped your facility/business
- C. Helped reduce total water usage at your facility/business
- D. Helped save money on your company's water bill
- E. Offered services to make it easier to do business with American Water
- F. Provided valuable business-related content via email, webinars, etc.

AL12_Rating Using a 1 to 10 scale where 1 is Unacceptable 5 is Average and 10 is Outstanding, how would you rate your Account lead on the following:

- A. Usefulness of information provided
- B. Understanding of your business needs
- C. Responsiveness
- D. Knowledge of the water industry
- E. Courtesy
- F. Professionalism
- G. Timeliness of resolving your problems, questions, or requests

Z. Using a 1 to 10 scale where 1 is Unacceptable 5 is Average and 10 is Outstanding, how would you rate your Account Lead overall?

[PROG: STANDARD ATTRIBUTE GRID, SINGLE RESPONSE, FORCED]

99 Don't know **[PROG: EXCLUSIVE]**

AL13 Based on your interaction with you **[pipe in state]** American Water Account Lead, what specific activities or information could they provide to be more useful to you?

[PROG: CAPTURE VERBATIM, FORCED] ASK IF THEY HAVE A LEAD]

Customer Service

CS1 – CS3 In the past 12 months, how many times, if any, did you contact **[pipe in state]** American Water for a **reason besides paying your bill using the following methods?** **[asked of all respondents]**

[PROG: NUMERIC GRID, FORCED, RANGES=0-98]

CS1. **[NUMERIC BOX]** Called American Water's Customer Service Center

CS2 **[NUMERIC BOX]** Website (amwater.com or your MyWater online account)

CS3 Other (text, email, social media) **[specify]**

[PROG: ASK CS1_1 IF CS1>0 AND AL1=1]

CS1_1. Why did you choose to call the American Water's Customer Service Center instead of calling your Account Manager?

[PROG: TEXT, FORCED, 1024 CHARACTER LIMIT]

[TEXT BOX]

99 Don't Know

CS4. How are your calls to the customer service center typically handled?

[IF CS1>0] [PROG: SINGLE RESPONSE, FORCED]

- 1 Completely handled using the automated telephone system
- 2 Used the phone system first, then talked to a representative
- 3 Spoke directly to a representative

CS5. Did the customer service representative show a genuine concern for your business needs? **[IF CS4>1]**

- 1 Yes
- 0 No
- 99 Don't know

CS6. Typically when you call the customer service center, do you feel you have to call back later to get a resolution?

- 1 Yes
- 0 No
- 99 Don't know

CS7 To what extent do you agree with the following statement:

The representatives at the customer service center make it easy for me to resolve my issues. **[IF CS4>1]**

- 1 Strongly disagree
- 2 Disagree
- 3 Neither agree nor disagree
- 4 Agree
- 5 Strongly Agree
- 99 Don't know/Not applicable

CS8. Thinking about your customer service experiences with **[pipe in state]** American Water, how would you rate the following on a scale from 1 to 10, where 1 is Unacceptable, 5 is Average, and 10 is Outstanding? **[PROG: GRID, SINGLE RESPONSE]**

[PROG: COLUMNS, INTERVIEWER – READ ANCHOR POINTS EXCEPT “N/A”]

- 1 Unacceptable
- 2
- 3
- 4
- 5 Average
- 6
- 7
- 8
- 9
- 10 Outstanding
- 99 N/A

[PROG: ROWS, ORDER=RANDOMIZE]

- A. Usefulness of information provided by the representative **[IF CS1>0]**
- B. Usefulness of information provided online (amwater.com or your MyWater online account) **[IF CS2>0]**
- C. Understanding of your business needs **[IF CS1>0]**
- D. Ease of navigating website (amwater.com or your MyWater online account) **[IF CS2>0]**
- E. Ability to effectively manage my company's account using the website (amwater.com or your MyWater online account) **[IF CS2>0]**
- F. Ease of using phone system **[IF CS4= 1 or 2]**
- G. Professionalism of representative(s) **[IF CS1>0]**
- H. Timeliness of resolving your problems, questions, or requests via phone **[IF CS1>0]**
- I. Timeliness of resolving your problems, questions or request online via amwater.com or your MyWater online account **[IF CS2>0]**

Y. Overall customer service CENTER experience [IF CS1>0]

99 Don't Know

Z. Overall customer service experience [A: OSAT: Customer Service] [PROG: FIXED, DO NOT SHOW/ALLOW 99 RESPONSE OPTION] [Asked of all respondents]

99 Don't Know

Water Quality & Reliability

WQR3. Are you satisfied with the reliability of water delivery from American Water?

- 1 Yes
- 0 No
- 99 Don't know

WQR4. Does **[pipe in state]** American Water do a good job of maintaining their current water infrastructure
Asked for all respondents

- 1 Yes
- 0 No
- 99 Don't know

WQR5. In the past 12 months, what meter services did you experience at your place of business? **Asked for all respondents**

[PROG: CODE RESPONSES USING BELOW OPTIONS; PROMPT WITH EXAMPLES IF NEEDED] Asked for all respondents

- 1 Replacement
- 2 Repair
- 3 Inaccurate reading
- 4 Estimated reading
- 5 Other (Specify)
- 6 No issues, work done
- 99 Don't Know

WQR6. In the past 12 months, what problems, such as a service interruption or quality issue, did you experience with water delivery at your place of business? **Asked for all respondents**

[PROG: CODE RESPONSES USING BELOW OPTIONS; PROMPT WITH EXAMPLES IF NEEDED] ALL THAT APPLY

- 1 Interruption due to weather
- 2 Interruption due to water pipeline work in the area
- 3 Interruption due to accidental water pipeline/main damage (e.g., pipeline was damaged while digging, etc.)
- 4 Interruption due to onsite pipe damage
- 5 Interruption due to onsite equipment failure
- 6 Pressure too low
- 7 Bad taste
- 8 Poor clarity/Discolored
- 9 Bad smell
- 10 High lead/mineral content
- 11 Scaling/Water hardness
- 12 Boil Advisory
- 97 Other **[PROG: SPECIFY]**
- 0 Did not experience any water service problems
- 99 Don't know

WQR7. Using a 1 to 10 scale where 1 is Unacceptable 5 is Average and 10 is Outstanding, how would you rate **[pipe in state]** American Water's overall delivery of water service?

[PROG: STANDARD ATTRIBUTE GRID, SINGLE RESPONSE, FORCED] Asked for all respondents

- 99 Don't know

COMMUNICATIONS

COM1. In the past 12 months, how many business communications, if any, do you recall seeing, reading, or hearing from **[pipe in state]** American Water? **Asked for all respondents**

[NUMERIC BOX] Communication(s)

[PROG: ASK COM1>0]

COM2. Thinking about the communication(s) you recall, what was/were the message(s) about?

[PROG: CODE RESPONSES USING BELOW OPTIONS; PROMPT WITH EXAMPLES IF NEEDED] ALL ANSWERS THAT APPLY

- 1 Water conservation tips
- 2 Water prices, rate changes (increase/decrease)
- 3 Water restrictions, usage restrictions

- 4 Company image (e.g., our promise, what we stand for, etc.)
- 5 Corporate citizenship (e.g., involvement in communities/sponsorships, etc.)
- 6 Customer service (e.g., telephone numbers, payment options, etc.)
- 7 Company information/news
- 8 Emergency preparedness
- 9 Water system upgrades or improvements
- 10 Paperless billing (eBill)
- 11 Water quality report
- 12 Frozen pipes, preparing for winter
- 97 Other
- 99 Don't know

COM3. Was the frequency of communication you received from *[pipe in state]* American Water ...?
[PROG: SINGLE RESPONSE, FORCED]

- 1 Not enough
- 2 Just right
- 3 Too much
- 99 Don't know

COM4. In the past 12 months did you receive advanced notice from American Water regarding any of the following? [A: Recent outage: received advanced notice] ***[PROG: All that apply]***

- 1 Planned Service Interruption
- 2 Emergency Service Interruption
- 3 Boil Water Advisory
- 0 None
- 99 Don't know

COM5. In which way(s) did you receive the advanced notice? Please select all that apply ***[If COM4 = 1, 2, 3] [PROG: All that apply]***

- 1 Email
- 2 Text
- 3 Automated Phone Call
- 4 Directly by account manager
- 5 Other
- 99 Don't Know

COM6 How useful was the information provided in helping you manage the service interruption/boil water advisory? ***[If COM4 = 1, 2, 3]***

- 1 Not at all useful
- 2 Somewhat useful
- 3 Very useful
- 99 Don't Know

COM7. During a service interruption/boil water advisory, how would you describe the frequency of updates? [A: Providing outage status updates] **[PROG: SINGLE RESPONSE]**

- 1 Not often enough
- 2 Just right
- 3 Too often
- 99 Don't know

COM8. If applicable, how would you describe the process to report a service interruption to American Water? [A: Ease of reporting outages] **[PROG: SINGLE RESPONSE]**

- 1 Very difficult
- 2 Somewhat difficult
- 3 Somewhat easy
- 4 Very easy
- 98 I have never had to report an interruption
- 99 Don't know

COM9. Using a 1 to 10 scale where 1 is Unacceptable 5 is Average and 10 is Outstanding, how would you rate **[pipe in state]** American Water's overall communication? **Asked for all respondents**
[PROG: STANDARD ATTRIBUTE GRID, SINGLE RESPONSE, FORCED]

- 99 Don't know

CORPORATE RESPONSIBLIITY Asked for all respondents

CR1. Here is a brief statement regarding **[pipe in state]** American Water's corporate values:

At American Water, we believe the only way to do business is responsibly: ensuring the safety of our employees and customers, delivering value to our customers, building strong communities, protecting the environment, and supporting the expertise and dedication of our people.

Based on your experience with **[pipe in state]** American Water, to what level do you agree that the company lives up to these values?

- 1 Strongly disagree
- 2 Disagree
- 3 Neither agree nor disagree
- 4 Agree
- 5 Strongly agree

CR2. How familiar are you with water conservation programs from **[pipe in state]** American Water to help you with ways to use less water?

[PROG: SINGLE RESPONSE, FORCED] Asked for all respondents

- 1 Not at all familiar
- 2 Not very familiar
- 3 Somewhat familiar
- 4 Very familiar
- 99 Don't Know

CR3 How familiar are you with **[pipe in state]** American Water’s investments in repairing, replacing, and upgrading water and wastewater systems?

[PROG: SINGLE RESPONSE, FORCED] Asked for all respondents

- 1 Not at all familiar
- 2 Not very familiar
- 3 Somewhat familiar
- 4 Very familiar

CR4 – CR8 Which of the following activities, if any, are you aware of **[pipe in state]** American Water doing?

[PROG: COLUMN] Asked for all respondents

- 1 Yes
- 0 No
- 99 Don’t Know

CR4 Promoting general water conservation efforts

CR5 Promoting the safety of **[pipe in state]** American Water’s customers and employees

CR6 Efforts made to protect and improve the environment?

CR7 Supporting local economic development initiatives

CR8 Participating in local charities, civic organizations, sponsorships, etc

CR9 Sharing educational content with our business partners

CR9. Considering anything you’ve heard about **[pipe in state]** American Water in the local community via word of mouth, local media, social media, etc, how would you classify general perceptions of the company? **[PROG: SINGLE RESPONSE, FORCED] Asked for all respondents**

- 1 Very negative
- 2 Negative
- 3 Neutral
- 4 Positive
- 5 Very Positive

CR11. Does your company report your Environmental/Social/Governance (ESG) performance?

[PROG: SINGLE RESPONSE, FORCED] Asked for all respondent 1. Yes 2. No 99. Don’t Know

CR12. How familiar are you with American Water’s Environmental/Social/Governance (ESG) performance? **[PROG: SINGLE RESPONSE, FORCED] Asked for all respondents**

- 1 Not at all familiar
- 2 Not very familiar
- 3 Somewhat familiar
- 4 Very familiar

CR13. As part of your ESG efforts, does your company or facility have a specific goal(s) regarding water or electric utility efficiency? **[PROG: SINGLE RESPONSE, FORCED] Asked for all respondents**

- 1 Yes, water only
- 2 Yes, electric only
- 3 Yes, both water and electric
- 4 No, we don’t have any efficiency goals
- 99 Don’t know/not sure

Corporate responsibility is the way a company takes responsibility for its actions and their impact on customers, employees and communities.

CR10. Using a 1 to 10 scale where 1 is Unacceptable 5 is Average and 10 is Outstanding, how would you rate **[pipe in state]** American Water's overall corporate responsibility? **Asked for all respondents**

[PROG: STANDARD ATTRIBUTE GRID, SINGLE RESPONSE, FORCED]

99 Don't know

OVERALL SATISFACTION

OS1. Taking into consideration all aspects of your company's water service experience, please rate **[pipe in state]** American Water overall.

[PROG: STANDARD OSAT GRID, SINGLE RESPONSE FORCED]

98 No Comment

[PROG: STANDARD OSAT GRID, SINGLE RESPONSE FORCED] Asked for all respondents

OS2. What does **[pipe in state]** American Water do well to earn your satisfaction?

[PROG: TEXT, FORCED, 1024 CHARACTER LIMIT] Asked for all respondents

[TEXT BOX]

98 No comment **[PROG: EXCLUSIVE]**

99 Don't Know

OS3. For factors other than price, what can **[pipe in state]** American Water do to improve your company's overall satisfaction?

[PROG: TEXT, FORCED, 1024 CHARACTER LIMIT] Asked for all respondents

[TEXT BOX]

98 No comment **[PROG: EXCLUSIVE]**

99 Don't Know

V1 To what extent do you agree with the following statement:

The service we receive from **[pipe in state]** American Water is worth the price we pay for water.

1 Strongly disagree

2 Disagree

3 Neither agree nor disagree

4 Agree

5 Strongly agree

FIRMOGRAPHICS

D1 Which of the below best describes your occupational level? **Asked for all respondents**

1 Executive / Top management / Owner

2 Senior executive

3 Upper-middle management

4 Middle management

5 Supervisor

6 Professional staff

7 Contracted staff

8 Non-technical staff

D3 How many locations does your organization have which receive service from American Water?

Asked for all respondents

[NUMERIC BOX]

98 Refused

999999 Don't know

D4 Approximately how many full-time employees work for your company?

Asked for all respondents

[NUMERIC BOX]

98 Refused

999999 Don't know

D6 How would you rate American Water overall service compared to your other utility service providers (electric and natural gas)?

[PROG: SINGLE RESPONSE, FORCED] Asked for all respondents

1 Better than other utility service providers

2 About the same as other utility service providers

3 Worse than other utility service providers

99 Don't know

D7 Would you like **[PROG: PIPE IN STATE FROM SAMPLE FILE]** American Water to follow up with you regarding your **MyWater online account**?

1 Yes

0 No

99 Don't know

[PROG: SURVEY CONCLUDES WITH INFO TEXT: "That concludes our survey. J.D. Power and {pipe in state} American Water thank you for participating."]

Service Transaction Survey

INTRO

Please take a few minutes to respond to our survey about your recent service appointment with [STATE] American Water. [STATE] American Water is committed to providing the best possible services and experiences for you.

This survey will take approximately 5 minutes to complete. Thank you in advance for your participation.

SCREENER

SS1. Are you the person who contacted [STATE] American Water regarding this service appointment?

Question Label: Correct Contact

<input type="checkbox"/>	1	Yes, I contacted [STATE] American Water (via phone, web email, social media, etc.)
<input type="checkbox"/>	2	No, someone else in my household contacted/was contacted by [STATE] American Water THANK & DISQUALIFY
<input type="checkbox"/>	3	[STATE] American Water contacted me
<input type="checkbox"/>	4	No one in the household contacted [STATE] American Water THANK & DISQUALIFY
<input type="checkbox"/>	99	Don't Know / Not Sure THANK & DISQUALIFY

SS2. Do you have responsibility or share the responsibility with regard to payment of your household bills?

Question Label: Bill Responsibility

<input type="checkbox"/>	1	Yes
<input type="checkbox"/>	2	No THANK & DISQUALIFY
<input type="checkbox"/>	99	Prefer not to answer THANK & DISQUALIFY

SS3. Are you at least 18 years old?

Question Label: Age Requirement

<input type="checkbox"/>	1	Yes
<input type="checkbox"/>	2	No THANK & DISQUALIFY

REASON FOR CONTACT

First, we'd like to ask you a few questions about your service visit.

REQUIRED

A1A. What was your initial reason for contacting [STATE] American Water that resulted in this service visit?

Question Label: Reason for Contact 1

<input type="checkbox"/>	1	Water Service Issue (e.g., leak, pressure, water quality)
<input type="checkbox"/>	2	Water Emergency (Report or follow up on a water emergency)
<input type="checkbox"/>	3	Metering (Meter reading error or other meter questions/issues)
<input type="checkbox"/>	4	Billing & Payment (e.g., pay bill, billing or payment questions, payment plans)
<input type="checkbox"/>	5	Account Management (e.g., account updates, notifications, turn on/off service)
<input type="checkbox"/>	6	Moving (e.g., start, stop, transfer service)
<input type="checkbox"/>	7	Other , please specify: [SPECIFY]
<input type="checkbox"/>	99	Don't Know

REQUIRED**ASK A1B IF A1A = 1,2,4,5,6**

A1B. Please select the specific reason below.

Question Label: Reason for Contact 2

		Water Service Issue – DISPLAY IF A1A=1
<input type="checkbox"/>	1	Report or follow-up on a water leak
<input type="checkbox"/>	2	Report or follow-up on water quality issue
<input type="checkbox"/>	3	Report water pipe damage
<input type="checkbox"/>	4	Water pressure issues
		Water Emergency DISPLAY IF A1A=2
<input type="checkbox"/>	5	Report a water emergency
<input type="checkbox"/>	6	Follow up on a water emergency
		Billing & Payment DISPLAY IF A1A=4
<input type="checkbox"/>	7	Pay my bill
<input type="checkbox"/>	8	General billing question (e.g., due date, balance due, etc.)
<input type="checkbox"/>	9	General payment questions (e.g., ways to pay, verify payment received, etc.)
<input type="checkbox"/>	10	High bill complaint
<input type="checkbox"/>	11	Make extended payment arrangements
<input type="checkbox"/>	12	Get usage history
<input type="checkbox"/>	13	Check account balance
		Account Management DISPLAY IF A1A=5
<input type="checkbox"/>	14	Turn on/off service, change contact information, etc.
<input type="checkbox"/>	15	Set up alerts/notifications
		Moving DISPLAY IF A1A=6
<input type="checkbox"/>	16	New customer moving in
<input type="checkbox"/>	17	Transfer service to new property
<input type="checkbox"/>	18	Moving out
		All DISPLAY FOR ALL

<input type="checkbox"/>	19	Other, please specify: [SPECIFY]
<input type="checkbox"/>	99	Don't know

DEFINE 'A1. REASON FOR CONTACT'

1	Report or follow-up on a water leak	A1B = 1
2	Report or follow-up on water quality issue	A1B = 2
3	Report water pipe damage	A1B = 3
4	Water pressure issues	A1B = 4
5	Water Service Issue - Other	A1A = 1 AND A1B = 19
6	Water Service Issue – Don't Know	A1A = 1 AND A1B = 99
7	Report a water emergency	A1B = 5
8	Follow up on a water emergency	A1B = 6
9	Water Emergency - Other	A1A = 2 AND A1B = 19
10	Water Emergency – Don't Know	A1A = 2 AND A1B = 99
11	Metering (Meter reading error or other meter questions/issues)	A1A = 3
12	Pay my bill	A1B = 7
13	General billing question (e.g., due date, balance due, etc.)	A1B = 8
14	General payment questions (e.g., ways to pay, verify payment received, etc.)	A1B = 9
15	High bill complaint	A1B = 10
16	Make extended payment arrangements	A1B = 11
17	Get usage history	A1B = 12
18	Check account balance	A1B = 13
19	Billing & Payment - Other	A1A = 4 AND A1B = 19
20	Billing & Payment – Don't Know	A1A = 4 AND A1B = 99
21	Turn on/off service, change contact information, etc.	A1B = 14
22	Set up alerts/notifications	A1B = 15
23	Account Management - Other	A1A = 5 AND A1B = 19
24	Account Management – Don't Know	A1A = 5 AND A1B = 99
25	New customer moving in	A1B = 16
26	Transfer service to new property	A1B = 17
27	Moving out	A1B = 18
28	Moving – Other	A1A = 6 AND A1B = 19
29	Moving – Don't Know	A1A = 6 AND A1B = 99
30	Other	A1A = 7
31	Don't Know	A1A = 99

DEFINE 'REASON FOR CONTACT – PIPE TEXT'

1	to report or follow-up on a water leak	Reason for Contact = 1
2	to report or follow-up on water quality issue	Reason for Contact = 2
3	to report water pipe damage	Reason for Contact = 3
4	regarding water pressure issues	Reason for Contact = 4
5	regarding water service issues	Reason for Contact = 5/6

6	to report a water emergency	Reason for Contact = 7
7	to follow up on a water emergency	Reason for Contact = 8
8	regarding water emergencies	Reason for Contact = 9/10
9	regarding metering issues or questions	Reason for Contact = 11
10	to pay your bill	Reason for Contact = 12
11	regarding billing questions	Reason for Contact = 13
12	regarding payment questions	Reason for Contact = 14
13	to make a high bill complaint	Reason for Contact = 15
14	to make extended payment arrangements	Reason for Contact = 16
15	to get usage history	Reason for Contact = 17
16	to check your account balance	Reason for Contact = 18
17	regarding billing and payment	Reason for Contact = 19/20
18	to make account changes	Reason for Contact = 21
19	to set up alerts and/or notifications	Reason for Contact = 22
20	regarding account management	Reason for Contact = 23/24
21	to move in/set up new service	Reason for Contact = 25
22	to transfer service to a new property	Reason for Contact = 26
23	to move out/cancel service	Reason for Contact = 27
24	regarding moving or transferring service	Reason for Contact = 28/29
25	regarding customer service issues or questions	Reason for Contact = 30/31

OVERALL SERVICE EXPERIENCE

REQUIRED

B2_TST. Please rate the overall service appointment experience with [STATE] American Water.

Question Label: Overall Service Experience

Poor	Fair	Good	Very good	Excellent	Don't know
1	2	3	4	5	99
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CONTACT CHANNELS

REQUIRED

C1. How many times did you contact [STATE] American Water specifically regarding this service visit, or the issue that led to this visit (including phone calls, website visits, email, online chat, social media, etc.)?

Question Label: Number of Contacts

<input type="checkbox"/>	1	1
<input type="checkbox"/>	2	2
<input type="checkbox"/>	3	3

<input type="checkbox"/>	4	4
<input type="checkbox"/>	5	5
<input type="checkbox"/>	6	More than 5 - SKIP TO CLOSE LOOP FOLLOW UP SECTION

REQUIRED**ASK C2A IF C1 = 1**

C2A. How did you contact [STATE] American Water about this service visit, or the issue the led to this visit?

Question Label: Single Contact Method

<input type="checkbox"/>	1	Phone
<input type="checkbox"/>	2	Online self-service (amwater.com or your MyWater online account)
<input type="checkbox"/>	3	Email or web form
<input type="checkbox"/>	4	Online chat
<input type="checkbox"/>	5	Social media
<input type="checkbox"/>	6	Text message
<input type="checkbox"/>	7	Another method, please specify: [SPECIFY]

REQUIRED**ASK C2B IF C1 = 2-5**

C2B. How did you first contact [STATE] American Water about this service visit, or the issue the led to this visit?

Question Label: Initial Contact Method

<input type="checkbox"/>	1	Phone
<input type="checkbox"/>	2	Online self-service (amwater.com or your MyWater online account)
<input type="checkbox"/>	3	Email or web form
<input type="checkbox"/>	4	Online chat
<input type="checkbox"/>	5	Social media
<input type="checkbox"/>	6	Text message
<input type="checkbox"/>	7	Another method, please specify: (SPECIFY)

ASK C3A IF C1 = 2-5

C3A. How did you contact [STATE] American Water most recently about this service visit, or the issue the led to this visit?

Question Label: Most Recent Contact Method 1

<input type="checkbox"/>	1	Phone
<input type="checkbox"/>	2	Online self-service (amwater.com or your MyWater online account)
<input type="checkbox"/>	3	Email or web form

<input type="checkbox"/>	4	Online chat
<input type="checkbox"/>	5	Social media
<input type="checkbox"/>	6	Text message
<input type="checkbox"/>	7	Another method, please specify: [SPECIFY]

DEFINE 'C2. FIRST CONTACT METHOD'

1	Phone	(C1 = 1 AND C2A = 1) OR C2B = 1
2	Online self-service	(C1 = 1 AND C2A =2) OR C2B = 2
3	Email or web form	(C1 = 1 AND C2A = 3) OR C2B = 3
4	Online chat	(C1 = 1 AND C2A = 4) OR C2B = 4
5	Social media	(C1 = 1 AND C2A = 5) OR C2B = 5
6	Text message	(C1 = 1 AND C2A = 6) OR C2B = 6
7	Other	(C1 = 1 AND C2A = 7) OR C2B = 7

DEFINE 'FIRST CONTACT METHOD – GROUP'

1	Phone	First Contact Method = 1
2	Online self-service	First Contact Method = 2
3	Chat	First Contact Method = 4
4	Text	First Contact Method = 6
5	Other	First Contact Method = 3/5/7

DEFINE 'FIRST CONTACT METHOD – PIPE TEXT'

1	phone	First Contact Method = 1
2	online self-service	First Contact Method = 2
3	email	First Contact Method = 3
4	chat	First Contact Method = 4
5	social media	First Contact Method = 5
6	text	First Contact Method = 6
7	something other than self-service	First Contact Method = 7

DEFINE 'C3. MOST RECENT CONTACT METHOD'

1	Phone	(C1 = 1 AND C2A = 1) OR C3A = 1
2	Online self-service	(C1 = 1 AND C2A =2) OR C3A = 2
3	Email or web form	(C1 = 1 AND C2A = 3) OR C3A = 3
4	Online chat	(C1 = 1 AND C2A = 4) OR C3A = 4
5	Social media	(C1 = 1 AND C2A = 5) OR C3A = 5
6	Text message	(C1 = 1 AND C2A = 6) OR C3A = 6
7	Other	(C1 = 1 AND C2A = 7) OR C3A = 7

DEFINE 'MOST RECENT CONTACT METHOD – GROUP'

1	Phone	Most Recent Contact Method = 1
----------	-------	---------------------------------------

2	Online self-service	Most Recent Contact Method = 2
3	Chat	Most Recent Contact Method = 4
4	Text	Most Recent Contact Method = 6
5	Other	Most Recent Contact Method = 3/5/7

WHY NOT MYWATER

REQUIRED

ASK D1 IF FIRST CONTACT METHOD <>2

D1. You mentioned that your first contact method was [FIRST CONTACT METHOD – PIPE TEXT]. Are you aware that you can schedule many service appointments via your MyWater online account?

Question Label: Self-Service Awareness

<input type="checkbox"/>	1	Yes
<input type="checkbox"/>	2	No

ASK D2A IF D1 = 1

D2A. What is the primary reason that you chose to contact [STATE] American Water via [FIRST CONTACT METHOD – PIPE TEXT] instead of via your MyWater online account?

Question Label: Why Not MyWater 1

RANDOMIZE OPTIONS		
<input type="checkbox"/>	1	I don't have a MyWater account
<input type="checkbox"/>	2	I can't remember how to log into my MyWater account
<input type="checkbox"/>	3	I have had trouble with MyWater in the past
<input type="checkbox"/>	4	I prefer to contact [STATE] American Water via [FIRST CONTACT METHOD – PIPE TEXT]

DEFINE 'D2. WHY NOT MYWATER'

1	Not Aware of Self-Service	D1 = 2
2	Prefer Another Channel	D2A = 4
3	No MyWater Account	D2A = 1
4	Problems with MyWater	D2A = 2/3

PREFERRED CHANNEL

ASK E1A IF D2A <> 4 OR D2A NOT DISPLAYED

E1A. What is your preferred method for contacting [STATE] American Water [REASON FOR CONTACT – PIPE TEXT]?

Question Label: Preferred Channel 1

<input type="checkbox"/>	1	Phone
<input type="checkbox"/>	2	Online self-service (amwater.com or your MyWater online account)
<input type="checkbox"/>	3	Email or web form
<input type="checkbox"/>	4	Online chat
<input type="checkbox"/>	5	Social media
<input type="checkbox"/>	6	Text message
<input type="checkbox"/>	7	Another method [SPECIFY]

DEFINE 'E1. PREFERRED CHANNEL'

1	Phone	(First Contact Method = 1 AND D2A = 4) OR (E1A = 1)
2	Online self-service	(First Contact Method = 2 AND D2A = 4) OR (E1A = 2)
3	Email or web form	(First Contact Method = 3 AND D2A = 4) OR (E1A = 3)
4	Online chat	(First Contact Method = 4 AND D2A = 4) OR (E1A = 4)
5	Social media	(First Contact Method = 5 AND D2A = 4) OR (E1A = 5)
6	Text message	(First Contact Method = 6 AND D2A = 4) OR (E1A = 6)
7	Other	(First Contact Method = 7 AND D2A = 4) OR (E1A = 7)

DEFINE 'PREFERRED CHANNEL – GROUP'

1	Phone	Preferred Channel = 1
2	Online self-service	Preferred Channel = 2
3	Chat	Preferred Channel = 4
4	Text	Preferred Channel = 6
5	Other	Preferred Channel = 3/5/7

SERVICE VISIT EXPERIENCE

Next, we'd like to ask you a few questions about the specifics of the service visit.

F1. What was the primary task performed by [STATE] American Water during the recent service visit?

Question Label: Primary Service Task

<input type="checkbox"/>	1	Reading a water meter
<input type="checkbox"/>	2	Replacing / Installing a water meter
<input type="checkbox"/>	3	Checking / Repairing water leak
<input type="checkbox"/>	4	Turning on/off service
<input type="checkbox"/>	5	Water quality problem
<input type="checkbox"/>	6	Other tasks performed in or around my home
<input type="checkbox"/>	99	Don't know

REQUIRED

F2. Did you personally see or interact with the field service technician during the service visit?

Question Label: Interaction with FSR

<input type="checkbox"/>	1	Yes
<input type="checkbox"/>	2	No, I was at home but did not see the field service technician
<input type="checkbox"/>	3	No, I was not at home during the service visit

ASK F4_TST IF F2 = 1

F4_TST. How would you rate the field service technician who completed the service?

Question Label: Service Tech Overall

Poor	Fair	Good	Very good	Excellent	Don't know
1	2	3	3	5	99
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ASK F5_TST IF F2 = 1

F5_TST. In particular, please rate the field service technician on each of the following.

Question Label: FSR Attributes

RANDOMIZE QUESTIONS		Poor	Fair	Good	Very Good	Excellent	Don't know
		1	2	3	4	5	99
F5_T ST_1	Was knowledgeable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F5_T ST_2	Was courteous	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F5_T ST_3	Quality of the work performed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F5_T ST_4	Timeliness of completing the work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

F6. Prior to the service visit, did you receive any notifications or appointment reminders via the following methods? *Please select all that apply.*

Question Label: Notifications/Reminders

RANDOMIZE FIRST 4 OPTIONS		
<input type="checkbox"/>	1	Automated phone recording
<input type="checkbox"/>	2	Phone call from field service technician
<input type="checkbox"/>	3	Email

<input type="checkbox"/>	4	Text message
<input type="checkbox"/>	5	I did not receive any advanced notifications or alerts - EXCLUSIVE
<input type="checkbox"/>	99	I don't know if I received any advanced notifications or alerts - EXCLUSIVE

ASK F7A_TST IF F2 = 1

F7A_TST. During this service visit, did the field service technician...?

Question Label: FSR Behaviors 1

RANDOMIZE QUESTIONS		Yes	No	Don't know
		1	0	99
F7A_TST _1	Arrive on time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F7A_TST _2	Leave the worksite in its original condition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F7A_TST _3	Complete the work correctly the first time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F7A_TST _4	Dress appropriately for the job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F7A_TST _5	Identify themselves as a representative of [STATE] American Water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

F7B_TST. At the conclusion of this service visit, which of the following occurred? *Please select all that apply.*

Question Label: FSR Behaviors 2

RANDOMIZE OPTIONS 1-4		
DISPLAY 1 ONLY IF F2=1		
<input type="checkbox"/>	1	Field service technician clearly explained the next steps regarding your issue
<input type="checkbox"/>	2	Field service technician left information about the work performed
<input type="checkbox"/>	3	You were instructed to contact [STATE] American Water for follow-up
<input type="checkbox"/>	4	You were informed that [STATE] American Water will contact you for follow-up
<input type="checkbox"/>	5	None of the above - EXCLUSIVE

ISSUE RESOLUTION**REQUIRED**

G1_TST. Is the issue that resulted in the service visit now resolved?

Question Label: Service Issue Resolution

<input type="radio"/>	1	Yes
<input type="radio"/>	2	No
<input type="radio"/>	99	Don't know / Uncertain

- HISTORICAL DATA IMPORT FIELD = G1_HST. Service Issue Resolution_HISTORY
- COMBINED FIELD FOR REPORTING = G1_TST_COMBO. Service Issue Resolution_COMBO

REQUIRED**ASK G2 IF G1_TST = 1**

G2. As you consider the entire process to address the issue that resulted in the service visit, how easy or difficult was it to resolve your issue?

Question Label: Customer Effort Score

Extremely Difficult	Difficult	Neutral	Easy	Extremely Easy
1	2	3	4	5
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ASK G3B IF G2= 1/2

G3B. Please tell us more about what made the process difficult. *Optional*

Question Label: Difficulty Open-End

_____ - open end

EMOTION & OPEN END

H1. To what extent did the interaction change the way you feel about [STATE] American Water as a company? Would you say you feel...?

Question Label: Customer Emotion

Much more negative	More negative	About the same	More positive	Much more positive	Don't know
1	2	3	4	5	99
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ASK H2 IF G2= 3-5

H2. Do you have any additional comments or feedback about your service visit experience? *Optional*

Question Label: Customer Feedback

_____ - open end

DEFINE 'H3. OPEN END COMBINED'

- CONCATENATE G3B+H2

CLOSED LOOP FOLLOW UP**REQUIRED****ASK I1 IF B1_TST = 1/2 OR C1 = 6 OR G1_TST = 2**

I1A. Would you like for someone from [STATE] American Water to contact you to follow-up with you about this experience?

Please note that it will take [1-2] business days for us to respond your request.
If you need immediate assistance, please call us at 1-800-272-1325.

Question Label: Closed Loop Follow Up

<input type="radio"/>	1	Yes, by phone
<input type="radio"/>	2	Yes, by email
<input type="radio"/>	3	No

DEFINE 'I1. CASE REQUEST'

1	Yes	I1 = 1/2
2	No	I1 = 3

REQUIRED

ASK I2A IF I1 = 1 AND 'EE4. Contact_Phone' <> BLANK AND <> "00000000" AND <> "999999999"

I2A. To confirm, is [CONTACT_PHONE] the best phone number at which to reach you? *If not, please provide an alternative phone number.* VALIDATE ON 10 CHARACTERS (includes dash and ()

Question Label: Preferred Phone Number 1

<input type="radio"/>	1	Yes
<input type="radio"/>	2	No, please specify: [SPECIFY ALTERNATIVE PHONE] US PHONE NUMBER VALIDATION

REQUIRED

ASK I2B IF I1 = 1 AND 'EE4. Contact_Phone' = BLANK OR = "00000000" OR "999999999"

I2B. What is the best phone number at which to reach you? VALIDATE ON 10 CHARACTERS (includes dash and ()

Question Label: Preferred Phone Number 2

<input type="radio"/>	2	Please specify: [SPECIFY ALTERNATIVE PHONE] US PHONE NUMBER VALIDATION
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DEFINE 'I2. PREFERRED EMAIL ADDRESS'

IF I2B = 2, I2B, IF I2A=2, I2A, ELSE 'EE4. Contact_Phone'

REQUIRED

ASK I3A IF I1 = 2

I3A. To confirm, is [CONTACT_EMAIL] the best e-mail address at which to reach you? *If not, please provide an alternative e-mail address.*

Question Label: Preferred Email Address 1

<input type="radio"/>	1	Yes
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<input type="radio"/>	2	No, please specify: [SPECIFY ALTERNATIVE EMAIL] E-MAIL VALIDATION
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DEFINE 'I3. PREFERRED EMAIL ADDRESS'

IF I3A = 2, I3A, ELSE 'EE1. Contact_Email'

REQUIRED**ASK I4 IF I1 =1/2**

I4. To help us better understand what's happening, please tell us a little more detail about your issue.

Question Label: Customer Case Issue
 _____ - open end

DEMOGRAPHICS

These final questions are for classification purposes only.

DD1. In which of the following categories does your age fall?

Question Label: Age Categories

<input type="radio"/>	1	18 to 34
<input type="radio"/>	2	35 to 44
<input type="radio"/>	3	45 to 54
<input type="radio"/>	4	55 to 64
<input type="radio"/>	5	65+
<input type="radio"/>	99	Prefer not to answer

DD2. What is your gender?

Question Label: Gender

<input type="radio"/>	1	Male
<input type="radio"/>	2	Female
<input type="radio"/>	3	Prefer to self-describe [SPECIFY]
<input type="radio"/>	99	Prefer not to answer

DD3. Do you own or rent the place where you live?

Question Label: Ownership Type

<input type="radio"/>	1	Own
<input type="radio"/>	2	Rent
<input type="radio"/>	3	Unsure
<input type="radio"/>	99	Prefer not to answer

DD4. Which of the options below best describes the general area where you live?

Question Label: Neighborhood Type

<input type="radio"/>	1	Urban
<input type="radio"/>	2	Suburban
<input type="radio"/>	3	Rural
<input type="radio"/>	99	Prefer not to answer

CLOSE

Thank you very much for your time. Your comments are greatly appreciated.

Phone Transaction Survey (TPT)

INTRO

Please take a few minutes to respond to our survey about your recent phone experience with [STATE] American Water. [STATE] American Water is committed to providing the best possible services and experiences for you.

This survey will take approximately 5 minutes to complete. Thank you in advance for your participation.

SCREENER

SS1. Are you the person who recently called [STATE] American Water?

Question Label: Correct Contact

<input type="checkbox"/>	1	Yes, I called [STATE] American Water
<input type="checkbox"/>	2	No, someone else in my household called/was contacted by [STATE] American Water THANK & DISQUALIFY
<input type="checkbox"/>	3	[STATE] American Water called me
<input type="checkbox"/>	4	No one in the household called [STATE] American Water THANK & DISQUALIFY
<input type="checkbox"/>	99	Don't Know / Not Sure THANK & DISQUALIFY

SS2. Do you have responsibility or share the responsibility with regard to payment of your household bills?

Question Label: Bill Responsibility

<input type="checkbox"/>	1	Yes
<input type="checkbox"/>	2	No THANK & DISQUALIFY
<input type="checkbox"/>	99	Prefer not to answer THANK & DISQUALIFY

SS3. Are you at least 18 years old?

Question Label: Age Requirement

<input type="checkbox"/>	1	Yes
<input type="checkbox"/>	2	No THANK & DISQUALIFY

REASON FOR CONTACT

First, we'd like to ask you a few questions about your phone call.

REQUIRED

A1A. What was the primary reason for your recent phone call to [STATE] American Water?

Question Label: Reason for Contact 1

<input type="checkbox"/>	1	Water Service Issue (e.g., leak, pressure, water quality)
<input type="checkbox"/>	2	Water Emergency (Report or follow up on a water emergency)
<input type="checkbox"/>	3	Metering (Meter reading error or other meter questions/issues)
<input type="checkbox"/>	4	Billing & Payment (e.g., pay bill, billing or payment questions, payment plans)
<input type="checkbox"/>	5	Account Management (e.g., account updates, notifications, turn on/off service)
<input type="checkbox"/>	6	Moving (e.g., start, stop, transfer service)
<input type="checkbox"/>	7	Other [SPECIFY]
<input type="checkbox"/>	99	Don't know

REQUIRED

ASK A1B IF A1A = 1,2,4,5,6

A1B. Please select the specific reason below.

Question Label: Reason for Contact 2

		Water Service Issue – DISPLAY IF A1A=1
<input type="checkbox"/>	1	Report or follow-up on a water leak
<input type="checkbox"/>	2	Report or follow-up on water quality issue
<input type="checkbox"/>	3	Report water pipe damage
<input type="checkbox"/>	4	Water pressure issues
		Water Emergency DISPLAY IF A1A=2
<input type="checkbox"/>	5	Report a water emergency
<input type="checkbox"/>	6	Follow up on a water emergency
		Billing & Payment DISPLAY IF A1A=4
<input type="checkbox"/>	7	Pay my bill
<input type="checkbox"/>	8	General billing question (e.g., due date, balance due, etc.)
<input type="checkbox"/>	9	General payment questions (e.g., ways to pay, verify payment received, etc.)
<input type="checkbox"/>	10	High bill complaint
<input type="checkbox"/>	11	Make extended payment arrangements

<input type="checkbox"/>	12	Get usage history
<input type="checkbox"/>	13	Check account balance
		Account Management DISPLAY IF A1A=5
<input type="checkbox"/>	14	Turn on/off service, change contact information, etc.
<input type="checkbox"/>	15	Set up alerts/notifications
		Moving DISPLAY IF A1A=6
<input type="checkbox"/>	16	New customer moving in
<input type="checkbox"/>	17	Transfer service to new property
<input type="checkbox"/>	18	Moving out
		All DISPLAY FOR ALL
<input type="checkbox"/>	19	Other, [SPECIFY]
<input type="checkbox"/>	99	Don't know

DEFINE 'A1. REASON FOR CONTACT'

1	Report or follow-up on a water leak	A1B = 1
2	Report or follow-up on water quality issue	A1B = 2
3	Report water pipe damage	A1B = 3
4	Water pressure issues	A1B = 4
5	Water Service Issue - Other	A1A = 1 AND A1B = 19
6	Water Service Issue – Don't Know	A1A = 1 AND A1B = 99
7	Report a water emergency	A1B = 5
8	Follow up on a water emergency	A1B = 6
9	Water Emergency - Other	A1A = 2 AND A1B = 19
10	Water Emergency – Don't Know	A1A = 2 AND A1B = 99
11	Metering (Meter reading error or other meter questions/issues)	A1A = 3
12	Pay my bill	A1B = 7
13	General billing question (e.g., due date, balance due, etc.)	A1B = 8
14	General payment questions (e.g., ways to pay, verify payment received, etc.)	A1B = 9
15	High bill complaint	A1B = 10
16	Make extended payment arrangements	A1B = 11
17	Get usage history	A1B = 12
18	Check account balance	A1B = 13
19	Billing & Payment - Other	A1A = 4 AND A1B = 19
20	Billing & Payment – Don't Know	A1A = 4 AND A1B = 99
21	Turn on/off service, change contact information, etc.	A1B = 14
22	Set up alerts/notifications	A1B = 15
23	Account Management - Other	A1A = 5 AND A1B = 19
24	Account Management – Don't Know	A1A = 5 AND A1B = 99
25	New customer moving in	A1B = 16
26	Transfer service to new property	A1B = 17
27	Moving out	A1B = 18

28	Moving – Other	A1A = 6 AND A1B = 19
29	Moving – Don't Know	A1A = 6 AND A1B = 99
30	Other	A1A = 7
31	Don't Know	A1A = 99

DEFINE 'REASON FOR CONTACT – PIPE TEXT'

1	to report or follow up on a water leak	Reason for Contact = 1
2	to report or follow-up on water quality issue	Reason for Contact = 2
3	to report water pipe damage	Reason for Contact = 3
4	regarding water pressure issues	Reason for Contact = 4
5	regarding water service issues	Reason for Contact = 5/6
6	to report a water emergency	Reason for Contact = 7
7	to follow up on a water emergency	Reason for Contact = 8
8	regarding water emergencies	Reason for Contact = 9/10
9	regarding metering issues or questions	Reason for Contact = 11
10	to pay your bill	Reason for Contact = 12
11	regarding billing questions	Reason for Contact = 13
12	regarding payment questions	Reason for Contact = 14
13	to make a high bill complaint	Reason for Contact = 15
14	to make extended payment arrangements	Reason for Contact = 16
15	to get usage history	Reason for Contact = 17
16	to check your account balance	Reason for Contact = 18
17	regarding billing and payment	Reason for Contact = 19/20
18	to make account changes	Reason for Contact = 21
19	to set up alerts and/or notifications	Reason for Contact = 22
20	regarding account management	Reason for Contact = 23/24
21	to move in/set up new service	Reason for Contact = 25
22	to transfer service to a new property	Reason for Contact = 26
23	to move out/cancel service	Reason for Contact = 27
24	regarding moving or transferring service	Reason for Contact = 28/29
25	regarding customer service issues or questions	Reason for Contact = 30/31

OVERALL PHONE EXPERIENCE**REQUIRED**

B1_TPT. Please rate the overall phone customer service experience during your most recent call with [STATE] American Water.

Question Label: Overall Phone Experience

Poor	Fair	Good	Very good	Excellent	Don't know
1	2	3	4	5	99
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CONTACT CHANNELS**REQUIRED**

C1. Including your most recent phone call, how many times did you contact [STATE] American Water specifically regarding this question, issue or request (including phone calls, website visits, email, online chat, social media, etc.)?

Question Label: Number of Contacts

<input type="checkbox"/>	1	1
<input type="checkbox"/>	2	2
<input type="checkbox"/>	3	3
<input type="checkbox"/>	4	4
<input type="checkbox"/>	5	5
<input type="checkbox"/>	6	More than 5 - SKIP TO CLOSE LOOP FOLLOW UP SECTION

REQUIRED**ASK C2B IF C1 = 2-5**

C2B. How did you first contact [STATE] American Water about this question, issue or request?

Question Label: Initial Contact Method

<input type="checkbox"/>	1	Phone
<input type="checkbox"/>	2	Online self-service (amwater.com or your MyWater online account)
<input type="checkbox"/>	3	Email or web form
<input type="checkbox"/>	4	Online chat
<input type="checkbox"/>	5	Social media
<input type="checkbox"/>	6	Text message
<input type="checkbox"/>	7	Another method [SPECIFY]

DEFINE 'C2. FIRST CONTACT METHOD'

1	Phone	C1 = 1 OR C2B = 1
2	Online self-service	C2B = 2
3	Email or web form	C2B = 3
4	Online chat	C2B = 4
5	Social media	C2B = 5
6	Text message	C2B = 6
7	Other	C2B = 7

DEFINE 'C2_GROUP. FIRST CONTACT METHOD_GROUP'

1	Phone	First Contact Method = 1
2	Online self-service	First Contact Method = 2

3	Chat	First Contact Method = 4
4	Text	First Contact Method = 6
5	Other	First Contact Method = 3/5/7

DEFINE 'FIRST CONTACT METHOD – PIPE TEXT'

1	phone	First Contact Method = 1
2	online self-service	First Contact Method = 2
3	email	First Contact Method = 3
4	chat	First Contact Method = 4
5	social media	First Contact Method = 5
6	text	First Contact Method = 6
7	something other than self-service	First Contact Method = 7

DEFINE 'C3. MOST RECENT CONTACT METHOD'

1	Phone	ALL RESPONSES
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DEFINE 'C3_GROUP. MOST RECENT CONTACT METHOD_GROUP'

1	Phone	ALL RESPONSES
---	-------	---------------

WHY NOT MYWATER**REQUIRED****ASK D1 IF FIRST CONTACT METHOD <>2**

D1. You mentioned that you first contact method was [FIRST CONTACT METHOD – PIPE TEXT]. Are you aware that you can resolve most questions, issues or requests via your MyWater online account?

Question Label: Self-Service Awareness

<input type="checkbox"/>	1	Yes
<input type="checkbox"/>	2	No

ASK D2A IF D1 = 1

D2A. What is the primary reason that you chose to contact [STATE] American Water via [FIRST CONTACT METHOD – PIPE TEXT] instead of via your MyWater online account?

Question Label: Why Not MyWater 1

RANDOMIZE OPTIONS		
<input type="checkbox"/>	1	I don't have a MyWater account
<input type="checkbox"/>	2	I can't remember how to log into my MyWater account
<input type="checkbox"/>	3	I have had trouble with MyWater in the past
<input type="checkbox"/>	4	I prefer to contact [STATE] American Water via [FIRST CONTACT METHOD – PIPE TEXT]

DEFINE 'D2. WHY NOT MYWATER'

1	Not Aware of Self-Service	D1 = 2
2	Prefer Another Channel	D2 = 4
3	No MyWater Account	D2 = 1
4	Problems with MyWater	D2 = 2/3

PREFERRED CHANNEL**ASK E1A IF D2A <> 4 OR D2A NOT DISPLAYED**

E1A. What is your preferred method for contacting [STATE] American Water [REASON FOR CONTACT – PIPE TEXT]?

Question Label: Preferred Channel 1

<input type="checkbox"/>	1	Phone
<input type="checkbox"/>	2	Online self-service (amwater.com or your MyWater online account)
<input type="checkbox"/>	3	Email or web form
<input type="checkbox"/>	4	Online chat
<input type="checkbox"/>	5	Social media
<input type="checkbox"/>	6	Text message
<input type="checkbox"/>	7	Another method [SPECIFY]

DEFINE 'E1. PREFERRED CHANNEL'

1	Phone	(First Contact Method = 1 AND D2A = 4) OR (E1A = 1)
2	Online self-service	(First Contact Method = 2 AND D2A = 4) OR (E1A = 2)
3	Email or web form	(First Contact Method = 3 AND D2A = 4) OR (E1A = 3)
4	Online chat	(First Contact Method = 4 AND D2A = 4) OR (E1A = 4)
5	Social media	(First Contact Method = 5 AND D2A = 4) OR (E1A = 5)
6	Text message	(First Contact Method = 6 AND D2A = 4) OR (E1A = 6)
7	Other	(First Contact Method = 7 AND D2A = 4) OR (E1A = 7)

DEFINE 'E1_GROUP. PREFERRED CHANNEL_GROUP'

1	Phone	Preferred Channel = 1
2	Online self-service	Preferred Channel = 2
3	Chat	Preferred Channel = 4
4	Text	Preferred Channel = 6
5	Other	Preferred Channel = 3/5/7

PHONE CALL EXPERIENCE

Next, we'd like to ask you a few questions about the specifics of the phone call.

REQUIRED

F3. How was your most recent phone call handled?

Question Label: Call Channel

<input type="checkbox"/>	1	Completely handled using the automated telephone system
<input type="checkbox"/>	2	Used the phone system first, then talked to a representative
<input type="checkbox"/>	3	Spoke directly to a representative

F4_TPT. Based on your most recent phone experience, how would you rate the...

Question Label: CSR/IVR Overall

RANDOMIZE QUESTIONS		Poor	Fair	Good	Very Good	Excellent	Don't know
		1	2	3	4	5	99
F4_T PT_1	Phone representative who handled your call DISPLAY IF F3 = 2/3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F4_T PT_2	Automated telephone system DISPLAY IF F3 = 1/2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

F5_TPT. In particular, please rate each of the following.

Question Label: CSR/IVR Attributes

		Poor	Fair	Good	Very Good	Excellent	Don't know
RANDOMIZE QUESTIONS		1	2	3	4	5	99
F5_T PT_1	Ease of using automated phone system DISPLAY IF F3 = 1/2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F5_T PT_2	Clarity of the information provided by the automated phone system DISPLAY IF F3 = 1/2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F5_T PT_3	Promptness in speaking to a person DISPLAY IF F3 = 2/3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F5_T PT_4	Courtesy of the representative DISPLAY IF F3 = 2/3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F5_T PT_5	Knowledge of the representative DISPLAY IF F3 = 2/3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

F5_T PT_6	Representative's concern for your needs DISPLAY IF F3 = 2/3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F5_T PT_7	Timeliness of resolving your problem, question, or request	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ASK F7_TPT IF F3 = 2/3

F7_TPT. During this phone call, did the phone representative...?

Question Label: CSR Behaviors

RANDOMIZE QUESTIONS		Yes	No	Don't know
		1	0	99
F7_TPT_ 1	Address you by name	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F7_TPT_ 2	Was difficult to understand	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F7_TPT_ 3	Have all of your account information available	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F7_TPT_ 4	Need you to provide the same information more than once	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F7_TPT_ 5	Put you on hold	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F7_TPT_ 6	Transfer or refer you to a different person	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F7_TPT_ 7	Thank you for being a customer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

F8. Did you schedule a service appointment as part of your most recent phone call with [STATE] American Water?

Question Label: Service Visit Scheduled

<input type="checkbox"/>	1	Yes
<input type="checkbox"/>	2	No
<input type="checkbox"/>	99	Don't Know

ISSUE RESOLUTION**REQUIRED**

G1_TPT. Is your question, issue or request now resolved?

Question Label: Phone Issue Resolution

<input type="radio"/>	1	Yes
<input type="radio"/>	2	No
<input type="radio"/>	99	Don't know / Uncertain

REQUIRED**ASK G2 IF G1_TPT = 1**

G2. As you consider the entire process to address your question issue or request, how easy or difficult was it to resolve your issue?

Question Label: Customer Effort Score

Extremely Difficult	Difficult	Neutral	Easy	Extremely Easy	Don't know
1	2	3	4	5	99
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ASK G3B IF G2= 1/2

G3B. Please tell us more about what made the process difficult. *Optional*

Question Label: Difficulty Open-End

_____ - open end

EMOTION & OPEN END

H1. To what extent did the interaction change the way you feel about [STATE] American Water as a company? Would you say you feel...?

Question Label: Customer Emotion

Much more negative	More negative	About the same	More positive	Much more positive	Don't know
1	2	3	4	5	99
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ASK H2 IF G2= 3-5

H2. Do you have any additional comments or feedback about your phone experience? *Optional*

Question Label: Customer Feedback

_____ - open end

DEFINE 'H3. OPEN END COMBINED'

- **CONCATENATE G3B+H2**

CLOSED LOOP FOLLOW UP**REQUIRED****ASK I1A IF B1_TPT = 1/2 OR C1 = 6 OR G1_TPT = 2**

I1A. Would you like for someone from [STATE] American Water to contact you to follow-up with you about this experience?

Please note that it will take [1-2] business days for us to respond your request.
If you need immediate assistance, please call us at 1-800-272-1325.

Question Label: Closed Loop Follow Up

<input type="radio"/>	1	Yes, by phone
<input type="radio"/>	2	Yes, by email
<input type="radio"/>	3	No

DEFINE 'I1. CASE REQUEST'

1	Yes	I1 = 1/2
2	No	I1 = 3

REQUIRED

ASK I2A IF I1 = 1 AND 'EE4. Contact_Phone' <> BLANK AND <> "00000000" AND <> "99999999"

I2A. To confirm, is [CONTACT_PHONE] the best phone number at which to reach you? *If not, please provide an alternative phone number.* VALIDATE ON 10 CHARACTERS (includes dash and ()

Question Label: Preferred Phone Number 1

<input type="radio"/>	1	Yes
<input type="radio"/>	2	No, please specify: [SPECIFY ALTERNATIVE PHONE] US PHONE NUMBER VALIDATION

REQUIRED

ASK I2B IF I1 = 1 AND 'EE4. Contact_Phone' = BLANK OR = "00000000" OR "99999999"

I2B. What is the best phone number at which to reach you? VALIDATE ON 10 CHARACTERS (includes dash and ()

Question Label: Preferred Phone Number 2

<input type="radio"/>	2	Please specify: [SPECIFY ALTERNATIVE PHONE] US PHONE NUMBER VALIDATION
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DEFINE 'I2. PREFERRED EMAIL ADDRESS'

IF I2B = 2, I2B, IF I2A=2, I2A, ELSE 'EE4. Contact_Phone'

REQUIRED

ASK I3A IF I1 = 2

I3A. To confirm, is [CONTACT_EMAIL] the best e-mail address at which to reach you? *If not, please provide an alternative e-mail address.*

Question Label: Preferred Email Address 1

<input type="radio"/>	1	Yes
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<input type="radio"/>	2	No, please specify: [SPECIFY ALTERNATIVE EMAIL] E-MAIL VALIDATION
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DEFINE 'I3. PREFERRED EMAIL ADDRESS'**IF I3A = 2, I3A, ELSE 'EE1. Contact_Email'****REQUIRED****ASK I4 IF I1 =1/2**

I4. To help us better understand what's happening, please tell us a little more detail about your issue.

Question Label: Customer Case Issue
 _____ - open end

DEMOGRAPHICS

These final questions are for classification purposes only.

DD1. In which of the following categories does your age fall?

Question Label: Age Categories

<input type="radio"/>	1	18 to 34
<input type="radio"/>	2	35 to 44
<input type="radio"/>	3	45 to 54
<input type="radio"/>	4	55 to 64
<input type="radio"/>	5	65+
<input type="radio"/>	99	Prefer not to answer

DD2. What is your gender?

Question Label: Gender

<input type="radio"/>	1	Male
<input type="radio"/>	2	Female
<input type="radio"/>	3	Prefer to self-describe [SPECIFY]
<input type="radio"/>	99	Prefer not to answer

DD3. Do you own or rent the place where you live?

Question Label: Ownership Type

<input type="radio"/>	1	Own
<input type="radio"/>	2	Rent
<input type="radio"/>	3	Unsure
<input type="radio"/>	99	Prefer not to answer

DD4. Which of the options below best describes the general area where you live?

Question Label: Geographic Location

<input type="radio"/>	1	Urban
<input type="radio"/>	2	Suburban
<input type="radio"/>	3	Rural
<input type="radio"/>	99	Prefer not to answer

CLOSE

Thank you very much for your time. Your comments are greatly appreciated.

Web Intercept (TWI)

REASON FOR CONTACT

REQUIRED

A1A. What was the reason for your visit to the MyWater website today?

Question Label: Reason for Contact 1

<input type="checkbox"/>	1	Water Service Issue (e.g., leak, pressure, water quality)
<input type="checkbox"/>	2	Water Emergency (Report or follow up on a water emergency)
<input type="checkbox"/>	3	Metering (Meter reading error or other meter questions/issues)
<input type="checkbox"/>	4	Billing & Payment (e.g., pay bill, billing or payment questions, payment plans)
<input type="checkbox"/>	5	Account Management (e.g., account updates, notifications, turn on/off service)
<input type="checkbox"/>	6	Moving (e.g., start, stop, transfer service)
<input type="checkbox"/>	7	Other
<input type="checkbox"/>	99	Don't know

REQUIRED

ASK A1B IF A1A = 1,2,4,5,6

A1B. Please select the specific reason below.

Question Label: Reason for Contact 2

		Water Service Issue – DISPLAY IF A1A=1
<input type="checkbox"/>	1	Report or follow-up on a water leak
<input type="checkbox"/>	2	Report or follow-up on water quality issue
<input type="checkbox"/>	3	Report water pipe damage
<input type="checkbox"/>	4	Water pressure issues

		Water Emergency DISPLAY IF A1A=2
<input type="checkbox"/>	5	Report a water emergency
<input type="checkbox"/>	6	Follow up on a water emergency
		Billing & Payment DISPLAY IF A1A=4
<input type="checkbox"/>	7	Pay my bill
<input type="checkbox"/>	8	General billing question (e.g., due date, balance due, etc.)
<input type="checkbox"/>	9	General payment questions (e.g., ways to pay, verify payment received, etc.)
<input type="checkbox"/>	10	High bill complaint
<input type="checkbox"/>	11	Make extended payment arrangements
<input type="checkbox"/>	12	Get usage history
<input type="checkbox"/>	13	Check account balance
		Account Management DISPLAY IF A1A=5
<input type="checkbox"/>	14	Turn on/off service, change contact information, etc.
<input type="checkbox"/>	15	Set up alerts/notifications
		Moving DISPLAY IF A1A=6
<input type="checkbox"/>	16	New customer moving in
<input type="checkbox"/>	17	Transfer service to new property
<input type="checkbox"/>	18	Moving out
		All DISPLAY FOR ALL
<input type="checkbox"/>	19	Other
<input type="checkbox"/>	99	Don't know

DEFINE 'A1. REASON FOR CONTACT'

1	Report or follow-up on a water leak	A1B = 1
2	Report or follow-up on water quality issue	A1B = 2
3	Report water pipe damage	A1B = 3
4	Water pressure issues	A1B = 4
5	Water Service Issue - Other	A1A = 1 AND A1B = 19
6	Water Service Issue – Don't Know	A1A = 1 AND A1B = 99
7	Report a water emergency	A1B = 5
8	Follow up on a water emergency	A1B = 6
9	Water Emergency - Other	A1A = 2 AND A1B = 19
10	Water Emergency – Don't Know	A1A = 2 AND A1B = 99
11	Metering (Meter reading error or other meter questions/issues)	A1A = 3
12	Pay my bill	A1B = 7
13	General billing question (e.g., due date, balance due, etc.)	A1B = 8
14	General payment questions (e.g., ways to pay, verify payment received, etc.)	A1B = 9
15	High bill complaint	A1B = 10
16	Make extended payment arrangements	A1B = 11

17	Get usage history	A1B = 12
18	Check account balance	A1B = 13
19	Billing & Payment - Other	A1A = 4 AND A1B = 19
20	Billing & Payment – Don't Know	A1A = 4 AND A1B = 99
21	Turn on/off service, change contact information, etc.	A1B = 14
22	Set up alerts/notifications	A1B = 15
23	Account Management - Other	A1A = 5 AND A1B = 19
24	Account Management – Don't Know	A1A = 5 AND A1B = 99
25	New customer moving in	A1B = 16
26	Transfer service to new property	A1B = 17
27	Moving out	A1B = 18
28	Moving – Other	A1A = 6 AND A1B = 19
29	Moving – Don't Know	A1A = 6 AND A1B = 99
30	Other	A1A = 7
31	Don't Know	A1A = 99

OVERALL WEB EXPERIENCE

REQUIRED

B1_TWI. How would you rate today's experience on the MyWater website?

Question Label: Overall MyWater Experience

Poor	Fair	Good	Very Good	Excellent	Don't know
1	2	3	4	5	99
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

WEB EXPERIENCE

F5_TWI. In particular, please rate the MyWater website on each of the following.

Question Label: MyWater Attributes

RANDOMIZE QUESTIONS	Poor	Fair	Good	Very Good	Excellent	Don't know
	1	2	3	4	5	99
F5_T WI_a Appearance of the website	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F5_T WI_b Clarity of information provided	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F5_T WI_c Ease of navigating the website	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F5_T WI_d Timeliness of completing your task	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

TASK COMPLETION

G1_TWI. Were you able to complete your task today?

Question Label: MyWater Task Completion

<input type="radio"/>	1	Yes
<input type="radio"/>	2	No
<input type="radio"/>	3	Still working on it

ASK G2 IF G1 = 1

G2. How easy or difficult was it to complete your task?

Question Label: Customer Effort Score

Extremely Difficult	Difficult	Neutral	Easy	Extremely Easy	Don't know
1	2	3	4	5	99
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ASK G3A IF G1 = 2

G3A. What prevented you from completing your task today? *Optional*

Question Label: Completion Issues Open End

_____ - open end

ASK G3B IF G2 = 1/2

G3B. Please tell us a little bit more about the difficulty you experienced. *Optional*

Question Label: Difficulty Open End

_____ - open end

OPEN END**ASK H2 IF G1=1 OR G2= 3-5**

H2. Do you have any additional comments or feedback about your experience on MyWater today?

Optional

Question Label: Customer Feedback

_____ - open end

DEFINE 'H3. OPEN END COMBINED'

- **CONCATENATE G3A+G3B+H2**

CLOSED LOOP FOLLOW UP**REQUIRED****ASK I1A IF G1 = 2**

I1A. Would you like for someone from the American Water team to follow-up with you to help you complete your task?

*Please note that it will take [1-2] business days for us to respond your request.
If you need immediate assistance, please call us at 1-866-269-1325.*

Question Label: Closed Loop Follow Up

<input type="radio"/>	1	Yes, by phone
<input type="radio"/>	2	Yes, by email
<input type="radio"/>	3	No

DEFINE 'I1. CASE REQUEST'

1	Yes	I1 = 1/2
2	No	I1 = 3

REQUIRED**ASK I2 IF I1 = 1**

I2. What is the best phone number at which to reach you? **VALIDATE ON 10 CHARACTERS (includes dash and ())**

Question Label: Preferred Phone Number

<input type="radio"/>	1	Please specify: [SPECIFY PHONE] US PHONE NUMBER VALIDATION
-----------------------	----------	---

REQUIRED**ASK I3 IF I1 = 2**

I3. What is the best e-mail address at which to reach you?

Question Label: Preferred Email Address

<input type="radio"/>	1	Please specify: [SPECIFY EMAIL] E-MAIL VALIDATION
-----------------------	----------	--

REQUIRED**ASK I3 IF I1 =1/2**

I4. To help us better understand what's happening, please tell us a little more detail about your issue.

Question Label: Customer Case Issue

_____ - open end

CLOSE

Thank you very much for your time. Your comments are greatly appreciated.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Jeffrey Newcomb

14. Refer to the Application generally. Provide a succinct list that identifies all proposed pro forma adjustments, the amount of each pro forma adjustment, along with a brief description of each adjustment.

Response:

Please refer to KAW_APP_EX37D_063023 as filed with Kentucky-American's application for the list of the proposed pro forma adjustments and brief descriptions.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Jeffrey Newcomb and John Watkins

15. Explain in detail whether any expenses have been removed from the proposed rates for ratemaking purposes. Provide a detailed list of the removed expenses, and explain why Kentucky American removed each expense from the rate case.

Response:

As part of the forecasting of Service Company expenses for the rate case, costs pertaining to community relations, referral bonus, contract services-outplacement, charitable contributions and other de minimis amounts were removed from the base period expenses.

In forecasting Kentucky-American expenses, charitable contributions were also removed from miscellaneous expense in addition to de minimis base period amounts of tax discounts for taxes other than income.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Jeffrey Newcomb

16. Refer to the Application generally. Explain in detail whether Kentucky American provides annual reports of any kind to the cities/counties that it operates in. Explain why or why not.

Response:

Kentucky-American files an annual report for its water and wastewater services to the Kentucky Public Service Commission (PSC) as required annually by March 31st. Those annual reports are available publicly on the Kentucky PSC website.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Jeffrey Newcomb

17. Refer to the Application generally. Provide a list that identifies all miscellaneous costs for the test year, including but not limited to dinners (including all holiday dinners), gifts, donations, membership dues, annual meeting costs, etc. For each cost indicate whether it was removed from or included in the requested revenue requirement.

Response:

Kentucky-American did not forecast the miscellaneous costs at a detail transaction level for the test year. Please see KAW_R_AGDR1_NUM017_081823_Attachment 1 for a listing of transaction details for the actual period of 01/01/2022 through 12/31/2022, which was the basis for the forecasted test year. Charitable Contributions were removed and Inventory Physical Write-off Scrap was normalized before applying inflation factor to calculate the forecasted test year.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: John Watkins

18. Refer to the Application generally. Explain in detail whether there are any direct charges, allocated costs, surcharges, pass-through charges, etc., from American Water, a subsidiary of American Water, the Service Company, or any other entity, to Kentucky American. If so, provide a detailed list of the same with explanations for each allocated charge.

Response:

The Company has amounts charged and allocated to it by American Water Works Service Company, Inc, American Water Capital Corp., and AWI, Inc. Please see Exhibit 35 of Kentucky-American's Application, Statement and Notice for an explanation of the allocated charges.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Charles Rea

19. Refer to the Application generally. Explain in detail whether Kentucky American provides any assistance program(s) for customers experiencing difficulty paying their water bills.

Response:

Yes, Kentucky American operates the H2O – Help to Others Program, which is presently administered by the Dollar Energy Fund for income-eligible residential customers needing assistance. The H2O – Help to Others Program partners with a network of community-based organizations that provide application intake services. The program is funded by donations from Company shareholders and customers. The minimum annual donation to be made by company shareholders for customer assistance programs is directed by the Kentucky Public Service Commission.

Residential customers qualify for assistance if funds permit and if they meet the following guidelines:

- Customer's total gross household income must be at or below 200% of the application year's Federal Poverty Income Guidelines.
- The customer must have paid at least \$25 toward their water bill in the 180 days prior to applying for assistance.
- Customer must have a balance of at least \$50 outstanding on account.

The maximum grant is \$125 and qualifying customers may receive one grant per calendar year. Agencies may make exceptions in extreme situations. The Company may also adjust these guidelines on a temporary basis as funds permit.

The Company also offers budget billing and installment plans for customers experiencing difficulty paying their water bills.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Jeffrey Newcomb

20. Refer to the Application generally. Confirm that in Case No. 2018-00358, the Commission granted Kentucky American a \$13,399,178 rate increase.³ If not confirmed, explain why not in detail.

Response:

Per the order filed on June 27, 2019, Kentucky-American was granted a rate increase of \$13,399,169 in the Case No. 2018-00358.

³ Case No. 2018-00358, *Electronic Application of Kentucky-American Water Company for an Adjustment of Rates* (Ky. PSC Sep. 30, 2021), Order at 67.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Jeffrey Newcomb

21. Refer to the Application generally. Identify fully any and all organizations to which Kentucky American pays dues and/or membership fees of any type or sort (hereinafter referred to as "Dues Requiring Organizations"), which engage in any one or more of the following activities (hereinafter "covered activities"):
- i. legislative advocacy, regulatory advocacy, and/or public relations;
 - ii. advertising;
 - iii. marketing;
 - iv. legislative policy research; and/or,
 - v. regulatory policy research.
- a. If so confirmed with regard to any one or more of these organizations, identify that organization and provide the amount of Kentucky American dues which that organization applies to covered activities, both in dollar terms and percentages of total dues.
- b. Explain whether all or any portion of said dues are excluded from the pending rate case.

Response:

- a. Please refer to KAW_R_AGDR1_NUM021_081823_Attachment for the membership dues and fees the Company has paid. The Company does not have information on how organizations spend the dues it collects from the Company unless the invoice explicitly identifies how the dues will be allocated. The Company does not have any other documents in its possession that depict how each Dues Requiring Organization spends the dues it collects.

Listed below are those organizations that explicitly identified how the dues will be allocated:

- Building Industry Association of Kentucky - \$20 for Regulatory Action Fund and \$25 of \$580 dues (4%) are spent on regulatory/lobbying activities
- Central Kentucky Apartment Association - \$58 of \$452 annual dues (11.46%) are spent on lobbying activities.
- Kentucky Chamber of Commerce - \$50 for Chamber Action Fund and \$2,250 (20%) of \$11,000 annual dues are spent on lobbying activities.

- b. No dues, or portion of said dues, are excluded from the pending rate case.

Organization	7/1/2020- 12/31/2020	2021	2022	01/01/2023- 7/31/2023	Page #s in PDF
ADDA		160.00	50.00	155.00	No invoice, purchased through P-card
American Water Works Association	7,851.84	16,355.26	13,617.76	8,780.13	2 - 5
Better Business Bureau of Central Kentucky	850.00	850.00	850.00		6 - 8
Bluegrass Tomorrow		530.00			9 - 10
Building Industry Association of Kentucky		650.00		650.00	11 - 12
Central Kentucky Apartment Association		510.00	370.80	360.00	13 - 15
Commerce Lexington		6,248.72	6,112.00	5,862.00	16 - 19
Costco		60.00	60.00		No invoice, purchased through P-card
Cynthiana Harrison County Chamber of Commerce		360.00			No invoice, purchased through P-card
Downtown Lexington Corporation (now Downtown Lexington Partnership)		2,500.00	2,500.00	1,250.00	20 - 28
Frankfort Area Chamber of Commerce		1,050.00	1,050.00		29
Georgetown Scott County Chamber of Commerce		662.50	625.00	781.00	30 - 32
Jessamine County Chamber of Commerce		550.00			33
Kentucky Association				425.00	No invoice, purchased through P-card
Kentucky Association for Economic Development		2,500.00			34
Kentucky Association of Manufacturers		1,319.70			35
Kentucky Association of Manufacturers		60.00		500.00	35
Kentucky Association of Mapping Professionals		25.00	75.00	25.00	No invoice, purchased through P-card
Kentucky Chamber of Commerce		10,653.00	11,713.00	11,050.00	36 - 38
Kentucky Engineering Center			149.00		No invoice, purchased through P-card
Kentucky League of Cities	2,650.00	2,650.00	1,041.67		39 - 40
Kentucky Rural Water Association	550.00				No invoice, purchased through P-card
Kentucky Rural Water Association		550.00	990.00		No invoice, purchased through P-card
Kentucky Water and Wastewater Operators Association		120.00		60.00	No invoice, purchased through P-card
KY Environment Protect	3,296.00	3,141.50	15,233.70	2,472.00	No invoice, purchased through P-card
KY Housing Building Construction			137.00		No invoice, purchased through P-card
KY Occupations Prof			102.95	180.16	No invoice, purchased through P-card
L2G				200.00	No invoice, purchased through P-card
NAWC	25,610.84	63,372.88	68,408.77	38,637.10	41 - 44
Owen County Chamber of Commerce		600.00	600.00		45 - 48
Paris-Bourbon County Chamber of Commerce		650.00	650.00	650.00	No invoice, purchased through P-card
PayPal	75.00				No invoice, purchased through P-card
Project Management Institute		139.00			No invoice, purchased through P-card
Public Relations Society of America	310.00	620.00	310.00	352.00	No invoice, purchased through P-card
Rockcastle County Chamber of Commerce		100.00	100.00	100.00	49 - 52
Sams Club	106.63		210.00		No invoice, purchased through P-card
Water Environment Federation		160.00			No invoice, purchased through P-card
Winchester Clark County Chamber of Commerce	500.00	500.00	500.00		53 - 57
Woodford County Chamber of Commerce				572.00	No invoice, purchased through P-card
	41,800.31	117,647.56	125,456.65	73,061.39	



American Water Works Association

Dedicated to the World's Most Important Resource™

6666 West Quincy Avenue
 Denver, CO 80236-3098
 T 800.926.7337
 D 303.794.7711
 F 303.347.0804
 www.awwa.org

American Water
 Attn: Diane Welding
 1025 Laurel Oak Rd.
 Voorhees, NJ 08043

Invoice Date: 10/9/19

Invoice no.: 9010092019

Item Description	American Water Business Unit	AWWA Member Number	Membership Cost
Kentucky American	120105	00023032	\$ 12,613.70

Total Amount Due by 12/15/19 \$ 172,408.90

Membership Term: 1/1/2020-12/31/2020

Send payment to: American Water Works Association
 Attn: Margie Morrill
 6666 W. Quincy Ave
 Denver, CO 80235

If you have any questions or concerns please contact JoAnn Galindo at 303.734.3453 or jgalindo@awwa.org



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 F 303.347.0804
 www.awwa.org

American Water
 Attn: Diane Welding
 1025 Laurel Oak Rd.
 Voorhees, NJ 08043

Invoice Date: 11/3/20

Invoice no.: 9011032020

Item Description	American Water Business Unit	AWWA Member Number	Membership Cost
<i>Grade 80</i>			
[REDACTED]			
Kentucky American	120105	00023032	\$ 12,977.40
[REDACTED]			
Total Amount Due by 12/15/20			\$ 171,795.70

Membership Term: 1/1/2021-12/31/2021

Send payment to: American Water Works Association
Attn: Margie Morrill
6666 W. Quincy Ave
Denver, CO 80235

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 Denver, CO 80235-3098
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D 303.794.7711
F 303.347.0804
 www.awwa.org

American Water
 Attn: Debra Nichols (debra.nichols@amwater.com)
 1025 Laurel Oak Rd.
 Voorhees, NJ 08043

Invoice Date: 10/3/21

Invoice no.: 9010032021

Item Description	American Water Business Unit	AWWA Member Number	Membership Cost
Grade 80			
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
Kentucky American	120105	00023032	\$ 13,393.90
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
Total Amount Due by 12/15/21			\$ 173,631.20

Membership Term: 1/1/2022-12/31/2022

Send payment to: American Water Works Association
 Attn: Margie Morrill
 6666 W. Quincy Ave
 Denver, CO 80235

If you have any questions or concerns please contact JoAnn Galindo at 303.734.3453 or jgalindo@awwa.org



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 Denver, CO 80235-3098
 T 800.926.7337
 D 303.794.7711
 F 303.347.0804
 www.awwa.org

American Water
 Attn: Debra Nichols (debra.nichols@amwater.com)
 1025 Laurel Oak Rd.
 Voorhees, NJ 08043

Date: 11/14/2022

Membership Renewal Summary 2023

Item Description	American Water Business Unit	AWWA Member Number	Membership Cost
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
Kentucky American	120105	00023032	\$ 13,807.10
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
Total Amount Due by 12/15/22			\$ 178,987.90
<i>Membership Term: 1/1/2023-12/31/2023</i>			

If you have any questions or concerns please contact JoAnn Galindo at 303.734.3453 or jgalindo@awwa.org



Better Business Bureau Serving Central and Eastern Kentucky
 1390 Olivia Lane Suite 100
 Lexington, KY 40511
 Tel: 859-259-1008 Fax: 859-259-1639

July 24, 2020

Mrs. Patricia A Lee
 Kentucky American Water
 Attn: Patricia A. Lee
 Cherry Hill, NJ 08034

**Did you know,
 you can pay online?**
(See below for more details)

Accreditation Invoice

Billing Period:	September 2020 - August 2021
Accredited Business Dues:	\$805.00
Voluntary Accredited Business Directory Listing:	\$20.00
Due Date:	September 1, 2020
Total Outstanding Balance:	\$ 825.00

Mrs. Patricia A Lee

Thank you for your continued support of your Better Business Bureau. As a BBB Accredited Business, you join 1,800+ other BBB Accredited Businesses, 1038 right in Lexington, as an elite group of companies who exhibit and support ethics in our marketplace.

Over the past year, we received more than 597,000 inquiries from the public about businesses in our service area. Every inquiry BBB receives about your company is a potential customer and we are proud to report you are BBB Accredited and are committed to ethical business practices. Your BBB Business Review was given out 252 times to potential customers in the past 12 months.

PAY ONLINE - SECURE WEBSITE

Use username: 1195, and password: 0188e8, on the following website.
<https://bluegrass.app.bbb.org/payment>



Credit Card Check # _____

#1195

Kentucky American Water

Authorized Amount: _____ Name On Card: _____

Card Number: _____ Exp. Date: ____ / ____ Security Code (on back) _____

Signature: _____

If you do not wish to pay online, please complete and return the form above with your payment.

Payments to BBB may be deductible for federal income tax purposes as ordinary and necessary business expenses. Our Tax ID# is 61-0536718. They are not deductible as charitable contributions.



Better Business Bureau Serving Central and Eastern Kentucky
1390 Olivia Lane Suite 100
Lexington, KY 40511
Tel: 859-259-1008 Fax: 859-259-1639

August 23, 2021

Mrs. Patricia A Lee
Kentucky American Water
2300 Richmond Rd
Lexington, KY 40502-1308

**Did you know,
you can pay online?**
(See below for more details)

Accreditation Reminder

Billing Period:	September 2021 - August 2022
Accredited Business Dues:	\$805.00
Voluntary Accredited Business Directory Listing:	\$20.00
Due Date:	September 1, 2021
Total Outstanding Balance:	\$ 825.00

Mrs. Patricia A Lee

Thank you for your continued support of your Better Business Bureau. As a BBB Accredited Business, you join 1,600+ other BBB Accredited Businesses, 950 right in Lexington, as an elite group of companies who exhibit and support ethics in our marketplace.

Over the past year, we received more than 648,000 inquiries from the public about businesses in our service area. Every inquiry BBB receives about your company is a potential customer and we are proud to report you are BBB Accredited and are committed to ethical business practices. Your BBB Business Review was given out 303 times to potential customers in the past 12 months.

PAY ONLINE - SECURE WEBSITE

Use username: 1195, and password: 0188e8, on the following website.

<https://bluegrass.app.bbb.org/payment>



Credit Card Check # _____

**#1195
Kentucky American Water**

Authorized Amount: _____ Name On Card: _____

Card Number: _____ Exp. Date: ____ / ____ Security Code (on back) _____

Signature: _____

If you do not wish to pay online, please complete and return the form above with your payment.

Payments to BBB may be deductible for federal income tax purposes as ordinary and necessary business expenses. Our Tax ID# is 61-0536718. They are not deductible as charitable contributions.



Better Business Bureau serving Central and Eastern Kentucky
 1390 Olivia Lane Suite 100
 Lexington, KY 40511
 Tel: (859) 259.1008
 Fa: (859) 259.1639

Ms. Meriah Osbourne
Kentucky American Water
 2300 Richmond Rd
 Lexington, KY 40502

INVOICE

9/7/2022

BBB Payment Notice

Pay Online Today: <https://bbb.org/lexington/login>

ID# 1195

Login: meriah.osbourne@amwater.com

Due Date:	9/30/2022
9/2022 - 8/2023:	
Description	Amount
Dues (Renewal)	\$830.00
Sponsorship	\$20.00
Total BBB Accreditation Dues and Program	\$850.00

Thank you for your continued support of your Better Business Bureau. As a BBB Accredited Business, you join 1,500+ other BBB Accredited Businesses as an elite group of companies who exhibit and support ethics in our marketplace.

Over the past year, we received more than 540,000 inquiries from the public about businesses in our service area. Every inquiry BBB receives about your company is a potential customer and we are proud to report you are BBB Accredited and are committed to ethical business practices.

Please complete and return with your payment

✂-----

#1195 - Kentucky American Water

PAY WITH CHECK:

Check# _____ Amount Paid: _____

PAY WITH CREDIT CARD:

Select payment type (VISA, MC, or DISC): _____ Authorized Amount: \$ _____

Name on Card: _____

Card Number: _____ Authorization Code: _____ Expiration Date: _____

Credit Card Billing Address: _____ Credit Card Billing Zip Code: _____

Payments to the BBB may be deductible for federal income tax purposes as ordinary and necessary business expenses. They are not deductible as charitable contributions.

From: [Susan L Lancho](#)
To: [Kaye Helton](#)
Subject: Check needed in Sept: Bluegrass Tomorrow
Date: Monday, August 30, 2021 2:23:13 PM
Attachments: [Kentucky American Soccer Invoice 2021.doc](#)

Hi, Kaye. Please process a check in the amount of \$500 for Bluegrass Tomorrow in September. This is a corporate donation for 2021 to support Bluegrass Tomorrow's efforts.

Thanks,
Susan



Annual Membership Investment Invoice

August 31, 2021

Kentucky American Water
Susan Lancho
2300 Richmond Rd.
Lexington, Kentucky 40502

DESCRIPTION: Pledged Corporate Member Contribution, membership for one calendar year, based on date of receipt of donation.

AMOUNT DUE: \$500

I want to upgrade my membership!

Contribution & Vision Society Levels

Visionary Trustee	\$10,000	Partners	\$1,000
Leadership Trustee	\$7,500	Patrons/Corporate	\$500
Partnership Trustee	\$5,000	Small Business Partner	\$250
Presidents Trustee	\$2,500	Friends	\$100
Sustainers	\$1,500		

Note: Vision Society Trustees begin at \$2,500.00

Thank you for your support

Please remit to:
Bluegrass Tomorrow
P.O. Box 34185
Lexington, KY 40588

Formed in 1989 by a coalition of business and conservation interests, *Bluegrass Tomorrow* is a non-profit organization that seeks to unite the efforts of interested private, public and corporate citizens of 18 counties (Anderson, Bourbon, Boyle, Clark, Estill, Fayette, Franklin, Garrard, Harrison, Jessamine, Lincoln, Madison, Mercer, Montgomery, Powell, Scott and Woodford) that make up the Bluegrass Region.

Bluegrass Tomorrow (Tax ID #61-1160137) is a 501(c)(3) Organization and provides no goods or services, in whole or in part, in consideration of this contribution. All contributions are tax deductible to the full extent permitted by law.



BIA

Building Industry Association
of Central Kentucky

Invoice

Building Industry Association of Central KY
3146 Custer Drive
Lexington, KY 40517

Invoice No. 7459
Invoicing Date: 05/18/2021
Member ID: 77980
Invoice Due: 06/28/2021

Cole Mitcham
Kentucky American Water Co.
131 Woodcrest Road
Attn Patricia A. Lee
Cherry Hill, NJ 08003

Description	Qty	Rate	Amount
Annual Membership Dues 06/28/2021 to 06/27/2022	1.00	580.00	\$580.00
Building Institute of Central KY Scholarship Fund Contribution			\$50.00
Regulatory Action Fund Contribution			\$20.00
Comments or special instructions:			Total:
BIA Central KY membership is crucial to supporting YOUR industry and lobbying for YOUR efforts. Renew today to continue earning these great benefits plus <u>networking, education, workers compensation and insurance benefits!</u>			\$650.00
			Amt Paid: \$0.00
			Balance Due: \$650.00

The BIA Central KY Board of Directors is asking for support this year in two important areas affecting our industry: Workforce Development & Regulator Affairs. If you would like more details on these two topics, please contact the BIA Central KY Office at (859) 273-5117.

Your membership dues may be tax deductible.
The portion of dues not deductible as a business expense because of lobbying is:
HBAK - \$25.00
NAHB - \$19.92
Total - \$44.92



Kentucky American Water Co. **Member ID:** 77980
131 Woodcrest Road **Invoice:** 7459
Attn Patricia A. Lee **Due Date:** 06/28/2021
Cherry Hill, NJ 08003 **Total Due:** 650.00

Payment Enclosed: \$ _____
Make checks payable to:
Building Industry Association of Central KY
3146 Custer Drive
Lexington, KY 40517

Please verify address and provide corrections below:

Organization Name: _____
Primary Billing Person: _____
Mailing Address: _____
City, State, Zipcode: _____

Convenient online payment option at:
<http://www.biacentralky.com>

Charge:
 VISA American Express
 Mastercard
Card No. _____ Exp. Date _____
Signature _____ Sec. Code _____



Building Industry Association of Central KY
 3146 Custer Drive
 Lexington, KY 40517

Invoice
 14668

Invoicing Date: 04/03/2023
Member ID: 77980
Invoice Due: 04/03/2023

Cole Mitcham
 Kentucky American Water Co.
 131 Woodcrest Road
 Attn Patricia A. Lee
 Cherry Hill, NJ 08003

Description	Qty	Rate	Amount
Membership Dues	1	580.00	\$580.00
Building Institute of Central KY Scholarship Fund Contribution*			\$50.00
Regulatory Action Fund Contribution*			\$20.00

Comments or special instructions:

BIA Central KY membership is crucial to supporting **YOUR** industry and lobbying for **YOUR** efforts. Renew today to continue earning these great benefits plus networking, education, workers compensation and insurance benefits!

Total: \$650.00
Amt Paid: \$0.00
Balance Due: \$650.00

Your membership dues may be tax deductible.
 The portion of dues not deductible as a business expense because of lobbying is:
 HBAK - \$25.00

The BIA Central KY Board of Directors is asking for support this year in two important areas affecting our industry: Workforce Development & Regulatory Affairs. If you would like more details on these two topics, please contact the BIA Central KY Office at (859) 273-5117.



Member ID	Invoice	Due Date	Total Due	Total Payment Enclosed
77980	14668	04/03/2023	\$650.00	\$

Please verify address and provide corrections

Cole Mitcham
 Kentucky American Water Co.
 131 Woodcrest Road
 Attn Patricia A. Lee
 Cherry Hill, NJ 08003

Correct Address

Make checks payable to:

Building Industry Association of Central
 KY
 3146 Custer Drive
 Lexington, KY 40517

MasterCard Visa American Express

Card No. _____ Exp. Date _____ Signature _____ Sec. Code _____

Convenient online payment option at: <http://www.biacentralky.com>

From: [Susan L Lancho](#)
To: [Kaye Helton](#)
Subject: For payment: Central Kentucky Apartment Association Dues
Date: Tuesday, January 3, 2023 9:07:59 AM
Attachments: [Invoice 33360 from Central Kentucky Apartment Association.pdf](#)

Kaye, for payment, but we don't need to pay the extra \$150 for the website listing. Charge to memberships.

Thanks

From: Roderick Sherman <Roderick.Sherman@amwater.com>
Sent: Tuesday, January 3, 2023 8:23 AM
To: Susan L Lancho <Susan.Lancho@amwater.com>
Cc: Justin Lane <Justin.Lane@amwater.com>
Subject: FW: Renewal Notice

Good morning Susan,

Does your team handle the annual subscription to this organization? Also should I update this association to let them know Justin Lane will be the key contact moving forward?

Best Regards,

RJ Sherman (He/Him/His), MBA

Manager, Operational Excellence

Kentucky American Water | [2300 Richmond Road](#) | [Lexington, KY 40502](#)

Office (859) 268-6314 | Cell (859) 310-2526 | roderick.sherman@amwater.com



From: Central Kentucky Apartment Association <office@ckyaa.org>
Sent: Saturday, December 31, 2022 3:22 PM
To: Roderick Sherman <Roderick.Sherman@amwater.com>
Subject: Renewal Notice

EXTERNAL EMAIL: The Actual Sender of this email is bounces+4689209-e5cf-roderick.sherman=amwater.com@em2808.ckyaa.org "Think before you click!".

Renewal Notice



Renewal Notice

Hello,

This is a reminder that your membership with CKA A will renew on 1/1/2023. Please see below for your renewal details and invoice. Please remit payment by 1/30/2023 to ensure your membership does not lapse!

Please feel free to [contact us](#) if you have any questions & thank you for being a valuable member of CKA A!

New Expiration Date: 12/31/2023

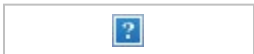
Total Dues: \$510.00

Due Date: 1/30/2023

[Pay Invoice Now](#)



2265 Harrodsburg Road Suite 350
Lexington, KY 40504
[859.278.6540](tel:859.278.6540)



[ASSOCIATION MANAGEMENT SOFTWARE](#)

Central Kentucky Apartment Association

2265 Harrodsburg Road, Ste 350

Lexington, KY 40504

+1 8592786540

office@ckyaa.org

Invoice**BILL TO**

Roderick Sherman
 Kentucky American Water
 2300 Richmond Road
 Lexington, KY 40502

INVOICE #	DATE	TOTAL DUE	DUE DATE		ENCLOSED
33360	01/05/2023	\$510.00	01/30/2023		

DATE		DESCRIPTION	QTY	RATE	AMOUNT
	1007	2023 Renewal of Associate Member Dues (January - December)	1	360.00	360.00
	4601	Be featured for 1 year on CKAA's website: \$150 if added now - price is \$250 if added later.	1	150.00	150.00

*Please Note: Non-Renewal of membership will require you to re-apply for membership, go through the application process, and pay the application/processing fee in order to reacquire membership.

BALANCE DUE**\$510.00**

Featured Website Listing: Paid with dues, this will get your company information listed on our website for the entire year. Being listed on our website is important because that is how potential customers or potential renters who visit our site find you. \$150 paid with dues, \$250 paid at a later date.

In most cases, membership dues may be deductible as a professional or business expense. Dues and other contributions to the Central Kentucky Apartment Association are not deductible as charitable contribution for federal income tax purposes. The percentage of 2023 membership dues which is not deductible for federal income tax purposes because of lobbying activities for NAA and CKAA is 11.46%.

Invoice updated on 12/16/2022

120121.52524000



Commerce Lexington Inc.
 P.O. Box 1968
 Lexington, KY 40588-1968

Invoice

Invoice No. 108438
Invoicing Date: 12/01/2020

Nick Rowe
 Kentucky American Water
 2300 Richmond Road
 Lexington, KY 40502

Member ID: 8
Invoice Due: 01/01/2021

Description	Qty	Rate	Amount
Membership Dues 01/01/2021 to 12/31/2021	1.00	5,862.00	5,862.00
Total:			5,862.00
Amt Paid:			0.00
Balance Due:			5,862.00



Kentucky American Water
2300 Richmond Road
Lexington, KY 40502

Member ID: 8
Invoice: 108438
Due Date: 01/01/2021
Total Due: 5,862.00

Payment Enclosed: \$ _____
Make checks payable to:
 Commerce Lexington Inc.
 P.O. Box 1968
 Lexington, KY 40588

Convenient online payment option at:
<http://https://www.CommerceLexington.com>

Organization Name: _____

Primary Billing Person: _____

Mailing Address: _____

City, State, Zipcode: _____

Charge:

VISA American Express

Mastercard Discover

Card No. _____ Exp. Date _____

Signature _____ Sec. Code _____



Commerce Lexington Inc.
P.O. Box 1968
Lexington, KY 40588-1968

Invoice

Invoice No. 119993
Invoicing Date: 12/01/2022

Kathryn Nash
Kentucky American Water
2300 Richmond Road
Lexington, KY 40502

Member ID: 8
Invoice Due: 01/01/2023

Description	Qty	Rate	Amount
Membership Dues 01/01/2023 to 12/31/2023	1.00	5,862.00	5,862.00
Total:			5,862.00
Amt Paid:			0.00
Balance Due:			5,862.00



Kentucky American Water
2300 Richmond Road
Lexington, KY 40502

Member ID: 8
Invoice: 119993
Due Date: 01/01/2023
Total Due: 5,862.00

Payment Enclosed: \$ _____

Make checks payable to:
Commerce Lexington Inc.
P.O. Box 1968
Lexington, KY 40588

Please verify address and provide corrections below:

Organization Name: _____

Primary Billing Person: _____

Mailing Address: _____

City, State, Zipcode: _____

Convenient online payment option at:
<http://https://www.CommerceLexington.com>

Charge:

VISA American Express

Mastercard Discover

Card No. _____ Exp. Date _____

Signature _____ Sec. Code _____



December 1, 2022

Kathryn Nash
Kentucky American Water
2300 Richmond Road
Lexington, KY 40502

Greetings Kathryn:

Thank you for your investment in and support of Commerce Lexington during the past year. The business community is strong, unified, and growing, and it's due in large part to your contributions to our region's economic success. The ongoing pandemic emphasized the importance of partnerships, and that collaboration enabled Lexington to continue its progress even in the face of adversity. Here are a few highlights that your investment made possible over the last year:

- The Economic Development Division assisted with projects in 2021 that announced more than 1,100 jobs and \$116 million dollars in regional capital investment and was named among the Top E.D. groups nationally for the third time in the last four years.
- Resuming mid-year, our staff and volunteers participated in 46 ribbon cuttings and grand openings as the economy showed more signs of improvement.
- The Minority Business Development division managed the city's Small Business Economic Recovery Program, which led to \$6.9 million dollars distributed to area small businesses over two years.
- About 160 people participated in our leadership development programming, including Leadership Lexington, Leadership Central Kentucky, and Emerging Leaders of the Bluegrass.
- We are working with business leaders and elected officials within our nine-county economic development region to develop a regional action plan to improve our competitiveness.
- In early 2022, nearly 300 people attended the EMERGE conference for professional and community development sessions.
- Commerce Lexington was honored with this year's Unity Award, which recognizes individuals and organizations that have carried out the legacy of Dr. Martin Luther King, Jr.

Our job is to provide you with the support you need to grow your business and help you navigate the ups and downs of the economy. We love to serve you! Please contact us if you have questions, concerns, or ideas. You can access our full staff directory at www.commercelexington.com.

Thank you for all that you do for our community.

Sincerely,

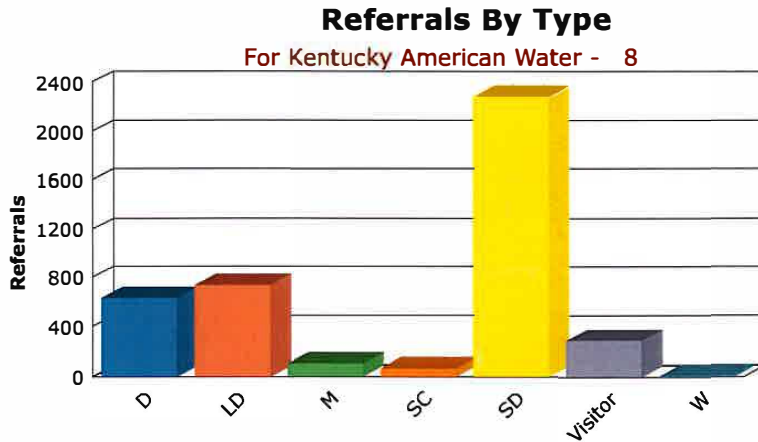
A blue ink handwritten signature of Robert L. Quick.

Robert L. Quick, IOM, CCE
President & CEO
Commerce Lexington Inc.

Commerce Lexington Inc.

Referral Report 12/1/2021 to 12/1/2022

Name	Kentucky American Water	Phone	(859) 269-2386
ID#	8	Fax	(859) 268-6327
Address	2300 Richmond Road Lexington, KY 40502-1390	Web	http://www.kentuckyamwater.com



- AC = Banner Ad Clicked
- AD = Banner Ad Displayed
- BR = Business Connect Detail Viewed
- BV = Business Connect Listing Viewed
- CD = Coupon Details Displayed
- CV = Coupon List Viewed
- D = Business Listing Displayed
- DV = Daily Vacancy Referral
- E = Email Sent From Website
- F = FrontDesk Referral
- LD = Individual Listing Displayed
- M = Map Displayed
- ML = Members Only Login
- SC = Sponsor Image Clicked
- SD = Sponsor Image Displayed
- SM = Sponsor Message Displayed
- W = Website Clicked On
- SNFB = Facebook Social Network Redirect
- SNTW = Twitter Social Network Redirect
- SNLI = LinkedIn Social Network Redirect
- SNPN = Pinterest Social Network Redirect
- SNIG = Instagram Social Network Redirect
- SNYT = YouTube Social Network Redirect
- SNFL = Flickr Social Network Redirect
- SNGP = Google Plus Social Network Redirect
- SNFS = FourSquare Social Network Redirect
- SNAL = Angie's List Social Network Redirect
- SNHO = Houzz Social Network Redirect
- SNOT = OpenTable Social Network Redirect
- SNTA = TripAdvisor Social Network Redirect
- SNYP = Yelp Social Network Redirect

Referral Type	Referrals	Last Referral
Displayed - This is the number of times the business listing was displayed	629	Dec. 1, 2022 4:44AM
Listing Details Displayed - This is the number of times your individual business listing details were displayed	735	Dec. 1, 2022 8:55AM
Mapped - This is the number of times a map of your location was displayed	99	Nov. 29, 2022 2:38AM
Sponsor Image Clicked - No description available	62	Oct. 25, 2022 1:46PM
Sponsor Image Displayed - No description available	2,282	Dec. 1, 2022 12:36PM
Visitor - No description available	285	Nov. 30, 2022 9:52PM
Website - This is the number of times the website was clicked on	7	Nov. 29, 2022 4:51PM

As of 12/1/2022 **Total** **4,099**

May 3, 2021

Susan Lancho
Kentucky American Water
2300 Richmond Rd.
Lexington, KY 40502

Dear Susan,

We would like to take this opportunity to thank you for your generous support of Downtown Lexington Partnership (DLP) in 2020! Thanks to your investment, the DLP was able to continue to provide business and marketing support, and work to make downtown Lexington successful in spite of the financial challenges caused by the COVID-19 pandemic. Without the strong commitment of our members, DLP would not be able to continue to fulfill the needs of the downtown community.

Because of your support, DLP was able to provide significant business support during 2020, including:

- Provided an **up-to-date listing of open businesses and their new operating procedures** on our website, e-newsletter and social media posts throughout the year.
- Developed and managed the **Reopening and Recovery Grant program in partnership with the Downtown Lexington Management District (DLMD)** awarding over \$38,960 in grant support to 18 businesses.
- Created marketing assistance for Downtown businesses, including **DowntownLEX Together presented by Central Bank** and **Shop and Celebrate presented by Central Bank** marketing and customer rewards program.
- Developed our mask initiative **Wear to Show You Care presented by Humana**, providing masks and window clings to encouraging mask wearing a social distancing downtown.
- Presenting virtual events, including: **Annual Meeting and Awards of Excellence presented by Republic Bank**, **Downtown Spirit Speaker Series presented by PNC Bank**, and **Lexington Tree Lighting Ceremony presented by Baird**.

Enclosed you will find the summary and benefits for your membership level and an invoice for your 2021 membership dues. Please take a moment to complete the invoice form and information requested. We look forward to you renewing your membership in 2021. If you have any questions, please do not hesitate to contact us at 859-335-8640. Thank you for your support as we work together to make a vibrant, economically powerful and successful downtown!

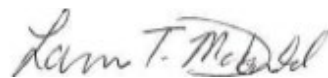
Best Regards,



Steve Kelly
2021 DLP Board Chair



Terry Sweeney
President & CEO



Taylor McDonald
Membership & Development Manager



INVOICE: \$2,500

Susan Lancho
 Kentucky American Water
 2300 Richmond Rd.
 Lexington, KY 40502

Make checks payable to: Downtown Lexington Partnership

Visa, MasterCard, American Express and Discover Card also accepted. Pay over the phone by calling (859) 335-8640 Ext. 104

GO GREEN: Would you like to receive renewal notices via email? Yes No

Please fill out the following information so we can make sure our database is up to date. Remember, as a member of DLP, you can take advantage of weekly e-newsletters. Email your events, announcements and news to info@downtownlex.com.

PLEASE COMPLETE THE FOLLOWING INFORMATION:

NAME: Susan Lancho

PRIMARY CONTACT: _____

EMAIL: Susan.Lancho@amwater.com **PHONE:** _____

MAILING ADDRESS: _____

BUSINESS ADDRESS: 2300 Richmond Road Lexington, KY 40502

WEBSITE: kentuckyamwater.com **BUSINESS PHONE:** 859-268-6332

WE WANT TO LEARN MORE:

WHEN IS YOUR COMPANY ANNIVERSARY: Operation began in 1885

BIRTHDAYS WORTH CELEBRATING IN YOUR COMPANY (INCLUDE NAMES AND DATES): _____

SPECIAL EVENTS FOR YOUR COMPANY: _____

SOCIAL MEDIA INFORMATION:

FACEBOOK: FB:@Kentucky American Water **INSTAGRAM:** IG:@kyamwater **TWITTER:** Twitter: @kyamwater

CONFIDENTIAL PAYMENT INFORMATION: VISA MC DISCOVER AMERICAN EXPRESS

CREDIT CARD NUMBER: _____

EXP: _____ **SVC:** _____

Signature: _____

Downtown Lexington Partnership
 316 W. High St.
 Lexington, KY 40507



MEMBERSHIP LEVEL :

LEADER

INVESTMENT:

\$2,500



RECOGNITION

- One ad in The Lane Report recognizing our Leader members.
- Logo in DLP Annual Report.
- Logo in DLP State of Downtown Report.
- Logo in DLP Annual Meeting program.

MARKETING

- Mentions on DLP social media platforms.
- Logo on DLP member listing web page.
- Medium logo included in e-newsletter once per quarter sent to more than 4,500 recipients.
- Opportunity to be featured as DLP member business in e-newsletter
- Access to post events on the DLP events page and in our weekly e-newsletter.

EXCLUSIVE ACCESS

- Opportunity to serve on DLP Board, Advisory Board and committees.
- First access to sponsor DLP events.
- First access to monthly and quarterly reports.
- DLP/DLMD Property Improvement Grant Program (subject to program guidelines).

PERKS AND DISCOUNTS

- 2 complimentary tickets to the DLP Annual Meeting.
- 2 complimentary tickets to DLP State of Downtown.
- 50 beverage tickets for Thursday Night Live.
- Complimentary beverage tickets to DLP networking events.
- Opportunity to buy additional tickets at discounted rates.

February 15, 2022

Susan Lancho
Kentucky American Water
2300 Richmond Rd.
Lexington, KY 40502

Dear Susan,

Happy New Year! Thank you for your generous support of Downtown Lexington Partnership (DLP) in 2021! Thanks to your investment, the DLP was able to continue to provide business and marketing support, and work to make downtown Lexington successful in spite of the challenges presented by the pandemic over the last 24 months. Without the strong commitment of our members and sponsors, we would not have been able to continue pursuing our mission and fulfilling the needs of the downtown community.

Because of your support, DLP was able to provide significant business support during 2021, including:

- Development of the **Downtown Spirit Networking Series presented by Field and Main Bank**, held bi-monthly, showcasing local organizations, and offering business professionals an opportunity to connect and engage with like-minded individual's in the Downtown Community.
- Expanded marketing assistance for Downtown businesses, including **DowntownLEX Together presented by Central Bank and Shop and Celebrate presented by Central Bank**, marketing and customer rewards program.
- Presenting in-person events, including:
 - **Annual Meeting and Awards of Excellence presented by Republic Bank**
 - **State of Downtown presented by Republic Bank**
 - **Central Bank Thursday Night Live**
 - **Luminate Lexington presented by Kentucky Utilities**
 - **The Rink at Triangle Park**

Enclosed you will find the summary and benefits for your membership level and an invoice for your 2022 membership dues. Please take a moment to complete the invoice form and information requested. We look forward to you renewing your membership in 2022. If you have any questions, please do not hesitate to contact us at 859-335-8640 or harrison@downtownlex.com. Thank you for your support as we work together to make a vibrant, economically powerful and successful downtown!

Best Regards,



Steve Kelly
2021 DLP Board Chair



Terry Sweeney
President & CEO



Harrison Stiles
Marketing & Membership Manager



MEMBERSHIP INVOICE #21522

February 15, 2022

Susan Lancho
Kentucky American Water
2300 Richmond Rd.
Lexington, KY 40502

Thank you for your support of DLP!

Due Date: Upon Receipt

AMOUNT DUE: \$2,500

Membership Level: Leader

THANK YOU!
Please remit to:

Downtown Lexington Partnership
333 W Vine St., Suite 1700
Lexington, KY 40507

**We have moved. Please update
your records with our new address:
333 W. Vine St., Ste. 1700
Lexington, KY 40507**



**DOWNTOWN
LEXINGTON
PARTNERSHIP**

Susan Lancho
Kentucky American Water
2300 Richmond Rd.
Lexington, KY 40502

Make checks payable to: Downtown Lexington Partnership

Visa, MasterCard, American Express and Discover Card also accepted.
Pay over the phone by calling (859) 335-8640

Please fill out the following information so we can make sure our database is up to date. Remember, as a member of DLP, you can take advantage of weekly e-newsletters. Email your events, announcements and news to info@downtownlex.com.

PLEASE COMPLETE THE FOLLOWING INFORMATION:

NAME: _____

PRIMARY CONTACT: _____

EMAIL: _____ **PHONE:** _____

MAILING ADDRESS: _____

BUSINESS ADDRESS: _____

WEBSITE: _____ **BUSINESS PHONE:** _____

WE WANT TO LEARN MORE:

WHEN IS YOUR COMPANY ANNIVERSARY: _____

BIRTHDAYS WORTH CELEBRATING IN YOUR COMPANY (INCLUDE NAMES AND DATES): _____

SPECIAL EVENTS FOR YOUR COMPANY: _____

SOCIAL MEDIA INFORMATION:

FACEBOOK: _____ **INSTAGRAM:** _____ **TWITTER:** _____

CONFIDENTIAL PAYMENT INFORMATION: VISA MC DISCOVER AMERICAN EXPRESS

CREDIT CARD NUMBER: _____

EXP: _____ **SVC:** _____

Signature: _____

Downtown Lexington Partnership
333 W. Vine St., Ste. 1700
Lexington, KY 40507



MEMBERSHIP LEVEL :

LEADER

INVESTMENT:

\$2,500



RECOGNITION

- One ad in The Lane Report recognizing our Leader members.
- Logo in DLP Annual Report.
- Logo in DLP Annual Meeting program.

MARKETING

- Mentions on DLP social media platforms.
- Logo on DLP member listing web page.
- Medium logo included in e-newsletter once per quarter sent to more than 4,500 recipients.
- Opportunity to be featured as DLP member business in e-newsletter
- Access to post events on the DLP events page and in our weekly e-newsletter.

EXCLUSIVE ACCESS

- Opportunity to serve on DLP Board, Advisory Board and committees.
- First access to sponsor DLP events.
- First access to monthly and quarterly reports.
- DLP/DLMD Property Improvement Grant Program (subject to program guidelines).

PERKS AND DISCOUNTS

- 2 complimentary tickets to the DLP Annual Meeting.
- 2 complimentary tickets to DLP State of Downtown.
- 50 beverage tickets for Thursday Night Live.
- Complimentary beverage tickets to DLP networking events.
- Opportunity to buy additional tickets at discounted rates.



MEMBERSHIP LEVEL:

ADVISOR

INVESTMENT:

\$1,250**RECOGNITION**

- Listing in DLP Annual Report.
- Listing in DLP Annual Meeting program.

MARKETING

- Mentions on DLP social media platforms.
- Listing on DLP member listing web page.
- Opportunity to be featured as DLP member business in e-newsletter
- Access to post events on the DLP events page and in our weekly e-newsletters sent to more than 6,500 subscribers.
- Participation in our customer incentive marketing programs (Shop and Celebrate, DowntownLEX Together).

EXCLUSIVE ACCESS

- Opportunity to serve on DLP Board and committees.
- First access to sponsor DLP events.
- First access to monthly and quarterly reports.
- Exclusive access to DLP grants and programs when available.

PERKS AND DISCOUNTS

- 1 complimentary ticket to the DLP Annual Meeting.
- 1 complimentary ticket to DLP State of Downtown.
- 25 beverage vouchers for Thursday Night Live.
- Complimentary tickets to DLP Networking events.
- Opportunity to buy additional vouchers at discounted rates.

**We have moved. Please update
your records with our new address:
333 W. Vine St., Ste. 206
Lexington, KY 40507**



Make checks payable to: Downtown Lexington Partnership

Visa, MasterCard, American Express and Discover Card also accepted.
Pay over the phone by calling (859) 335-8640

Please fill out the following information so we can make sure our database is up to date. Remember, as a member of DLP, you can take advantage of weekly e-newsletters and our social media channels. Email your events, announcements and news to info@downtownlex.com.

PLEASE COMPLETE THE FOLLOWING INFORMATION:

NAME: _____

PRIMARY CONTACT: _____

EMAIL: _____ **PHONE:** _____

MAILING ADDRESS: _____

BUSINESS ADDRESS: _____

WEBSITE: _____ **BUSINESS PHONE:** _____

WE WANT TO LEARN MORE:

WHEN IS YOUR COMPANY ANNIVERSARY: _____

BIRTHDAYS WORTH CELEBRATING IN YOUR COMPANY (INCLUDE NAMES AND DATES): _____

SPECIAL EVENTS FOR YOUR COMPANY: _____

SOCIAL MEDIA INFORMATION:

FACEBOOK: _____ **INSTAGRAM:** _____ **TWITTER:** _____

Downtown Lexington Partnership

333 W. Vine St., Ste. 206

Lexington, KY 40507



**FRANKFORT AREA
Chamber of Commerce**

KENTUCKY DISTILLED
229 West Main Street, Ste. 102, Frankfort, KY 40601
Phone (502) 223-8261 * Fax (502) 223-5942
www.frankfortky.info

Membership Dues
2021-2022

INVOICE #: 212938

DATE: JANUARY 13, 2021

Patricia A. Lee
Kentucky American Water
2300 Richmond Road
Lexington, KY 40502

		Amount Due
<p>Your MEMBERSHIP is an INVESTMENT * ACCESS IT ALL! Thank you for your continued support of the Frankfort Area Chamber of Commerce. As a community, we must work together to make the changes we need in our town and your investment help us do just that!</p> <p><input checked="" type="checkbox"/> Enclosed is my Membership Investment</p> <p><input type="checkbox"/> Move my payment to a Monthly Bank Draft. A member of our staff will contact you to make arrangements.</p> <p><input type="checkbox"/> Please bill my Membership in 60-days</p> <p><input type="checkbox"/> Please have a staff member call me to discuss my Membership</p>		<p>\$1050.00</p>
Payment Method	<input type="radio"/> Cash <input type="radio"/> Check (Payable to Frankfort Chamber)	
<input type="radio"/> Credit Card	Card Number: _____ Expiration Date: _____ CVV# _____ Name on Card: _____ Email address for receipt: _____	

If you would like to set up a one-on-one meeting or for questions concerning your membership investment, and sponsorship or volunteer opportunities, please contact:

Suzy Hosley at suzy@frankfortky.info
229 West Main Street, Ste. 102 * Frankfort KY 40601
Office: 502.223.8261 * Fax: 502.223.5942

Georgetown - Scott County Chamber of
160 E Main St
Georgetown KY 40324-1758

Date 03/10/2021 **Number** 31937

INVOICE

Date Due: 04/01/2021

Account Number: 1665

Ellen Williams
Kentucky American Water
2300 Richmond Road
Lexington KY 40502

Total Amount Due: \$625.00

--

1	Membership Investment for 04/01/2021 to 04/01/2022	\$625.00	\$625.00
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BUSINESS RELIEF ACTION: Never worry about your membership investment again!
You can now pay your annual membership investment automatically through ACH direct debit
(automatic bank draft) or credit card. Make MONTHLY, QUARTERLY or ONE TIME ANNUAL
PAYMENT. To sign up, email Laura@gtown.org to receive the authorization agreement. Remember,
your investment is TAX DEDUCTIBLE!

Thank you for supporting your
Georgetown/Scott County Chamber of Commerce

"Creating Opportunities for Community Success!"

--

Ellen Williams Kentucky American Water 2300 Richmond Road Lexington KY 40502	Date of invoice: 03/08/2021 Invoice Number: 31937 Account Number: 1665	Total Amount Due: \$625.00 Amount Enclosed: _____ Date Due: 04/01/2021
---	---	---

Georgetown - Scott County Chamber of

160 E Main St
Georgetown KY 40324-1758

Date **Number**
03/07/2022 33144

INVOICE

Date Due: 04/01/2022

Account Number: 1665

Kaye Helton
Kentucky American Water
2300 Richmond Road
Lexington KY 40502

Total Amount Due: \$625.00

--

1	Membership Investment for 04/01/2022 to 04/01/2023	\$625.00	\$625.00
----------	---	-----------------	-----------------

Thank you for supporting your
Georgetown/Scott County Chamber of Commerce

"Creating Opportunities for Community Success!"

--

<p>Kaye Helton Kentucky American Water 2300 Richmond Road Lexington KY 40502</p>	<p>Date of invoice: 03/07/2022 Invoice Number: 33144 Account Number: 1665</p>	<p>Total Amount Due: \$625.00 Amount Enclosed: _____ Date Due: 04/01/2022</p>
--	--	--

Georgetown - Scott County Chamber of

160 E Main St
Georgetown KY 40324-1758

Date: 03/06/2023
Number: 34588

INVOICE

Date Due: 04/01/2023

Account Number: 1665

Kaye Helton
Kentucky American Water
2300 Richmond Road
Lexington KY 40502

Total Amount Due: \$781.00

--

1	Membership Investment for 04/01/2023 to 04/01/2024	\$781.00	\$781.00
---	--	----------	----------

Thank you for supporting your
Georgetown/Scott County Chamber of Commerce

"Creating Opportunities for Community Success!"

--

<p>Kaye Helton Kentucky American Water 2300 Richmond Road Lexington KY 40502</p>	<p>Date of invoice: 03/06/2023 Invoice Number: 34588 Account Number: 1665</p>	<p>Total Amount Due: \$781.00 Amount Enclosed: _____ Date Due: 04/01/2023</p>
--	---	---

Jessamine County Chamber of Commerce

116 S. Main Street
Nicholasville, KY 40356

Invoice

Date	Invoice #
1/5/2021	20780

Bill To
American Water 1 Water Street Camden, NJ 08102 ATTN: Patricia A. Lee <i>Patricia.a.lee@amwater.com</i>

Ship To

P.O. Number	Terms	Rep	Ship	Via	F.O.B.	Project
	Due on receipt		1/5/2021			

Quantity	Item Code	Description	Price Each	Amount
	CHAMBER MEM...	2021 Membership Dues	550.00	550.00

Total			\$550.00
--------------	--	--	----------

120121.52524000
January

Kentucky Association for Economic Development

101 Burch Court
Frankfort, KY 40601
(502)227-9653 ° Fax: (502)227-2611

— INVOICE —

Ms. Susan Lancho
Kentucky American Water
2300 Richmond Road
Lexington, KY 40502

Date: 12/15/2020
Account #: 3790
Invoice #: 29887
Amount Due: \$2,500.00

Amount Remitted: _____

Kentucky Association for Economic Development

Pay online at: <http://cca.kaedonline.org/PayInvoice.aspx>

Member #: 3790
Invoice #: 29887

KAED Corporate Membership

\$2,500.00

Invoice Total: \$2,500.00

Sharon,
Please request checks.



KENTUCKY ASSOCIATION OF MANUFACTURERS

Invoice

Invoice No. 2760325

Invoice Date: 10/30/2020

Ms. Susan Lancho
 Kentucky American Water Company
 AP Dept 1012
 1 Water Street
 Camden, NJ 08102

Member ID: 2535

Date Due: 01/01/2021

NOTICE
 EFFECTIVE 11/1/2020 KAM'S NEW
 MAILING/REMIT ADDRESS IS:
 P.O. Box 4029
 Frankfort, KY 40604-4029

Description	Qty	Rate	Amount
KAM Membership Dues Investment 01/01/2021 to 12/31/2021	1.00	1,245.00	1,245.00
Total:			1,245.00
Amt Paid:			0.00
Balance Due:			1,245.00

KAM is a tax-exempt 501(c)(6) business association. For tax purposes, 100% of a KAM membership dues or sponsorship payment should be treated as an ordinary business expense and not as a charitable contribution. KAM pays a proxy tax on lobbying expenses. Companies are allowed to deduct 100% of KAM membership dues or sponsorship payments as a business expense and need not prorate dues to lobbying expenses.

For changes or updates to company profile or questions about invoicing, please email Shelley Goodwin at s.goodwin@kam.us.com or call 502.352.2485.

~~X~~
 Kentucky American Water
 Company
 AP Dept 1012
 1 Water Street
 Camden, NJ 08102

Member ID: 2535
 Invoice Number: 2760325
 Due Date: 01/01/2021
 Total Due: 1,245.00

Payment Enclosed: \$ _____

Make checks payable to:
 Kentucky Association of Manufacturers
 609 Chamberlin Ave
 Frankfort, KY 40601

NOTICE
 EFFECTIVE 11/1/2020 KAM'S NEW
 MAILING/REMIT ADDRESS IS:
 P.O. Box 4029
 Frankfort, KY 40604-4029

Please verify address and provide corrections below

Organization Name: _____

Primary Billing Person: _____

Mailing Address: _____

City, State, Zipcode: _____

Charge:

VISA American Express

Mastercard

Card No. _____

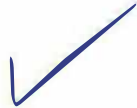
Exp. Date _____ Sec. Code _____

Signature _____

120121.5254000



Kentucky Chamber
Uniting Business. Advancing Kentucky.



February

Membership Renewal - Invoice No. 17672021

464 Chenault Road Frankfort, KY 40601 phone 502-695-4700 fax 502-695-5051

Ms. Patricia Lee
Kentucky American Water
2300 Richmond Rd
Lexington, KY 40502

(859) 269-2386
patricia.a.lee@amwater.com

Date: 1/23/2021
Original Join Date: 12/01/1962
Membership Dates: 02/01/2021 - 01/31/2022

KCC Federal Tax ID: 61-0405718
Please verify information at left and note any updates.

Remit to:
Kentucky Chamber of Commerce
464 Chenault Road
Frankfort, KY 40601

We want to assure you that the Kentucky Chamber's work in support of Kentucky's business community continues as we face this uncertain and unprecedented time. If you have any questions about your membership or need assistance in any way, please contact us at (859) 221-8813.

\$10,000

Company	Member Number	Due Date	Membership Dues
Kentucky American Water	1767	2/28/2021	\$20,000.00
Chamber Action Fund			
Your voluntary contribution to the Chamber Action Fund is used in the most critical situations to garner needed public support on important business issues. Action Fund dollars are used exclusively to advance			\$50.00
<i>Membership dues are not deductible as a charitable contribution. In compliance with the Omnibus Budget Reconciliation Act of 1993, 85 percent of your dues may be deductible as an ordinary business expense and are not allocable to lobbying activity.</i>			
Total Due			\$20,050.00 \$10,050

Please return this portion with payment.

Company	Member Number	Due Date	Membership Dues	
Kentucky American Water	1767	2/28/2021	\$20,000.00	
Please select your area(s) of interest:			Action Fund	\$50.00
<input type="checkbox"/> Human Resources	<input checked="" type="checkbox"/> Political Education	<input type="checkbox"/> Fiscal Policy		
<input type="checkbox"/> Health & Wellness	<input checked="" type="checkbox"/> Energy & Environmental	<input type="checkbox"/> OSHA		
<input type="checkbox"/> Manufacturing	<input type="checkbox"/> Small Business	<input type="checkbox"/> Workers' Compensation		
		<input type="checkbox"/> Education & Workforce Dev.	Total Due	\$20,050.00 \$10,050

Pay by Check	Pay by Credit Card (select one) VISA MasterCard American Express		
Amount: \$ _____	Card # _____	Exp. Date _____	
Check # _____	Signature (required) _____		



Membership Renewal - Invoice No. 17672022

Date: 1/20/2022
Original Join Date: 12/01/1962
Membership Dates: 02/01/2022 - 01/31/2023

KCC Federal Tax ID: 61-0405718

Mr. Nick Rowe
Sr. VP, Southeast Division / President
Kentucky American Water
2300 Richmond Rd
Lexington, KY 40502-1308

Please verify information at left and note any updates.

Remit to:
Kentucky Chamber of Commerce
464 Chenault Road
Frankfort, KY 40601

(859) 268-6333
nick.rowe@amwater.com

Investing in membership with the Kentucky Chamber of Commerce makes good business sense. Whether you're a small, family-owned business or a Fortune 500 company, we have the tools to help you succeed, because our business is growing your business.

Company	Member Number	Due Date	Membership Dues
Kentucky American Water	1767	2/28/2022	\$11,000.00
Chamber Action Fund Your voluntary contribution to the Chamber Action Fund is used in the most critical situations to garner needed public support on important business issues. Action Fund dollars are used exclusively to advance member-supported issues and are not used for political activity.			\$50.00
<i>Membership dues are not deductible as a charitable contribution. In compliance with the Omnibus Budget Reconciliation Act of 1993, 85 percent of your dues may be deductible as an ordinary business expense and are not allocable to lobbying activity.</i>			
Total Due			\$11,050.00

Please return this portion with payment.

Company	Member Number	Due Date	Membership Dues	
Kentucky American Water	1767	2/28/2022	\$11,000.00	
Please select your area(s) of interest: <input type="checkbox"/> Human Resources <input type="checkbox"/> Political Education <input type="checkbox"/> Fiscal Policy <input type="checkbox"/> Health & Wellness <input type="checkbox"/> Energy & Environmental <input type="checkbox"/> OSHA <input type="checkbox"/> Manufacturing <input type="checkbox"/> Small Business <input type="checkbox"/> Workers' Compensation <input type="checkbox"/> Education & Workforce Dev.			Action Fund	\$50.00
			Total Due	\$11,050.00

Pay by Check Amount: \$ _____ Check # _____	Pay by Credit Card (select one) VISA MasterCard American Express Card # _____ Exp. Date _____ Signature (required) _____
--	--



Membership Renewal - Invoice No. 17672023

Date: 2/27/2023
Original Join Date: 12/01/1962
Membership Dates: 02/01/2023 - 01/31/2024

KCC Federal Tax ID: 61-0405718

Ms. Kaye Helton
 Administrative Assistant, External Affairs
 Kentucky American Water
 2300 Richmond Rd
 Lexington, KY 40502-1308

Please verify information at left and note any updates.

Remit to:
 Kentucky Chamber of Commerce
 464 Chenault Road
 Frankfort, KY 40601

(859) 269-2386
 kaye.helton@amwater.com

Investing in membership with the Kentucky Chamber of Commerce makes good business sense. Whether you're a small, family-owned business or a Fortune 500 company, we have the tools to help you succeed, because our business is growing your business.

Company	Member Number	Due Date	Membership Dues
Kentucky American Water	1767	2/28/2023	\$11,000.00
Chamber Action Fund Your voluntary contribution to the Chamber Action Fund is used in the most critical situations to garner needed public support on important business issues. Action Fund dollars are used exclusively to advance member-supported issues and are not used for political activity.			\$50.00
<i>Membership dues are not deductible as a charitable contribution. In compliance with the Omnibus Budget Reconciliation Act of 1993, 80 percent of your dues may be deductible as an ordinary business expense and are not allocable to lobbying activity.</i>			
Total Due			\$11,050.00

Please return this portion with payment.

Company	Member Number	Due Date	Membership Dues	
Kentucky American Water	1767	2/28/2023	\$11,000.00	
Please select your area(s) of interest: <input type="checkbox"/> Human Resources <input type="checkbox"/> Political Education <input type="checkbox"/> Fiscal Policy <input type="checkbox"/> Health & Wellness <input type="checkbox"/> Energy & Environmental <input type="checkbox"/> OSHA <input type="checkbox"/> Manufacturing <input type="checkbox"/> Small Business <input type="checkbox"/> Workers' Compensation <input type="checkbox"/> <input type="checkbox"/> Education & Workforce Dev.			Action Fund	\$50.00
			Total Due	\$11,050.00

Pay by Check Amount: \$ _____ Check # _____	Pay by Credit Card (select one) VISA MasterCard American Express Card # _____ Exp. Date _____ Signature (required) _____
--	--

**Kentucky League of Cities, Inc.**

KLC Insurance Services
 100 E. Vine Street, Suite 800
 Lexington, KY 40507-1444
 859-977-3700
 800-876-4552

Federal ID No. 61-1295834

INVOICE**Bill**

To: American Water
 Patricia Lee
 PO Box 5600
 Cherry Hill, NJ 08034

Invoice Number: PSIV50310

Invoice Date: 8/5/2020

Page: 1

Due Date 8/5/2020
 Terms Due on Receipt

Customer ID C1190

Description	Quantity	Unit Price	Total Price
Cornerstone Partner - Slate August 1, 2020 - July 31, 2021	1	2,500.00	2,500.00

Thank you for being a Cornerstone Partner!

PLEASE REMIT TO:
 Kentucky League of Cities, Inc.
 P.O. Box 34128
 Lexington, KY 40588-4128

Thank you for your business!

Subtotal: 2,500.00
 Invoice Discount: 0.00
 Total: 2,500.00



Kentucky League of Cities, Inc.
KLC Insurance Services
 100 E. Vine Street, Suite 800
 Lexington, KY 40507-1444
 859-977-3700
 800-876-4552

Patricia Lee
OK - Jan 2021

Federal ID No. 61-1295834

INVOICE

Bill
 To: American Water
 Patricia Lee
 PO Box 5600
 Cherry Hill, NJ 08034

Invoice Number: PSIV50310

Invoice Date: 8/5/2020

Page: 1

Customer ID C1190

Due Date 8/5/2020
 Terms Due on Receipt

Description	Quantity	Unit Price	Total Price
Cornerstone Partner - Slate August 1, 2020 - July 31, 2021	1	2,500.00	2,500.00

Thank you for being a Cornerstone Partner!

120121.52524000

PLEASE REMIT TO:
 Kentucky League of Cities, Inc.
 P.O. Box 34128
 Lexington, KY 40588-4128

Thank you for your business!

Subtotal: 2,500.00
 Invoice Discount: 0.00
 Total: 2,500.00

to JSC mailbox 4/29/20



INVOICE

28-Apr-20

Two Liberty Place
 50 S. 16th St., Ste. 2725
 Philadelphia, PA 19102
 Phone 267-691-7765

Bill To:

Kentucky American Water
 2300 Richmond Road
 Lexington, KY 40502

Sharon Miller

DESCRIPTION	AMOUNT
2020 NAWC membership dues <i>GL: 16550000</i> <i>No WBS</i> <i>Vendor 110333</i>	\$61,656.26

AMOUNT PAID

TOTAL

\$61,656.26

NAWC's Board of Directors recently adopted new bylaws that state that dues are to be paid in full by all members within 30 days of receipt of an invoice unless the member otherwise notifies NAWC.

Payment due: May 28, 2020

Make all checks payable to National Association of Water Companies (NAWC).

THANK YOU FOR YOUR BUSINESS!



Two Liberty Place
 50 S. 16th St., Ste. 2725
 Philadelphia, PA 19102
 Phone 267-691-7765

March 23, 2021

Bill To:

Kentucky American Water
 2300 Richmond Road
 Lexington, KY 40502

Sharon Miller

DESCRIPTION	AMOUNT
2021 Membership Dues GL: 16550000 No WBS Vendor 110333	\$76,004.00

AMOUNT PAID

TOTAL \$76,004.00

Payment due: Upon receipt

Make all checks payable to:

...



INVOICE

Two Liberty Place
 50 S. 16th St., Ste. 2725
 Philadelphia, PA 19102
 Phone 267-691-7765

March 21, 2022

Invoice # 2022AW005001

Bill To:

Kentucky American Water
 2300 Richmond Road
 Lexington, KY 40502

DESCRIPTION	AMOUNT
2022 NAWC membership dues GL: 16550000 No WBS Vendor 110333	\$77,466.00

.....
 AMOUNT PAID

TOTAL \$77,466.00

Payment due: Upon receipt

Make all checks payable to:
 National Association of Water Companies (NAWC)
 50 S. 16th St, Suite 2725, Philadelphia, PA 19102

THANK YOU FOR YOUR BUSINESS!

to: SSC Mailbox 3/21/23



INVOICE

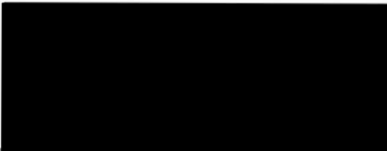
Two Liberty Place
50 S. 16th St., Ste. 2725
Philadelphia, PA 19102
Phone 267-691-7765

March 21, 2023

Invoice # 2023AW005
Corrected

Bill To:

Ms. Kathryn Nash, President
Kentucky American Water
kathryn.ash@amwater.com
rebecca.broadbus@amwater.com

DESCRIPTION	AMOUNT
Annual Membership Dues	\$86,494.03
Kentucky American	
	
\$86,494.03 2023 dues	
AMOUNT PAID	
TOTAL	
	\$86,494.03

GL: 16550000
No WBS
Vendor: 110333
Payment due: Upon receipt

Make all checks payable to:
National Association of Water Companies (NAWC)
50 S. 16th St, Suite 2725, Philadelphia, PA 19102

THANK YOU FOR YOUR BUSINESS!

From: [Susan L Lancho](#)
To: [Kaye Helton](#)
Subject: FW: Invoice (Owen County Chamber)
Date: Friday, September 17, 2021 3:31:48 PM
Attachments: [Invoice 2021-22 KAW.doc](#)

Kaye – We haven't received this invoice previously this year, have we? I don't recall it and I can't tell from the invoice where it would have been mailed. I've asked Margaret to check on that.

If we haven't paid dues for this chamber yet, please process a check for us.

Thanks!

Susan Lancho, Senior Manager, External Communications
Kentucky American Water
O: (859) 268.6332 M: (859) 537-0736
susan.lancho@amwater.com

From: Dorothy W Rader <Dorothy.Rader@amwater.com>
Sent: Friday, September 17, 2021 3:19 PM
To: Forsee, Margaret <margaretForsee@KYCOURTS.NET>
Cc: Susan L Lancho <Susan.Lancho@amwater.com>
Subject: RE: Invoice (Owen County Chamber)

Thanks, Margaret. This is the first time I'm seeing this.

Can you make sure to mail future invoices and correspondence about the membership to Susan Lancho, Kentucky American Water, 2300 Richmond Road, Lexington, KY 40502, Susan.lancho@amwater.com, in the future? You can also remove Patricia and Nathan from the ATTN line – they are no longer in roles that pertain to Owen County. You can include Susan and me instead.

I've copied her on this reply so that it gets to the correct place for payment.

Thank you

Dorothy Rader

Operations Manager
Kentucky American Water | [409 S Main Street](#) | [Owenton, KY 40359](#)
Direct: 502-563-1355 | Mobile: 423-355-8591 | dorothy.rader@amwater.com

WE KEEP LIFE FLOWING™



From: Forsee, Margaret <margaretForsee@KYCOURTS.NET>
Sent: Friday, September 17, 2021 3:05 PM
To: Dorothy W Rader <Dorothy.Rader@amwater.com>
Subject: Invoice

EXTERNAL EMAIL: The Actual Sender of this email is margaretForsee@kycourts.net "Think before you click!".

Good Afternoon –

I have attached the invoice for membership dues to the Owen County Chamber of Commerce. With all of the craziness going on, I didn't know if it was possibly overlooked.

If you have any question, please let me know.

Margaret Forsee

Owen Circuit Clerk
Owen County Judicial Center
401 S. Main St., P. O. Box 473
Owenton, KY 40359
(502) 484-2232
(502) 484-0625 - Fax

Kentucky Court of Justice Confidentiality Notice

This message and/or attachment is intended only for the addressee and may contain information that is privileged, confidential and/or proprietary work product. If you are not the intended recipient, or an authorized employee, agent or representative of the intended recipient, do not read, copy, retain or disseminate this message or any attachment. Do not forward this message and attachment without the express written consent of the sender. If you have received this message in error, please contact the sender immediately and delete all copies of the message and any attachment. Transmission or misdelivery shall not constitute waiver of any applicable legal privilege.

Invoice

Owen County Chamber of Commerce
 PO Box 475
 Owenton, KY 40359

Invoice Date: 9-17-21

Bill to:

Kentucky American Water
 Patricia A. Lee or Nathan Clark

Description	Amount
Membership Dues	\$600.00
TOTAL DUE	\$600.00

The Owen County Chamber of Commerce is a 501(c)(6) organization.

Terms & Conditions:

Payment is due upon receipt

Credit cards are accepted

Please mail payment to:

Owen County Chamber of Commerce
 c/o Tina McNay
 Owen County Government
 100 N. Thomas St.
 Owenton, KY 40359

Thank you for your membership. If you have any questions, please feel free to contact
 Margaret Forsee at margaretforssee@kycourts.net

Invoice

Owen County Chamber of Commerce
 PO Box 475
 Owenton, KY 40359

Invoice Date: 10/28/2022

Bill to:

Kentucky American Water

Description	Amount
Membership Dues	\$600.00
TOTAL DUE	\$600.00

The Owen County Chamber of Commerce is a 501(c)(6) organization.

Terms & Conditions:

Payment is due upon receipt

Credit cards are accepted

Please mail payment to:

Owen County Chamber of Commerce
 c/o Tina McNay
 Owen County Government
 100 N. Thomas St.
 Owenton, KY 40359

Thank you for your membership!

*Pay in March
120121.52524000*



PO Box 778, Mount Vernon, KY 40456

January 2021

2021 Membership Invoice

To: Susan Lancho
KY American Water
2300 Richmond Road
Lexington, KY 40502

Membership Dues Amount: \$100.00

Due Date: April 1st

If you have any questions regarding your membership billing, please contact Lynn Tatum, Treasurer at 606-308-4646 or kyltatum@yahoo.com.

Thank you for your support of the Rockcastle Chamber of Commerce!

Please make your check payable to the Rockcastle Chamber of Commerce



January 2021

Dear Chamber Member,

The past year has been a challenge to all of us with both our personal and business life. Restrictions due to COVID-19 has changed how we do things, eliminated special events and monthly membership meetings. The beginning of this year still remains a challenge; however, the good news is that remodel work on the St. Clair building is progressing and we hope to occupy our new Chamber office building by summer. It is our hope that when the office opens and Covid-19 vaccines have been given to our population, we can resume our personal and business lives.

Volunteer Chamber board members have continued to meet monthly to carry out business matters. A new Chamber website is presently being created. The Rockcastle Chamber of Commerce rejoined the State Chamber of Commerce last year so we can provide our businesses with a great employee insurance program. We will post information about that program on our new website.

The new community magazine has been delayed due to Covid-19 and search for a new graphic layout person; however, we have revised our target to begin in March. If you are a current member of the Chamber and you advertised in the 2017 community magazine, you will get a free ad (same size as 2017) in our 2021 magazine that will be distributed this summer. If you are a new member and did not participate in 2017, we will offer a discount on the ad size you choose. If your ad is ready, please email it to ads@rockcastlecountychamber.com. The community magazine is a great way to promote your business and our county.

During this past year, the Rockcastle Chamber presented two scholarships to Rockcastle High School students, sponsored Santa letters and a book program, and took out a half page Christmas ad in the Signal. We have been working with the City of Mount Vernon regarding the History Garden and remodel of the building.

Chamber board members understand this is a difficult economic climate for our local small businesses. We do not wish to place more financial hardships on our members with our annual dues; therefore, we have extended our **membership dues date to April 1st** and are happy to work with individual businesses on a case-by-case basis. Our number one goal is to support you as a business. We appreciate your continued support through these difficult times

Lynn Tatum
Chamber Treasurer
606-308-4646



PO Box 778, Mount Vernon, KY 40456

2023 Membership Invoice

To: Kaye Helton
KY American Water
2300 Richmond Road
Lexington, KY 40502

January 2023

Membership Dues Amount: \$100.00

Due Date: Upon Receipt

If you have any questions regarding your membership billing, please contact Lynn Tatum, Treasurer at 606-308-4646 or kyltatum@yahoo.com.

Thank you for your support of the Rockcastle Chamber of Commerce!

Please make your check payable to the Rockcastle Chamber of Commerce



Rockcastle Chamber of Commerce, 100 Richmond Street, PO Box 778,
Mount Vernon, KY 40456

Hello Chamber Members,

Enclosed you will find your yearly Chamber membership invoice. Last year we were able to move into our new office building located at 100 Richmond Street in Mount Vernon. We invite you to stop and visit (our in-person hours are Monday – Friday from 10am to 2pm).

Last year we also distributed, a one-time, no cost to our membership that participated in the 2019 edition, community magazine. Board members, who meet monthly, are planning speakers and events for this new year. We invite you to make suggestions as to what would be beneficial to you and your business. We have discussed having a casual “Chamber Coffee Hour” at the office, to give you the opportunity to network with organizations, business operators and government officials. Let us know your ideas! We have a new phone number: 606-308-1558.

Steve McKinney

Chamber President

January 27, 2023



Winchester Clark County Chamber
 2 S Maple St
 Winchester, KY 40391
 (859) 744-6420 | fax:
 cindybanks@winchesterkychamber.com

Invoice

Invoice Date: 9/1/2020
 Invoice Number: 65678

Vendor# 104080

Kentucky American Water Company
 Ms. Patricia A. Lee
 P.O. Box 5610
 Cherry Hill, NJ 08034

October 2020 - September 2021

Terms	Due Date
Net 30	10/1/2020

Description	Quantity	Rate	Amount
Membership Investment	1	\$500.00	\$500.00
Subtotal:			\$500.00
Tax:			\$0.00
Total:			\$500.00
Payment/Credit Applied:			\$0.00
Balance:			\$500.00

Thank you for your support of the **Winchester Clark County Chamber**

Please return this portion with your payment.

For your convenience, you may pay for your chamber membership investment by American Express, Discover, MasterCard or Visa

Member Name: Kentucky American Water Company

Invoice #: 65678

Payment Amount: \$ _____

Payment Method: Check # _____ Credit Card

Make all checks payable to **Winchester Clark County Chamber** or enter credit card information below.

??Enter Credit Card Billing Address (inc. zip code)

Address _____

City/State/Zip _____

Credit Card #: _____ Exp. Date: _____

CVV Code (3 or 4 digits on back of card) _____

Name on Card: _____ Signature: _____

From: [Susan L Lancho](#)
To: [Kaye Helton](#)
Subject: Check needed: Winchester Clark County Chamber of Commerce
Date: Tuesday, August 31, 2021 3:38:40 PM
Attachments: [66237.pdf](#)

All the dues bills are coming in! Please pay in September.

Winchester Clark County Chamber of Commerce
\$500
Charge to dues

Play make sure they send you the contact list they have for us so that you can review to make sure it's current.

Thanks!

From: Erika O'Brien <erika@winchesterkyweb.com>
Sent: Tuesday, August 31, 2021 3:27 PM
To: Susan L Lancho <Susan.Lancho@amwater.com>
Subject: Invoice from Winchester Clark County Chamber

EXTERNAL EMAIL: The Actual Sender of this email is erika@winchesterkyweb.com "Think before you click!".

Dear Susan L.:

Your invoice is attached. Please remit payment at your earliest convenience.

Thank you for your business - we appreciate it very much.

Sincerely,

Winchester Clark County Chamber
(859) 744-6420

To view/pay bills online, please [click here](#)

This email was sent on behalf of Winchester Clark County Chamber 2 S Maple St Winchester , KY 40391. To unsubscribe [click here](#). If you have questions or comments concerning this email or services in general, please contact us by email at cindybanks@winchesterkychamber.com.



Winchester Clark County Chamber
 2 S Maple St
 Winchester, KY 40391
 (859) 744-6420 | fax:
 cindybanks@winchesterkychamber.com

Invoice

Invoice Date: 9/1/2021
 Invoice Number: 66236

Kentucky American Water Company
 Ms. Susan L. Lancho
 2300 Richmond Road
 Lexington, KY 40502

October 2021 - September 2022

Terms	Due Date
Net 30	10/1/2021

Description	Quantity	Rate	Amount
Membership Investment	1	\$500.00	\$500.00
Subtotal:			\$500.00
Tax:			\$0.00
Total:			\$500.00
Payment/Credit Applied:			\$0.00
Balance:			\$500.00

Thank you for your support of the **Winchester Clark County Chamber**

Please return this portion with your payment.

For your convenience, you may pay for your chamber membership investment by
 American Express, Discover, MasterCard or Visa

Member Name: Kentucky American Water Company

Invoice #: 66236

Payment Amount: \$ _____

Payment Method: Check # _____ Credit Card

Make all checks payable to **Winchester Clark County Chamber** or enter credit card information below.

??Enter Credit Card Billing Address (inc. zip code)

Address _____

City/State/Zip _____

Credit Card #: _____ Exp. Date: _____

CVV Code (3 or 4 digits on back of card) _____

Name on Card: _____ Signature: _____



Winchester Clark County Chamber
 61 South Main Street
 Winchester, KY 40391
 (859) 744-6420 | fax:
 cindybanks@winchesterkychamber.com

Invoice

Invoice Date: 9/1/2022
 Invoice Number: 66823

Kentucky American Water Company
 Ms. Kaye Helton
 2300 Richmond Road
 Lexington, KY 40502

October 2022 - September 2023

Terms	Due Date
Net 30	10/1/2022

Description	Quantity	Rate	Amount
Membership Investment	1	\$500.00	\$500.00
Subtotal:			\$500.00
Tax:			\$0.00
Total:			\$500.00
Payment/Credit Applied:			\$0.00
Balance:			\$500.00

Thank you for your support of the **Winchester Clark County Chamber**

Please return this portion with your payment.

For your convenience, you may pay for your chamber membership investment by
 American Express, Discover, MasterCard or Visa

Member Name: Kentucky American Water Company

Invoice #: 66823

Payment Amount: \$ 500.00

Payment Method: Check # _____ Credit Card

Make all checks payable to **Winchester Clark County Chamber** or enter credit card information below.

??Enter Credit Card Billing Address (inc. zip code)

Address _____

City/State/Zip _____

Credit Card #: _____ Exp. Date: _____

CVV Code (3 or 4 digits on back of card) _____

Name on Card: _____ Signature: _____



61 South Main Street, Winchester, KY 40391
Office (859) 744-6420 Fax (859) 744-9229

Please take a few minutes to update the following information about your business/organization. If you have a different mailing address, added a fax number or an email address please indicate as such. If the number of employees has changed, please adjust your membership investment accordingly.

Please mail/fax completed form to the Winchester / Clark County Chamber of Commerce. Thanking you in advance for your prompt attention to this matter.

Member Name: Kentucky American Water

Address: 2300 Richmond Road

City/State/ Zip: Lexington, Kentucky 40502

Phone: 859-268-6332 Email: Kaye.Helton@amwater.com

Website Kentuckyamwater.com

Key Representatives:

Name: Susan Lanchio Name: _____
Title: Sr. mgr. External Affairs Title: _____

No. of Full Time Employees: 150 No. of Part Time Employees: _____

Investment Amount: 8500.00

Kelley for Susan Lanchio
Signature

9-22-20
Date

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Jeffrey Newcomb

22. Refer to the Application generally. Explain whether Kentucky American pays any dues or membership fees to law firms or trade groups which maintain an affiliate engaged in any of the covered activities identified in the preceding question.
- a. If so, identify fully the law firm or trade group by name, the name of the affiliate engaged in any such activities, and the amounts Kentucky American paid to the law firm, trade group, or affiliate thereof for those activities.
 - b. Explain whether Kentucky American is seeking recovery from ratepayers for any such sums identified in subpart (a) of this question.

Response:

- a. Please refer to KAW_R_AGDR1_NUM021_081823_Attachment for the list of all providers that Kentucky-American pays any dues or membership fees. Kentucky-American does not have sufficient information to know whether the providers listed have an affiliate engaged in any of the covered activities identified in AG 1-21, subpart (a), and further notes that just because a provider being listed in AG 1-21, it does not mean that the Company is paying the provider to engage in the listed activities on our behalf.
- b. No. Kentucky-American is not seeking recovery from ratepayers for any such sums identified in subpart (a) of this question.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: John Watkins

23. Refer to the Application generally. If any affiliate of Kentucky American pays dues to one or more Dues Requiring Organizations, and a jurisdictional portion of those dues are charged back to Kentucky American, explain whether the dues are being recovered in rates, the amounts thereof, and precisely where they can be found in the Application.

Response:

American Water Works Service Company, Inc. ("AWWSC), an affiliate of Kentucky American, pays dues, a portion of the total amount paid is allocated to Kentucky-American. The Company has included dues in the amount of \$51,602 through the Company's Support Services operating and maintenance expense. The \$51,602 amount is included in the account AWWSC Services – Other O&M Expense which can be found in the tab Summary by Account on the workpaper entitled KAWC 2023 Rate Case - Support Services Exhibit.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Jeffrey Newcomb

24. Refer to the Application generally. For all expenses associated in any manner with any Dues Requiring Organization and for which the Company seeks reimbursement from ratepayers:
- a. Provide a complete copy of all invoices received from each such Dues Requiring Organization since the conclusion of the Company's last water rate case;
 - b. Provide any and all documents in the Company's possession that depict how each such Dues Requiring Organization spends the dues it collects from the Company, including the percentage that applies to all covered activities.
 - c. Provide a detailed description of the services and benefits each Dues Requiring Organization provided to the Company since the conclusion of its most recent water rate case. Of these services and benefits, identify which ones accrue directly to ratepayers, and explain fully how.
 - d. Explain whether any Company personnel actively participate on committees and/or perform any other work for any Dues Requiring Organizations or any other industry organization to which the Company belongs. If so:
 - i. State specifically which employees participate, how they are compensated for their time (amount and source of compensation), and the purpose and accomplishments of any such association related work; and,
 - ii. List any and all reimbursements received from industry associations, for work performed for such organizations by the Company's employees.

Response:

- a. Please see KAW_R_AGDR1_NUM021_081823_Attachment.
- b. The Company does not have information on how organizations spends the dues it collects from the Company. The invoices from each Dues Requiring Organization are provided in the response to part a. The Company does not have any other documents in its possession that depict how each Dues Requiring Organization spends the dues it collects.
- c. **American Water Works Association (AWWA)**
This organization works to advance the water utility industry through professional development, public awareness of key industry issues and topics, collaboration and

knowledge sharing of best practices among its members, as well as industry research. The advancement of water industry professionals and the industry in general benefits rate payers by ultimately supporting the provision of safe, quality, reliable, affordable water service.

Better Business Bureau

The Better Business Bureau supports connecting consumers with businesses that they can trust. This may include connecting ratepayers with reputable companies that assist with water-related matters that are beyond the scope of services that Kentucky American Water provides, such as a professional plumber to fix a leaky pipe or fixture. As a member of the BBB the company further demonstrates its commitment to quality, professional service and creates another avenue for customers to provide feedback on our services in order to work toward appropriate resolution or improvement.

Building Industry Association of Central Kentucky

The Building Industry Association of Central Kentucky is a trade association of the home building industry with members representing a variety of services. BIA provides for the company, and in particular employees in the new development area of the Engineering Department, a consolidated resource for connecting with businesses involved in new development construction in our service area or in renovation of existing developments or structures, both of which may involve the expansion of the water system or upgrades to the water system. BIA also supports continuing education for its members as well as enhancing ethical and professional standards for the same. For our ratepayers this translates into support for professional construction standards that accommodate quality, reliable water service and fire protection.

Central Kentucky Apartment Association

The Central Kentucky Apartment Association's members include companies and organizations that provide products and services in the multi-family housing industry. Similar to BIA, our membership in this organization assists with enhancing our ability to meet the unique needs of and issues involving multi-family residential structures which may impact direct ratepayers and/or consumers of our service who are not ratepayers.

Chambers of Commerce (which includes Commerce Lexington, which does not have "chamber" in its name but is, indeed, a chamber of commerce)

These organizations support the quality of life of communities by connecting, informing, developing and advocating for businesses. Many, such as the Kentucky Chamber of Commerce and Commerce Lexington, for example, facilitate partnerships between businesses and the education sector which benefit workforce and economic development for the communities we serve. In addition, leadership development programs available to members, such as Leadership Lexington and Leadership Kentucky, provide unique opportunities for members' employees to develop their management and leadership skills further in order to be more effective

in their current and future roles and more knowledgeable about the communities they serve.

Downtown Lexington Corporation/Partnership

The DLP is an umbrella organization dedicated to the advancement of the downtown Lexington area. Similar to a chamber, this organization support quality of life of communities by connecting, informing, developing and advocating for businesses in Lexington's downtown geographic area. The company's involvement in this organization supports quality of life not only for our ratepayers located in the downtown area but also for ratepayers who work or visit this area and provides a central way to connect with ratepayers in the downtown area who may have unique needs.

Kentucky Association for Economic Development

KAED has provided an opportunity for the company to connect with other companies and support economic development in our service area and the Commonwealth to promote quality of life for ratepayers and general consumers.

Kentucky Association of Mapping Professionals

KAMP is a professional development organization dedicated to the advancement of those in the mapping industry. For Kentucky American Water this has served as a professional development resource for those in our Engineering department who work in the GIS/Mapping profession. For ratepayers this translates into quality digital maps that are used by our employees for more accurate, efficient activities as well as for our newer customer outreach efforts to provide better geographic indications of where field activities, such as system flushing, are being conducted.

Kentucky Association of Manufacturers

KAM has provided a unique opportunity for the company to connect with the manufacturing sector in the Commonwealth in order to better understand and meet their needs. Ratepayers benefit through the support that KAM's efforts provide through workforce development in the manufacturing sector and investment in the economy.

Kentucky League of Cities

KLC is focused on helping municipal leaders and employees advance the quality of life for their current and future citizens, and therefore, many of our ratepayers. The company's membership in KLC assists us in better understanding the complexities of city management, connecting with city leaders and employees, and supporting an organization that has an impact on the level of professionalism in city organizations that Kentucky American Water interacts with on a frequent basis due to the nature of our operations.

Kentucky Water and Wastewater Operators Association

KWWOA offers more than 150 hours of continuing education training annually, which assists company employees in completing the required training to obtain

and/or maintain appropriate professional licenses. This benefits ratepayers by maintaining a workforce with appropriate credentials to provide quality, reliable service.

Kentucky Rural Water Association

Similar to AWWA, this organization works to advance the water utility industry with a specific focus on those water utilities serving rural communities in Kentucky. KRWA's efforts benefit ratepayers by ultimately support the provision of safe, quality, reliable, affordable water service.

National Association of Water Companies (NAWC)

Similar to AWWA, this organization works to advance the water utility industry with a specific focus on regulated water companies. NAWC's efforts benefit ratepayers by ultimately supporting the provision of safe, quality, reliable, affordable water service.

- d. Kentucky American Water employees are involved in membership organizations in the capacity listed below. They are not compensated by organizations for their involvement as these are voluntary efforts. The benefits of involvement in these organizations are listed in subpart c.

Current status of employees as of August 11, 2023:

i. **American Water Works Association (AWWA)**

Asset Management Committee: Shelley Porter

Diversity Member and Inclusion Committee: Roderick Sherman

AWWA – KY/TN Section

Board Member: Roderick Sherman

Public Affairs Committee: Susan Lancho, Ellen Williams

Water Professionals Leadership Academy Selection Committee: Krista Citron

Water Quality Committee: Dorothy Johnson

Safety Committee: Curt Dillon

General membership involvement: Charles Dick, Justin Lane, Andy Lewis

Mike Maggard, Bob Money, Nathan Napier, Kathryn Nash, Jeffrey

Newcomb, Shelley Porter, Dorothy Rader, Justin Sensabaugh and Brandon Smith.

Bluegrass Tomorrow

Board member: Justin Lane

Building Industry Association of Kentucky

General membership involvement: John Magner, Tyler Singer

Bourbon County Chamber of Commerce

General membership involvement: Susan Lancho, Justin Lane

Commerce Lexington

Board of Directors: Kathryn Nash

Public Policy Council: Susan Lancho

Regional Leadership Council: Kathryn Nash

Kentucky Association of Mapping Professionals

Annual Conference Planning Committee: Charles Altendorf

President-Elect: Charles Altendorf

Communications Committee: Charles Altendorf

Member: Tobey Adams

Kentucky Chamber of Commerce

Board of Directors: Kathryn Nash (to join in Fall 2023)

Energy and Environment Policy Council: Susan Lancho

Kentucky Competitiveness Committee: Susan Lancho

Leadership Kentucky: Justin Lane

Kentucky Rural Water Association

Utility Management Institute: Justin Lane, current participant

General membership involvement: Justin Sensabaugh

Scott County Chamber of Commerce

Education and Economic Development Committee: Justin Lane

- ii. No reimbursements are received from industry associations for work performed for such organizations by the Company's employees.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Charles Rea

25. Refer to the Application, Filing Exhibit 7.
- a. Confirm that Kentucky American is proposing to increase the monthly customer charge of a residential customer with a 5/8" meter from \$15.00 to \$20.00. If not confirmed, provide the requested residential monthly customer charge.
 - b. Explain in detail whether residential customers only have a 5/8" meter, or if residential customers also use larger meters as well.
 - c. Explain in detail whether all commercial customers utilize a 5/8" meter, or if commercial customers also use larger meters as well.
 - d. Confirm that Kentucky American is proposing to increase the monthly customer charge of a commercial customer to \$20.00. If not confirmed, provide the requested commercial monthly customer charge.
 - e. Explain in detail why Kentucky American is proposing for the residential and commercial customers to pay the same monthly customer service charge.
 - f. Explain which customer classes use the following meter sizes:
 - i. 5/8" meter,
 - ii. 3/4" meter,
 - iii. 1" meter,
 - iv. 1 1/2" meter,
 - v. 2" meter,
 - vi. 3" meter,
 - vii. 4" meter,
 - viii. 6" meter, and,
 - ix. 8" meter.

Response:

- a. The Company is proposing to increase the 5/8" monthly residential customer charge from \$15.00 to \$20.00.

- b. Residential customers can be served by meters that are larger than 5/8". The Company currently has premises classified as residential being served with the following meter sizes: 5/8", 1", 1-1/2", 2", 4", 6", and 8". Premises served through a single meter with multiple owners where usage is primary for residential purposes such as condominium complex or multi-family homes have meters larger than 5/8". Please refer to lines 3 through 11 on page 8 of Exhibit 37, Schedule M-3 for base period and test year residential meter billings for each meter size.
- c. Commercial customers are served by a variety of meter sizes. The Company currently has commercial customers being served with the following meter sizes: 5/8", 3/4", 1", 1-1/2", 2", 3", 4", 6", and 8". Please refer to lines 3 through 11 on page 9 of Exhibit 37, Schedule M-3 for base period and test year residential meter billings for each meter size.
- d. The Company is proposing to increase the 5/8" monthly commercial customer charge from \$15.00 to \$20.00.
- e. The Company is proposing to consolidate and have a single tariff for meter charges applicable to all classes to recover the costs to install and maintain meters for all classes.
- f. Please refer to lines 1 through 11 on pages 8 through 14 of Exhibit 37, Schedule M-3 for base year and test year meter billings by meter size for each customer class.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Krista Citron and Jeffrey Newcomb

26. Refer to the Direct Testimony of Krista Citron (“Citron Testimony”) generally.
- a. Provide a detailed breakdown of the type of pipe that Kentucky American has in its system, the number of miles of each type of pipe, the estimated installation date for each type of pipe, and the average expected life of each type of pipe.
 - b. Identify the year that Kentucky American initially implemented its Qualified Infrastructure Program (“QIP”) Rider.
 - c. Provide the annual revenue requirement impact of the QIP since its inception to the present date.
 - d. Explain in detail how many miles of pipe have been replaced each year since the inception of the QIP, and include in the discussion the type of pipe that has been replaced.
 - e. Discuss the other projects, besides pipeline replacement, that have flowed through the QIP since its inception.
 - f. Explain in detail what type of pipe Kentucky American has focused on replacing through the QIP thus far.
 - g. Provide all projects that Kentucky American plans to include in its proposed QIP over the next 5 years. Include the cost of each project the purpose of each project, i.e., pipe replacement, pumping station replacement, treatment plant replacement, etc., and the type of pipe to be replaced.
 - h. If the Commission were to approve Kentucky American’s requested expansion of the QIP from the current annual replacement of 10 – 13 miles of cast iron main to 27 – 34 miles of any type of main, provide the proposed revenue requirement impact for the next five years as well as the customer impact.
 - i. If the Commission were to approve Kentucky American’s requested expansion of the QIP from the current annual replacement of 10 – 13 miles of cast iron main to 27 – 34 miles of any type of main, discuss what type of main the Company would prioritize replacing in addition to cast iron.
 - j. If Kentucky American’s QIP is not modified in the pending case, what is the replacement cycle for the Company’s water system?

- k. If Kentucky American's QIP is modified and accelerated in the pending case, what would be the resulting replacement cycle for the Company's water system?

Response:

- a. The two tables below provide a breakdown of the type of pipe in KAWC's system by material and installation date, and the average expected life of each pipe material.

Total System Miles of Existing Material Types - Total System Through October 2022							
Decade	Material Type						
	Cast Iron	Asbestos Cement	PVC/Plastic	Ductile Iron	Galvanized	Concrete/Cement	Other ¹
1881-1890	4.4						
1891-1900	1.6						
1901-1910	13.0						
1911-1920	10.6						
1921-1930	14.7						
1931-1940	13.0	0.1					
1941-1950	6.5	13.2					
1951-1960	76.8	70.8	4.6	0.5	1.2	9.7	12.8
1961-1970	122.2	96.3	62.3	51.1	1.7	7.2	10.1
1971-1980	50.2	118.4	138.0	16.0	0.1		30.9
1981-1990	2.4	16.3	50.6	168.1			3.8
1991-2000	0.5	0.4	37.4	286.1	0.1		3.0
2001-2010	2.7	0.6	158.8	269.6			2.4
2011-2019	0.2		17.8	122.1			1.3
2020-Present			0.9	30.6			0.5
Unknown Date	42.0	10.8	94.5	14.2	0.1	0.1	55.3
Total Miles	360.9	326.9	564.8	958.3	3.3	17.1	120.2

1 - Other represents Brass, Copper, HDPE, and Unknown.

Table 4 – Average Expected Life of Pipe Material						
Material Types						
Cast Iron Unlined	Cast Iron Lined	Asbestos Cement	PVC	Ductile Iron	Galvanized	Concrete
110 yrs	100 yrs	90 yrs	55 yrs	80 yrs	70 yrs	105 yrs

- b. The QIP was approved in the Commission's June 27, 2019 Order for Case No. 2018-00358. The first QIP period began July 1, 2020.
- c. The table below, sourced from KAWC's Year 4 QIP application, Kentucky PSC Case No. 2023-00030, Supplemental Testimony of Jeffrey Newcomb, Exhibit 1, provides the annual revenue requirement impact of the QIP since inception.

	Case No. 2021-00376 QIP 1 July 2020 – June 2021	Case No. 2022-00328 QIP 2 July 2021 – June 2022	Case No. 2022-00032 QIP 3 July 2022 – June 2023	Case No. 2023-00030 QIP 4 July 2023 – June 2024	Total QIP
QIP Revenue Requirement	\$1,018,608	\$2,300,395	\$3,545,368	\$1,301,716	\$8,166,087

- d. The focus of the QIP to date, per Commission directive, has been primarily small diameter, cast iron water mains. Total miles of mains replaced (i.e. removed from service) each year of the QIP are listed below.

QIP Year 1 – 5.9 miles replaced

QIP Year 2 – 15.5 miles replaced

QIP Year 3 – 14.0 miles replaced

QIP Year 4 – 13.3 miles replaced (proposed)

Total – approximately 48.7 miles replaced/proposed through QIP since 2020

- e. None. The Commission’s June 17, 2020 Order in Case No. 2020-00027 specified that only projects that “are reasonably related or incidental to replacing aging mains”¹ should be included in QIP Rider filings. Replacing hydrants, valves, and service lines that are **incidental** to the main replacements as part of the Budget Line B projects was also approved by the Commission.

- f. See response to part d above.

- g. See response to part e above. The QIP will continue to address pipeline replacement projects, not pump station or treatment plant replacements. At this time, KAWC is requesting that the QIP be expanded to include the annual replacement of 27-34 miles of water main, of any material type. The forecasted annual cost for 27-34 miles of water main is approximately \$42-46 million annually. This can be seen in more detail in the Porter Direct Testimony at Exhibit 1 and is summarized below.

2024: \$20.7M

2025: \$42.5M

2026: \$43.8M

2027: approximately \$45M

2028: approximately \$46M

Projects are selected on an annual basis using the pipeline prioritization model, discussed in the Citron direct testimony on pages 10-17. Because pipeline conditions and external factors can change, the prioritization model provides a dynamic listing of the mains that most need replacement each year. While the focus

¹ Case No. 2020-00027, June 17, 2020 Order, p. 16.

of QIP to date has been primarily cast iron water mains, there are other material types in KAWC's system that are also aging past their useful life and are also prone to leaking or breaking and in need of replacement.

- h. Please see KAW_R_AGDR1_NUM026_081823_Attachment 1.
- i. As discussed in the Citron direct testimony, KAWC would use the pipeline prioritization model to identify those water mains in the system that are most likely to fail. In addition to cast iron water mains, other pipe material may include asbestos cement or concrete pipe, or small diameter plastic pipe, for example.
- j. At present, the QIP allows for replacement of approximately 0.5 percent of KAWC's distribution system each year.
- k. If modified, the resulting replacement rate would be approximately 1.1 to 1.4 percent of KAWC's distribution system each year, or 27-34 miles of main.

**KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION**

Witness: Krista Citron

27. Refer to the Citron Testimony at 2. Provide a copy of the Dawn of the Replacement Era report.

Response:

This report is included as KAW_R_AGDR1_NUM027_081823_Attachment A.

Dawn of the Replacement Era

Reinvesting in Drinking Water Infrastructure

**An
Analysis
of Twenty
Utilities'
Needs for
Repair and
Replacement
of Drinking Water
Infrastructure**



Dedicated to Safe Drinking Water

American
Water Works
Association

***A Study Sponsored by
The AWWA Water Industry
Technical Action Fund***

May 2001

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Reinvesting in Drinking Water Infrastructure

Dawn of the Replacement Era

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Reinvesting in Drinking Water Infrastructure

Dawn of the Replacement Era

EXECUTIVE SUMMARY

The importance of safe drinking water to public health and the nation's economic welfare is undisputed. However, as we enter the 21st Century, water utilities face significant economic challenges. For the first time, in many of these utilities a significant amount of buried infrastructure—the underground pipes that make safe water available at the turn of a tap—is at or very near the end of its expected life span. The pipes laid down at different times in our history have different life expectancies, and thousands of miles of pipes that were buried over 100 or more years ago will need to be replaced in the next 30 years. Most utilities have not faced the need to replace huge amounts of this infrastructure because it was too young. Today a new age has arrived. We stand at the dawn of the replacement era.

Extrapolating from our analysis of 20 utilities, we project that expenditures on the order of \$250 billion over 30 years might be required nationwide for the replacement of worn-out drinking water pipes and associated structures (valves, fittings, etc). This figure does not include wastewater infrastructure or the cost of new drinking water standards. Moreover, the requirement hits different utilities at different times and many utilities will need to accelerate their investment. Some will see rapidly escalating infrastructure expenditure needs in the next 10–20 years. Others will find their investment decisions subject to a variety of factors that cause replacement to occur sooner or at greater expense, such as urban redevelopment, modernization, coordination with other city construction, increasing pipe size, and other factors.

Overall, the findings confirm that replacement needs are large and on the way. There will be a growing conflict between the need to replace worn-out infrastructure and the need to invest in compliance with new regulatory standards under the Safe Drinking Water Act. In addition, the concurrent demands for investment in wastewater infrastructure and compliance with new Clean Water Act regulations, including huge needs for meeting combined sewer overflow (CSO) and stormwater requirements, will compete for revenue on the same household bill.

Ultimately, the rate-paying public will have to finance the replacement of the nation's drinking water infrastructure either through rates or taxes. AWWA expects local funds to cover the great majority of the nation's water infrastructure needs and remains committed to the principle of full-cost recovery through rates. However, many utilities may face needs that are large and unevenly distributed over time. They must manage a difficult transition between today's level of investment and the higher level of investment that is required over the long term. Facing an inexorable rise in infrastructure replacement needs driven by demographic forces that were at work as much as 100 years ago, compounded by the negative effects of changing demographics on per-capita costs in center cities, many utilities face a significant challenge in keeping water affordable for all the people they serve.

Meeting this challenge requires a new partnership in which utilities, states, and the federal government all have important roles. Utilities need to examine their rate structures to assure long-term viability. States need to streamline their programs. And the federal government needs to significantly increase assistance for utilities.

To better understand this problem, the American Water Works Association undertook studies of 20 large and medium utilities. The findings and recommendations of this report provide the basis for this new partnership to achieve the goal to which we all aspire—the provision of safe and affordable drinking water for all Americans.

Findings:

- Water utilities must make a substantial reinvestment in infrastructure over the next 30 years. The oldest cast iron pipes, dating to the late 1800s, have an average life expectancy of about 120 years. Because of changing materials and manufacturing techniques, pipes laid in the 1920s have an average life expectancy of about 100 years, and pipes laid in the post-World War II boom can be expected to last about 75 years. The replacement bill for these pipes will be hard on us for the next three decades and beyond.
- Most utilities are just now beginning to face significant investments for infrastructure replacement. Indeed, it would have been economically inefficient to make large replacement investments before now. The utilities we studied are well managed and have made the right decisions. But the bills are now coming due, and they loom large.
- On average, the replacement cost value of water mains is about \$6,300 per household in today's dollars in the relatively large utilities studied. If water treatment plants, pumps, etc., are included, the replacement cost value rises to just under \$10,000 per household, on average.
- Demographic shifts are a significant factor in the economics of reinvestment. In some older cities, the per-capita replacement value of mains is more than three times higher than the average in this sample due to population declines since 1950.
- By 2030, the average utility in the sample will have to spend about three and a half times as much on pipe replacement due to wear-out as it spends today. Even so, the average utility will also spend three times as much on repairs in that year as it spends today, as the pipes get older and more prone to breakage.
- The water utilities studied concurrently face the need to replace infrastructure and upgrade treatment plants to comply with a number of new regulations to be implemented under the Safe Drinking Water Act. Many municipalities also face significant needs for investments in wastewater infrastructure and compliance. This concurrent demand significantly increases the financial challenge they face.
- Overall, in the 20 utilities studied, infrastructure repair and replacement requires additional revenue totaling about \$6 billion above current spending over the next 30 years. This ranges from about \$550 per household to almost \$2,300 per house-

hold over the period. These household impact figures do not include compliance with new regulations or the cost of infrastructure replacement and compliance for wastewater.

- The pattern and timing of the need for additional capital will be different in each community, depending on its demographically driven replacement “wave.”
- Household impacts will be two to three times greater in smaller water systems (\$1,100 to \$6,900 per household over 30 years) due to disadvantages of small scale and the tendency for replacement needs to be less spread out over time.
- Because of demographic changes, rate increases will fall disproportionately on the poor, intensifying the challenge that many utilities face keeping water affordable to their customers.

Recommendations:

America needs a new partnership for reinvesting in drinking water infrastructure. There are important roles at all levels of government.

1) Measures by Utilities and Local Governments

Although the AWWA analysis has looked at the infrastructure issue in the aggregate, many key issues must be addressed at the local utility level. Utilities should develop a comprehensive local strategy that includes:

- Assessing the condition of the drinking water system infrastructure.
- Strengthening research and development
- Working with the public to increase awareness of the challenge ahead, assess local rate structures, and adjust rates where necessary.
- Building managerial capacity.

2) Reform of State Programs

The states too have an important role to play in addressing our infrastructure funding needs. States may need to match an appropriate share of any new federal funds that are provided for infrastructure assistance. Moreover, states need to reform their existing programs to make them more effective. States should commit to:

- Respecting the universal eligibility of all water systems for federal assistance.
- Streamlining their programs for delivery of assistance and allow alternative procurement procedures that save money.
- Making their financing mechanisms more attractive by committing to grants and very low or negative interest loans.
- Using federal funds in a timely fashion or face the reprogramming of those funds to other states.

3) A Significant Increase in Federal Assistance

The federal government has a critical role to play in preventing the development of a gap in water infrastructure financing. AWWA recommends either changing and expanding the existing Drinking Water State Revolving Fund and other drinking water programs, or creating a new, infrastructure-focused fund. The federal role should include:

- Significantly increased federal funding for projects to repair, replace, or rehabilitate drinking water infrastructure.
- An increase in federally supported research on infrastructure management, repair and replacement technologies.
- Steps to increase the availability and use of private capital.

Reinvesting in Drinking Water Infrastructure

Dawn of the Replacement Era

Introduction

The importance of safe drinking water to the nation's public health and economic welfare is undisputed. About 54,000 community drinking water systems provide drinking water to more than 250 million Americans. By keeping water supplies free of contaminants that cause disease, our public water systems reduce sickness and related health costs as well as absenteeism in the workforce. By providing safe and sufficient supplies of water, America's public water systems create direct economic value across nearly every sector of the economy and every region of the country. However, significant economic changes are confronting the water profession as we enter the 21st Century. The new century poses new challenges in sustaining the infrastructure—particularly the underground pipes—that provides the broad public benefits of clean and safe water.

Recognizing that we are at the dawn of a major change in the economics of water supply, the American Water Works Association (AWWA) has undertaken an analysis of the infrastructure challenge facing utilities. The project involved correlating the estimated life of pipes with actual operations experience in a sample of 20 utility systems geographically distributed throughout the nation (see Figure 1). Projecting future investment needs for pipe replacement in those utilities yields a forecast of the annual replacement needs for a particular utility, based on the age of the pipes and how long they are expected to last in that utility. This analysis graphically portrays the nature of the challenge ahead of us. It also serves as the foundation for AWWA's call for a new national partnership to address the looming need to reinvest in our drinking water infrastructure.

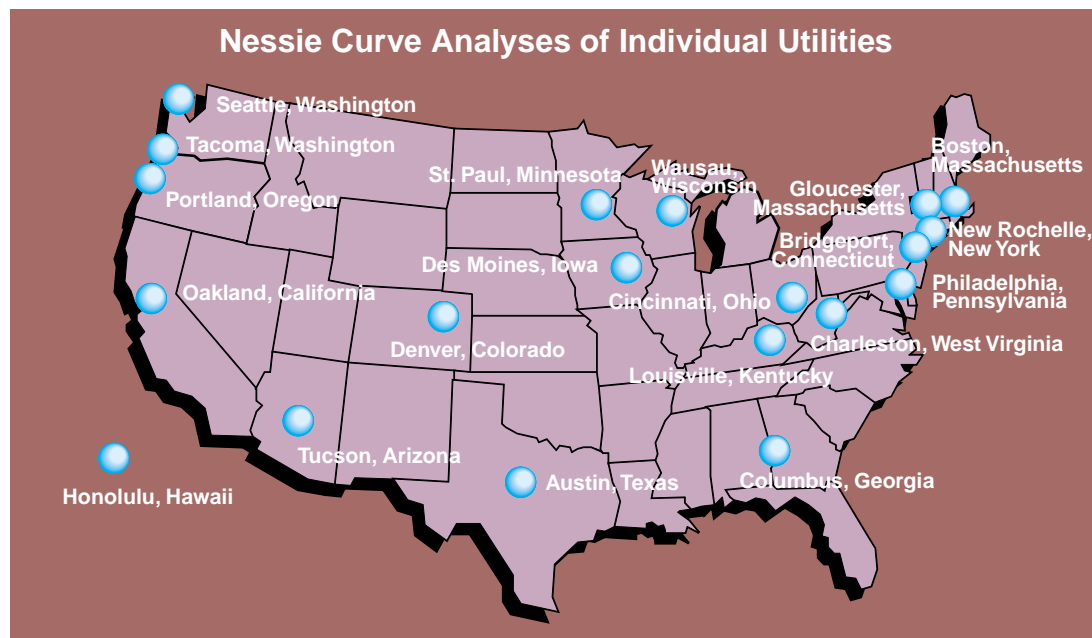


Figure 1

FINDINGS

Pipes are expensive, but invisible.

Most people do not realize the huge magnitude of the capital investment that has been made to develop the vast network of distribution mains and pipes—the infrastructure—that makes clean and safe water available at the turn of a tap. Water is by far the most capital intensive of all utility services, mostly due to the cost of these pipes, water infrastructure that is literally a buried treasure beneath our streets. But buried means out of sight. And as the old saying goes, out of sight means out of mind. Moreover, most of our pipes were originally installed and paid for by previous generations. They were laid down during the economic booms that characterized the last century's periods of growth and expansion. So not only do we take these pipes for granted because we can't see them, we also take them for granted because, for the most part, we didn't pay for them initially. What's more, they last a long time (some more than a century) before they cost us very much in maintenance expense near the end of their useful lives or ultimately need replacement. For the most part, then, the huge capital expense of the pipes is a cost that today's customers have never had to bear. It has always been there, but it's always been invisible to us.

The original pattern of water main installation from 1870 to 2000 in 20 utilities analyzed by AWWA is graphically presented in Figure 2. This graph reflects the total cost in current dollars of replacing the pipes laid down between 1870 and 1998 in the 20 utilities studied. It is a reflection of the development of these utilities, and in turn, mirrors the overall pattern of population growth in large cities across the country. There was an 1890s boom, a World War I boom, a roaring '20s boom, and the massive post-World War II baby boom.

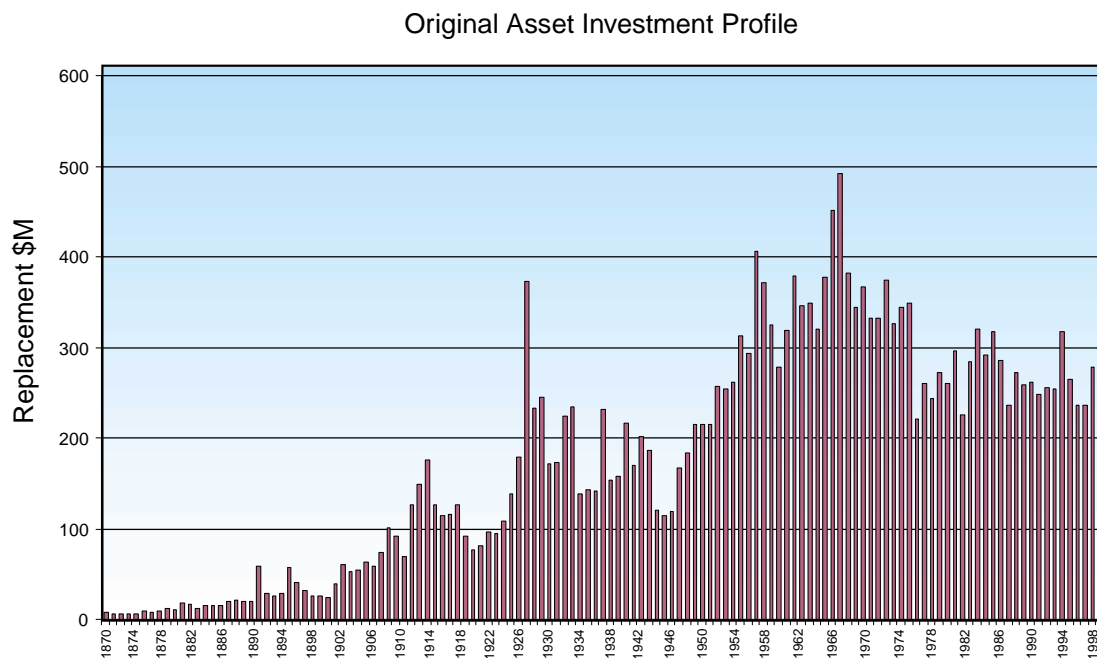


Figure 2

The cumulative replacement cost value of water main assets (that is, the cost of replacing water mains in constant year 2000 dollars) has increased steadily over the last century in our sample of 20 utilities. In aggregate across our sample of utilities, the replacement value of water mains in today's dollars is about \$6,300 per household. If water treatment plants, pumps, etc., are included, this figure rises to just under \$10,000 per household. This is more than three times what it was in 1930 in constant dollar terms. The difference is not due to inflation; rather, there is simply more than three times as much of this infrastructure today as there was in 1930, in order to support improved service standards and the changing nature of urban development.

In general, then, there is a lot more water infrastructure in place today on a per-capita basis, implying an increased per-capita share of the liability for replacing these assets as they wear out. This invisible replacement liability has been accumulating gradually over several generations of water system customers, managers and governing boards. They have not had to recognize this liability because the bill was not yet due. For many utilities, board/council/commission relationships and customer relationships have developed in recent decades in the absence of a recognized need for significant investment in replacing the utility's assets as they age and wear out.

Pipes are hearty, but ultimately mortal.

The oldest cast iron pipes—dating to the late 1800s—have an average useful life of about 120 years. This means that, as a group, these pipes will last anywhere from 90 to 150 years before they need to be replaced, but on average they need to be replaced after they have been in the ground about 120 years. Because manufacturing techniques and materials changed, the roaring '20s vintage of cast-iron pipes has an average life of about 100 years. And because techniques and materials continued to evolve, pipes laid down in the Post-World War II boom have an average life of 75 years, more or less. Using these average life estimates and counting the years since the original installations shows that these water utilities will face significant needs for pipe replacement over the next few decades.

The modern public water supply industry has come into being over the course of the last century. From the period known as the "Great Sanitary Awakening," that eliminated waterborne epidemics of diseases such as cholera and typhoid fever at the turn of the last century, we have built elaborate utility enterprises consisting of vast pipe networks and amazing high-tech treatment systems. Virtually all of this progress has been financed through local revenues. But in all this time, there has seldom been a need to provide for more than modest amounts of pipe replacement, because the pipes last so very long. We have been on an extended honeymoon made possible by the long life of the pipes and the fact that our water systems are relatively young. Now that honeymoon is over. From now on and forevermore, utilities will face significant requirements for pipe repair, rehabilitation, and replacement. Replacement of pipes installed from the late 1800s to the 1950s is now hard upon us, and replacement of pipes installed in the latter half of the 20th Century will dominate the remainder of the 21st.

We believe that we stand today at the dawn of a new era—the replacement era—for water utilities. Over the next three decades, utilities will be in an adjustment period during which they will incorporate the costs of pipe replacement in routine utility spending. This will require significant adjustments in utility revenues. The magnitude of the need and the

invisibility of that need to the person on (top of) the street will make this a particularly challenging adjustment. The need for significantly greater investment in pipe replacement is all the more difficult to convey because it was never there before. It's hard to explain why it's going to cost more to do the same job in the future than it cost in the past.

Many water systems all across America have seen this day coming and have already begun to ramp up their expenditures on pipe rehabilitation and replacement. But for many utilities this problem is just emerging and is enormous in scope. For them the water supply business will never be the same.

Back to the future: pipe replacement needs are a “demographic echo.”

To understand the nature and scope of the emerging infrastructure challenge, AWWA undertook an analysis of 20 utilities throughout the nation. The analysis projects future investment needs for pipe replacement in the 20 utilities and provides a forecast called a “Nessie Curve.” The Nessie Curve is a graph of the annual replacement needs in a particular utility, based on when pipes were installed and how long they are expected to last in that utility before it becomes economically efficient to replace them. There are, of course, a number of factors that can require the replacement investment to be made earlier. In many cities, for example, there are urban redevelopment efforts or similar major construction projects that could require up-sizing or other modernization of the pipe network before the pipes reach the end of their useful lives.

Data on repair and replacement needs for each of the 20 cities in our sample is presented in Appendix A. This information is presented for each city as a “Nessie Curve,” that is, a projection of the city's economically efficient investment in pipe repair and replacement, based on the city's original pipe installation profile and how long the pipes last in that utility. The aggregate Nessie Curve for all 20 utilities is presented in Figure 3. The rising wave shape suggests why the curve is named after the Loch Ness Monster.

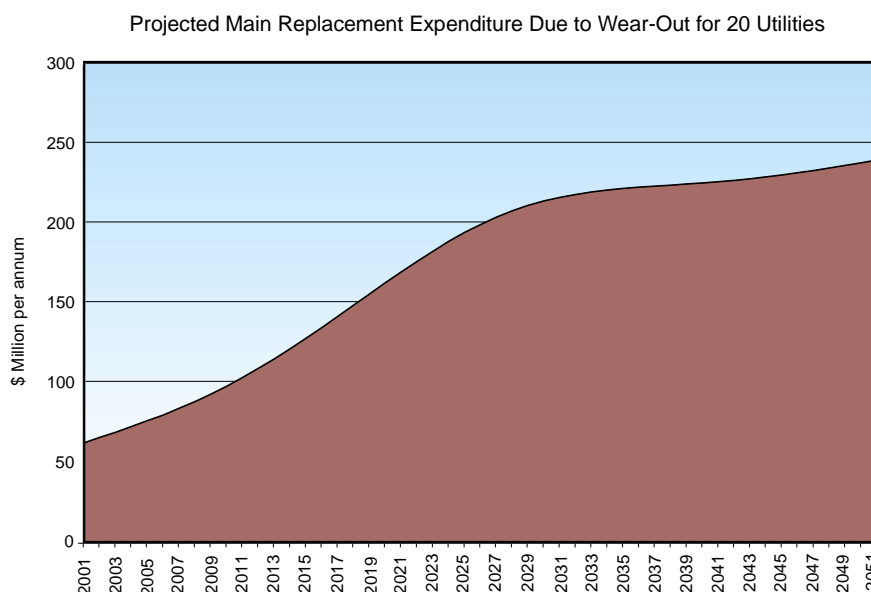


Figure 3

The Nessie Curve reflects an “echo” of the original demographics that shaped a particular utility. It is very similar to the echo of demographics that predicts future liabilities for the Social Security Trust Fund. Indeed, this is exactly the same type of problem that faces Social Security. Historical demographic trends—in our case, pipes laid down as long as a century ago—created a future financial obligation that is now coming due. By modeling the demographic pattern and knowing the life expectancy of the pipes, we can estimate the timing and magnitude of that obligation.

Just as in Social Security, a threat to affordability arises when there were powerful demographic and economic trends at work originally, but the liability arrives at a later time when the demographic and economic conditions have changed. In the water business, the challenge is magnified by pipes that last through several generations of customers before they need to be replaced.

Reflecting the pattern of population growth in large cities over the last 120 years, the Nessie Curves in Appendix A forecast investment needs that will rise steadily like a ramp, extending throughout the 21st Century. The curves show that replacement expenditures will have to rise steadily for the next 30 years. By 2030, the utilities in our sample of 20 will have to spend on average over three-and-a-half times as much per year as they do now (in constant dollars) to replace pipes that have reached the end of their economic lives. Some of the utilities in our sample will encounter the steepest part of the incline in the first 10 years. Others will encounter most of the rise over 20 years, while some will experience a sustained increase over 30 years.

Of course, every city has a different demographic history. In addition, numerous local factors will affect the life of a utility’s pipes and therefore its Nessie Curve. Each utility has a unique set of circumstances and therefore a different set of infrastructure funding challenges in the future. Nonetheless, demographics will produce the same type of lagged replacement schedule in any major city.

If that were not enough of a challenge, there is an important corollary. As pipe assets age, they tend to break more frequently. But it is not cost-effective to replace most pipes before, or even after, the first break. Like the old family car, it is cost-efficient for utilities to endure some number of breaks before funding complete replacement of their pipes.

Considering the huge wave of aging pipe infrastructure created in the last century, we can expect to see significant increases in break rates and therefore repair costs over the coming decades. This will occur even when utilities are making efficient levels of investment in replacement that may be several times today’s levels. In the utilities studied by AWWA, there will be a three-fold increase in repair costs by the year 2030 despite a concurrent increase of three and a half times in annual investments to replace pipes.

It is important to note that a Nessie Curve is a prediction, not a destiny. That is, a utility can choose to manage its infrastructure replacement needs in various ways. For example, the utility may accept increased break repair costs up to a point and delay the replacement of an old pipe, rehabilitate certain pipes to “buy time,” or adopt other asset management techniques to extend the life of the pipes as long as possible. Nevertheless, it appears inevitable that many utilities will face substantial increases in infrastructure investments over the next 30 years, to replace pipes laid down as long as 120 years ago.

A final observation from our sample of 20 Nessie Curves is that the large “demographic wave” of replacement needs is only just now upon us. We are just now at the time when there is a compelling need to significantly increase the levels of replacement spending in most utilities. Importantly, there is no evidence that utilities are “behind the curve” or that America is in ruins. That is not the nature of the challenge. We are not faced with making up for a historical gap in the level of replacement funding. In fact, break rates in our sample of 20 utilities are within a range that is considered representative of best management practices for water utilities, indicating that the utilities have made efficient decisions and managed well up to this point. The challenge is ramping up utility budgets to prevent a “replacement gap” from developing in the near future. Unfortunately, keeping up with replacement needs is about to get a lot harder than ever before, and it’s going to stay that way. We are coming face-to-face with a serious challenge that could become a crisis if we ignore it.

Water infrastructure is local and therefore vulnerable to demographic changes.

Water utilities are the last natural monopolies. The large investment required in pipe networks makes it impossible to have more than a single provider of water service within a given area. These large investments are also a major source of financial vulnerability for water utilities as the result of the very fixed nature of the assets and the very mobile nature of the customers. When populations grow, the infrastructure is expanded, but when people move away, the pipe assets and the liability for repair and replacement remain behind, creating a financial burden on the remaining customers.

Figure 4 is a plot of U.S. Census population data for Philadelphia from 1850 to 1996. Over the 100 years from 1850 to 1950, the population grew from 100,000 to 2 million people. But from 1950 to the end of the century, Philadelphia lost 25 percent of its population, dropping to 1.5 million. This picture tells a story that was replicated again and again

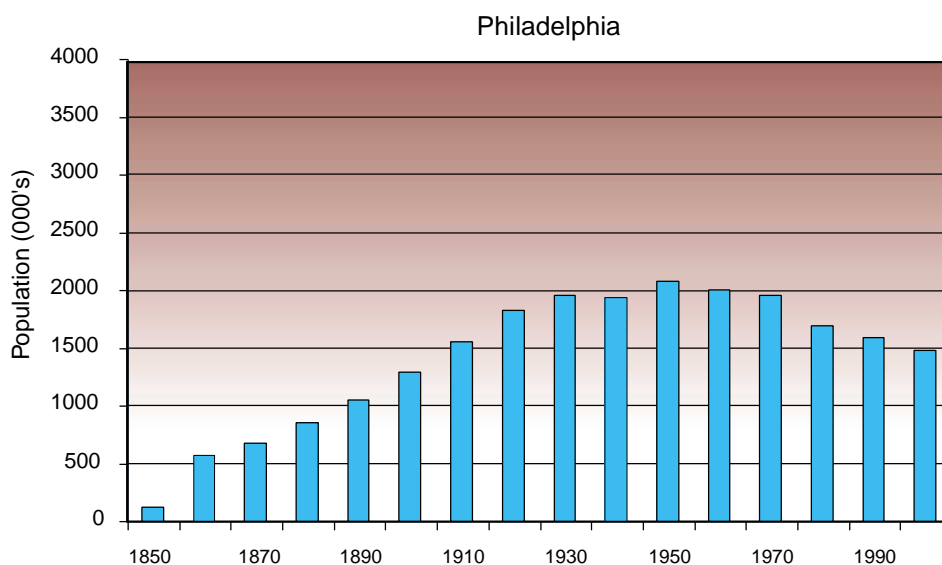


Figure 4

throughout the Rustbelt cities of the Northeast and Midwest. The effect is to significantly increase the burden of replacement funding on the remaining residents of the city.

As previously discussed, the average per-capita value of water main assets in place today across our sample of 20 utilities is estimated to be three times the amount that was present in 1930. In Philadelphia, however, that ratio is almost eight times the value in 1930 due to population declines since about 1950. This problem, known as “stranded capacity” (essentially, capital facilities that are not matched by rate revenue from current customers), is typical of Rustbelt demographics and adds considerably to the challenge of funding replacement in these cities.

Urban demographic history also explains many other dimensions of the infrastructure replacement challenge facing the water industry. Both gains and losses in urban populations created small system infrastructure problems in their wake. During the first half of the 20th Century, many of the people swelling the populations of the urban centers came from smaller rural towns, leaving small water system infrastructure behind to struggle with fewer customers. In the latter half of the century, the departure of big city residents for the suburbs fueled an explosion of new, small water systems in suburban areas. Today about half of all small water systems are within Standard Metropolitan Statistical Areas defined by the U.S. Census. Built in boom times, many of these suburban systems were not built to enduring standards, creating another liability. When these systems are absorbed by larger metropolitan systems, it is commonly necessary to completely rebuild them.

The pattern reflected in Sunbelt cities is the other side of the story from that in the Rustbelt. These cities are experiencing rapid growth and expansion which places capital financing demands upon them that are truly the opposite side of the coin. When water utilities are expanding, they must build some of the most expensive components—new source development, storage facilities, transmission mains, and treatment plants—in advance of population growth in order to serve people when they arrive. This is, in effect, another form of stranded capacity—capital facilities that must be paid for despite the fact the customers are not yet in place. Investor-owned utilities are, in fact, generally prohibited by state regulatory commissions from recovering such costs in rates.

Demographic change thus places financial strain on all our public water systems. It is the same whether they are large or small; urban or rural or suburban; and Rustbelt or Sunbelt. The inescapable fact is that water infrastructure is fixed while populations are mobile. The result is a form of “market failure”—an adverse side effect of market activity that creates an unfunded liability. America derives tremendous economic strength from the fact that it has a highly mobile labor force. When people move around, however, there are costs imposed on the local water infrastructure. It is the same whether it is people moving from rural towns to the city, from the city to the suburbs, or from the Rustbelt to the Sunbelt. Our labor mobility imposes a significant cost on water utilities on both the giving end and the receiving end of this market process, while the benefits are generally disseminated throughout the national economy.

Replacement of water treatment plants is also coming due.

Replacement of water treatment assets presents a different picture from that of the pipes, but greatly complicates infrastructure funding for utilities. Major investments in water and wastewater treatment plants were made in several waves following the growing understanding of public health and sanitary engineering that evolved during the 20th Century. Of course, the installation pattern of treatment assets also reflects major population growth trends. But whereas pipes can be expanded incrementally to serve growth, treatment must be built in larger blocks. Investments in treatment thus present a more concentrated financing demand than investments in pipes.

Treatment assets are also much more short-lived than pipes. Concrete structures within a treatment plant may be the longest lasting elements in the plant, and may be good for 50 to 70 years. However, most of the treatment components themselves typically need to be replaced after 25 to 40 years or less. Replacement of treatment assets is therefore within the historical experience of today's utility managers. Even so, many treatment plants built or overhauled to meet EPA standards over the last 25 years are too young to have been through a replacement cycle. Many are about due for their first replacement in the next decade or so.

The concurrent need to finance replacement of pipes and of treatment plants greatly increases the challenge facing utilities. Figure 5 presents a Nessie Curve showing both pipe replacement and treatment replacement needs for the Bridgeport Hydraulic Company. Similar Nessie curves for a number of other utilities are included in Appendix A.

The distinguishing characteristic of this graph is the manner in which spending for the replacement of pipes rises like a ramp over the first part of the century, pushing up the overall level of annual expenditure required. Whereas pipe repair and replacement are generally funded out of current revenues, treatment costs are typically debt-financed. As

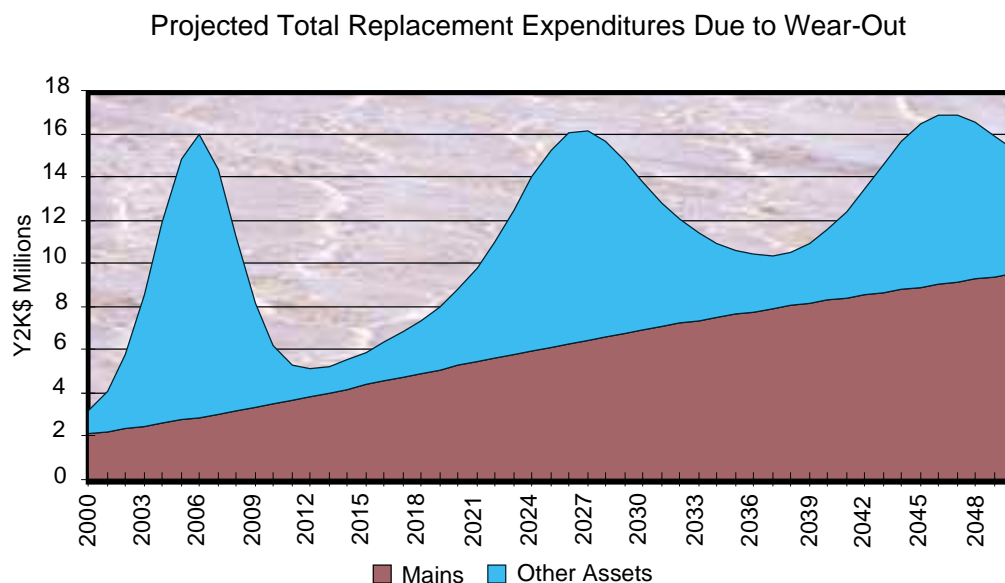


Figure 5

utilities face ever rising costs for repair and replacement of pipes, more and more of the utility's rate revenue will be required for those investments. This will leave the utility with increasingly weakened credit every time it gets to another "treatment hump," unless rates can be raised to match the slope of the curve. A final point to note about the treatment cost estimates used in developing Figure 5 and others like it in Appendix A is that these do not include the cost of new drinking water regulations likely to be implemented over the coming decades.

Increased expenditures are needed to climb the ramp and avoid a gap.

The Water Infrastructure Network (WIN) has developed a "gap analysis" to estimate the total increased spending that is required by water and wastewater utilities in order to avoid getting behind in funding infrastructure replacement over the next 20 years.¹ The first step in the WIN estimate is accomplished by extrapolating from Census data on historical utility expenditures for 20 years into the future. The resulting baseline expenditure forecast is then examined to see how much it must be increased in order to meet new expenditure "needs" for both new EPA compliance requirements and infrastructure repair and replacement over the same 20-year period. The "gap" between the baseline expenditure forecast and the future "needs" forecast is the amount of additional expenditure that must be forthcoming in order for water and wastewater utilities to maintain their critical infrastructure in a healthy condition.

The findings of this "gap analysis" indicate that the baseline expenditures of water utilities must be increased by about \$300 billion over 20 years to keep up with both compliance and infrastructure needs. In similar fashion, the baseline expenditure trend in wastewater utilities must be increased by about \$400 billion to meet such needs. Taken together, and accounting for the cost of capital, WIN has estimated that water and wastewater utilities together need to increase their investments in infrastructure by almost \$1 trillion over the next 20 years.

The WIN "gap analysis" is easily misunderstood. Many have interpreted it to mean that a trillion-dollar deficiency already exists. It is important to stress that the gap estimate represents the challenge ahead—the ramp that we must climb—in increasing utility expenditures in order to avoid such a deficiency. The AWWA Nessie Curve analysis of 20 utilities indicates that we are not now behind in maintaining our water infrastructure. There is no current crisis in these 20 utilities. Rather, they are challenged with finding significant additional funds over the next 30 years for investments in repair and replacement, in order to avoid getting behind.

Extrapolation from aggregate baseline trends, such as in the WIN gap analysis, is akin to "technical analysis" of the stock market using charts, graphs and trending techniques. Investment analysts typically like to supplement such "technical analysis" with "fundamental analysis" of the situation existing within individual companies. The AWWA Nessie Curve analysis provides this type of supplemental perspective on increased expenditure needs.

¹Water Infrastructure Network (WIN), Clean & Safe Water for the 21st Century, April 2000.

As illustrated in Figure 5, the Nessie Curve analysis indicates that expenditures on infrastructure repair and replacement must be significantly ramped-up over a period extending from 2000 through 2030. The steep rise is shown to level off after that, but it does not go away. Expenditures will have to continue to climb, albeit more gradually, throughout most of the rest of the 21st Century. This shape is the signature pattern of the new replacement era that we have entered. It is not a short-term “hump” that we have to get over. The shape of the challenge is that of a sustained rise in expenditures. This period of ramping-up is going to be a period of significant adjustments.

The Nessie Curves of the individual utilities shown in Appendix A present wide-ranging needs for increased expenditure for replacement of pipes and treatment assets due to wear-out. In the 20 utilities studied, such needs total about \$6 billion above current spending over the next three decades. On a household basis, needs range from \$550 to \$2,300 over 30 years. These figures do not include the prospective costs of numerous new SDWA regulations likely to be implemented over the coming decade, nor any costs from the wastewater or stormwater side of the urban utility business. Moreover, as seen in Appendix A, the utilities vary widely in the timing of these needs; some face sharp needs in the next 10 years, while others don't face their highest needs for 10 or 20 years. The slope and the “humpy” patterns of increasing capital requirements are unique to each utility.

Our sample of 20 utilities represents relatively large water utilities. On a per household basis, the total 20-year capital needs for replacement illustrated in our sample is about the same as that estimated by EPA for large water systems in their newly released Drinking Water Needs Survey.²

The EPA Drinking Water Needs Survey uses a site visit methodology and a large sampling program to document needs in small systems and is probably the best information available on small system needs. Extrapolating from EPA's estimated 20-year capital need for small systems, we project the total 30-year expenditure for infrastructure repair and replacement in small systems might be in a range of \$1,490 per household to \$6,200 per household.

The result of this “fundamental analysis” using Nessie Curves is not inconsistent with the order of magnitude of the need that WIN estimates to be facing water utilities (\$300 billion over 20 years). Extrapolation from our 20 sets of Nessie Curves suggests that the need might be on the order of \$250 billion nationally and extend over three decades. However, the Nessie Curve forecast is based on an assumption that pipes are left in the ground until their economic life is over. The reality in utility operation is that myriad other influences can cause the replacement need to arise sooner. These include urban redevelopment, modernization, coordination with other city construction schedules, increasing pipe size, and other factors.

² U.S. Environmental Protection Agency, 1999 Drinking Water Infrastructure Needs Survey (EPA 816-R-01-004), February 2001.

Addressing affordability is the heart of the challenge.

The central question for policy makers and utilities is whether the increased rate of infrastructure spending that utilities must face over the next 30 years can be financed by the utilities themselves at rates customers can afford. AWWA remains, committed to the principle that utilities should be self-sustaining through their rates. For many utilities, however, the degree of change involved in adapting to the dawning replacement era, the adverse effect of demographic change on per household costs, and the competing demand for investment in wastewater and other municipal services, will combine to present a significant affordability challenge.

There are two related dimensions to the affordability concern. First is the ability of utilities to finance the needed additional expenditures within their rates. Second is the impact of higher rates on households.

In developing this study, AWWA brought together a group of utility managers from across the country to discuss infrastructure issues. This group characterized the question from a local perspective as an “affordability gap” or a “reality gap” and defined it as “the difference between what you think you should be spending on infrastructure and what you or your customers can afford to spend in reality.” This characterization of the problem reflects the difficulty of obtaining significant utility rate increases. Rate increases are best received when implemented gradually in a number of installments over several years. Unfortunately, the rate increases required to meet the challenges of pipe replacement that utilities now face cannot be smoothly implemented in many cases.

There is small likelihood that the \$550 to \$2,300 per household projected to be required for infrastructure repair and replacement in our 20 utilities over the next 30 years can be spread evenly or taken on gradually over that period. As illustrated in Appendix A, some Nessie curves present a steeper funding challenge and some present a gentler slope due to local variations in the historical demographic trends. There are “humps” on the up-ramp for replacement of treatment plants and other equipment. Additional “humpy” expenditures for compliance with anticipated new regulations are not included. In small systems, the estimated \$1,490 to \$6,200 range of household impact is likely to be even more concentrated since the original demographics were themselves more concentrated.

Compliance-driven requirements to replace treatment plants and invest to meet new mandates will also dominate expenditures and push aside the more subtle need for investments in pipe replacement. This is exacerbated by the fact that the costs of water and wastewater service appear on the same bill in most communities. Thus, the needs to replace wastewater treatment plants and to replace wastewater lines compete with drinking water needs for the same consumer dollar. Sewer pipes generally impose higher unit replacement costs than water pipes, owing to their inherent characteristics (size, depth, etc.). Figure 6 presents a Nessie curve for a combined water and wastewater utility showing replacement funding needs for both water and wastewater pipes and other assets (treatment, pumping, etc.). The figure illustrates the typical relationship between water supply and wastewater costs—wastewater facilities cost noticeably more to replace.

The combined repair and replacement needs for water and wastewater infrastructure amount to a significant financing challenge in their own right. But the cost of compliance

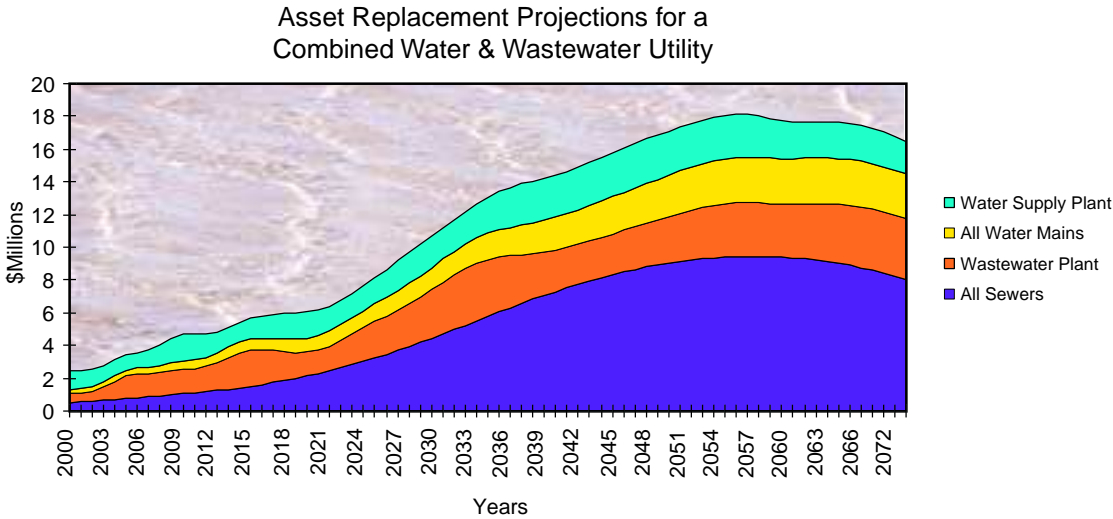


Figure 6

with combined sewer overflow (CSO) and stormwater regulations may dwarf everything else in water and wastewater utilities. The scale of the expenditure required in these programs may sweep everything else aside in some utilities, causing deferral of other needs and allowing a “gap” to open up. Note that CSO and stormwater compliance costs are not included in Figure 6.

To avoid an infrastructure gap, utilities are going to have to increase expenditures to keep up with both compliance requirements and infrastructure replacement. If rate increases do not keep pace with the increased rate of expenditures, the financial ratios used to evaluate a utility’s creditworthiness will deteriorate, making it more difficult and more expensive to raise capital.

If a utility attempts to balance a deficiency in allowable rates by deferring infrastructure expenditures, then the stage is set for an infrastructure investment gap to begin to develop, creating a future liability for the utility and its customers. With the new accounting requirements being implemented under the Governmental Accounting Standards Board Statement No. 34 (GASB 34), such a deferral of infrastructure expenditures will be reported to the financial markets and begin to impair the utility’s credit rating and ability to raise capital.

Since the Nessie Curve represents replacement timing based on the economic life of the pipes, it follows that deferral of replacement will produce higher overall costs due to increased repairs than would be the case if replacement occurred on time. If replacement is deferred too far beyond the economic trade-off point between replacement and repair costs, the repair cost burden will spiral upwards and have significant impacts on utility cash flows. Such a scenario will indeed impair a utility’s ability to repay debt and will be made plain to the credit markets by the new GASB 34 requirements.

In either of these scenarios—rates that don't keep up with expenditures or expenditures that don't keep up with needs—the bottom line is the same. If both expenditures and rate revenues cannot be increased at the required rate, then the utility's credit may be impaired, and it may face even higher costs as a result. For some utilities, there is the potential for this to become a vicious cycle—a financial trap. These systemic financial risks are the reason why we have a clear and present need for an enhanced partnership between utilities, states and the federal government. We need to provide the means to assist utilities “up the ramp and over the humps.” We need to minimize the credit risks utilities face over the next three decades as we make the adjustments in rates required to assure sustainability in the new replacement era.

The second, and all important, dimension of the affordability challenge is the bottom-line impact of increased water rates on household budgets. AWWA believes it is critical to avoid sudden and significant changes in rates that can induce “rate shock” among customers. The broader issue involved in rate shock ties back to the pivotal role of safe drinking water in promoting public health.

America has by far the safest drinking water in the world. Standards promulgated under the Safe Drinking Water Act aspire to the highest levels of technology and treatment optimization known to science. As we push farther into the limits of science and technology, we unavoidably encounter diminishing returns in terms of quantifiable health benefits at the same time that we must take on increasing marginal costs. Many new standards relate to very subtle health concerns that are difficult to substantiate and quantify. Yet, to be protective of health, there is a tendency to err on the side of safety, especially when the threats may relate to sensitive subpopulations such as children, the unborn, the elderly and the health-impaired.

This is where the issue of rate shock must be brought into focus as a public health concern. Whenever the sensitive subpopulations we are striving to protect are also among the low-income segment of the population and are forced to forego medical care or nutrition in order to pay their utility bills, we could be doing more harm than good. The fact that we are now entering a significantly more expensive replacement era in water infrastructure makes it all the more difficult to maintain the right balance in this aspect of public health. By some comparisons, it may appear that water is still cheap and there is room to increase water rates. But such comparisons are not relevant to low-income households. The only comparison that matters in these households is the size of the incremental increase. If it is large enough to trigger a budget substitution that negatively affects family health—for example, giving up a prenatal visit in order to pay a utility bill—then we may be losing ground.

Over the past decade, utilities have formed an increasingly closer partnership with EPA, states, the environmental community, the public health community and other groups to continue to make progress for public health despite significant scientific challenges. This partnership must now be broadened to address the financial challenges of infrastructure replacement in order to preserve the fruits of our labors in the public health arena.

RECOMMENDATIONS

Considering all of these facts, the American Water Works Association believes it is time for a new American partnership for clean and safe water. This partnership requires that all levels of government and utilities play a role in working through the significant challenges ahead. Specifically, we recommend:

1) Measures by Utilities and Local Governments

The infrastructure funding issue varies from place to place, reflecting the age, character and history of the community. Although AWWA has looked at the infrastructure issue in the aggregate, many key questions must be asked and answered at the local utility level. The development of a comprehensive local strategy can bring these elements into focus and create a new “reality” that will help make infrastructure repair and replacement more affordable. Such a comprehensive strategy includes:

- **Assessing the condition of the drinking water system infrastructure.** Over the last few decades, utilities around the world have been developing innovative new approaches to managing long-lived buried infrastructure. In North America and overseas, some utilities are already taking advantage of tools such as geographic information systems, using new information to advance the state of the art and aggressively managing infrastructure replacement. Planning tools can help identify and plan for needed investment decades in advance of the actual need for funds. We should learn from, adapt, and use such tools.
- **Strengthening research and development.** Although there is not likely to be a single “silver bullet” to solve infrastructure management problems, an impressive array of technological tools have been moving through the research and development process in recent years. Efforts to develop and deliver such tools should be strengthened.
- **Working with the public to increase awareness of the challenge ahead, assess local rate structures, and adjust rates as necessary.** For many years, water and wastewater utilities have been nicknamed “the silent service.” Utilities have quietly provided an extremely reliable supply of high-quality water at relatively low rates compared to other public utilities and services. Partly as a result, a large number of utilities, particularly smaller ones, do not have appropriate rate structures. The 1996 SDWA requirement for Consumer Confidence Reports provides a vehicle for many utilities to take the first step in broadening their dialogue with customers and the public at-large. Comprehensive, focused, and strategic communications programs serve the dual function of providing consumers with important information about their water systems and building support for needed investments in infrastructure.
- **Building the managerial capacity of many water systems.** Congress took new steps in the 1996 SDWA Amendments to assure the institutional capacity of small systems applying for state revolving fund loans. Much more remains to be done in this area. EPA, in conjunction with water associations, could sponsor training programs on appropriate rate structures, designed specifically to deliver assistance to small systems in planning for full cost recovery through rates.

2) Reform of State Programs

The states, too, have an important role to play in addressing our infrastructure funding needs. States may need to match an appropriate share of any new federal funds that are provided for infrastructure assistance. Moreover, they need to reform their existing programs to make them more effective. For example, some states have not allowed larger systems to access the existing state revolving fund, or have excluded investor-owned systems. Some states encumber their revolving funds with nonproductive red tape, charge high loan origination and other fees, or charge loan rates that are equivalent to market rates. Some states preclude the use of alternate procurement methods that minimize infrastructure procurement costs. For example, the “design/build” process for infrastructure procurement has been documented to save 20–40% of construction costs for new treatment plants in some cases. Public procurement laws in many states, while not explicitly banning design/build, mandate a process that prevents its use where local authorities have determined it would be advantageous.

The result is that, in many states, revolving loan funds have not proved to be useful or attractive even to drinking water utilities desperately in need of capital. States should commit to:

- Respecting the universal eligibility of all water systems for federal assistance.
- Streamlining their programs for delivery of assistance and allowing alternative procurement procedures that save money.
- Making their financing mechanisms more attractive by committing to grants and very low or negative interest loans.
- Using federal funds in a timely fashion or facing the reprogramming of those funds to other states.

3) A Significant Increase in Federal Assistance

After accounting for the cost savings that can come from best practices in asset management, the development of new technologies, efforts to increase ratepayer awareness and support, and possible alternative compliance scenarios, for many utilities there is likely to remain a gap between the required expenditure increases and the practical ability to raise water rates. This gap could grow over the next few decades as infrastructure built in the late-1800s to mid-1900s must be repaired, replaced, and rehabilitated at the same time that we are trying to enhance the level of water treatment under the Safe Drinking Water Act (SDWA).

AWWA remains committed to the principle that utility operations should be fully supported by rates. In the long run, the objectives must be to manage the costs of replacing pipes and treatment plants and ensure financial sustainability through local rate structures. However, many utilities are going to face a period of adjustment in adapting to the new reality of the replacement era described in this report. Many utilities and their customers will need additional assistance in working through extraordinary replacement needs in the next 20 years.

The difference between drinking water utilities’ current expenditures for infrastructure replacement and the needed level of expenditure is estimated by WIN to be about \$11 billion per year over the next 20 years. If the federal government were to provide half the cost of this gap, the federal share of total utility spending would amount to under 12 percent of total utility spending. For comparison, the federal share of investment in roads, bridges, and airports is 80 percent.

To prevent the development of a gap in critical water infrastructure financing, AWWA recommends either changing and expanding the existing Drinking Water State Revolving Fund and other drinking water programs or creating a new, infrastructure-focused fund. Such a fund should provide:

- Significantly increased federal funding.
- Clear eligibility of projects to repair, replace, or rehabilitate drinking water infrastructure.
- Universal eligibility of all water systems, both public and investor owned, regardless of size.
- Ability to make grants or loans in any combination and to use other financing tools to leverage public and private capital.
- Reasonable terms and conditions such as demonstration of system viability and ability to repay a loan.
- Streamlined procedures for those accessing the funds.

Research is a critical component of a comprehensive federal program on infrastructure. Research stimulates the development of new techniques and unleashes American ingenuity. It offers the chance to save billions of dollars over the years to come through more efficient management, repair, and replacement technologies. The federal government should significantly increase its support for research on infrastructure management, repair and replacement technologies, methods for extending pipe life, and other means of advancing the art while lowering the cost of infrastructure management.

Finally, the federal government should take other important steps to better access and leverage public and private capital. Congress should consider:

- Development of a national water infrastructure financing bond bank similar to Fannie Mae.
- Tax code and other reforms to increase the availability and use of private capital. This could include steps such as the removal of constraints on private activity bonds, development of subsidized bond insurance, provision of federal loan guarantees, and improved investment tax credit incentives.

CONCLUSION

Considering when pipes were laid down in many water systems and how long they can be expected to last, it is clear that a new age—the replacement era—has arrived for water utilities. Over the next 30 years, infrastructure replacement needs will compete with compliance needs for limited resources. Clearly, infrastructure needs and compliance with the Safe Drinking Water Act can't be approached as separate issues, but need to be addressed together.

Only in the true spirit of a new partnership, as outlined in this report, can we think most broadly about these issues. Only in this spirit can we achieve the goals to which we all aspire: the provision of safe and affordable water to all Americans.

Reinvesting in Drinking Water Infrastructure

Dawn of the Replacement Era

APPENDIX A

20 Sets of Nessie Curves

This appendix presents results of infrastructure expenditure needs analyses conducted for 20 water utilities across the United States. The “Nessie Curve” technique employed in this study produces a forecast of water main and other asset repair and replacement expenditure requirements based on how those assets “wear out” over the course of their economic life. While this study has focused on projecting economically efficient replacement and repair costs from wear-out, there are other reasons why assets might be replaced sooner, such as needs relating to urban redevelopment, system improvements, coordination with other city construction, and increasing pipe size. The curves also focus only on existing assets and take no account of new assets needed to support growth or compliance with new SDWA regulations in the coming decades.

For each utility, results are summarized in several Nessie Curves illustrating different perspectives. For each utility there is an estimate of the total replacement cost value of the utility’s assets in today’s dollars. There is also an indication of whether the utility was studied with respect to mains only, or whether it was studied with respect to a wider range of assets (including treatment plants). In viewing the charts, it is important to remember whether the utility is an “apple” (mains only) or an “orange” (all assets).

The charts presented cover the next 50 years, primarily to better illustrate the characteristic shapes of the replacement “echo” while also identifying differences in the timing of major replacement requirements between the participating utilities. All values are constant year 2000 dollars. The forecasts assume zero inflation.

The first chart is entitled, “Projected Per Household Expenditures Due to Wear-Out (\$/hh/yr).” In this graph, the total cost for replacement and repair due to aging is projected over the next 50 years at the household level.

The second chart, entitled “Projected Total Expenditures Due to Wear-Out” is similar to the first chart, showing the relative requirements for replacement expenditures and repair expenditures for the assets studied in each utility, expressed in total dollar outlays for the utility.

For the utilities that were studied with respect to all assets, there is a third chart on the page entitled, “Projected Total Replacement Expenditures Due to Wear-Out.” This chart projects replacement investment only, showing the relative contributions to 50-year replacement needs of mains versus other assets (treatment, pumping, etc.). For utilities that were studied only with respect to mains, this third chart is omitted from the summary page for that utility.

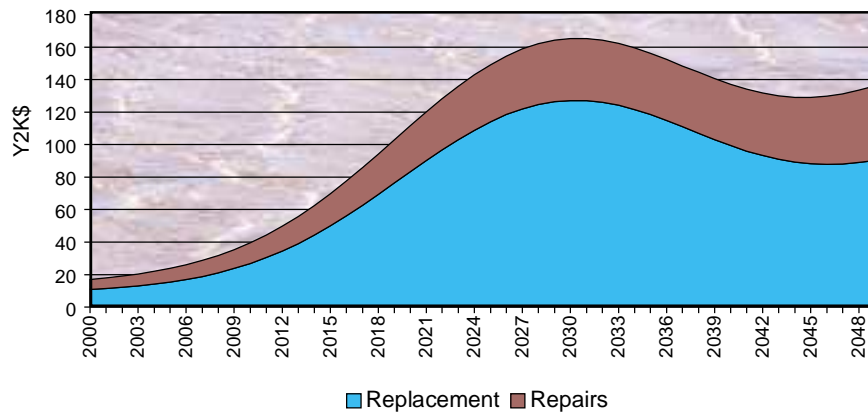
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Austin, Texas	A-3
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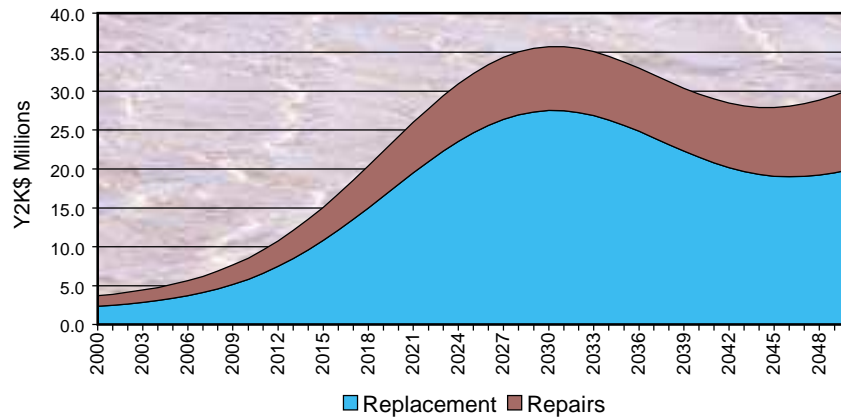
Austin, Texas

Asset Sets Modeled: Water Mains —
 Estimated Replacement Value \$2,348 M

Projected Per Household Expenditures Due to Wear-Out (\$/hh/yr)



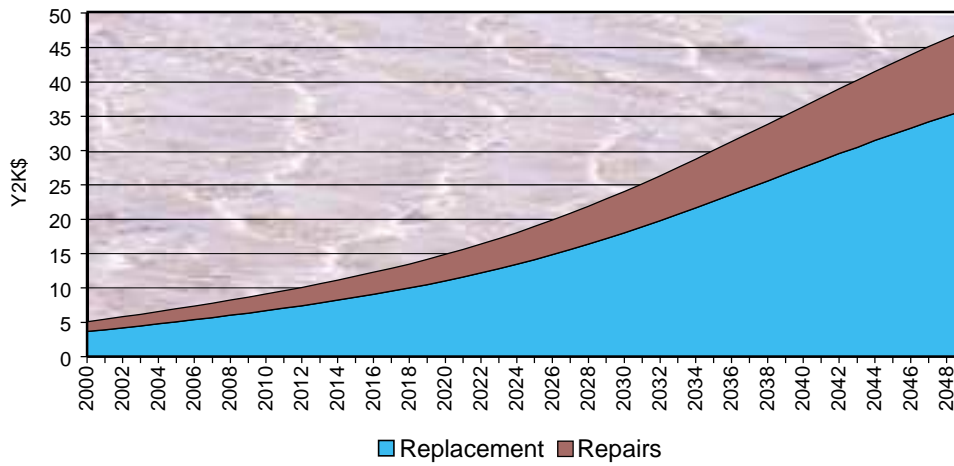
Projected Total Expenditures Due to Wear-Out



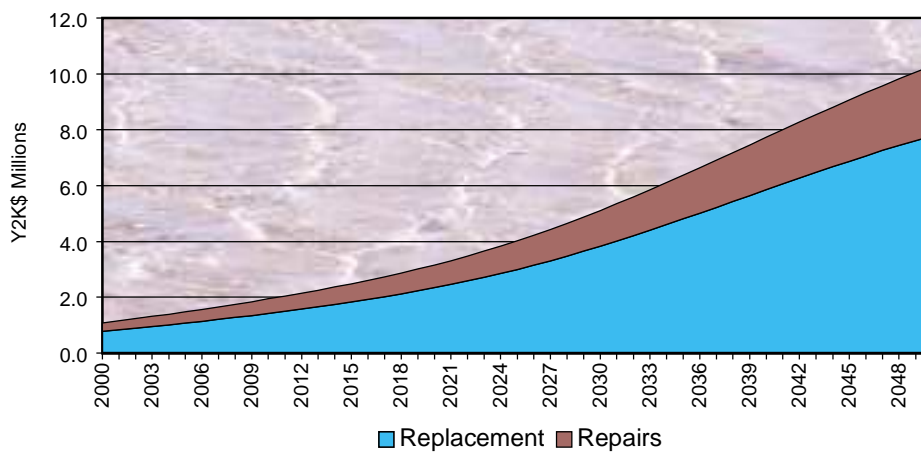
Boston, Massachusetts

Asset Sets Modeled: Water Mains —
 Estimated Replacement Value \$694 M

Projected Per Household Expenditures Due to Wear-Out (\$/hh/yr)



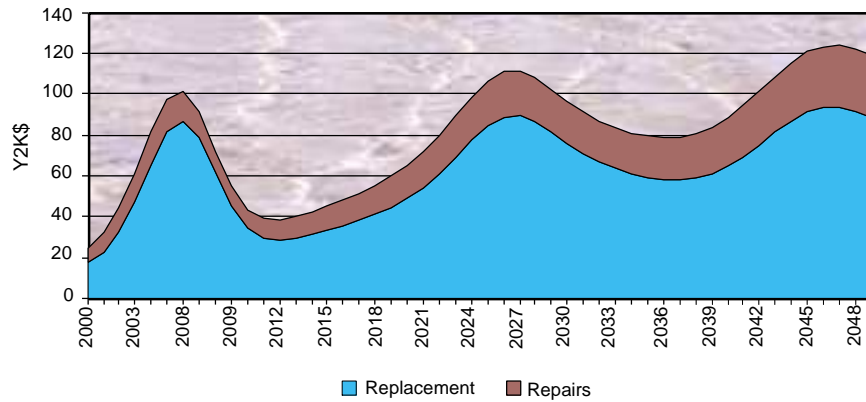
Projected Total Expenditures Due to Wear-Out



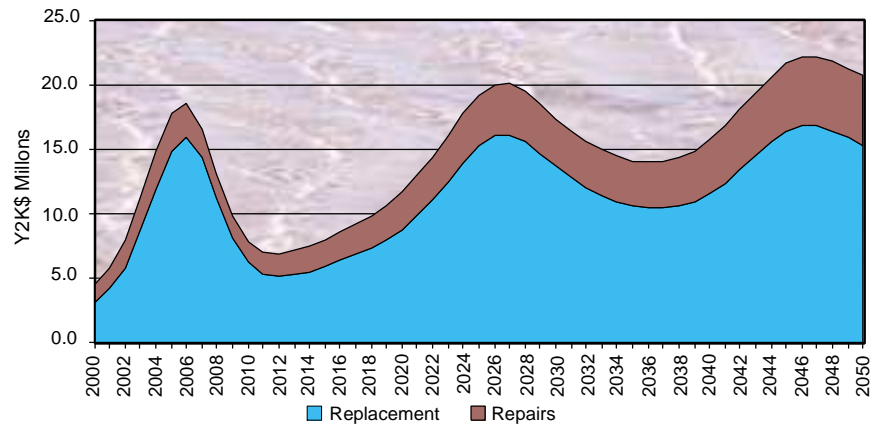
BHC, Bridgeport, Connecticut

Asset Sets Modeled: Water Mains & Water Supply Plant —
Estimated Replacement Value \$1,663 M

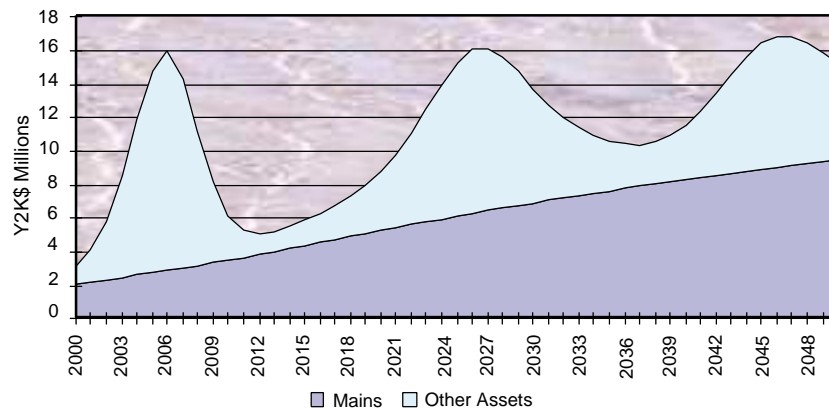
Projected Per Household Expenditures Due to Wear-Out (\$/hh/yr)



Projected Total Expenditures Due to Wear-Out



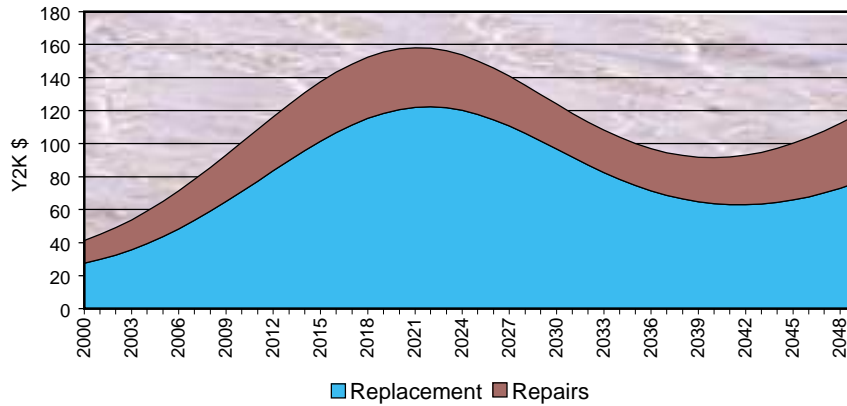
Projected Total Replacement Expenditures Due to Wear-Out



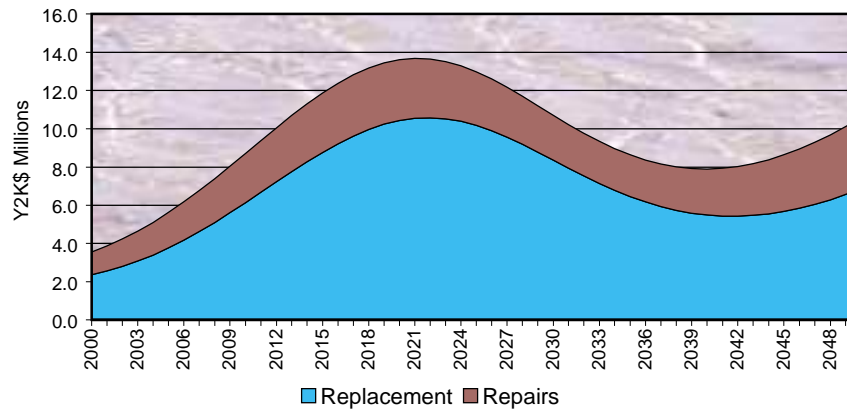
West Virginia American, Charleston, WV

Asset Sets Modeled: Water Mains & Water Supply Plant —
Estimated Replacement Value \$650 M

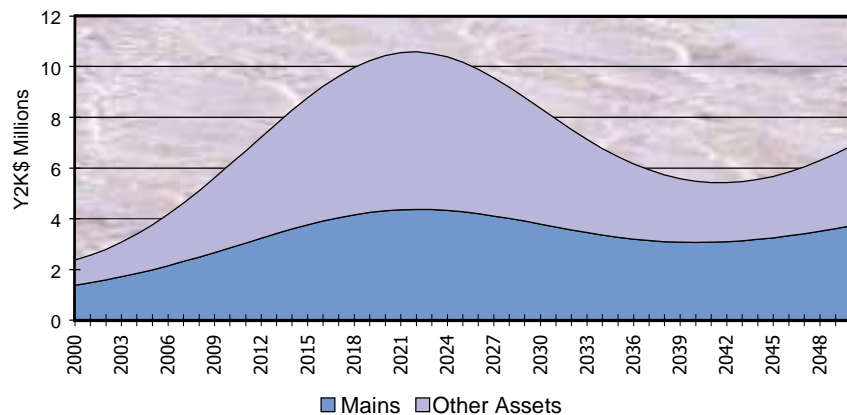
Projected Per Household Expenditures Due to Wear-Out (\$/hh/yr)



Projected Total Expenditures Due to Wear-Out



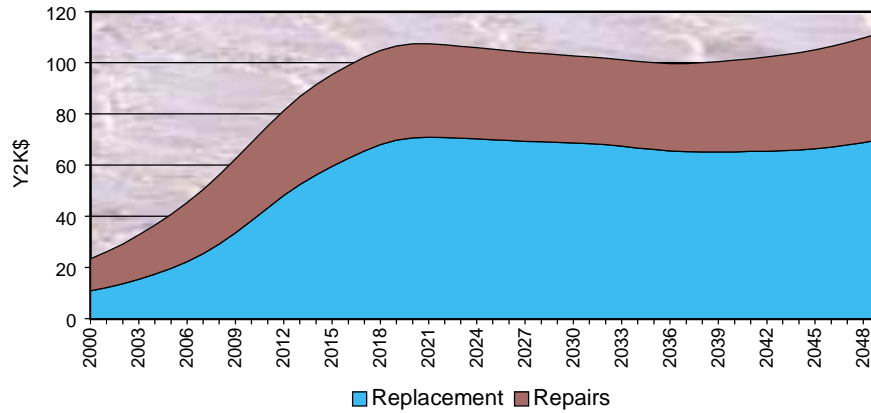
Projected Total Replacement Expenditures Due to Wear-Out



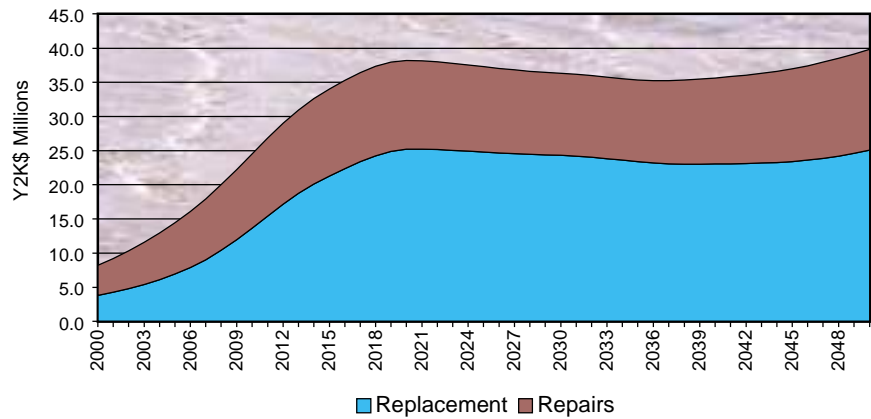
Cincinnati, Ohio

Asset Sets Modeled: Water Mains & Water Supply Plant —
Estimated Replacement Value \$2,042 M

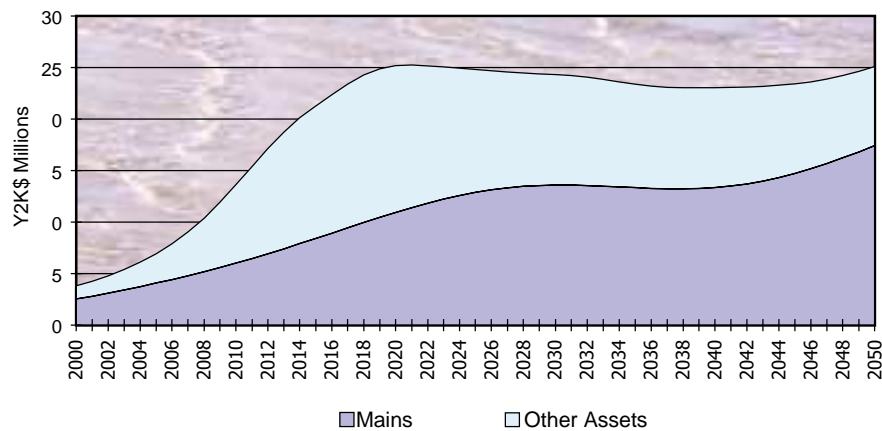
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Projected Total Expenditures Due to Wear-Out



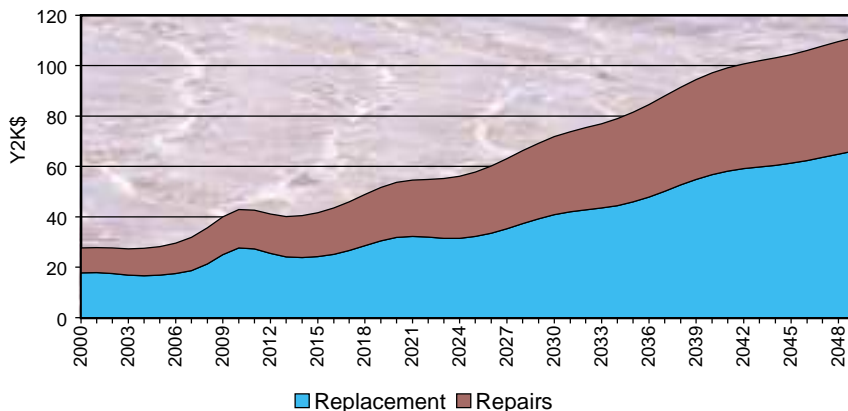
Projected Total Replacement Expenditures Due to Wear-Out



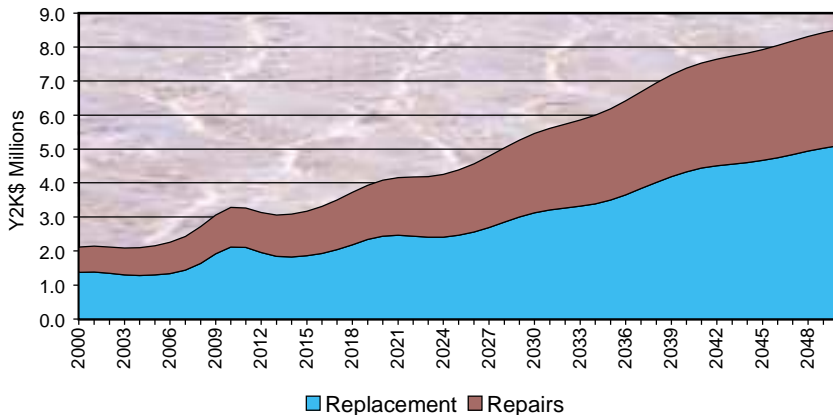
Columbus, Georgia

Asset Sets Modeled: Water Mains & Water Supply Plant —
Estimated Replacement Value \$648 M

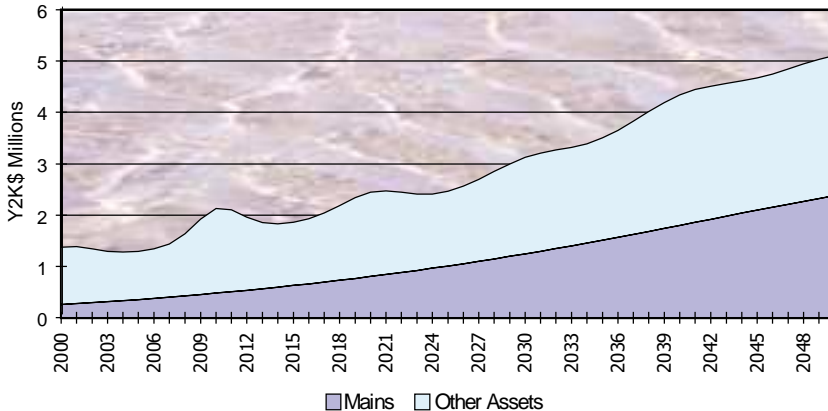
Projected Per Household Expenditures Due to Wear-Out (\$/hh/yr)



Projected Total Expenditures Due to Wear-Out



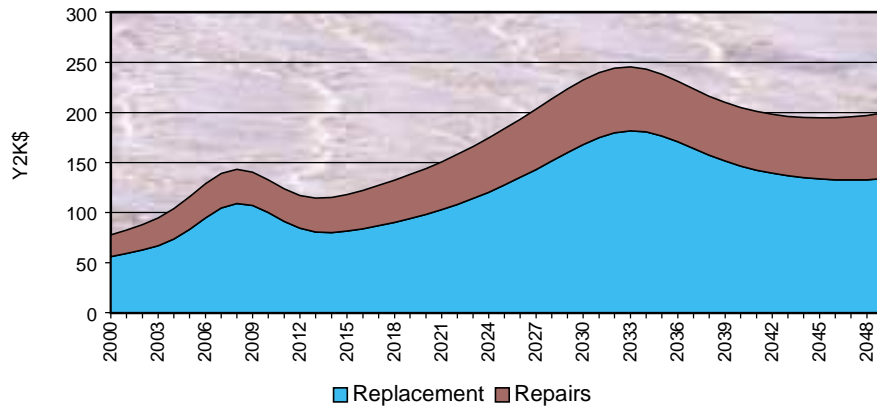
Projected Total Replacement Expenditures Due to Wear-Out



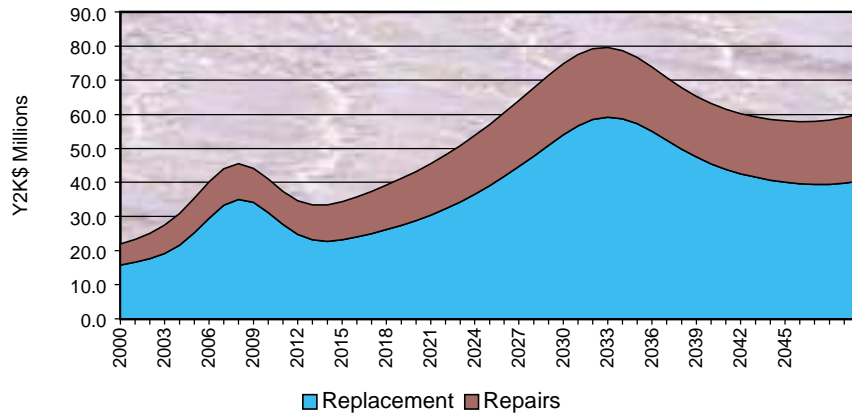
Denver, Colorado

Asset Sets Modeled: Water Mains & Water Supply Plant —
Estimated Replacement Value \$5,583 M (Includes Major Dams)

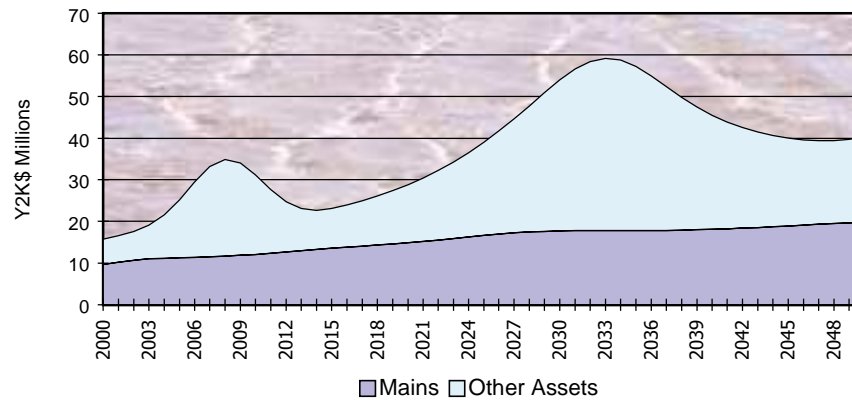
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Projected Total Expenditures Due to Wear-Out



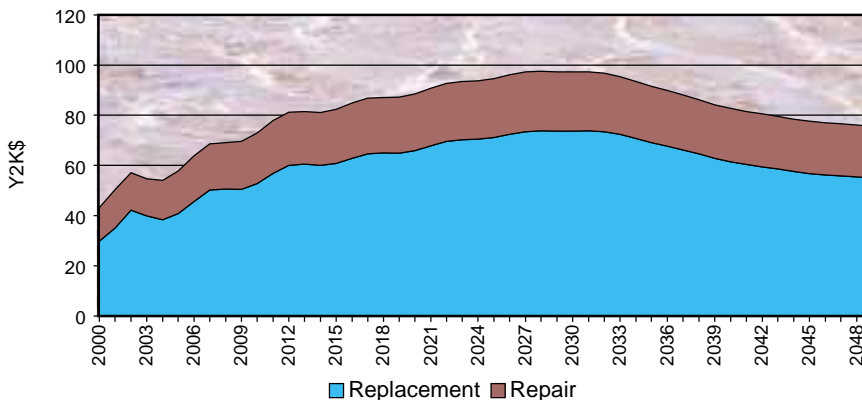
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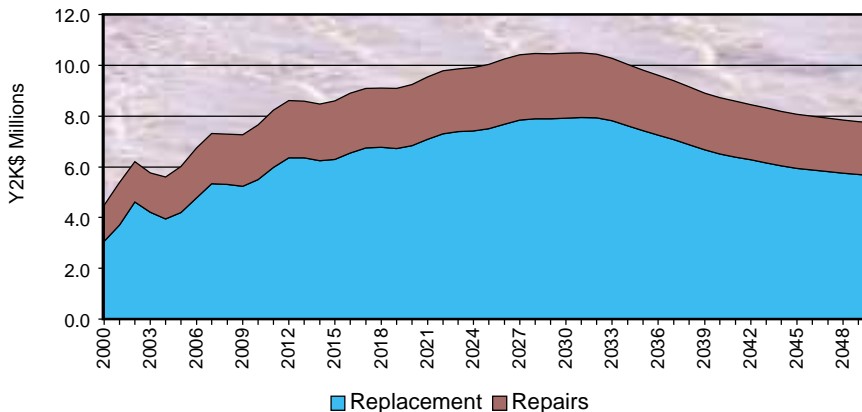
Des Moines, Iowa

Asset Sets Modeled: Water Mains & Water Supply Plant —
Estimated Replacement Value \$524 M

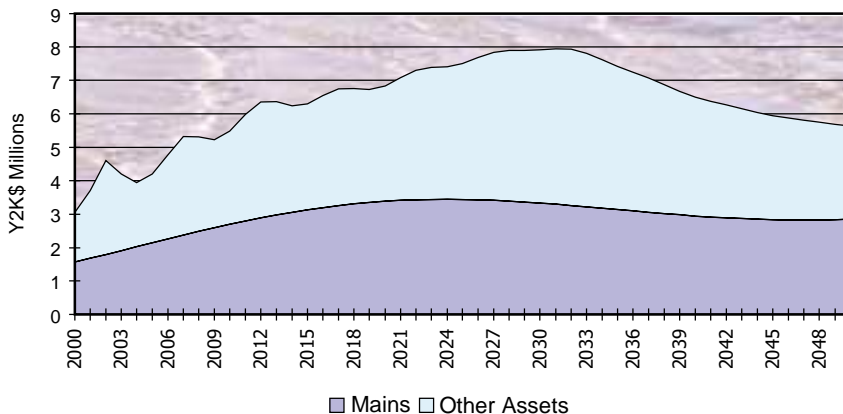
Projected Per Household Expenditures Due to Wear-Out (\$/hh/yr)



Projected Total Expenditures Due to Wear-Out



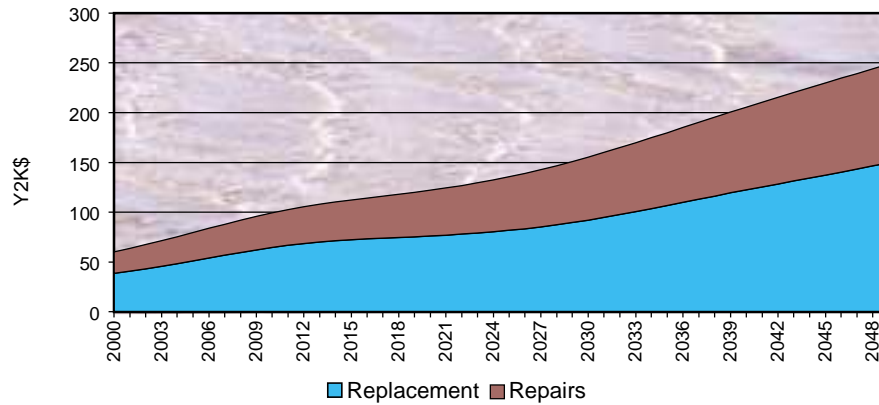
Projected total Replacement Expenditures Due to Wear-Out



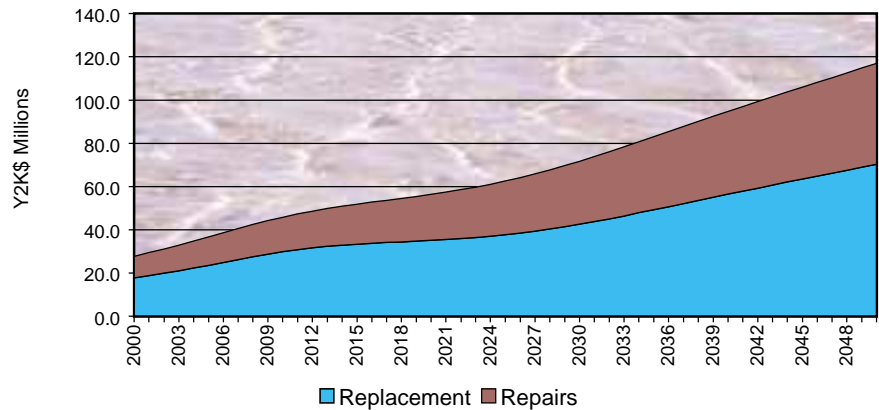
East Bay MUD, Oakland, California

Asset Sets Modeled: Water Mains & Water Supply Plant —
Estimated Replacement Value \$8,110 M

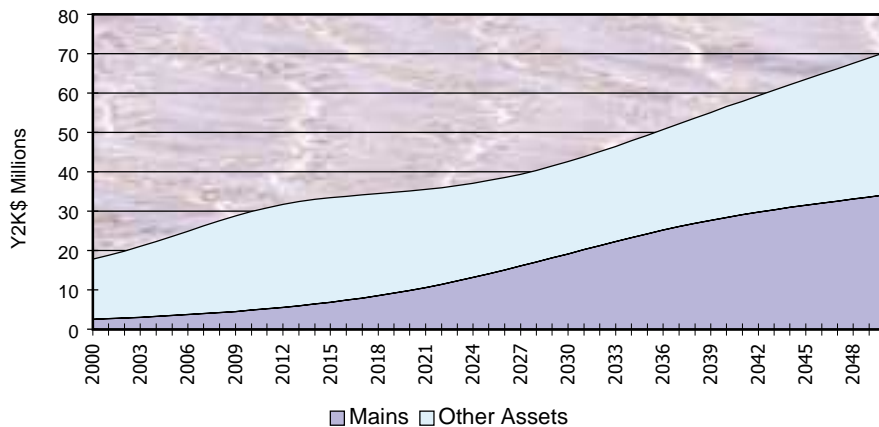
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Projected Total Expenditures Due to Wear-Out



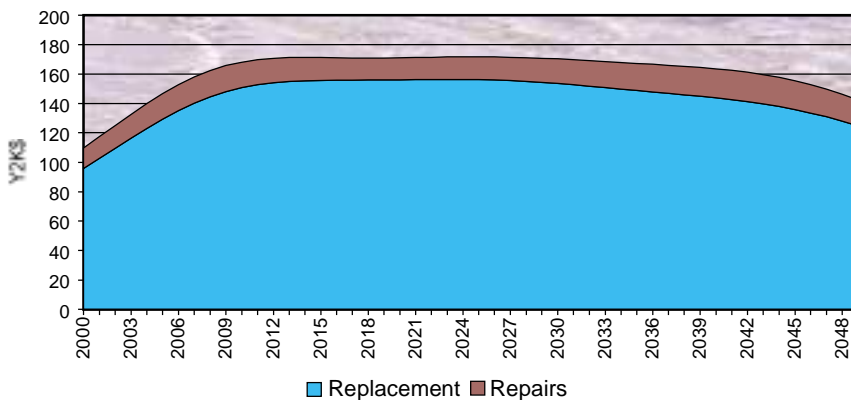
Projected Total Replacement Expenditures Due to Wear-Out



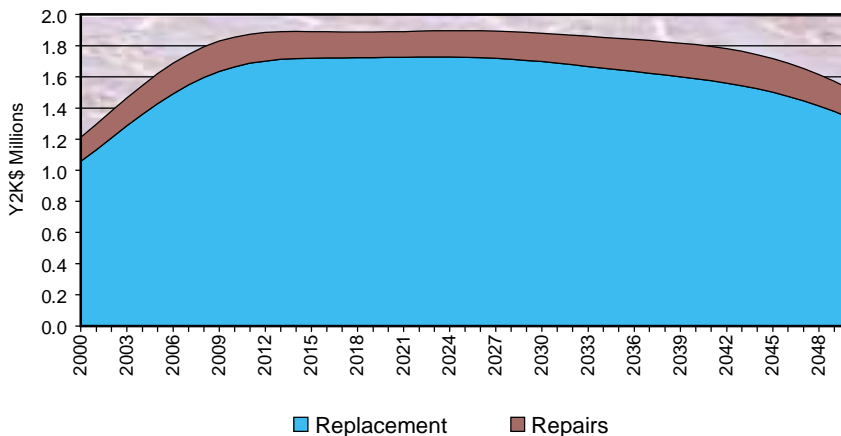
Gloucester, Massachusetts

Asset Sets Modeled: Water Mains & Water Supply Plant —
Estimated Replacement Value \$116 M

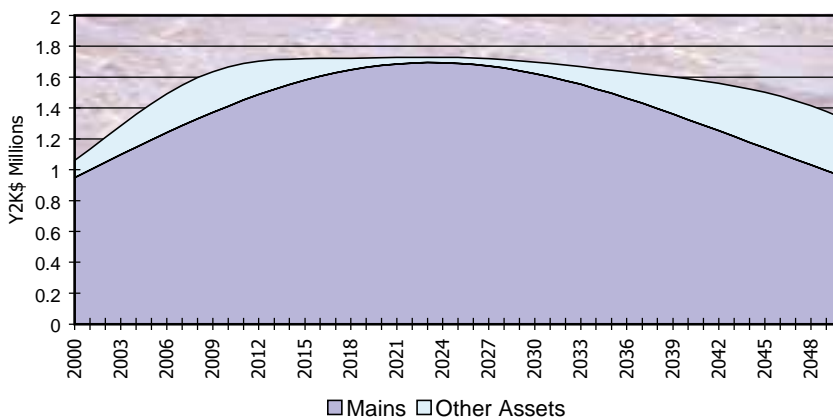
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Projected Total Expenditures Due to Wear-Out



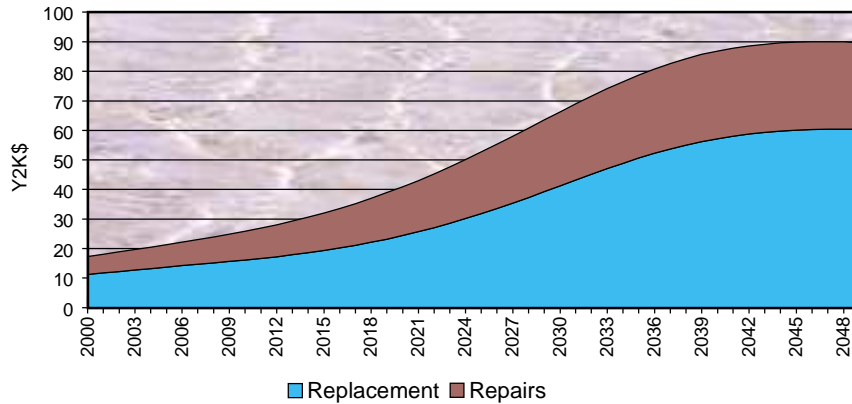
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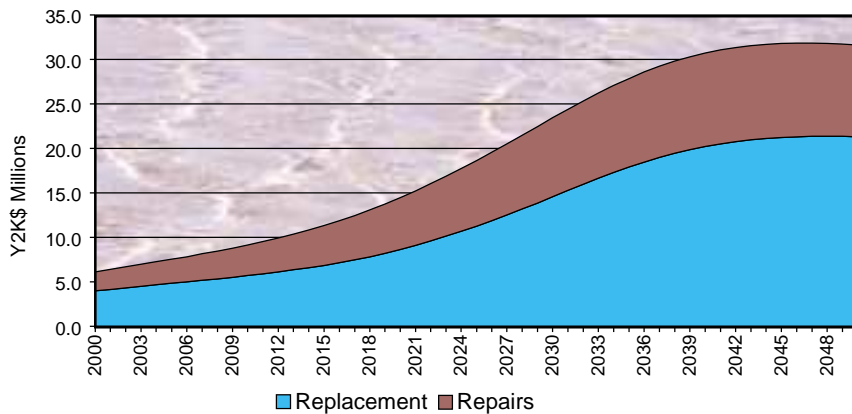
Honolulu, Hawaii

Asset Sets Modeled: Water Mains & Water Supply Plant —
Estimated Replacement Value \$1,272 M

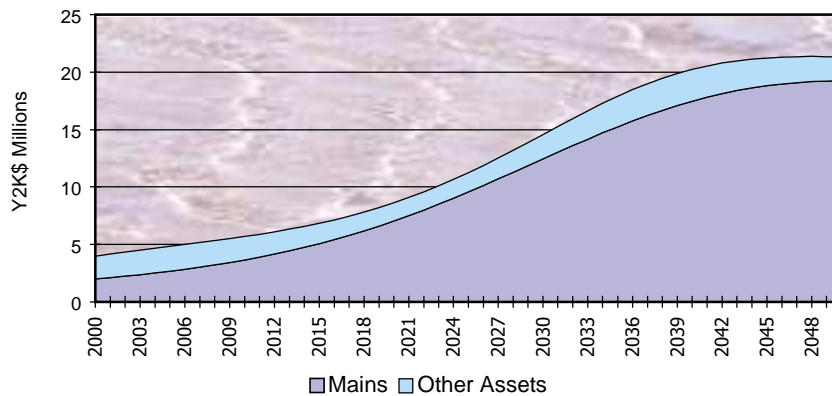
Projected Per Household Expenditures Due to Wear-Out (\$/hh/yr)



Projected Total Expenditures Due to Wear-Out



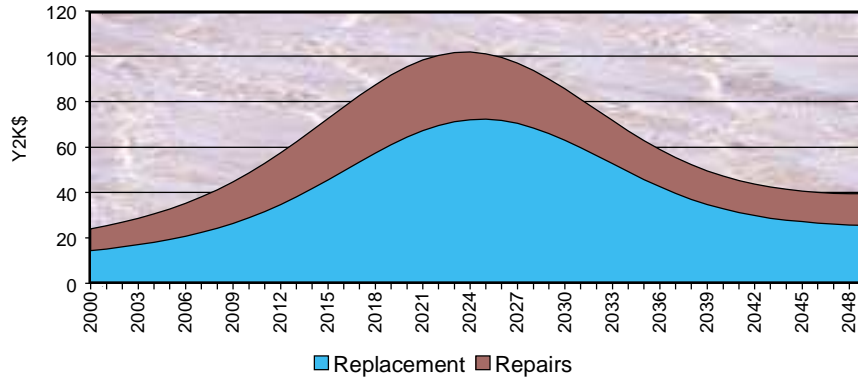
Projected Total Replacement Expenditures Due to Wear-Out



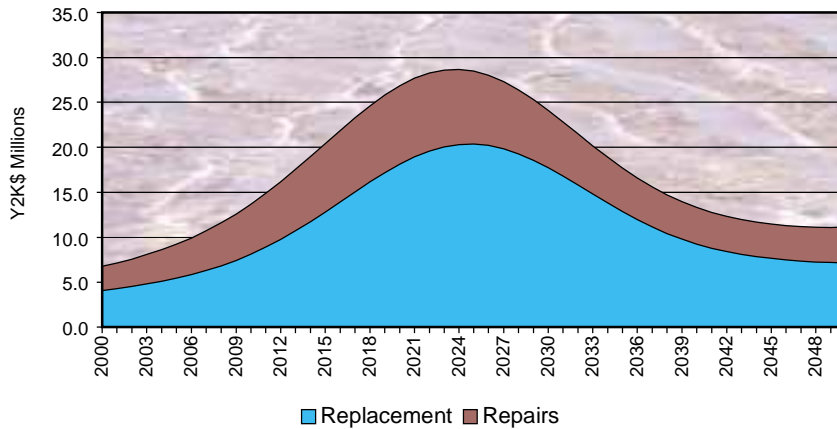
Louisville, Kentucky

Asset Sets Modeled: Water Mains —
 Estimated Replacement Value \$1,343 M

Projected Per Household Expenditures Due to Wear-Out (\$/hh/yr)



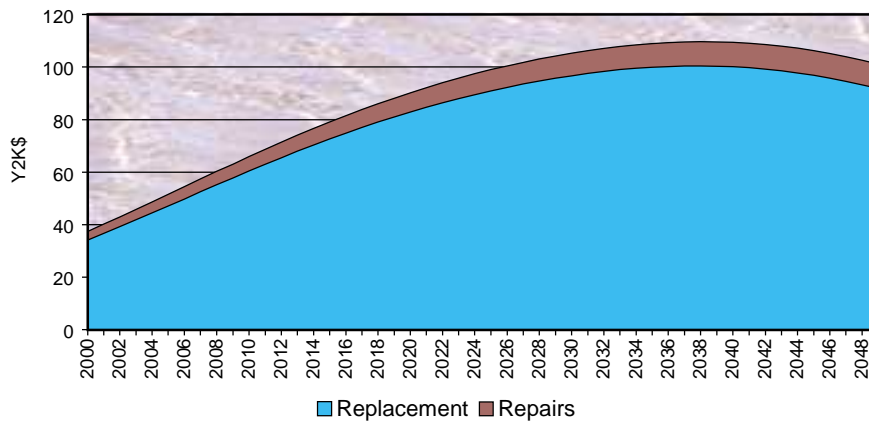
Projected Total Expenditures Due to Wear-Out



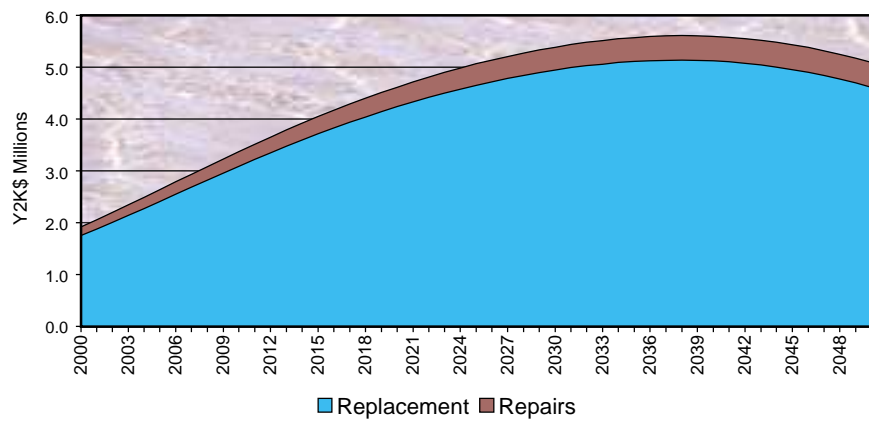
United Water, New Rochelle, New York

Asset Sets Modeled: Water Mains —
 Estimated Replacement Value \$325 M

Projected Per Household Expenditures Due to Wear-Out (\$/hh/yr)



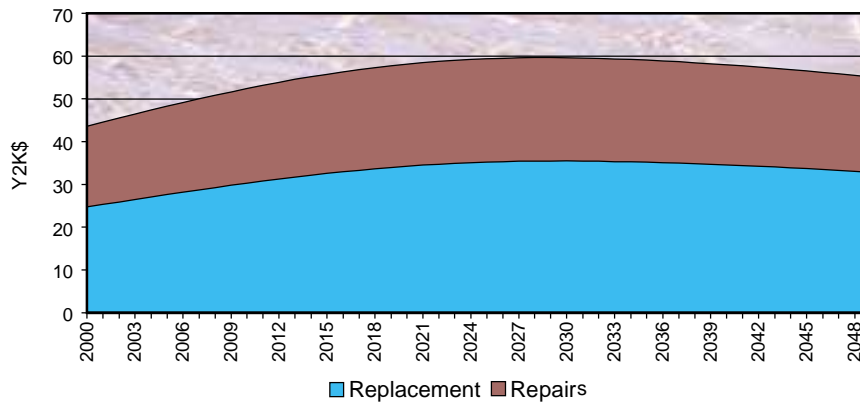
Projected Total Expenditures Due to Wear-Out



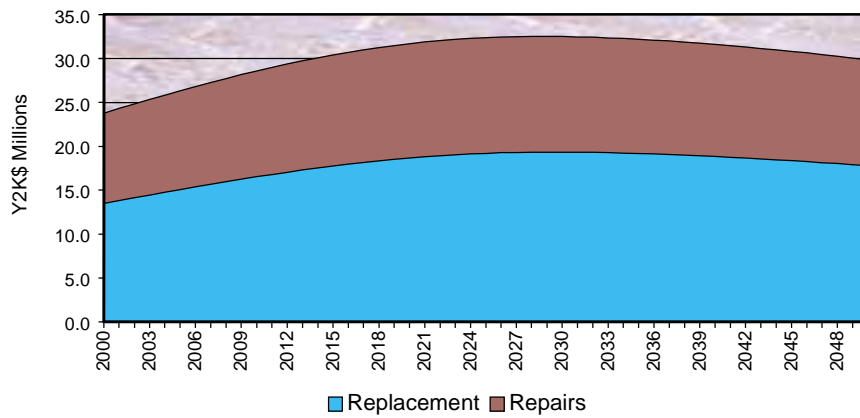
Philadelphia, Pennsylvania

Asset Sets Modeled: Water Mains —
 Estimated Replacement Value \$2,438 M

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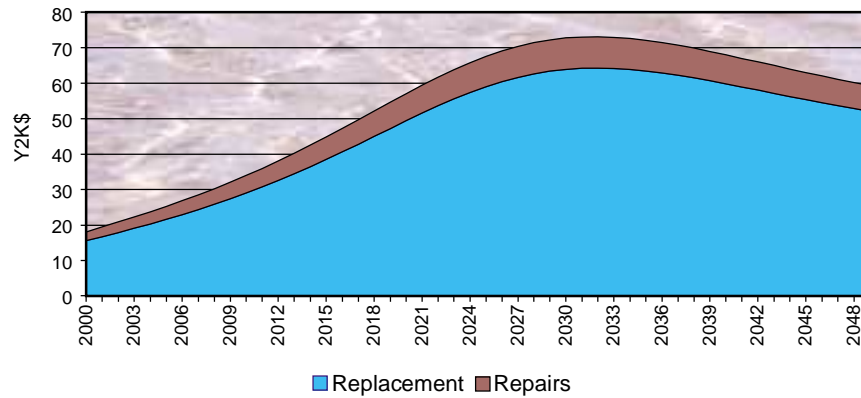
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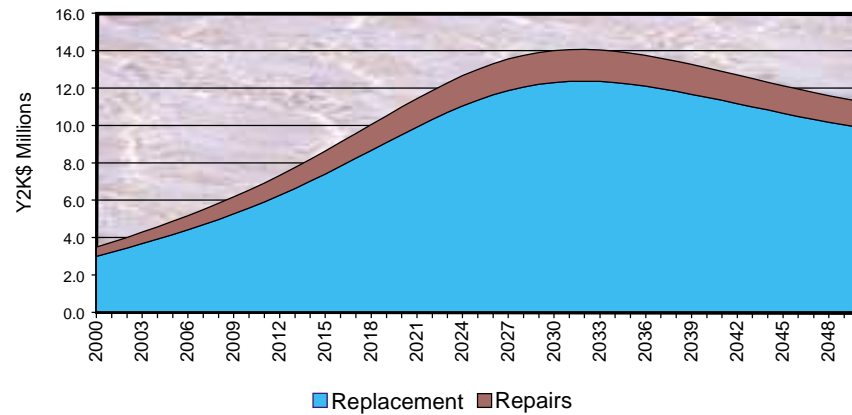
Portland, Oregon

Asset Sets Modeled: Water Mains —
 Estimated Replacement Value \$1,257 M

Projected Per Household Expenditures Due to Wear-Out (\$/hh/yr)



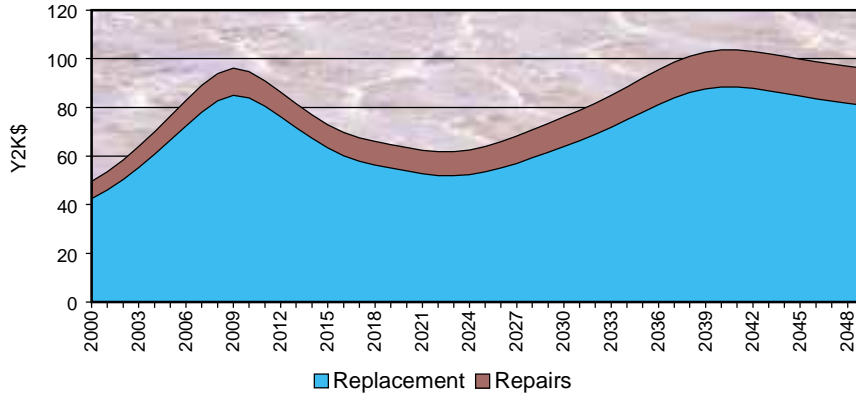
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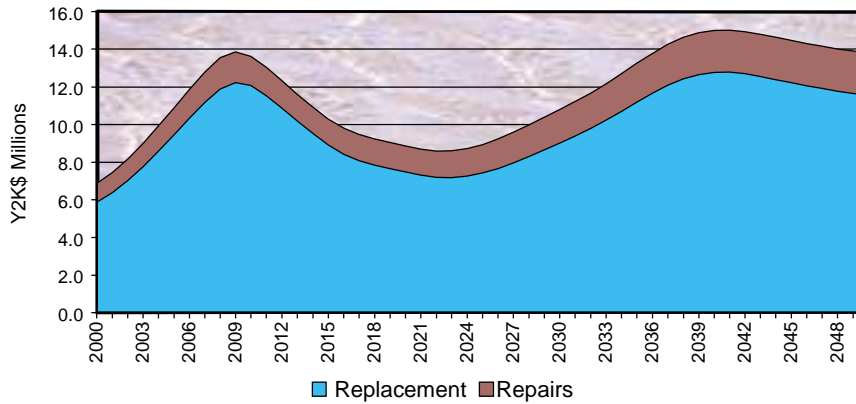
St. Paul, Minnesota

Asset Sets Modeled: Water Mains & Water Supply Plant —
Estimated Replacement Value \$1,005 M

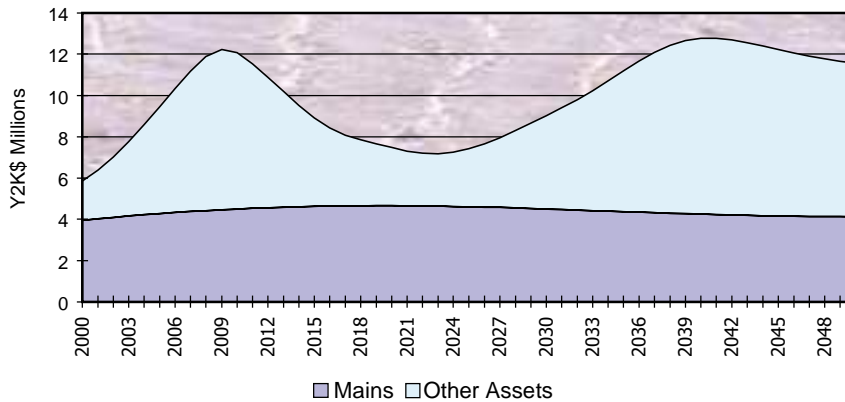
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Projected Total Expenditures Due to Wear-Out



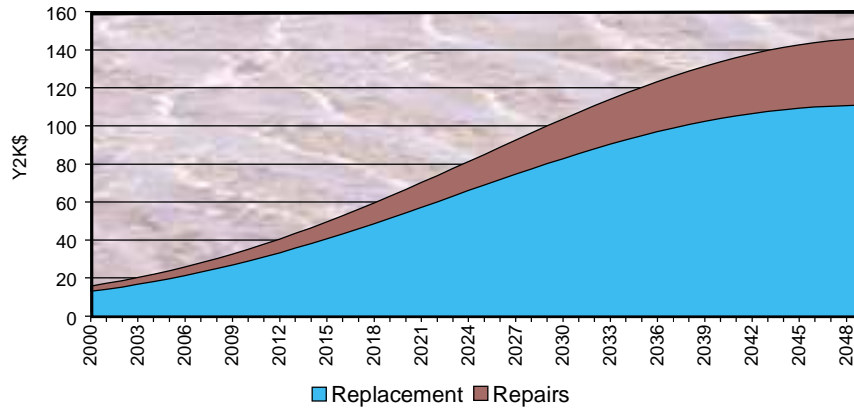
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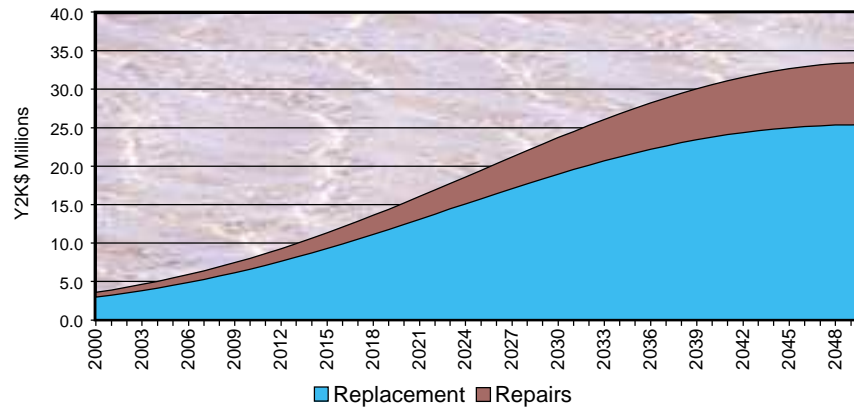
Seattle, Washington

Asset Sets Modeled: Water Mains —
 Estimated Replacement Value \$1,713 M

Projected Per Household Expenditures Due to Wear-Out (\$/hh/yr)



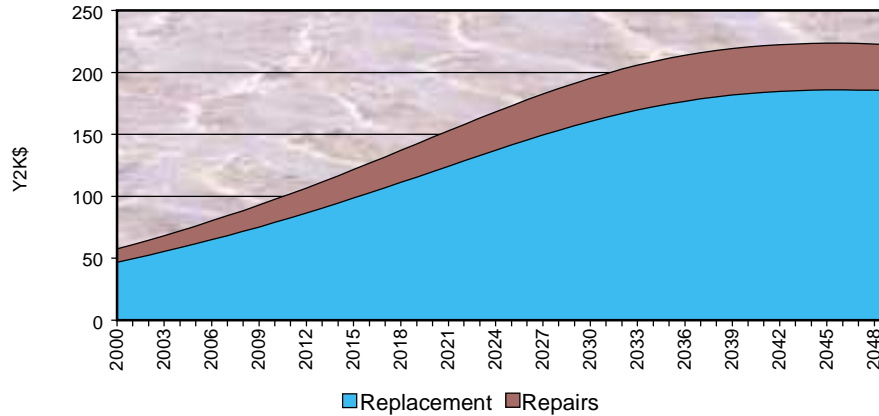
Projected Total Expenditures Due to Wear-Out



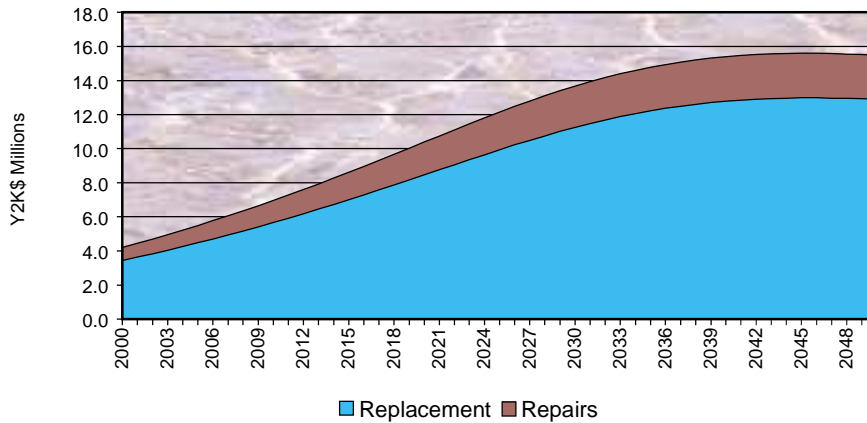
Tacoma, Washington

Asset Sets Modeled: Water Mains & Water Supply Plant —
Estimated Replacement Value \$1,100 M

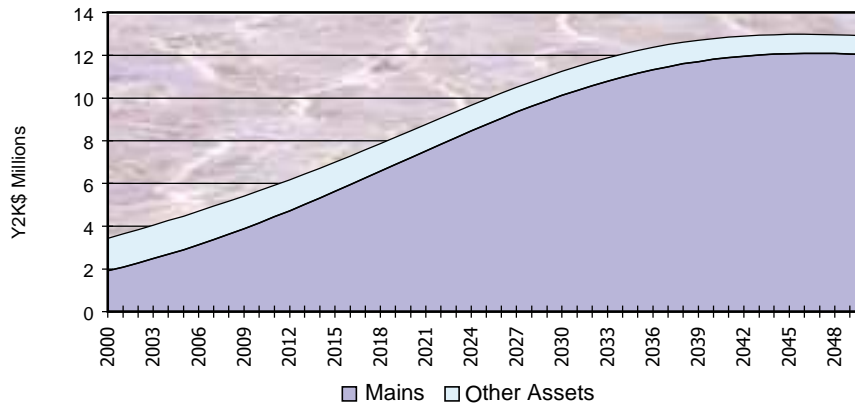
Projected Per Household Expenditures Due to Wear-Out (\$/hh/yr)



Projected Total Expenditures Due to Wear-Out



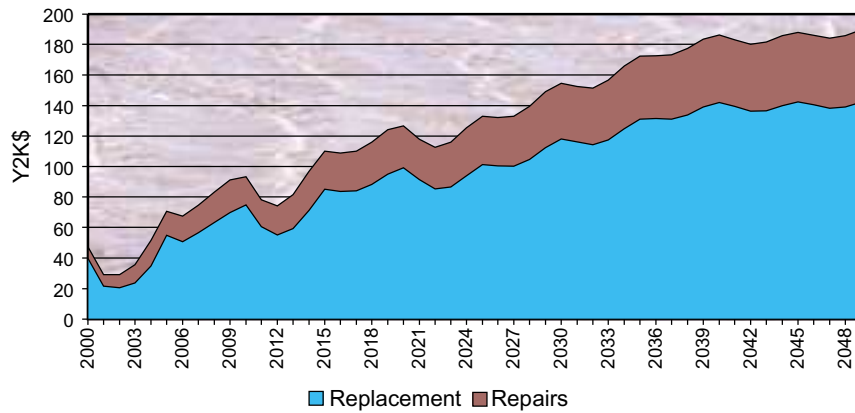
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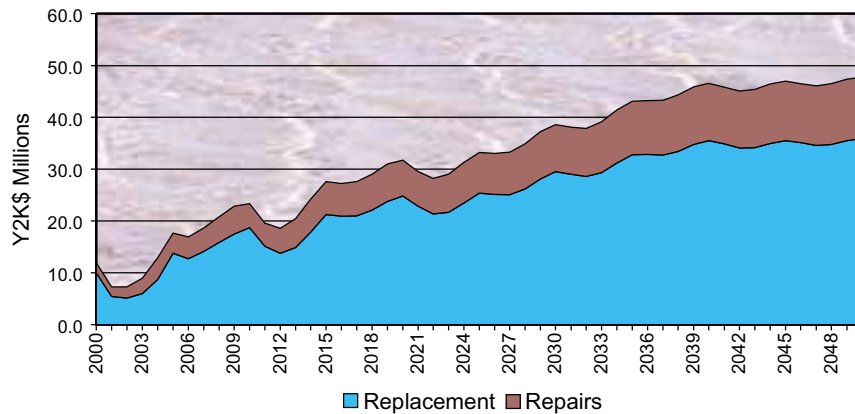
Tucson, Arizona

Asset Sets Modeled: Water Mains & Water Supply Plant —
Estimated Replacement Value \$1,852 M

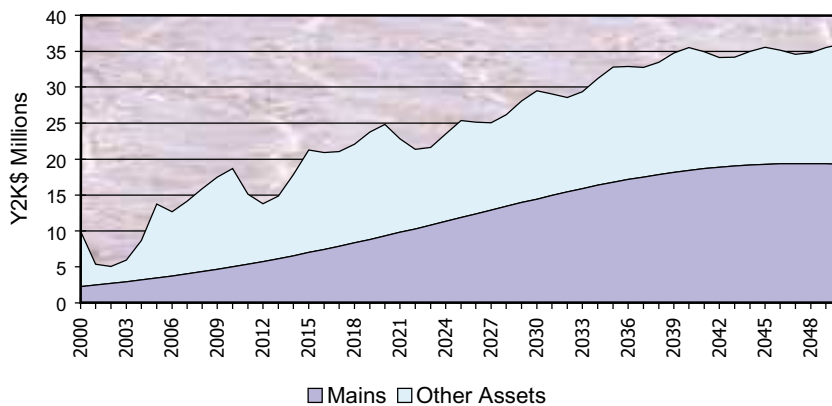
Projected Per Household Expenditures Due to Wear-Out (\$/hh/yr)



Projected Total Expenditures Due to Wear-Out



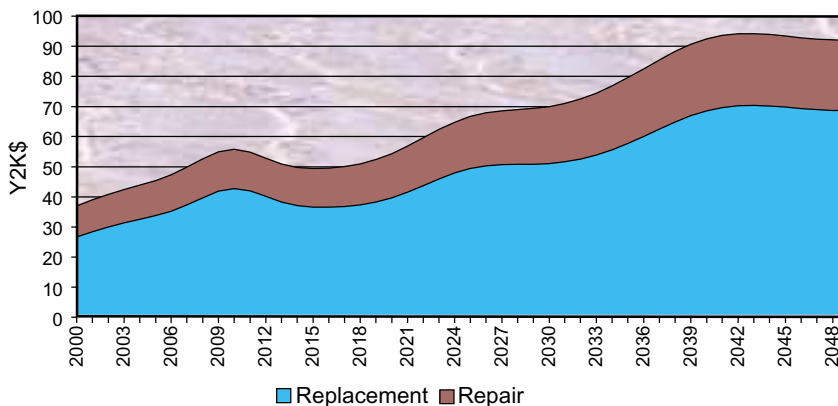
Projected Total Replacement Expenditures Due to Wear-Out



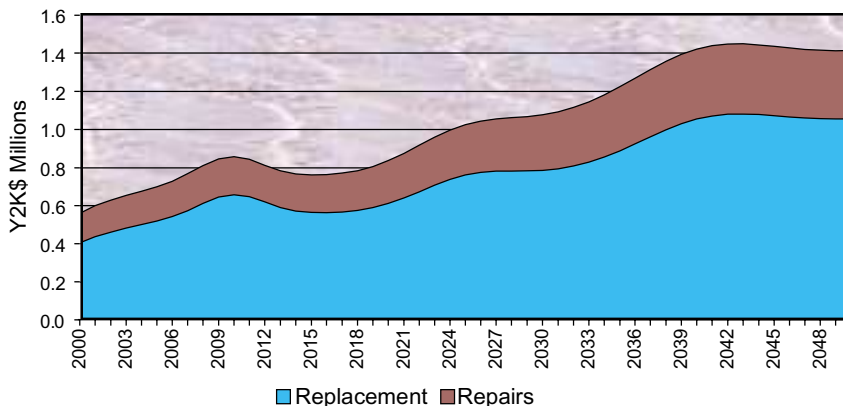
Wausau, Wisconsin

Asset Sets Modeled: Water Mains & Water Supply Plant —
Estimated Replacement Value \$84 M

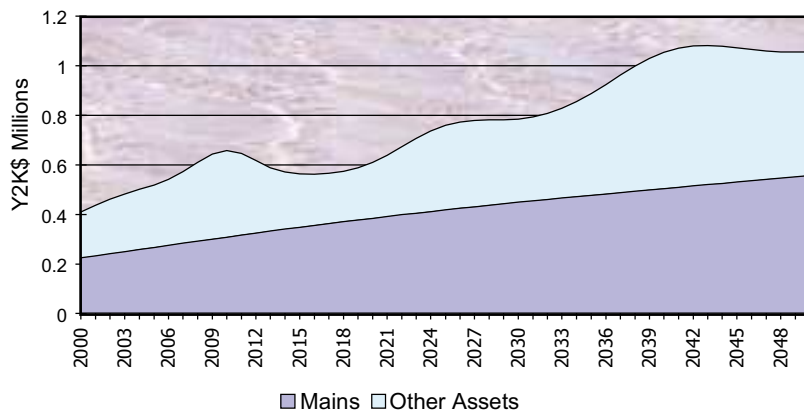
Projected Per Household Expenditures Due to Wear-Out (\$/hh/yr)



Projected Total Expenditures Due to Wear-Out



Projected Total Replacement Expenditures Due to Wear-Out



Reinvesting in Drinking Water Infrastructure

Dawn of the Replacement Era

APPENDIX B

ACKNOWLEDGMENTS

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Denver Water
Denver, Colorado

Joseph Gehin, Utilities Director
Wassau Water Works
Wausau, Wisconsin

Stephen Gorden, Director
Detroit Water and Sewerage Department
Detroit, Michigan

Gurney Gunter, Director
Kansas City Water Services Department
Kansas City, Missouri

James McInerney, Chairman
BHC
Bridgeport, Connecticut

Howard Neukrug, Director, Office of Watersheds
Philadelphia Water Department
Philadelphia, Pennsylvania

Clair Olivers, Public Works Director
City of Everett
Everett, Washington

David Siburg, Manager
Public Utility District #1 of Kilsap County
Poulsbo, Washington

PARTICIPATING UTILITIES

A special thanks to the managers and staff of the following utilities for their time and effort in developing the Nessie Curves:

City of Austin Water and Wastewater Department
Austin, Texas

Boston Water and Sewer Commission
Boston, Massachusetts

BHC
Bridgeport, Connecticut

West Virginia American
Charleston, West Virginia

Cincinnati Water Works
Cincinnati, Ohio

Columbus Water Works
Columbus, Georgia

Denver Water Board
Denver, Colorado

Des Moines Water Works
Des Moines, Iowa

East Bay Municipal Utility District
Oakland, California

City of Gloucester
Gloucester, Massachusetts

Board of Water Supply
Honolulu, Hawaii

Louisville Water Company
Louisville, Kentucky

United Water New Rochelle
New Rochelle, New York

Philadelphia Water Department
Philadelphia, Pennsylvania

Portland Water Bureau
Portland, Oregon

St. Paul Regional Water Services
St. Paul, Minnesota

Seattle Water
Seattle, Washington

Tacoma Public Utilities
Tacoma, Washington

Tucson Water
Tucson, Arizona

Wausau Water Works
Wausau, Wisconsin

AWWA STAFF

Tom Curtis, Deputy Executive Director
Government Affairs Office
Washington, D.C.

Albert E. Warburton, Director of Legislative Affairs
Government Affairs Office
Washington, D.C.

Tommy Holmes, Legislative Programs Manager
Government Affairs Office
Washington, D.C.

FUNDING

The research, analysis and production of this report was funded by the Water Industry Technical Action Fund (WITAF).

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL’S FIRST REQUEST FOR INFORMATION

Witness: Krista Citron and Jeffrey Newcomb

28. Refer to the Citron Testimony at 24.
- a. Ms. Citron states that Kentucky American does not make the request to expand QIP, “lightly and understands the cost impact it will have on customers.” If the Commission were to approve of Kentucky American’s requested expanded QIP, provide the specific cost impacts on each customer class. Ensure to include the proposed estimated monthly QIP rate and equivalent dollar amount for the residential class for each of the next five years, if available.
 - b. Provide the QIP rate and equivalent dollar amount for the residential class for each year since the inception of the QIP Rider.

Response:

- a. Please see Kentucky-American’s response to AG 1-26(h).
- b. Please see below for the QIP rate and equivalent dollar amount for the residential class for each year since the inception of the QIP Rider.

<u>Case Number</u>	<u>Rate Effective Period</u>	<u>QIP Rate (Percentage)</u>			
		<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u> ¹
2020-00027	7/1/2020-6/30/2021	0.97%	0.97%		
2021-00090	7/1/2021-1/24/2022		2.04%	2.04%	
2021-00376	1/25/2022-6/30/2022			2.14%	
2022-00032	7/1/2022-3/1/2023			4.61%	4.61%
2022-00328	3/2/2023-Current				4.49%

<u>Residential QIP Revenue (Dollars)</u>			
<u>\$263,930</u>	<u>\$828,640</u>	<u>\$1,888,039</u>	<u>\$3,688,754</u>

¹ Twelve months ended March 31, 2023. Kentucky-American will file an update through September 30, 2023, after the base period closes.

**KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION**

Witness: William A. Lewis

29. Refer to the Direct Testimony of William Lewis (“Lewis Testimony”), at 7. Provide copies of the referenced reports of inspections conducted by the Kentucky Division of Water for the years 2018 – 2023.

Response:

See Attachments

KAW_R_AGDR1_NUM029_081823 Attachment 1: 2018 reports

KAW_R_AGDR1_NUM029_081823 Attachment 2: 2019 reports

KAW_R_AGDR1_NUM029_081823 Attachment 3: 2020 reports

KAW_R_AGDR1_NUM029_081823 Attachment 4: 2021 reports

KAW_R_AGDR1_NUM029_081823 Attachment 5: 2022 reports

KAW_R_AGDR1_NUM029_081823 Attachment 6: 2023 reports



MATTHEW G. BEVIN
GOVERNOR

CHARLES G. SNAVELY
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

ANTHONY R. HATTON
COMMISSIONER

DIVISION OF WATER
875 S MAIN ST
LONDON, KY, 40741

June 28, 2018

Dorothy Rader
Manager, Water Quality & Environmental Compliance
Kentucky American Water - Eastern Rockcastle
2300 Richmond Road
Lexington, KY 40502

RE: Kentucky American Water - Eastern Rockcastle
AI 34097
Permit No.: KY1020288
Rockcastle County, Kentucky
Activity ID: CIN20180001

Dear Ms. Rader:

Attached for your information and records is a copy of the Drinking Water, Comprehensive Inspection Report for a Purchaser which was performed at Kentucky American Water - Eastern Rockcastle on June 7, 2018.

If you have any questions or comments concerning this inspection, please contact the London Regional Office at: (606) 330-2080.

Sincerely,

A handwritten signature in black ink that reads "Beth Trent".

Beth Trent
Environmental Inspector
London Regional Office
Division of Water

bt
Enclosure:

**ENERGY AND ENVIRONMENT CABINET
KENTUCKY DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
Routine Distribution Inspection**

Site/Permit ID: KY1020288	Division: Water	Regional Office: London
Site Name: Kentucky American Water - Eastern Rockcastle	Program: Drinking Water	
Site Address: 9264 Main Street		
City: Livingston	State: KY	Zip: 40445
County: Rockcastle		
Inspection Type: Routine Distribution	Purpose: Comprehensive	AI #: 34097
Inspection Date: 6/7/18	Time: Start 9:30 AM End 3:00 PM	
Latitude:	Longitude:	
Coordinate Collection Method:	Revision Code: 112108	
Drinking Water Data		
Plant Name: Kentucky American Water - Eastern Rockcastle	Contact Name: Dorothy Rader 859-268-6317 423-355-8591	
Phone No.: Livingston Office 606-453-0019	Fax No:	Email Address: dorothy.rader@amwater.com

I. Administrative Requirements

Comments: As of 2/28/18, Kentucky American Water (KAW) is the owner/operator of the Eastern Rockcastle system.

KAW has a written Cross Connection Control Program overseen by Jennifer Shrewsberry. Implementation of the program has been initiated in the Eastern system.

A paper and electronic link break log is maintained.

An electronic customer complaint log is maintained. No complaints are on file for the 3/1/18 - 6/7/18 period. One water quality inquiry has been recorded during the period, it was made on 5/4/18.

The system will be operated and maintained by the American Water O&M Policies and Practices.

System flushing will follow existing KAW practices of flushing the entire system at least once every year. Planned flushing has not yet occurred in the system. KAW plans to create a hydraulic model of the system followed up by the development and implementation of a flushing plan before the years end.

A leak detection program has not yet been established.

The system's assets are currently being GPS'd by CDP Engineering. Upon completion, the data will be compared to existing documents and compiled into a GIS map project. The project's anticipated

completion data is August 2018. Upon completion, the valve exercising plan will be developed and a maintenance schedule created (by the year's end).

Seller (3) contracts have not been revised and KAW does not have any new master meter calibration records from the Sellers.

The most recent water loss calculations for the system are 17-18%.

I. Compliance Status - No violations observed

II. Operator Certification/Accreditation Requirements

Operator in Charge and on duty.

Operator Name	Plant Certification #	Distribution Certification #
David Treece - AI 134694		30510 - IV

Comments: Mr. Treece's license is good through 6/30/20.

Daily operation of the distribution system is conducted by Rodney Trowbridge. Jarold Jackson is the Kentucky American - Eastern, Superintendent of Field Operations. His direct phone number is 859-268-6376.

II. Compliance Status - No violations observed

III. Record Keeping Requirements

Comments: The system is required to collect 2 bact samples/month based on population. The system collects 5 monthly; 3 during the first week and 2 during the third week. The samples are collected by Mr. Trowbridge and picked up by their contract lab, Fouser Environmental on the same day. Chains of custodies and laboratory analysis reports were reviewed. The contract laboratory is documenting the ambient temperature of the containers (not on ice) on the COC, hold times were met for the data reviewed.

Mr. Trowbridge maintains a monthly secondary standard check for the Hach II pocket colorimeter used for compliance monitoring. The log for 2018 was reviewed and includes all pertinent information including the standard reading and its acceptable range. The standard kit lot number is A8067 which expires 3/20.

A paper and electronic link break log is maintained. One break was recorded for the 3/1/18 - 6/7/18 period, it was repaired on 3/26/18 (a BWA was not issued). Breaks recorded on the log only include those within the Eastern system; all BWAs that are the result of a main break on a selling system are not recorded on the log.

An electronic customer complaint log is maintained. No complaints are on file for the 3/1/18 - 6/7/18 period. One water quality inquiry has been recorded during the period, it was made on 5/4/18.

III. Compliance Status - No violations observed

IV. Reporting Requirements

Comments: BWA notices are presently sent to the Division through e-notification. Since KAW took over the system 2/28/18 till the date of inspection on 6/7/18, 3 BWAs were reported.

One line break was recorded for the system between 3/1/18 - 6/7/18, it was repaired on 3/26/18. The KAW record indicates the break took 5 hours to repair and the repairs were not made under pressure. A BWA was not issued. Two bacteriological samples were conducted and no coliform was detected within the samples. However, the bacteriological analysis was not submitted to the Division and it is unknown if and how the 215 affected customers were notified.

MORs are signed by Dorothy Johnson (Ky American Water - Water Quality Specialist) and submitted as required.

IV. Compliance Status - No violations observed

V. Operation & Maintenance/Performance Requirements

Plant Type: C N P Service Connections:621 Population Served:1670

Average Purchased MGD: 0.11 Max. Purchased MGD: Contract Amount MGD:

Source: Seller PWSID: Multiple Sellers Yes No

RATING CODES: S1 = No Violations Observed; S2= No Violations Observed-but impending viol trends obs; U1 = Out of Compliance-No action taken; U2= Out of Compliance-LOW non-recurrent Adm. or O & M; U3= Out of Compliance-NOV Issued; NA = Not Applicable; NE = Not Evaluated. (Add additional comments if U1-U3.)

SELLER INFORMATION	Seller # 1	Name Jackson County	PWSID# KY0550209 Contract Amount: 0.028 MGD
	Seller # 2	Name Mt. Vernon	PWSID# KY1020299 Contract Amount: 0.011 MGD
	Seller # 3	Name Livingston	PWSID# KY1020253 Contract Amount: 0.015 MGD
	Seller # 4	Name	PWSID# Contract Amount:
	Seller # 5	Name	PWSID# Contract Amount:
STORAGE TANK INFORMATION	RATING	Equipment / Inspection Data	<input type="checkbox"/> Checking block means item is present:
	S1	a) Storage Tank 1 Size:80,000 Name: Three Links (Jackson Co.)	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition: Fair
	S1	b) Storage Tank 2 Size:15,000 Name: Sand Springs aka Pongo	Screened Vent: <input checked="" type="checkbox"/> Overflow <input checked="" type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned:12/09 Coating condition: Good
		c) Storage Tank 3 Size: Name:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:
		d) Storage Tank 4 Size: Name:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:
		e) Storage Tank 5 Size: Name:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:

		f) Storage Tank 6 Size:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/>
		Name:	Last Cleaned: Coating condition:
		g) Storage Tank 7 Size:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/>
		Name:	Last Cleaned: Coating condition:
		h) Storage Tank 8 Size:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/>
		Name:	Last Cleaned: Coating condition:
GENERAL INFORMATION		j) Master meter <input type="checkbox"/>	Last Calibrated: Recorder: <input type="checkbox"/>
		k) Flushing Schedule	<input type="checkbox"/> Yes <input type="checkbox"/> No/ Frequency: Annually
	S1	l) Chlorine Test Kit <input checked="" type="checkbox"/>	Type: HACH II Last calibrated 6/5/18
	S1	m) DPD reagent up-to-date	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	S1	n) Blow-off / Hydrants on dead	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	S1	o) Monthly operating reports	<input checked="" type="checkbox"/> Daily Record Sheet <input checked="" type="checkbox"/> Agreement: <input type="checkbox"/>
BOOSTER PUMPS	NI	q) <input checked="" type="checkbox"/> Booster pumps <input type="checkbox"/> Disinfection	Capacity2 @80 Disinfection Type:
	NI	r) <input checked="" type="checkbox"/> Booster pumps <input type="checkbox"/> Disinfection	Capacity2 @80 Disinfection Type:
	NI	s) <input checked="" type="checkbox"/> Booster pumps <input type="checkbox"/> Disinfection	Capacity2 @60 Disinfection Type:
ON SITE OBSERVATIONS	S1	t) Site Data: Three Links	Cl. Free:0.75 Total: pH: Turbidity: 0.13
	S1	u) Site Data: Cleft Rock Retreat	Cl. Free:0.64 Total: pH: Turbidity: 0.50
	S1	v) Site Data: EOL Brush Ck	Cl. Free:1.28 Total: pH: Turbidity:0.70
		w) Site Data:	Cl. Free: Total: pH: Turbidity:
OTHER INFORMATION	S1	x) Cross connection program	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	S1	y) Water meter replacement	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
		z) Valve exercise program	<input type="checkbox"/> Yes <input type="checkbox"/> No
	S1	aa) Is unaccounted for water	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes what is % loss? 18
	S1	bb) Up to date distribution map	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Comments: At the time of inspection, the Three Links (Jackson Co.) tank gate was not locked, cow manure was present inside the fencing on the valve cover, the level gauge was inoperable, the tank overflow pipe's discharge location was not visible and brown, circular rust spots were visible on the front and left side of the tank.

A new altitude valve was installed on the 25' Pongo tank on 3/15/18. It is set to kick on at 8' and off at 23.5'.

The distribution pump stations include 2 at Sand Hill, 2 at Pongo and 2 which are currently out of operation at Ole Gauley.

More than half of the system meters (327) have been replaced to Badger meters with Neptune radio read. The new meters measure to 0.01 of a gallon. Any required bench testing is performed in the Ky American Lexington office by a Certified Tester.

The system is purchasing an average of 182 gallons of water/day/connection.

Seller (3) contracts have not been revised and KAW does not have any new master meter calibration records from the Sellers.

Flushing data is not recorded or configured in water loss amounts.

Routine system flushing will follow existing KAW practices of flushing the entire system at least once every year. Planned flushing has not yet occurred in the system. KAW plans to create a hydraulic model of the system followed up by the development and implementation of a flushing plan before the years end.

KAW (Jennifer Shrewsberry) has began reviewing system accounts for possible cross connection issues. Some inspections have been performed which resulted in install notices for customers.

The system's assets are currently being GPS'd by CDP Engineering. Upon completion, the data will be compared to existing documents and compiled into a GIS map project. The project's anticipated completion data is August 2018. Upon completion, the valve exercising plan will be developed and a maintenance schedule created (by the year's end).

The most recent water loss calculations for the system are 17-18%.

V. Compliance Status - No violations observed

VI. Discharge/Emission Compliance

Comments:

VI. Compliance Status - Not Applicable

VII. Monitoring/Analyses Evaluation

Comments: Daily chlorine residuals are monitored at 5 locations throughout the distribution system. Monitoring locations are directionally based on the supplying system (Jackson Co., Mt. Vernon and Livingston).

- Jackson Co. (N)
- Brush Ck. aka Big Cave (S)(Mt. Vernon water)
- Sand Hill (E)
- Old Gauley (E)(Woods Ck. water)
- Sand Springs (W)(Mt. Vernon water)

Mr. Trowbridge maintains a monthly secondary standard check for the Hach II pocket colorimeter used for compliance monitoring. The log for 2018 was reviewed and includes all pertinent information including the standard reading and its acceptable range. The standard kit lot number is A8067 which expires 3/20.

The 4 in use Seller master meters (Mt. Vernon: at Brush Ck. and Sand Springs / Jackson Co. / Livingston at Sand Hill) are manually read once/week on Thursdays.

The system is required to collect 2 bact samples/month based on population. The system collects 5 monthly; 3 samples during the first week and 2 samples during the third week. The samples are

collected by Mr. Trowbridge and picked up by their contract lab, Fouser Environmental on the same day. Chains of custodies and laboratory analysis reports were reviewed. The contract laboratory is documenting the ambient temperature of the containers (not on ice) on the COC, hold times were met for the data reviewed. Sample collection sites are located a good distance within the distribution system but sample sites should be alternated routinely between DOW approved locations.

Special BACT samples are collected by Mr. Trowbridge and delivered to the Ky American Richmond Road lab (#00011) for analysis. As a reminder, DOW guidance states, sampling to lift the BWA in the consecutive system shall occur in conjunction with or after the BWA in the producing system has been lifted. Bacteriological samples collected for BWA Incidents 2438967 (4/17/18) and 2440380 (5/24/18) were collected prior to the collection of bacteriological samples by the seller, Mt. Vernon.

The system began process DBP monitoring in May 2018 at the Jackson MM, Sand Springs MM, and Brush Creek MM for a background level. The samples are collected by Mr. Trowbridge and analyzed by the American Water lab in Bellville, IL (#90005).

The system is required to collect 10 lead and copper samples by October 10, 2018. The samples must be collected between June and September of 2018 and from the same sites as previously tested (if possible). The system plans on conducting the monitoring in July and August.

VII. Compliance Status - No violations observed

VIII. Environmental /Health Impact

Work Site Hazard Assessment:

ATTACHED REVIEWED

Comments:

VIII. Compliance Status – No violations observed

IX. Documentation

- Samples taken by DEP
- Samples taken by outside source
- Instrument readings taken by DEP regional office
- Photographs obtained by DEP
- Copies of records obtained by DEP
- Other documentation

Inspector: Beth Trent	Title: Environmental Inspector III	Date: 6/27/18
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/

Signature:

**Overall Compliance Status**

- | | |
|-------------------------------------|---|
| <input checked="" type="checkbox"/> | No violations observed |
| <input type="checkbox"/> | No violations observed, but impending violation trends observed |
| <input type="checkbox"/> | Out of Compliance- No action taken |
| <input type="checkbox"/> | Out of Compliance- LOW Non-recurrent administrative or O & M |
| <input type="checkbox"/> | Out of Compliance - NOV |

Comments: Until the effectiveness of the e-notification submission of BWA reporting can be established, please continue to notify the London Regional Office of BWAs via email.

Delivery Method: Regular Mail

Cert. Mail #: N/A

**ENERGY AND ENVIRONMENT CABINET
 KENTUCKY DEPARTMENT FOR ENVIRONMENTAL PROTECTION
 DIVISION OF WATER
 Routine Distribution Inspection**

Site/Permit ID: KY0090287		Division: Water		Regional Office: Frankfort	
Site Name: Kentucky American Water-Millersburg			Program: Drinking Water		
Site Address: 304 E. 4th Street					
City: Millersburg		State: KY	Zip: 40348	County: Bourbon	
Inspection Type: Routine Distribution			Purpose: Comprehensive		AI #:
Inspection Date: 6/27/18			Time: Start 10:30 AM End 1:30 PM		
Latitude: N38 17' 54.7			Longitude: W84 8' 50.3		
Coordinate Collection Method: G40-Handheld receiver				Revision Code: 112108	
Drinking Water Data					
Plant Name: Kentucky American Water-Millersburg		Contact Name: Dorothy Rader			
Phone No.: 859-268-6317		Fax No: cell 423-355-8591		Email Address: dorothy.rader@amwater.com	

I. Administrative Requirements

Comments:

I. Compliance Status - Not Evaluated

II. Operator Certification/Accreditation Requirements

Operator in Charge and on duty.

Operator Name	Plant Certification #	Distribution Certification #
Jon Wes Felts		IVD 18681

Comments: [KAW employees multiple operators, Wes Felts is the main distribution operator for Millersburg area.](#)

II. Compliance Status - No violations observed

III. Record Keeping Requirements

Comments: [KAW maintains all required records at their main office located in Lexington. MOR's, daily chlorine readings, Sampling locations, THM-HAA monitoring plans, Boil water advisories, line breaks, etc are all available for review.](#)

III. Compliance Status - No violations observed

IV. Reporting Requirements

Comments: KAW reports BWA's and line breaks as required. Reporting is done several ways including electronically (email, text to cell phones). No issues observed.

IV. Compliance Status - No violations observed

V. Operation & Maintenance/Performance Requirements	
Plant Type: <input checked="" type="checkbox"/> C <input type="checkbox"/> N <input type="checkbox"/> P	Service Connections:700 Population Served:1910
Average Purchased MGD: 2.61 Max. Purchased MGD: 4.12 Contract Amount MGD:	
Source:City of Paris Water Works	Seller PWSID: KY0090343 Multiple Sellers <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

RATING CODES: S1 = No Violations Observed; S2= No Violations Observed-but impending viol trends obs; U1 = Out of Compliance-No action taken; U2= Out of Compliance-LOW non-recurrent Adm. or O & M; U3= Out of Compliance-NOV Issued; NA = Not Applicable; NE = Not Evaluated. (Add additional comments if U1-U3.)

SELLER INFORMATION	Seller # 1	Name Paris Water Works	PWSID# KY0090343 Contract Amount:	
	Seller # 2	Name	PWSID# Contract Amount:	
	Seller # 3	Name	PWSID# Contract Amount:	
	Seller # 4	Name	PWSID# Contract Amount:	
	Seller # 5	Name	PWSID# Contract Amount:	
STORAGE TANK INFORMATION	RATING	Equipment / Inspection Data	<input type="checkbox"/> Checking block means item is present:	
	S1	a) Storage Tank 1 Size:125,000 Name: Millersburg	Screened Vent: <input checked="" type="checkbox"/> Overflow <input checked="" type="checkbox"/> Telemetry: <input checked="" type="checkbox"/> Last Cleaned: Coating condition: Good	
		b) Storage Tank 2 Size: Name:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
		c) Storage Tank 3 Size: Name:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
		d) Storage Tank 4 Size: Name:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
		e) Storage Tank 5 Size: Name:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
		f) Storage Tank 6 Size: Name:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
		g) Storage Tank 7 Size: Name:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
		h) Storage Tank 8 Size: Name:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
		j) Master meter <input checked="" type="checkbox"/>	Last Calibrated: Recorder: <input type="checkbox"/>	
	GENERAL INFORMATION	S1	k) Flushing Schedule	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No/ Frequency: as needed/monitored
		S1	l) Chlorine Test Kit <input type="checkbox"/>	Type: hach Last calibrated
		S1	m) DPD reagent up-to-date	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
		S1	n) Blow-off / Hydrants on dead	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
S1		o) Monthly operating reports	<input checked="" type="checkbox"/> Daily Record Sheet <input type="checkbox"/> Agreement: <input type="checkbox"/>	
S1		p) Bacteriological monitoring	Samples per mo.4 Records: <input checked="" type="checkbox"/>	
BOOSTER PUMPS	S1	q) <input type="checkbox"/> Booster pumps <input checked="" type="checkbox"/> Disinfection	Capacity Disinfection Type: sodiumhypochlorite	
		r) <input type="checkbox"/> Booster pumps <input type="checkbox"/> Disinfection	Capacity Disinfection Type:	
		s) <input type="checkbox"/> Booster pumps <input type="checkbox"/> Disinfection	Capacity Disinfection Type:	
ON SITE OBSERVATIONS	S1	t) Site Data: E US 68 Meter	Cl. Free: Total: 1.56 pH:	
	S1	u) Site Data: N WWTP	Cl. Free: Total: .95 pH:	
	S1	v) Site Data: S Main St Marathon	Cl. Free: Total: .71 pH:	
	S1	w) Site Data: W Oak Ave	Cl. Free: Total: .64 pH:	

OTHER INFORMATION	S1	x) Cross connection program	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	S1	y) Water meter replacement	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	S1	z) Valve exercise program	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	S1	aa) Is unaccounted for water	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes what is % loss?
	S1	bb) Up to date distribution map	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Comments: DOW meet with Kentucky American Water employees, Dorothy Rader, Russell Music, and Wes Felts. Observations during the inspection included disinfection booster building, GAC filter, Millersburg storage tank, and residual samples at four locations in the distribution system. Disinfection residual at all four sample locations was within required limits. No issues observed during the inspection. All equipment is being maintained in a satisfactory

V. Compliance Status - No violations observed

VI. Discharge/Emission Compliance

Comments:

VI. Compliance Status - Not Evaluated

VII. Monitoring/Analyses Evaluation

Comments:

VII. Compliance Status - No violations observed

VIII. Environmental /Health Impact

Work Site Hazard Assessment: ATTACHED REVIEWED

Comments:

VIII. Compliance Status – No violations observed

IX. Documentation

- Samples taken by DEP
- Samples taken by outside source
- Instrument readings taken by DEP regional office
- Photographs obtained by DEP
- Copies of records obtained by DEP
- Other documentation

Inspector: Wesley Byrd	Title: Environmental Inspector III	Date: 06/27/2018
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Signature: 

Overall Compliance Status
<input checked="" type="checkbox"/> No violations observed
<input type="checkbox"/> No violations observed, but impending violation trends observed
<input type="checkbox"/> Out of Compliance- No action taken
<input type="checkbox"/> Out of Compliance- LOW Non-recurrent administrative or O & M
<input type="checkbox"/> Out of Compliance – NOV

Comments:

Delivery Method: E-mail	Cert. Mail #:
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MATTHEW G. BEVIN
GOVERNOR

CHARLES G. SNAVELY
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

ANTHONY R. HATTON
COMMISSIONER

DIVISION OF WATER
300 SOWER BLVD
FRANKFORT, KY, 40601

July 27, 2018

Ms. Dorothy Rader
KY American Water Co
2300 Richmond Rd
Lexington, Kentucky 40502

RE: KY American Water Co
AI#1063
Permit No.: KY0340250
Fayette County, Kentucky
Activity ID: CIN20180001

Dear Ms. Rader:

Attached for your information and records is a copy of the drinking water non-comprehensive inspection performed at KY American Water Co on July 3, 2018.

Please review the enclosed inspection report.

If you have any questions or comments concerning this inspection, please contact the Frankfort Regional Office at: (502) 564-3358.

Sincerely,

A handwritten signature in cursive script that reads "Deborah E. Singleton".

Deborah Singleton
Environmental Inspector
Frankfort Regional Office
Division of Water

DES
Enclosure: inspection report

**ENERGY AND ENVIRONMENT CABINET
KENTUCKY DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
Routine Surface Inspection**

Site/Permit ID: KY034025	Division: Water	Regional Office: Frankfort
Site Name: Kentucky American Water-plant A	Program: Drinking Water	
Site Address: 6300 cedar creek road		
City: Lexington	State: KY	Zip: 40515
		County: fayette
Inspection Type: Routine Surface	Purpose: Noncomprehensive	AI #: 1063
Inspection Date: 7/3/18	Time: Start 08:45 AM End 10:15 AM	
Latitude: 37 54' 16"	Longitude: -84 22' 42"	
Coordinate Collection Method: G40-Handheld receiver		Revision Code: 112108
Drinking Water Data		
Plant Name: Kentnucky American Water- plant A	Contact Name: Dorothy Rader	
Phone No.: 859-335-3660	Fax No: 859-335-3388	Email Address: dorothe.rader@amwater.com

I. Administrative Requirements

Comments: Not evaluated

I. Compliance Status - No violations observed

II. Operator Certification/Accreditation Requirements

Operator in Charge or on duty.

Operator Name	Plant Certification #	Distribution Certification #
Charles E. Brown	Class IVA#945	
Janet G Bemiss	Class IVA#1551	
Mitzi Combs	Class IVA#16301	

Comments: A list of all current plant operators was provided during the inspection.

II. Compliance Status - No violations observed

III. Record Keeping Requirements

Comments: The facility maintains the required records in an orderly manner. Records observed during the inspection include monthly oeprating reports, calibration logs, bench sheets,

operational logs, chain of custodies, and analytical information. Distribution records are maintained under the Richmond Road station.

III. Compliance Status - No violations observed

IV. Reporting Requirements

Comments: The facility provides timely reports of the required information to the Division of Water.

IV. Compliance Status - No violations observed

V. Operation & Maintenance/Performance Requirements	
Plant Type: <input checked="" type="checkbox"/> C <input type="checkbox"/> N <input type="checkbox"/> P	Service Connections: 120,000 Population Served: 321244
Average Production MGD: 22.49 MGD (7/17-6/18) Max. Production MGD: 32.29 (06/16/18) MGD	
Design Capacity MGD: 45 MGD	
Source: Kentucky River	

RATING CODES: S1=No Violations Observed; S2=No Violations Obs-but impending viol trends obs; U1=Out of Compliance-No action taken; U2= Out of Comp-LOW non-recurrent Adm. or O & M; U3= Out of Compliance-NOV; NA = Not Applicable; NE = Not Evaluated. (Add additional comments if U1-U3.)

	RATING	Equipment / Inspection Data	<input type="checkbox"/> Checking block means item is present:
CHEMICAL & PHYSICAL TREATMENT	S1	a) Intakes, pumps, piping <input checked="" type="checkbox"/>	# Of Levels1 # Pumps6 Max pump.14.4 mg
	NA	b) Aeration <input type="checkbox"/>	
	NI	c) Rapid mix <input type="checkbox"/>	Type: If other:
	NA	d) Flocculation <input type="checkbox"/>	# of Stages # of Trains Variable Speed
	S1	e) Sedimentation <input type="checkbox"/>	Type: Hydrotreator # of trains:10
	NI	f) Chemical feed coagulation	
	NI	g) Carbon Feed: <input type="checkbox"/>	Feed Site1: Feed Site 2:
	S1	h) Filters & controls	Mixed Media Filter to Waste <input checked="" type="checkbox"/>
	S1	i) Filters / size sq.ft each./ rate	# 10 Size718 Filtration Rate:4
	S1	j) Automatic analyzers:	Chlorine: <input checked="" type="checkbox"/> Turbidity: <input checked="" type="checkbox"/> Each filter: <input checked="" type="checkbox"/> pH: <input checked="" type="checkbox"/>
	NI	k) Chemical storage:	Dry on pallets? <input type="checkbox"/> Chemical containment: <input type="checkbox"/>
	NI	l) Clearwell / screened vents	Size: Baffling: <input type="checkbox"/> Locked <input type="checkbox"/> Screened <input type="checkbox"/>
	S1	m) Pumps # and size in gpm	High Service6 @ 14 Backwash @
	SITE DATA	NA	n) Site Data:	Cl. Free: Total: pH: ;
NA		o) Site Data:	Cl. Free: Total: pH:
NA		p) Site Data:	Cl. Free: Total: pH:
NA		q) Site Data:	Cl. Free: Total: pH:
DISINFECTION	NI	r) Disinfection Pre: <input type="checkbox"/> Post: <input type="checkbox"/>	Pre Type: Post type:
	NI	s) Automatic chlorinator <input type="checkbox"/>	Automatic changeover <input type="checkbox"/> Proper Fan <input type="checkbox"/>
	NI	t) Separate room & ventilation	Crash Bar <input type="checkbox"/> Alarm <input type="checkbox"/>
	NI	u) Safety equipment	SCBA <input type="checkbox"/> Ammonia <input type="checkbox"/> Detector <input type="checkbox"/>
LABORATORY & RECORDS	S1	v) Laboratory equipment	Adequate Space <input checked="" type="checkbox"/> Equipment <input type="checkbox"/> Lighting : <input type="checkbox"/>
	S1	(1) Turbidimeter <input checked="" type="checkbox"/>	Type: HACH Last calibrated: 02/2018
	S1	(2) Adequate reagent supply	<input type="checkbox"/> Yes <input type="checkbox"/> No
	NI	(3) Chlorine Test Kit <input checked="" type="checkbox"/>	Type: HACH DPD reagent up-to-date: <input type="checkbox"/> Y <input type="checkbox"/> N
	S1	w) Monthly operating reports	<input checked="" type="checkbox"/> Daily Record Sheet <input checked="" type="checkbox"/> Agreement: <input checked="" type="checkbox"/>
	S1	x) Housekeeping	good
	NI	y) Master meter ; Recorder	Raw: <input type="checkbox"/> Finished: <input type="checkbox"/> ; Raw: <input type="checkbox"/> Finished: <input type="checkbox"/>

DISTRIBUTION	NI	z) Blowoffs / hydrants; flushing	Flushing Schedule: <input type="checkbox"/> Blowoffs on deadends: <input type="checkbox"/>
	NI	aa) Water storage:	# of Tanks Total Storage:
	NI	bb) Booster pumps / chlorinators	Booster pumps: <input type="checkbox"/> Booster chlorinators: <input type="checkbox"/>
PLANT ON SITE OBSERVATION	S1	cc) Plant Data:	Cl free: total: 3.14 pH: 6.9
	S1	dd) Turbidity	Raw:73 Settled: Combined Filter:0.04
	NI	ee) Bacteriological monitoring	Samples per mo.185 Records: <input checked="" type="checkbox"/>
	NI	ff) No cross-connections observed	None observed: <input type="checkbox"/> Observed: <input type="checkbox"/> Program: <input type="checkbox"/>
	S1	gg) Wastewater discharge	KPDES Is sizing adequate? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> NO

Comments: The facility was clean and operational at the time of the inspection. The intake structure was observed during the inspection. No major concerns were noted. All pumps are operational and used on a rotation basis. The facility is replacing the tram. Outfall 001, the intake screen wash water has been removed from the wastewater permit. Flow enters the plant through a rapid mix and is then processed through one of ten hydrotreaters. The facility has been in the process of rehabing the hydrotreaters and rebuilding the valve/ pump houses associated with them. All but hydrotreaters 9 & 10 have been done and they are scheduled for the winter of 2018. A new high service vertical pump has been installed leaving only one horizontal pump. On-line instrumentation is less then three years old.

The laboratory was satisfactory. Standards were observed to be current. The plant online chlorine reading was 3.07 and the in lab reading was 3.14.

V. Compliance Status - No violations observed

VI. Discharge/Emission Compliance

Comments: The facility holds KPDES Permit #KY0091049. A wastewater compliance inspection was conducted along with the drinking water inspection. Facility found to be in compliance.

VI. Compliance Status - No violations observed

VII. Monitoring/Analyses Evaluation

Comments: Not evaluated.

VII. Compliance Status - Not Evaluated

VIII. Environmental /Health Impact

Work Site Hazard Assessment : ATTACHED REVIEWED

Comments: Wear appropriate boots and gear. Safety precautions taken.

VIII. Compliance Status – No violations observed

IX. Documentation

- Samples taken by DEP
 Samples taken by outside source
 Instrument readings taken by DEP regional office
 Photographs obtained by DEP
 Copies of records obtained by DEP
 Other documentation

Inspector: Deborah Singleton**Title:** Environmental Inspector III**Date:** 07/05/2018**Signature:**

Overall Compliance Status

- No violations observed
 No violations observed, but impending violation trends observed
 Out of Compliance- No action taken
 Out of Compliance LOW non-recurrent administrative or O & M
 Out of Compliance - NOV

Comments:

Delivery Method: Regular Mail

Cert. Mail #:



MATTHEW G. BEVIN
GOVERNOR

CHARLES G. SNAVELY
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

ANTHONY R. HATTON
COMMISSIONER

DIVISION OF WATER
300 SOWER BLVD
FRANKFORT, KY, 40601

September 24, 2018

Ms. Dorothy Rader
KY American Water Co
2300 Richmond Rd
Lexington, Kentucky 40502

RE: KY American Water Co
AI#1063
Permit No.: KY0340250
Fayette County, Kentucky
Activity ID: CIN20180005

Dear Ms. Rader:

Attached for your information and records is a copy of the drinking water non-comprehensive inspection performed at KY American Water Co on September 10, 2018.

Please review the enclosed inspection report.

If you have any questions or comments concerning this inspection, please contact the Frankfort Regional Office at: (502) 564-3358.

Sincerely,

Deborah Singleton
Environmental Inspector
Frankfort Regional Office
Division of Water

DES
Enclosure: inspection report



**ENERGY AND ENVIRONMENT CABINET
KENTUCKY DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
Routine Surface Inspection**

Site/Permit ID: KY0340250	Division: Water	Regional Office: Frankfort
Site Name: Kentucky American Water Plant C	Program: Drinking Water	
Site Address: 16035 Hwy 127 South		
City: Owenton	State: KY	Zip: 40359
		County: owen
Inspection Type: Routine Surface	Purpose: Noncomprehensive	AI #: 1063
Inspection Date: 9/10/18	Time: Start 09:30 AM End 11:45 AM	
Latitude:	Longitude:	
Coordinate Collection Method: G40-Handheld receiver		Revision Code: 112108
Drinking Water Data		
Plant Name: Kentucky River Station #2	Contact Name: Dorothy Rader	
Phone No.: 859-335-3660	Fax No: 859-335-3388	Email Address: Dorothy.Rader@amwater.com

I. Administrative Requirements

Comments: Not Evaluated. Non-comprehensive inspection performed.

I. Compliance Status - Not Evaluated

II. Operator Certification/Accreditation Requirements

Operator in Charge or on duty.

Operator Name	Plant Certification #	Distribution Certification #
William Allen	Class IV #20649	
Ralph Pittman	Class IV #29309	
Jarold Jackson	IVA#20948	

Comments: Monthly Operating Reports list current shift in charge operators. Certifications are current.

II. Compliance Status - No violations observed

III. Record Keeping Requirements

Comments: The facility maintains the required records in an orderly manner. Records observed during the inspection include monthly operating reports, calibration logs, analytical information, BacT logs, and BMP inspections.

III. Compliance Status - No violations observed

IV. Reporting Requirements

Comments: The facility provides timely reports to the Division of Water as required.

IV. Compliance Status - No violations observed

V. Operation & Maintenance/Performance Requirements	
Plant Type: <input checked="" type="checkbox"/> C <input type="checkbox"/> N <input type="checkbox"/> P	Service Connections: _____ Population Served: _____
Average Production MGD: 8.54 Max. Production MGD: 17.99 Design Capacity MGD: 20.0	
Source: Kentucky River pool #3	

RATING CODES: S1=No Violations Observed; S2=No Violations Obs-but impending viol trends obs; U1=Out of Compliance-No action taken; U2= Out of Comp-LOW non-recurrent Adm. or O & M; U3= Out of Compliance-NOV; NA = Not Applicable; NE = Not Evaluated. **(Add additional comments if U1-U3.)**

	RATING	Equipment / Inspection Data	<input type="checkbox"/> Checking block means item is present:	
CHEMICAL & PHYSICAL TREATMENT	NI	a) Intakes, pumps, piping <input type="checkbox"/>	# Of Levels # Pumps Max pump.	
	NI	b) Aeration <input type="checkbox"/>		
	NI	c) Rapid mix <input type="checkbox"/>	Type: If other:	
	NI	d) Flocculation <input type="checkbox"/>	# of Stages # of Trains Variable Speed	
	S1	e) Sedimentation <input checked="" type="checkbox"/>	Type: Conventional # of trains:4	
	S1	f) Chemical feed coagulation	Polyaluminum Cl/SO4	
	NA	g) Carbon Feed: <input type="checkbox"/>	Feed Site1: Feed Site 2:	
	S1	h) Filters & controls	Mixed Media Filter to Waste <input checked="" type="checkbox"/>	
	S1	i) Filters / size sq.ft each./ rate	# 5 Size702 Filtration Rate:5	
	S1	j) Automatic analyzers:	Chlorine: <input type="checkbox"/> Turbidity: <input type="checkbox"/> Each filter: <input type="checkbox"/> pH: <input type="checkbox"/>	
	S1	k) Chemical storage:	Dry on pallets? <input type="checkbox"/> Chemical containment: <input type="checkbox"/>	
	NI	l) Clearwell / screened vents	Size: Baffling: <input type="checkbox"/> Locked <input type="checkbox"/> Screened <input type="checkbox"/>	
	NI	m) Pumps # and size in gpm	High Service @ Backwash @	
	SITE DATA	S1	n) Site Data: Brock tank-DOW	Cl. Free: Total: 2.18 pH: _____
		S1	o) Site Data: brock tank-KAW	Cl. Free: Total: 2.24 pH: _____
S1		p) Site Data: McDonalds-DOW	Cl. Free: Total: 1.56 pH: _____	
S1		q) Site Data: McDonalds-KAW	Cl. Free: Total: 1.58 pH: _____	
DISINFECTION	S1	r) Disinfection Pre: <input type="checkbox"/> Post: <input checked="" type="checkbox"/>	Pre Type: Post type: Chlorine gas	
	S1	s) Automatic chlorinator <input checked="" type="checkbox"/>	Automatic changeover <input checked="" type="checkbox"/> Proper Fan <input type="checkbox"/>	
	S1	t) Separate room & ventilation	Crash Bar <input checked="" type="checkbox"/> Alarm <input type="checkbox"/>	
	S1	u) Safety equipment	SCBA <input type="checkbox"/> Ammonia <input checked="" type="checkbox"/> Detector <input type="checkbox"/>	
LABORATORY & RECORDS	S1	v) Laboratory equipment	Adequate Space <input type="checkbox"/> Equipment <input type="checkbox"/> Lighting : <input type="checkbox"/>	
	S1	(1) Turbidimeter <input checked="" type="checkbox"/>	Type: HACH Last calibrated: Feb 2018	
	S1	(2) Adequate reagent supply	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	S1	(3) Chlorine Test Kit <input checked="" type="checkbox"/>	Type: HACH DPD reagent up-to-date: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
	S1	w) Monthly operating reports	<input checked="" type="checkbox"/> Daily Record Sheet <input checked="" type="checkbox"/> Agreement: <input checked="" type="checkbox"/>	
	S1	x) Housekeeping	Good	
	NI	y) Master meter ; Recorder	Raw: <input type="checkbox"/> Finished: <input type="checkbox"/> ; Raw: <input type="checkbox"/> Finished: <input type="checkbox"/>	

DISTRIBUTION	NI	z) Blowoffs / hydrants; flushing	Flushing Schedule: <input type="checkbox"/> Blowoffs on deadends: <input type="checkbox"/>
	NI	aa) Water storage:	# of Tanks Total Storage:
	NI	bb) Booster pumps / chlorinators	Booster pumps: <input type="checkbox"/> Booster chlorinators: <input type="checkbox"/>
PLANT ON SITE OBSERVATION	NI	cc) Plant Data:	Cl free: total: pH:
	NI	dd) Turbidity	Raw: Settled: Combined Filter:
	NI	ee) Bacteriological monitoring	Samples per mo. Records: <input type="checkbox"/>
	NI	ff) No cross-connections observed	None observed: <input type="checkbox"/> Observed: <input type="checkbox"/> Program: <input type="checkbox"/>
	S1	gg) Wastewater discharge	Is sizing adequate? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> NO

Comments: A Division of Water non-comprehensive inspection was performed on September 10, 2018. No major concerns were noted during the inspection. The laboratory, sedimentation basins, chemical storage area, and filters were observed. The basins are cleaned monthly. Filters were observed in operation with no issues noted.

Chemical storage areas are marked appropriately and are secure. The laboratory was satisfactory. Standards were observed to be current. Standard operating procedures are in place. Records observed include analytical bench sheets, temperature log books, and calibration logs. Instrumentation is calibrated by an outside source periodically and by facility personnel daily.

The Brock tank was observed during the inspection. The tank was fenced and secure. Chlorine residuals were obtained in the distribution system. The results were comparable and in the acceptable range.

V. Compliance Status - No violations observed

VI. Discharge/Emission Compliance

Comments: The facility holds KPDES Permit #KYG640175 for filter backwash waters. Wastewater compliance inspection performed during the drinking water inspection.

VI. Compliance Status - No violations observed

VII. Monitoring/Analyses Evaluation

Comments: Not evaluated.

VII. Compliance Status - Not Evaluated

VIII. Environmental/Health Impact

Work Site Hazard Assessment : ATTACHED REVIEWED

Comments: No major concerns were noted.

VIII. Compliance Status – No violations observed

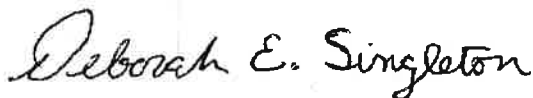
IX. Documentation

- Samples taken by DEP**
- Samples taken by outside source**
- Instrument readings taken by DEP regional office**
- Photographs obtained by DEP**
- Copies of records obtained by DEP**
- Other documentation**

Inspector: Deborah Singleton

Title: Environmental Inspector III

Date: 09/12/2018



Signature:

Overall Compliance Status

- No violations observed**
- No violations observed, but impending violation trends observed**
- Out of Compliance- No action taken**
- Out of Compliance LOW non-recurrent administrative or O & M**
- Out of Compliance - NOV**

Comments:

Delivery Method: Regular Mail

Cert. Mail #:



MATTHEW G. BEVIN
GOVERNOR

CHARLES G. SNAVELY
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

ANTHONY R. HATTON
COMMISSIONER

DIVISION OF WATER
300 SOWER BLVD
FRANKFORT, KY, 40601

September 24, 2018

Ms. Dorothy Rader
KY American Water Co
2300 Richmond Rd
Lexington, Kentucky 40502

RE: KY American Water Co
AI#1063
Permit No.: KY0340250
Fayette County, Kentucky
Activity ID: CIN20180006

Dear Ms. Rader:

Attached for your information and records is a copy of the drinking water non-comprehensive inspection performed at KY American Water Co on September 20, 2018.

Please review the enclosed inspection report.

If you have any questions or comments concerning this inspection, please contact the Frankfort Regional Office at: (502) 564-3358.

Sincerely,

A handwritten signature in cursive script that reads "Deborah E. Singleton".

Deborah Singleton
Environmental Inspector
Frankfort Regional Office
Division of Water

DES
Enclosure: inspection report

**ENERGY AND ENVIRONMENT CABINET
KENTUCKY DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
Routine Surface Inspection**

Site/Permit ID: KY0340250	Division: Water	Regional Office: Frankfort
Site Name: Kentucky American Water- Plant B	Program: Drinking Water	
Site Address: 2300 Richmond road		
City: Lexington	State: KY	Zip: 40502
		County: fayette
Inspection Type: Routine Surface	Purpose: Noncomprehensive	AI #: 1063
Inspection Date: 9/20/18	Time: Start 08:30 AM End 13:30 PM	
Latitude: 37 59' 24"	Longitude: 84 26' 11"	
Coordinate Collection Method: G40-Handheld receiver		Revision Code: 112108
Drinking Water Data		
Plant Name: Kentucky American Water	Contact Name: Dorothy Rader	
Phone No.: 859-335-3600	Fax No: 859-335-3388	Email Address: Dorothy.Rader@amwater.com

I. Administrative Requirements

Comments: The facility has not had any enforcement actions this review period.

I. Compliance Status - No violations observed

II. Operator Certification/Accreditation Requirements

Operator in Charge or on duty.

Operator Name	Plant Certification #	Distribution Certification #
Benjaman Corbin	IVA, #16483	
David Treece		IVD, #30510
Ray Banks	IV, #20068	

Comments: A full list of operators is on record with the Division of Wter.

II. Compliance Status - No violations observed

III. Record Keeping Requirements

Comments: The facility maintains the required records in an orderly manner. Records observed during the inspection include monthly operating reports, maintenance logs, analytical information, bench sheets, calibration logs, and temperature logs.

III. Compliance Status - No violations observed

IV. Reporting Requirements

Comments: The facility provides timel reports the Division of Water and the regional offices.

IV. Compliance Status - No violations observed

V. Operation & Maintenance/Performance Requirements

Plant Type: C N P Service Connections:120,000 Population Served:321,244

Average Production MGD: 10.12 Max. Production MGD: 21.31 Design Capacity MGD: 25

Source:

RATING CODES: S1=No Violations Observed; S2=No Violations Obs-but impending viol trends obs; U1=Out of Compliance-No action taken; U2= Out of Comp-LOW non-recurrent Adm. or O & M; U3= Out of Compliance-NOV; NA = Not Applicable; NE = Not Evaluated. (Add additional comments if U1-U3.)

	RATING	Equipment / Inspection Data	<input type="checkbox"/> Checking block means item is present:
CHEMICAL & PHYSICAL TREATMENT	S1	a) Intakes, pumps, piping <input checked="" type="checkbox"/>	# Of Levels1 # Pumps3 Max pump.23
	NA	b) Aeration <input type="checkbox"/>	
	NI	c) Rapid mix <input type="checkbox"/>	Type: If other:
	S1	d) Flocculation <input checked="" type="checkbox"/>	# of Stages2 # of Trains2 Variable Speed yes
	S1	e) Sedimentation <input checked="" type="checkbox"/>	Type: Conventional # of trains:4
	NI	f) Chemical feed coagulation	
	NA	g) Carbon Feed: <input type="checkbox"/>	Feed Site1: Feed Site 2:
	S1	h) Filters & controls	Mixed Media Filter to Waste <input checked="" type="checkbox"/>
	S1	i) Filters / size sq.ft each./ rate	# 8 Size Filtration Rate:4
	S1	j) Automatic analyzers:	Chlorine: <input checked="" type="checkbox"/> Turbidity: <input checked="" type="checkbox"/> Each filter: <input checked="" type="checkbox"/> pH: <input type="checkbox"/>
	NI	k) Chemical storage:	Dry on pallets? <input type="checkbox"/> Chemical containment: <input type="checkbox"/>
	NI	l) Clearwell / screened vents	Size: Baffling: <input type="checkbox"/> Locked <input type="checkbox"/> Screened <input type="checkbox"/>
	NI	m) Pumps # and size in gpm	High Service @ Backwash @
	SITE DATA	S1	n) Site Data: Hume road	Cl. Free:DOW Total: 1.34 pH: KAW :1.39
S1		o) Site Data: Speedway-NC	Cl. Free:DOW Total: 1.97 pH: KAW 2.23
S1		p) Site Data: Speedway-TC	Cl. Free:DOW Total: >2.20 pH: KAW 2.65
S1		q) Site Data:	Cl. Free: Total: pH:
DISINFECTION	S1	r) Disinfection Pre: <input checked="" type="checkbox"/> Post: <input checked="" type="checkbox"/>	Pre Type: Chlorine gas Post type: Chlorine gas
	S1	s) Automatic chlorinator <input checked="" type="checkbox"/>	Automatic changeover <input checked="" type="checkbox"/> Proper Fan <input checked="" type="checkbox"/>
	S1	t) Separate room & ventilation	Crash Bar <input checked="" type="checkbox"/> Alarm <input checked="" type="checkbox"/>
	S1	u) Safety equipment	SCBA <input checked="" type="checkbox"/> Ammonia <input checked="" type="checkbox"/> Detector <input checked="" type="checkbox"/>
LABORATORY & RECORDS	S1	v) Laboratory equipment	Adequate Space <input checked="" type="checkbox"/> Equipment <input checked="" type="checkbox"/> Lighting : <input checked="" type="checkbox"/>
	S1	(1) Turbidimeter <input checked="" type="checkbox"/>	Type: HACH Last calibrated: 02/2018
	S1	(2) Adequate reagent supply	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	S1	(3) Chlorine Test Kit <input checked="" type="checkbox"/>	Type: HACH DPD reagent up-to-date: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
	S1	w) Monthly operating reports	<input checked="" type="checkbox"/> Daily Record Sheet <input checked="" type="checkbox"/> Agreement: <input checked="" type="checkbox"/>
	S1	x) Housekeeping	good
DISTRIBUTION	S1	y) Master meter ; Recorder	Raw: <input checked="" type="checkbox"/> Finished: <input checked="" type="checkbox"/> ; Raw: <input checked="" type="checkbox"/> Finished: <input checked="" type="checkbox"/>
	S1	z) Blowoffs / hydrants; flushing	Flushing Schedule: <input checked="" type="checkbox"/> Blowoffs on deadends: <input checked="" type="checkbox"/>
	S1	aa) Water storage:	# of Tanks 22 Total Storage: 27.25MG
	NI	bb) Booster pumps / chlorinators	Booster pumps: <input type="checkbox"/> Booster chlorinators: <input type="checkbox"/>

PLANT ON SITE OBSERVATION	S1	cc) Plant Data:	Cl free: total: 3.3 pH: 7.1
	S1	dd) Turbidity	Raw:8 Settled:0.38 Combined Filter:0.028
	S1	ee) Bacteriological monitoring	Samples per mo.185 Records: <input checked="" type="checkbox"/>
	S1	ff) No cross-connections observed	None observed: <input checked="" type="checkbox"/> Observed: <input type="checkbox"/> Program: <input checked="" type="checkbox"/>
	S1	gg) Wastewater discharge	Is sizing adequate? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> NO

Comments: The Division of Water conducted a non-comprehensive drinking water inspection on September 20, 2018. The inspection included a tour of the facility's processes, laboratory, intake and the KAW distribution system. No major concerns were noted during the inspection. The facility was clean and operational . Construction is underway with a new chemical building to replace the chlorine gas the facility currently uses with liquid chlorine. Sediment basins are cleaned at least once a quarter. Six to seven filters are usually online at one time. Online instrumentation is in working order. Instrumentation was last calibrated by an outside source, Labtronix, on February 20, 2018.

The laboratory was satisfactory. Standards were observed to be current. Bench sheets, analytical information, calibration logs, and temperature logs are maintained. Standard operating procedures are in place.

The following tanks were observed during the inspection: Hume road, Mercer, Clay's Mill, and the arboretum . The tanks were fence, flappered, and secured. all tanks have been recently inspected and cleaned. Chlorine readings in the distribution system were within acceptable limits. Additional chlorine readings were taken along with the chlorine readings in the section above.

Clays Mill: DOW- 1.52; KAW- 1.57; tank on-line meter- 1.61.
 Mercer Road: DOW- 1.69; KAW- 1.78; tank on-line meter- 1.63

V. Compliance Status - No violations observed

VI. Discharge/Emission Compliance

Comments: The facility holds KPDES Permit #KY0093301. An inspection was performed and the facility found to be in compliance.

VI. Compliance Status - No violations observed

VII. Monitoring/Analyses Evaluation

Comments: Not evaluated.

VII. Compliance Status - Not Evaluated

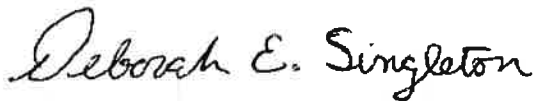
VIII. Environmental /Health Impact

Work Site Hazard Assessment : ATTACHED REVIEWED

Comments: No major concerns were noted at the time of the inspection.

VIII. Compliance Status – No violations observed**IX. Documentation**

- Samples taken by DEP
 Samples taken by outside source
 Instrument readings taken by DEP regional office
 Photographs obtained by DEP
 Copies of records obtained by DEP
 Other documentation

Inspector: Deborah Singleton**Title:** Environmental Inspector III**Date:** 09/21/2018

Signature:**Overall Compliance Status**

- No violations observed
 No violations observed, but impending violation trends observed
 Out of Compliance- No action taken
 Out of Compliance LOW non-recurrent administrative or O & M
 Out of Compliance - NOV

Comments:

Delivery Method: Regular Mail

Cert. Mail #:



MATTHEW G. BEVIN
GOVERNOR

CHARLES G. SNAVELY
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

ANTHONY R. HATTON
COMMISSIONER

DIVISION OF WATER
300 SOWER BLVD
FRANKFORT, KY, 40601

August 19, 2019

Ms. Dorothy Rader
KY American Water Co
2300 Richmond Rd
Lexington, Kentucky 40502

RE: KY American Water Co
AI#1063
Permit No.: KY0340250
Fayette County, Kentucky
Activity ID: CIN20190002

Dear Ms. Rader:

Attached for your information and records is a copy of the drinking water comprehensive inspection performed at KY American Water Co on July 19, 2019.

Please review the enclosed inspection report

If you have any questions or comments concerning this inspection, please contact the Frankfort Regional Office at: (502) 564-3358.

Sincerely,

A handwritten signature in cursive script that reads "Deborah E. Singleton".

Deborah Singleton
Environmental Inspector
Frankfort Regional Office
Division of Water

DES
Enclosure: Inspection Report



**ENERGY AND ENVIRONMENT CABINET
KENTUCKY DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
Routine Surface Inspection**

Site/Permit ID: KY0340250	Division: Water	Regional Office: Frankfort
Site Name: Kentucky American Water-Plant A	Program: Drinking Water	
Site Address: 6300 Cedar Creek Road		
City: lexington	State: KY	Zip: 40515 County: Fayette
Inspection Type: Routine Surface	Purpose: Comprehensive	AI #: 1063
Inspection Date: 7/19/19	Time: Start 08:30 AM End 10:30 AM	
Latitude: 37 54' 16"	Longitude: 84 22' 42"	
Coordinate Collection Method: G40-Handheld receiver		Revision Code: 112108
Drinking Water Data		
Plant Name: Kentucky American Water	Contact Name: Dorothy Rader	
Phone No.: 859-335-3660	Fax No: 859-335-3388	Email Address: dorothy.rader@amwater.com

I. Administrative Requirements

Comments: The facility has not received any enforcement actions since the previous inspection.

I. Compliance Status - No violations observed

II. Operator Certification/Accreditation Requirements

Operator in Charge or on duty.

Operator Name	Plant Certification #	Distribution Certification #
Mitzi Combs	IVA#16301	
Edwin Sturgis	IVA#81	I
Janet Bemiss	IVA#1551	

Comments: Mitzi Combs is the KAW River station #1 Production Supervisor. Justin Sensabaugh is in charge of the distribution system: active Class IVD, license #20165. A full list of operators was provided during the inspection.

II. Compliance Status - No violations observed

III. Record Keeping Requirements

Comments: The facility maintains the required records in an orderly manner. Records observed during the inspection include: monthly operating reports, analytical information, laboratory bench sheets, calibration logs, temperature logs, inspection reports and operation & maintenance spreadsheets. Disxtribution records are maintained under the Richmond Road station.

III. Compliance Status - No violations observed

IV. Reporting Requirements

Comments: The facility provides the required reports to the Division of Water in a timely manner.

IV. Compliance Status - No violations observed

V. Operation & Maintenance/Performance Requirements	
Plant Type: <input checked="" type="checkbox"/> C <input type="checkbox"/> N <input type="checkbox"/> P	Service Connections: 128596 Population Served: 321244
Average Production MGD: 23 (7/18-6/19) Max. Production MGD: 30.1 06/30/19 Design Capacity MGD: 45	
Source: Kentucky River	

RATING CODES: S1=No Violations Observed; S2=No Violations Obs-but impending viol trends obs; U1=Out of Compliance-No action taken; U2= Out of Comp-LOW non-recurrent Adm. or O & M; U3= Out of Compliance-NOV; NA = Not Applicable; NE = Not Evaluated. (Add additional comments if U1-U3.)

	RATING	Equipment / Inspection Data	<input type="checkbox"/> Checking block means item is present: # Of Levels1 # Pumps6 Max pump.14.4 MG
CHEMICAL & PHYSICAL TREATMENT	NI	a) Intakes, pumps, piping <input type="checkbox"/>	
	NA	b) Aeration <input type="checkbox"/>	
	S1	c) Rapid mix <input checked="" type="checkbox"/>	Type: Mechanical paddle If other:
	NA	d) Flocculation <input type="checkbox"/>	# of Stages # of Trains Variable Speed
	S1	e) Sedimentation <input checked="" type="checkbox"/>	Type: Hydrotreator # of trains: 10
	S1	f) Chemical feed coagulation	
	NA	g) Carbon Feed: <input type="checkbox"/>	Feed Site1: Feed Site 2:
	S1	h) Filters & controls	Mixed Media Filter to Waste <input checked="" type="checkbox"/>
	S1	i) Filters / size sq.ft each./ rate	# 10 Size718 Filtration Rate:4
	S1	j) Automatic analyzers:	Chlorine: <input checked="" type="checkbox"/> Turbidity: <input checked="" type="checkbox"/> Each filter: <input checked="" type="checkbox"/> pH: <input checked="" type="checkbox"/>
	S1	k) Chemical storage:	Dry on pallets? <input checked="" type="checkbox"/> Chemical containment: <input checked="" type="checkbox"/>
	S1	l) Clearwell / screened vents	Size:3 MG Baffling: <input checked="" type="checkbox"/> Locked <input checked="" type="checkbox"/> Screened <input checked="" type="checkbox"/>
	S1	m) Pumps # and size in gpm	High Service6 @ 14 Backwash @
SITE DATA	NA	n) Site Data:	Cl. Free: Total: pH: :
	NA	o) Site Data:	Cl. Free: Total: pH: :
	NA	p) Site Data:	Cl. Free: Total: pH: :
	NA	q) Site Data:	Cl. Free: Total: pH: :
DISINFECTION	S1	r) Disinfection Pre: <input checked="" type="checkbox"/> Post: <input checked="" type="checkbox"/>	Pre Type: Chlorine gas Post type: Chloramine
	S1	s) Automatic chlorinator <input checked="" type="checkbox"/>	Automatic changeover <input checked="" type="checkbox"/> Proper Fan <input checked="" type="checkbox"/>
	S1	t) Separate room & ventilation	Crash Bar <input checked="" type="checkbox"/> Alarm <input checked="" type="checkbox"/>
	S1	u) Safety equipment	SCBA <input checked="" type="checkbox"/> Ammonia <input checked="" type="checkbox"/> Detector <input checked="" type="checkbox"/>
	S1	v) Laboratory equipment	Adequate Space <input checked="" type="checkbox"/> Equipment <input checked="" type="checkbox"/> Lighting : <input checked="" type="checkbox"/>
LABORATORY & RECORDS	S1	(1) Turbidimeter <input checked="" type="checkbox"/>	Type: HACH Last calibrated: 02/2019
	S1	(2) Adequate reagent supply	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	S1	(3) Chlorine Test Kit <input checked="" type="checkbox"/>	Type: HACH DPD reagent up-to-date: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N

DISTRIBUTION	S1	w) Monthly operating reports	<input checked="" type="checkbox"/> Daily Record Sheet <input checked="" type="checkbox"/> Agreement: <input checked="" type="checkbox"/>
	S1	x) Housekeeping	good
	NA	y) Master meter ; Recorder	Raw: <input type="checkbox"/> Finished: <input type="checkbox"/> ; Raw: <input type="checkbox"/> Finished: <input type="checkbox"/>
	NA	z) Blowoffs / hydrants; flushing	Flushing Schedule: <input type="checkbox"/> Blowoffs on deadends: <input type="checkbox"/>
	NA	aa) Water storage:	# of Tanks Total Storage:
PLANT ON SITE OBSERVATION	S1	bb) Booster pumps / chlorinators	Booster pumps: <input checked="" type="checkbox"/> Booster chlorinators: <input type="checkbox"/>
	S1	cc) Plant Data:	Cl free: total: 3.0 pH: 7.1
	S1	dd) Turbidity	Raw:47 Settled:5.2 Combined Filter:0.05
	S1	ee) Bacteriological monitoring	Samples per mo.185 Records: <input checked="" type="checkbox"/>
	S1	ff) No cross-connections observed	None observed: <input checked="" type="checkbox"/> Observed: <input type="checkbox"/> Program: <input checked="" type="checkbox"/>
	NI	gg) Wastewater discharge	Is sizing adequate? <input type="checkbox"/> Yes <input type="checkbox"/> NO

Comments: The facility was clean and operational at the time of the inspection. A new intake access car system is under construction. Dorothy Rader and Mitzi Combs assisted with the facility walk through. Flow is directed through arapid mix where DePAC 202 and other polymers are added. Water is them processed through hydrotreators. All five hydrotreator valve houses have been reworked and new Swan Sewnaos Turbiwell instrumentation has been installed. Weekly calibration checks are performed on all sampling equipment by facility personnel. A new THM on-line analyzer has been installed on the plant effluent. The clearwell was last inspected in January 2016. A new chemical building is under construction. The facility will convert to using liquid chlorine instead of chlorine gas. Chemical areas are marked appropriately and are secure. The chlorine and ammonia rooms are equipped with crash bar, alarm, ventilation system and a scrubber.

The laboratory was satisfactory. Standards were observed to be current. Records observed during the inspection include analytical bench sheets, temperature log books, and calibration logs. Laboratory instrumentation was calibrated in February 2019. The plant on-line chlorine and bench top chlorine readings were comparable.

The distribution system for this plant is associated with the Richmond Road facility.

V. Compliance Status - No violations observed

VI. Discharge/Emission Compliance

Comments: Not evaluated.

VI. Compliance Status - Not Evaluated

VII. Monitoring/Analyses Evaluation

Comments: The facillity performs the required monitoring and analysis.

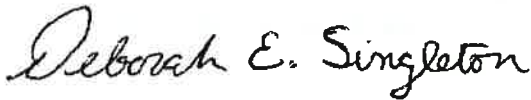
VII. Compliance Status - No violations observed

VIII. Environmental /Health Impact

Work Site Hazard Assessment :

 ATTACHED REVIEWED**Comments: No major concerns were noted at the time of the inspection.****VIII. Compliance Status – No violations observed****IX. Documentation**

- Samples taken by DEP
 Samples taken by outside source
 Instrument readings taken by DEP regional office
 Photographs obtained by DEP
 Copies of records obtained by DEP
 Other documentation

Inspector: Deborah Singleton**Title:** Environmental Inspector III**Date:** 07/30/2019

Signature:**Overall Compliance Status**

- No violations observed
 No violations observed, but impending violation trends observed
 Out of Compliance- No action taken
 Out of Compliance LOW non-recurrent administrative or O & M
 Out of Compliance - NOV

Comments:**Delivery Method:** Regular Mail**Cert. Mail #:**



MATTHEW G. BEVIN
GOVERNOR

CHARLES G. SNAVELY
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

ANTHONY R. HATTON
COMMISSIONER

DIVISION OF WATER
300 SOWER BLVD
FRANKFORT, KY, 40601

August 8, 2019

Ms. Dorothy Rader
KY American Water Co
2300 Richmond Rd
Lexington, Kentucky 40502

RE: KY American Water Co
AI# 1063
Permit No.: KY0340250
Fayette County, Kentucky
Activity ID: CIN20190003

Dear Ms. Rader:

Attached for your information and records is a copy of the drinking water comprehensive inspection performed at KY American Water Co on July 19, 2019.

Please review the enclosed inspection report.

If you have any questions or comments concerning this inspection, please contact the Frankfort Regional Office at: (502) 564-3358.

Sincerely,

A handwritten signature in cursive script that reads "Deborah E. Singleton".

Deborah Singleton
Environmental Inspector
Frankfort Regional Office
Division of Water

DES
Enclosure: Inspection Report

**ENERGY AND ENVIRONMENT CABINET
KENTUCKY DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
Routine Surface Inspection**

Site/Permit ID: KY0340250	Division: Water	Regional Office: Frankfort
Site Name: Kentucky American Water- Plant B	Program: Drinking Water	
Site Address: 2300 Richmond Road		
City: Lexington	State: KY	Zip: 40502 County: Fayette
Inspection Type: Routine Surface	Purpose: Comprehensive	AI #: 1063
Inspection Date: 7/19/19	Time: Start 10:00 AM End 15:30 PM	
Latitude: 37 39' 24"	Longitude: 84 26' 11"	
Coordinate Collection Method: G40-Handheld receiver		Revision Code: 112108
Drinking Water Data		
Plant Name: Kentucky American Water- Plant-B	Contact Name: Dorothy Rader	
Phone No.: 423-355-8591	Fax No: 859-335-3388	Email Address: dorothy.rader@amwater.com

I. Administrative Requirements

Comments: The facility has not received any enforcement actions since the previous inspection.

I. Compliance Status - No violations observed

II. Operator Certification/Accreditation Requirements

Operator in Charge or on duty.

Operator Name	Plant Certification #	Distribution Certification #
Nathan Coyle	IVA#31126	
Benjamin Corbin	IVA#16483	
Mark Mullins	IVA#2145	

Comments: Brandon Smith is the KAW Richmond Road Station Production Supervisor. Justin Sensabaugh is in charge of the distribution system: active Class IVD, license #20165. A full list of operators was provided during the inspection.

II. Compliance Status - No violations observed

III. Record Keeping Requirements

Comments: The facility maintains the required records in an orderly manner. Records observed during the inspection include: monthly operating reports, analytical information, laboratory bench sheets, calibration logs, temperature logs, inspection reports and operation & maintenance spreadsheets. Distribution records are maintained at the distribution office.

III. Compliance Status - No violations observed

IV. Reporting Requirements

Comments: The facility provides the required reports to the Division of Water in a timely manner.

IV. Compliance Status - No violations observed

V. Operation & Maintenance/Performance Requirements	
Plant Type: <input checked="" type="checkbox"/> C <input type="checkbox"/> N <input type="checkbox"/> P	Service Connections: 128,596 Population Served: 345,923
Average Production MGD: 9 MG for 07/18-06/19 Max. Production MGD: 20 MG on 05/22/2019	
Design Capacity MGD: 25 MGD	
Source: Kentucky River and Jacobson Reservoir.	

RATING CODES: S1=No Violations Observed; S2=No Violations Obs-but impending viol trends obs; U1=Out of Compliance-No action taken; U2= Out of Comp-LOW non-recurrent Adm. or O & M; U3= Out of Compliance-NOV; NA = Not Applicable; NE = Not Evaluated. (Add additional comments if U1-U3.)

	RATING	Equipment / Inspection Data	<input type="checkbox"/> Checking block means item is present: # Of Levels # Pumps Max pump.
CHEMICAL & PHYSICAL TREATMENT	NI	a) Intakes, pumps, piping <input type="checkbox"/>	
	NA	b) Aeration <input type="checkbox"/>	
	S1	c) Rapid mix <input checked="" type="checkbox"/>	Type: <u>Mechanical paddle</u> If other:
	S1	d) Flocculation <input type="checkbox"/>	# of Stages ² # of Trains ² Variable Speed ^{yes}
	S1	e) Sedimentation <input type="checkbox"/>	Type: <u>Conventional</u> # of trains: 4
	S1	f) Chemical feed coagulation	<u>Alum-polymer blends</u>
	NA	g) Carbon Feed: <input type="checkbox"/>	Feed Site1: Feed Site 2:
	S1	h) Filters & controls	<u>Mixed Media</u> Filter to Waste <input checked="" type="checkbox"/>
	S1	i) Filters / size sq.ft each./ rate	# 8 Size Filtration Rate: 4
	S1	j) Automatic analyzers:	Chlorine: <input checked="" type="checkbox"/> Turbidity: <input checked="" type="checkbox"/> Each filter: <input checked="" type="checkbox"/> pH: <input checked="" type="checkbox"/>
	S1	k) Chemical storage:	Dry on pallets? <input checked="" type="checkbox"/> Chemical containment: <input checked="" type="checkbox"/>
	S1	l) Clearwell / screened vents	Size: <u>1.2 MG</u> Baffling: <input checked="" type="checkbox"/> Locked <input checked="" type="checkbox"/> Screened <input checked="" type="checkbox"/>
	S1	m) Pumps # and size in gpm	High Service ⁶ @ Backwash 2 @ 9933
	SITE DATA	S1	n) Site Data: <u>Clays Mill</u>	Cl. Free: -DOW Total: 2.05 pH: on-line :2..21
S1		o) Site Data: <u>Clays Mill</u>	Cl. Free: <u>WTP</u> Total: 2.31 pH:
S1		p) Site Data: <u>rest area</u>	Cl. Free: <u>DOW</u> Total: 1.8 pH: <u>On-Line 1.85</u>
S1		q) Site Data: <u>rest area</u>	Cl. Free: <u>WTP</u> Total: 1.96 pH:
DISINFECTION	S1	r) Disinfection Pre: <input checked="" type="checkbox"/> Post: <input checked="" type="checkbox"/>	Pre Type: Chlorine gas Post type: Chloramine
	S1	s) Automatic chlorinator <input checked="" type="checkbox"/>	Automatic changeover <input checked="" type="checkbox"/> Proper Fan <input checked="" type="checkbox"/>
	S1	t) Separate room & ventilation	Crash Bar <input checked="" type="checkbox"/> Alarm <input checked="" type="checkbox"/>
	S1	u) Safety equipment	SCBA <input checked="" type="checkbox"/> Ammonia <input checked="" type="checkbox"/> Detector <input checked="" type="checkbox"/>
LABORATORY & RECORDS	S1	v) Laboratory equipment	Adequate Space <input checked="" type="checkbox"/> Equipment <input checked="" type="checkbox"/> Lighting : <input checked="" type="checkbox"/>
	S1	(1) Turbidimeter <input checked="" type="checkbox"/>	Type: <u>HACH</u> Last calibrated: <u>02/2019</u>
	S1	(2) Adequate reagent supply	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	S1	(3) Chlorine Test Kit <input checked="" type="checkbox"/>	Type: <u>HACH</u> DPD reagent up-to-date: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N

	S1	w) Monthly operating reports	<input checked="" type="checkbox"/> Daily Record Sheet <input checked="" type="checkbox"/> Agreement: <input checked="" type="checkbox"/>
	S1	x) Housekeeping	Good
DISTRIBUTION	S1	y) Master meter ; Recorder	Raw: <input checked="" type="checkbox"/> Finished: <input checked="" type="checkbox"/> ; Raw: <input checked="" type="checkbox"/> Finished: <input checked="" type="checkbox"/>
	S1	z) Blowoffs / hydrants; flushing	Flushing Schedule: <input checked="" type="checkbox"/> Blowoffs on deadends: <input checked="" type="checkbox"/>
	S1	aa) Water storage:	# of Tanks 12 Total Storage:
	S1	bb) Booster pumps / chlorinators	Booster pumps: <input checked="" type="checkbox"/> Booster chlorinators: <input type="checkbox"/>
PLANT ON	S1	cc) Plant Data:	Cl free: total: 2.9 pH: 7.0
	S1	dd) Turbidity	Raw: 18 Settled: Combined Filter: 0.026
SITE OBSERVATION	S1	ee) Bacteriological monitoring	Samples per mo. 185 Records: <input checked="" type="checkbox"/>
	S1	ff) No cross-connections observed	None observed: <input checked="" type="checkbox"/> Observed: <input checked="" type="checkbox"/> Program: <input checked="" type="checkbox"/>
	NI	gg) Wastewater discharge	Is sizing adequate? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> NO

Comments: The Division of Water conducted a comprehensive inspection on July 19, 2019. The inspection included a tour of the facility's process, laboratory procedures, and the KAW distribution system. No major concerns were noted during the inspection. The facility was clean and operational. Raw water is continually monitored as it enters the plant and is then directed to the rapid mix, floc basins, and sedimentation basins. The flow leaving the weirs were satisfactory. Basins are cleaned quarterly. Filters were satisfactory and used on a rotating basis. Online instrumentation is calibrated quarterly. Flow leaves the filters and is directed to one of two chlorine contact basins. Ortho phosphate, fluoride, ammonia, and chlorine(if needed) are added before being sent to the distribution system.

Current chemical storage areas are marked appropriately and are secure. The facility is in the process of building a new chemical storage building and will be changing to a liquid chlorine disinfection system instead of chlorine gas. The system is expected to come on-line in about a year. The laboratory was satisfactory. Standards were observed to be current.

The following tanks and booster stations were observed during the inspection: Hays booster station; rest area booster station; York tank; Cox street tanks; Parkers Mill tank; and Wood Lake tank. The tanks were secure, flappered, and observed to be in good condition.

Chlorine residuals in the system were acceptable. Daily chlorine check standards are performed and recorded. Tanks are inspected once every five years. System flushing is performed in the spring. Most meters are radio read. Additional chlorine sample: Woodlake: DOW->2.20; WTP 2.75; On-Line- 2.33.

V. Compliance Status - No violations observed

VI. Discharge/Emission Compliance

Comments: Not evaluated. A wastewater compliance inspection was not performed at the time.

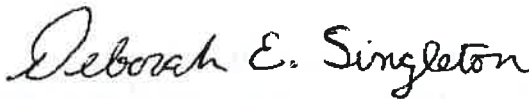
VI. Compliance Status - Not Evaluated

VII. Monitoring/Analyses Evaluation

Comments: The facility performs the required monitoring and analysis.

VII. Compliance Status - No violations observed**VIII. Environmental /Health Impact**Work Site Hazard Assessment : ATTACHED REVIEWED**Comments: No major concerns were noted at the time of the inspection.****VIII. Compliance Status – No violations observed****IX. Documentation**

- Samples taken by DEP
 Samples taken by outside source
 Instrument readings taken by DEP regional office
 Photographs obtained by DEP
 Copies of records obtained by DEP
 Other documentation

Inspector: Deborah Singleton**Title:** Environmental Inspector III**Date:** 07/23/2019

Signature:**Overall Compliance Status**

- No violations observed
 No violations observed, but impending violation trends observed
 Out of Compliance- No action taken
 Out of Compliance LOW non-recurrent administrative or O & M
 Out of Compliance - NOV

Comments:

Delivery Method: Regular Mail

Cert. Mail #:

REPORT OF ON-SITE EVALUATION AUDIT

**KENTUCKY AMERICAN WATER MICROBIOLOGY LABORATORY
KY ID # 00011**

2300 Richmond Road
Lexington, KY 40502

Audit Performed August 01, 2019

By:

Ted Pass II- Kentucky Microbiology Certification Officer

August 07, 2019

On-site Laboratory Audit Report
KENTUCKY AMERICAN WATER MICROBIOLOGY LABORATORY
Kentucky Laboratory 00011
2300 Richmond Road
Lexington, KY 40502
Audit Performed on August 01, 2019
August 07, 2019

SUMMARY

Kentucky American Water Bacteriological Laboratory (KAWBL) was audited on August 01, 2019 for all drinking water microbiology Analyte-method pairs for which the laboratory is certified by Kentucky's Drinking Water Laboratory Certification Program. The complete list of all certified Analyte-method pairs is attached to this report. The laboratory audit included: physical facility; personnel; quality assurance and data reporting; interview with analysts; laboratory records; and a sample data review. The laboratory was found to be compliant with Kentucky's Drinking Water Regulation (401 KAR 8:040) and the EPA Guidance Manual for the Certification of Laboratories Analyzing Drinking Water; Criteria and Procedures Quality Assurance, 5th Edition (January 2005).

INTRODUCTION

In accordance with Kentucky's Drinking Water Regulation (401 KAR 8:040), KAWBL was audited on August 01, 2019 for all drinking water microbiology Analyte-methods for which they are certified. The audit was performed by Ted Pass II of the Department for Environmental Protection; Division of Water.

The audit consisted of a pre-meeting, laboratory tour, analyst interviews, records review, data evaluation and a closeout meeting. KAWBL personnel were involved in the initial and close-out meeting, and discussions at the individual workstations. The audit included:

1. Initial meeting with all key laboratory personnel;
2. Sample Receiving – log-in procedures used;
3. Method Workstations – interviews with analyst(s) responsible for the specific method analyses. Audit checklists are utilized to provide consistency and ensure that all pertinent issues are addressed.
4. Review of Documentation – including laboratory Quality Assurance Project Plan, Standard Operating Procedures, Health and Safety Plan, employee training, control charts, and records retention;
5. Data Review;
6. Close-out meeting with all key laboratory personnel.

CERTIFICATION STATUS

The attached Certified Analyte List shows the certification status of all method-analyte pairs for which the laboratory has requested certification in 2019.

DEVIATIONS

During the on-site audit no deviations were observed by the auditor.

OBSERVATIONS

During the on- site audit no recommendations were observed by the auditor.

DATA EVALUATION/AUDIT

Two sample results and raw data were reviewed for completeness. The raw data for all requested samples included all necessary documentation for auditor to re-construct the sample results. The table below shows the results of the evaluation.

Ref #	Lab ID	Contaminant	Data Review Outcome¹
1	42913803	Total Coliform	Acceptable
2	45091363	Total Coliform	Acceptable

1. Acceptable outcome is defined as all records were available for a complete data review and the reported result was verified.

REVIEW OF PREVIOUS AUDIT REPORT – VERIFICATION OF OUTSTANDING CORRECTIVE ACTION REQUIREMENTS

The previous on-site audit report, dated August 03, 2017, reported no deviations that required a laboratory corrective action and response.

CORRECTIVE ACTION REQUIRED

NONE

CONCLUSION

Kentucky American Water Bacteriological Laboratory has successfully demonstrated compliance with all drinking water regulations for the State of Kentucky and the Federal Environmental Protection Agency and therefore the laboratory is in complete compliance of Kentucky's Drinking Water Laboratory Certification Program.

Prepared by,



Ted Pass II
Certification Officer

Reviewed by,



Patrick Garrity
Laboratory Certification Officer

Attachments

C Drinking Water Files



MATTHEW G. BEVIN
GOVERNOR

CHARLES G. SNAVELY
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

ANTHONY R. HATTON
COMMISSIONER

300 SOWER BOULEVARD
FRANKFORT, KENTUCKY 40601
October 2, 2019

Dorothy Rader
Kentucky American Water - Eastern Rockcastle
2300 Richmond Rd
Lexington, KY 40502

RE: AI: 34097
PWSID: KY1020288
Drinking Water Sanitary Survey

Dear Ms. Rader,

The Division of Water conducted a Drinking Water Sanitary Survey (attached) of Kentucky American Water - Eastern Rockcastle on August 12, 2019. A Capacity Development assessment was also completed as part of the survey.

Significant Deficiencies Observed:

There were no significant deficiencies observed at the time of the survey.

Non-Significant Deficiencies Observed:

- The screen on the overflow pipe on the Pongo tank is torn. Replace the torn screen on the overflow pipe outlet on the Pongo tank.

The system must submit a written response to the Division of Water by November 16, 2019 which addresses the above noted non-significant deficiencies.

The Division Recommends:

- The system should routinely monitor chlorine residual at the end of the line
- Update the purchase contract maximum purchase limit with Mt. Vernon.
- Continue to address water loss

All deficiency responses should be sent to the attention of David L. Messer, Drinking Water Technical Assistance, London Regional Office, 875 South Main Street, London, KY 40741. I may also be reached by phone at 606-330-2080 or by email at david.messer@ky.gov.

Assistance with the "Managerial and Financial Assessment" section of the sanitary survey for [Kentucky American Water - Eastern Rockcastle](#) can be obtained by contacting [Ryan Reed](#) at 502-564-3410.

If you have any questions regarding the "Technical Inspection" portion, contact [Beth Trent](#) in the [London Regional Office](#) at (606) 330-2080.

Sincerely,

David L. Messer
Drinking Water Technical Assistance



C: Nick Rowe, Kentucky American Water

Drinking Water Sanitary Survey

TECHNICAL INSPECTION OF SURFACE WATER DISTRIBUTION-ONLY SYSTEM OPERATIONS

PWS ID: **KY1020288**

Agency Interest Number: **34097; CIN20190001**

AI Name: **Kentucky American Water - Eastern Rockcastle**

County: **Rockcastle**

Office Latitude: **37.29748** **Office Longitude:** **-84.215249**

CTAB Inspection Date(s): **8/12/19**

I. SOURCE

Does the system perform water quality monitoring in accordance with the approved DOW schedule for this facility?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Are there any unaddressed process factors that limit the purchased water contracted amount in the last 10 years?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Is the system(s) you purchase from drought-vulnerable?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Describe any water quality monitoring done on the water at the master meter: <u>TTHM & HAA5</u>		
List any chemicals fed at the master meters: <u>none</u>		
If multiple sources are available, is the one in use considered to be the best in terms of water quality?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is purchased water flow measured?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
When was the meter last calibrated? <u>4/15/19*</u>		
<p>COMMENTS: *The system is serviced by 4 master meters; 2 from Mt. Vernon (KY1020299 = Brush Creek and Sand Springs), 1 from Jackson Co. (KY0550209) in the Three Links community and 1 from Livingston (KY1020253) in the Sand Hill area. The 2 Mt. Vernon mms were certified on 4/15/19 by Definitive Testing Services. The Jackson Co. mm was Certified 11/4/15 also by Definitive Testing Services. Information about the Jackson Co. meter certification could not be verified at the time of the inspection and it is unknown when/if the Livingston meter has been certified.</p>		

II. TREATMENT

GAS CHLORINE SAFETY

N/A

Is the chlorine room enclosed and separate from other operating areas?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is there a working exhaust fan in the chlorine room?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Does it provide one complete air change per minute?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Does it exhaust from floor level?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is intake air near the ceiling?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is there an external audible and visual alarm?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Are switches located outside the chlorine room?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Are chlorine tanks secured?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Are the scales operational?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is automatic switchover of chlorine cylinders provided?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is there a shatterproof viewing window in chlorine room?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is there a crash bar on the door of the chlorine room?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Does the door open out and to the exterior of the building?	Yes <input type="checkbox"/>	No <input type="checkbox"/>

Is there a SCBA unit meeting NIOSH standards outside the chlorine room?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Are personnel trained to use the SCBA?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is the "buddy system" practiced when changing or moving chlorine cylinders?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is leak detection provided?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is ammonia available for chlorine leak detection?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is there a chlorine tank repair kit?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Are personnel trained and certified to use the kits?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
COMMENTS:		

III. DISTRIBUTION SYSTEM

DISTRIBUTION SYSTEM		
Does the system have standard specifications for design and construction of the distribution system?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Does the system prohibit new connections where pressure on the discharge side of the meter will be <30 psi?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is the system able to meet minimum pressure requirements of DOW and/or other regulating authority?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Does the system have a documented leak detection program?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Does the distribution system have a sufficient number of valves to isolate portions of the system (for leak detection, maintenance, etc.)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
If there are separate distribution system areas, are they interconnected with each other?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
If they are not interconnected, how many separate areas are there? <u>4</u>		
What prevents these systems from being interconnected? <u>topography</u>		
How many pressure zones are there? <u>4</u>		
What is the range of distribution pressures? <u>80-200</u>		
Do any distribution areas require reduced pressure valves?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
What piping materials are included in the distribution system? <u>PVC</u>		
Does the system have a program for flushing water mains?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Describe the process for sterilizing new mains/main breaks: <u>all line repairs are contracted to CJ Hughes Co. (West Va.) which follow AWWA standards and swab</u>		
What types of on-line instrumentation are located at booster or pump stations and tanks? <u>pressure recorder at Sand Hill and Sand Springs*</u>		
Does the system have a documented program for exercising distribution system valves?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Does the system have a documented program for regular testing of water meters including master meter and customer?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is there a water meter replacement program?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Are there main break/emergency notification procedures?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Does the system have a documented procedure for issuing a boil water advisory and a consumer advisory?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
The procedure shall identify when (how soon after the occurrence) and how the system shall notify the affected health department, to whom that notification shall be made both during and after normal business hours, and procedures for issuing the advisory to the public. The public notification shall include instructions for the public (including how to properly boil water) and an explanation of steps being taken to correct the problem.		
Describe how the decision is made to issue a Boil Water Advisory: <u>possibility of contamination, loss of pressure below <20 psi</u>		
Does the system have a cross-connection control program?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
If yes, is the cross-connection control program documented in writing?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
If the cross-connection control program is not documented in writing, describe the process for finding and		

eliminating cross connections: _____

Does a certified tester test the backflow prevention devices on a regular basis? Yes No

Has a calibrated hydraulic model been developed for the system? Yes No

COMMENTS: *The system is in the process of installing an online chlorine analyzer at the Jackson Co. tank and hopes to have it in service by the end of August 2019. The system plans to install 3 additional online chlorine analyzers at Brush Creek, Sand Hill and at the Sand Springs tank.

Copies of the system's main break and emergency procedures, leak detection program, flushing program and the valve operation and maintenance program are attached to this report.

Ky American Water took over operation of the system in February 2018. All customer meters were replaced 4/22/19 and are now remote read. All meters, valves, hydrants, lines were GIS marked and mapped last year.

Stantec Eng. is in the process of creating a hydraulic model for the sytem, it should be completed by the end of September 2019.

DISTRIBUTION STORAGE FACILITIES

Inspected

LOCATION			VOLUME (gallons)	TANK TYPE	OVERFLOW		LAST CLEANED/INSPECTED	TELEMETRY	% TURNOVER (Per Day)
ROAD/AREA	LATITUDE	LONGITUDE			SCREEN/FLAPPER	>10' FROM TANK			
Three Links	37.49840	-84.20539	80,000	Standpipe	YES	YES	8/18	NO	
Pongo	37.22533	-84.34381	15,000	Standpipe	NO	YES	8/18	NO	

Are all storage tanks professionally inspected at least every 5 years (including interior, coating systems, & piping)? Yes No

How often are tanks inspected and cleaned? INSPECTED: 5 years CLEANED: As needed

Are all storage tanks and water plants equipped with hatches, covers, screens, vandal guards and locks and all tank sites fenced for security? Yes No

Are all hatches, screens, and overflows on the storage tanks checked at least monthly? Yes No

Is there corrosion protection in the tanks? Yes No

COMMENTS: The Three Links tank is scheduled to be painted and other deficiencies that were discovered during the 8/2/18 inspection will be addressed in October and November 2019.

At the time of the inspection, the screen covering the outlet of the overflow pipe from the Pongo tank was torn open.

DISTRIBUTION BOOSTER PUMPS AND/OR BOOSTER DISINFECTION FACILITIES

Not Inspected

LOCATION			PUMP or DISINFECTION	NUMBER & CAPACITY OF PUMPS (gpm)	DISINFECTION TYPE	AUXILIARY POWER
ROAD/AREA	LATITUDE	LONGITUDE				
Sand Springs	37.28577	-84.24444	Pump	2 @ 40		No
Sand Hill	37.29348	-84.22774	Pump	2 @ 40		No
				@		

				@		
				@		
				@		
				@		
				@		
				@		
				@		
				@		

COMMENTS: Each of the 2 pumps located at Sand Springs and Sand Hill alternate in usage. There is a pump station (2@80) located in Gausey (37.31152 / -84.20085) that is not in operation.

DISTRIBUTION SAMPLING (a minimum of N, S, E, W)					
SITE	CHLORINE		pH	TURBIDITY	OTHER
	FREE	TOTAL			
Sample location #019 Trash & Treasure JCT Hwy 1912 & Cave Springs Rd. Jackson Co. water	1.47			0.23	System (RT): 0.81, 1.37 free
Sample location #020 Brush Creek Mt. Vernon Water	0.38			0.09	System (DR): 0.40 free
Sample location #029 Sand Hill Livingston (WC) water	0.54			0.10	System (RT): 0.78, 0.51 free
Sand Springs / Pongo tank Mt. Vernon water	0.63				System (DR): 0.64 free

Is the system maintaining the required chlorine (0.2 mg/l) / chloramine (0.5 mg/l) residuals in the distribution system? Yes No

COMMENTS: Ky American Water analyses was determined by RT = Rodney Trowbridge and DR = Dorothy Rader. The system should routinely monitor chlorine residual at the end of the line.

MAINTENANCE	
Is office housekeeping adequate?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Is distribution storage housekeeping adequate?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Are adequate supplies of spare parts kept on hand?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Are needed tools available?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
If not, is preventive maintenance performed?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is a lock-out/tag-out system used for electrical repairs?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
What is the general condition of operating equipment? _____	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
COMMENTS: Electrical repairs are performed by a contractor.		

DOCUMENTATION (✓ all that apply)	
<input type="checkbox"/> Samples taken by DEP	<input checked="" type="checkbox"/> Photographs obtained by DEP
<input type="checkbox"/> Samples taken by outside source	<input checked="" type="checkbox"/> Copies of records obtained by DEP
<input checked="" type="checkbox"/> Instrument readings taken by DEP	<input type="checkbox"/> Other documentation

OVERALL TECHNICAL COMPLIANCE STATUS		
<input type="checkbox"/> No Violations Observed		
<input checked="" type="checkbox"/> No Violations Observed - Advisory Action Taken (Impending trends)		
<input type="checkbox"/> Out of Compliance – Verbal notice given (Non-recurrent deficiency noted or violation corrected at time of inspection.)		
INSPECTOR: Beth Trent	TITLE: Environmental Inspector	DATE: 8/21/2019

**KENTUCKY DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER**

Drinking Water Sanitary Survey

Managerial and Financial Assessment of Distribution-Only Surface Water & Ground Water Systems

PWS ID: KY1020288

Agency Interest Number: 34097

AI Name: Kentucky American Water - Eastern Rockcastle

County: Rockcastle

Regional Office: London Regional Office

Capacity Development Inspection Date(s): 8/28/2019

SYSTEM CONTACT INFORMATION					
Full Name: Dorothy Rader			Title: Manager, Water Quality & Env. Compliance		
Phone Number: 859-268-6317		FAX Number:		E-Mail Address: dorothy.rader@amwater.com	
Mailing Address: 2300 Richmond Road			City: Lexington	State: KY	Zip Code: 40502
Physical Address of Office: 9246 Main Street (Livingston)					
DISTRIBUTION SYSTEM INFORMATION					
Contact Person: Jarold Jackson			Title: Operations Superintendent		Phone Number: 859-268-6317
Distribution Class: IID-Pop. 1500-15,000			System Service Connections (meters): 598		
System Population Served Calculated: 1,609			System Population Served Reported:		
Meters Served Outside Your System:			Consecutive Systems Population Served Calculated:		
WATER PURCHASED, SOLD, & EMERGENCY CONNECTIONS					
WATER PURCHASED FROM: <i>(List primary purchase source first.)</i>			Number of Master Meters	Amount Monthly (average)	Amount Available by Contract (monthly)
SYSTEM NAME	PWS ID #	AI #			
Jackson Co. Water Assoc.	KY0550209	1924	1	1,312,450	1,500,000
Mt. Vernon Water Works	KY1020299	3859	2	1,640,133	1,180,000
Livingston Municipal WW	KY1020253	34096	2 (1 Active)	194,225	450,000
Average Total Water Purchased Daily: 103,874 gallons			Maximum Total Water Purchased Daily: 163,164 gallons		
WATER SOLD TO: <input checked="" type="checkbox"/> Not Applicable			Number of Master Meters	Amount Monthly (average)	Amount Available by Contract (monthly)
SYSTEM NAME	PWS ID #	AI #			
Jackson Co. Water Assoc.	KY0550209	1924	1		Unusable due to Pressure Difference
COMMENTS: KY American Water acquired the Eastern Rockcastle Water Association on February 2018. Consider the following: Renegotiating the contract purchase limit with Mt. Vernon.					

PWS ID Number: KY1020288

I. OPERATOR COMPLIANCE

Do the operators perform maintenance as well as distribution operations? Yes No N/A

Do you have contingency plans for replacing retiring system personnel? Yes No N/A

Who provides training/technical assistance for license renewal? (✓ all that apply):
 AWWA DCA DOW KRWA KWWOA RCAP Other In-House

What type of training is typically obtained? (✓ all that apply):
 REGULATIONS SAFETY UMI WATER QUALITY

Does the system pay for registration, lodging and meals? Yes No N/A

Does the system allow operators to attend training on company time? Yes No N/A

	Length of Shift (hours)	Number of Operators
Number of shifts on weekdays: <u>1</u>	1 st Shift <u>8</u>	<u>1</u>
	2 nd Shift <u>On-Call</u>	<u>On-Call</u>
	3 rd Shift <u>On-Call</u>	<u>On-Call</u>

How are weekends covered? On-Call; Relief Operator (Part-time)

How are holidays covered? On-Call; Relief Operator (Part-time)

OPERATOR CERTIFICATION

LICENSEE NAME	LICENSEE AI #	LICENSE ID	LICENSE TYPE
Sensabaugh, Justin D.	30399	9579	DW Treatment IVA
	30399	20165	DW Distribution IVD
Trowbridge, Rodney			Operator in Training

Is the system staffed with appropriately certified operators? (Verify certification with DCA.) Yes No N/A

COMMENTS:

II. MONITORING, REPORTING & DATA VERIFICATION*(Part A must be completed for all water systems. Part B must be completed for groundwater systems only.)*

PART A <i>(Complete for all water systems.)</i>		
REPORTING ITEM – Information gathered from DWW	RETENTION TIME	
<i>Bacteriological</i> – <u>2</u> per month (See DWW)	5 Years	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>Chlorine/Chloramines</i> – Free chlorine monthly with BACTs, daily for MORs, residual chlorine monthly	10 Years	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>MORs</i> – Monthly (Turbidity Analysis)	1 Year	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>Lead & Copper</i> - <u>10</u> every 3 years (June to September)	12 Years	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>TTHM & HAA5</i> <u>2</u> per <u>Quarter</u> (see DWW)	10 Years	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>Asbestos</i> – 1 sample in the 1 st 3 years of the 9 year compliance cycle (SOC) *Check for Waiver (only purchasers can have waiver)*	Begin 2011/2013	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>Stage 2 IDSE Sampling Plan or 40/30 Certification</i>	10 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
<i>Stage 2 IDSE Report</i>	10 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
<i>Data Summaries</i> (if actual data not retained)	12 Years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
<i>NOVs</i> (Notices of Violation)	10 Years	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>Sanitary Surveys</i> (every 3 years)	10 Years	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>CCR</i> (Consumer Confidence Report) – Annually by July 1 (by April 1 to consecutive systems)	Current one on file	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system maintain a current sampling plan for BacTs?	Date updated 2018	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system maintain a current sampling plan for LCR?	Date updated 2018	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system maintain a current sampling plan for DBPs?	Date updated 2018	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system have an up-to-date map of distribution assets? (Map shall show a minimum of all line sizes, cutoff valves, fire hydrants, flush hydrants, tanks, booster pumps, chlorination stations, connections to emergency or alternative sources, wholesale customer master meters, & the type of piping material in the distribution system and its location.)	Date updated Continuously Updated	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
PART B <i>(Complete for groundwater systems only.)</i>		
<input checked="" type="checkbox"/> Not Applicable		
<i>GWR Corrective Action</i>	10 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>GWR Public Notices</i>	3 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>GWR Fecal-positive invalidation</i>	5 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>GWR State-specified minimum disinfectant residual</i> (letter from CTAB)	10 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>GWR Lowest daily disinfectant residual level</i> (submitted with MOR)	5 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
What method is used to record this? (i.e. SCADA, chart recorders, download to CD)	N/A	
<i>GWR Date and duration of time less than minimum daily disinfectant residual level</i>	5 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>GWR Records of state-specific compliance requirements for membrane filtration and alternative treatment</i>	5 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system maintain compliance records as required? (answer for both Parts A & B)		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
COMMENTS:		

PWS ID Number: KY1020288

III. MANAGEMENT & OPERATIONS

What professional organizations does the water system belong to? <u>KRWA; AWWA; KWWOA; NAWC; Chamber of Commerce</u>		
Is the system subject to Public Service Commission regulations?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system attend Water Management Council meetings of the Area Development District?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/> N/A <input type="checkbox"/>
Does the system have a governing entity? If not, explain: <u>Board of Directors</u>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
What is the name of the system's OTHER? <u>Nick Rowe (President)</u>		
What is his or her mailing address? <u>Same as system</u>		
How often does the governing body meet? <u>Monthly</u>		
Do operators attend these meetings?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/> N/A <input type="checkbox"/>
Is the governing entity provided with documented information regarding technical, managerial, and financial operations of the water system? (Inspect)	Yes <input type="checkbox"/>	No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Is the governing entity familiar with water treatment/distribution?	Yes <input type="checkbox"/>	No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Does the system offer continuing education opportunities for members of the governing entity?	Yes <input type="checkbox"/>	No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Does the system have regular staff meetings?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
How often? <u>Weekly</u>		
Who is involved? <u>Departments (Employees)</u>		
Does the system have a documented strategic plan (mission statement, goals and objectives)? (Inspect)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system have a defined organizational structure?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system have a documented description of each job classification with minimum position qualifications? (Inspect)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system have documented policies and procedures governing human resource management (such as an employee handbook)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system periodically review its insurance coverage is in place for liability, property, automobiles, directors, and officers?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system have a documented policy for delegation of authority such as signing agreements, contracts, resolutions, easements, etc.?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system have a documented procurement policy for purchasing supplies?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system have professional services available under a current contract, retainer, or other similar arrangement for engineering, accounting, and legal counsel?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system have an asset management program?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system have a documented preventive maintenance program?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system have a capital improvement plan? (Inspect)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
How many years does the plan cover? <u>KY Wide; Priority Ranking</u>		
Does the system have a documented policy governing water main extensions? (Inspect)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
Are chemicals inventoried? If so, how? _____	Yes <input type="checkbox"/>	No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Are distribution materials inventoried? If so, how? <u>Inventory System/Employee</u>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
Is there a bid process for chemicals, pipe, or large item purchases?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>

Does the system have rules and regulations governing the provision of service? (Inspect)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system make available in a public place the rules, rates, and regulations? (Inspect)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system provide 24-hour service response for customers?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system notify customers prior to performing scheduled maintenance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system log customer complaints and track resolution?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system provide any educational activities to the public? Who is responsible for providing this? <u>External Affairs Staff</u>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
What types of educational activities are done? <u>Special Events; Bill Inserts; School Presentations; Social Media Outreach</u>			
Does the system have sufficient O & M manuals? (Inspect) (O & M manuals shall include: a detailed design of the plant, daily operating procedures, a schedule of testing requirements designating who is responsible for the tests, and safety procedures for operation of the facility – including storage and inventory requirements for materials and supplies.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
How are the operators made aware of O & M procedures? <u>SOPs; Available for reference</u>			
Has the system received any NOV for MCLs in the last 3 years? If yes, answer the following:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
If more than one NOV, were any for the same contaminant?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Was a public notice issued when required?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
What remedial measures did the system take to prevent future occurrences of these violations? _____			
Does the system maintain a log of all breaks or ruptures per 401 KAR 8:150, Section 4? (Inspect)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Is the system operating at or above 85% of water available through purchase contracts? (see COW)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
If yes, what is the percentage? <u>See Below%</u>			
If system's average daily demand exceeds 85% of available water through purchase contracts, does system have a plan for obtaining additional water, including cost and timeframes to address the needed additional water?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
If applicable, describe plan for obtaining additional water: <u>Contract Usage: Jackson Co. W.A. (87.5%); Mt. Vernon WW (138.9%); Livingston Municipal WW (43.2%); See Water Loss Section</u>			
COMMENTS:			

IV. FINANCIAL

Does the system prepare an annual operating budget? (Provide summary)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Does the system prepare an annual capital budget? (Inspect)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Who prepares the budget? _____			
Do the operators have input into the budget?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Are training and license funds built into the budget?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Does the governing entity review and approve the budget?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Does the system prepare regular monthly reports to show variances between budgeted and actual revenue and expenses? (Inspect)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Does the system maintain its financial records utilizing the Kentucky Uniform System of Accounting or a comparable system? (Inspect)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Are financial statements audited by a CPA as required? (Inspect) (Water districts, special districts – i.e. regional water commissions and cities have specific requirements.)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>

PWS ID Number: KY1020288

If audit is completed, does the governing entity receive and review the audit report?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Does the system employ a method for depreciation of system assets?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Is the system operating at a retained earnings surplus? (Retained earnings is the net income that is available at the end of the year and available for transfer.)		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Is the current debt-to-equity ratio below 1.0? (The debt-to equity ratio for any given year is computed by dividing total liabilities by total equity.)		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Does the water system meet a debt coverage ratio needed for bond ordinances, loan agreements, and bond requirements? A typical value is 1.2. (Debt coverage ratio is computed by dividing cash available for debt service (net income with annual interest, depreciation, amortization, and other non-cash items added back) by debt service requirements for the year.)		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Does the water system revenue go to meet other expenses (i.e. electric, sewer or garbage)?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Is there a documented policy for delinquent accounts? What is it? <u>Per PSC Requirements (See Tariff)</u>		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
For accounts payable, has the system kept payments less than 45 days past due over the last 12 months?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Does the system write-off bad debt annually?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Where does the system typically go for financial assistance? _____				
Does the system have any long-term debts?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Is the system current on all debt service payments (if applicable)?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Is the system meeting reserve account requirements (if applicable)?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Is there an approved* rate structure in place? (Provide copy of rate sheet.) (*Approved by governing entity/PSC as applicable.)		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
What were the dates of the system's last 2 non-pass-through rate increases? <u>6/2019 & 6/2015</u>				
What were the dates of the system's last 2 pass-through rate increases? <u>2012 & 2007</u>				
Does the system perform a review annually to determine if the rates fully cover the expenses?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Are long-term needs built into rate increases?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Do rates promote conservation in time of drought?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
COST OF WATER PURCHASED AND SOLD				
Purchasers	What is the highest wholesale price you pay per 1,000 gallons of water?	<u>\$3.69</u> <u>(Livingston)</u>	N/A <input type="checkbox"/>	
	What is the lowest wholesale price you pay per 1,000 gallons of water?	<u>\$2.93 (Mt. Vernon WW)</u>	N/A <input type="checkbox"/>	
Sellers	What is your highest wholesale price which you charge per 1,000 gallons of water?	\$ _____	N/A <input checked="" type="checkbox"/>	
	What is your lowest wholesale price which you charge per 1,000 gallons of water?	\$ _____	N/A <input checked="" type="checkbox"/>	
WATER LOSS				
Does the system track water loss on a monthly basis?		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Report water loss for the past year as a percentage of total water purchased in gallons and as a dollar value.		<u>47.5%</u>	<u>18,000,000 gallons</u>	
		<u>\$56,000</u>		

<p>If water loss is above 15%, does the system have a plan to address this?</p> <p>If yes, describe plan to address water loss: <u>Non-Revenue Water Reduction Plan; Replaced all meters after acquisition in 2018</u></p>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<p>COMMENTS: Consider the following: Continuing to address water loss</p>	

V. SECURITY

Does the system have a documented safety policy?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system provide regular safety training to its employees?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Is the utility a member of the Local Emergency Planning Committee?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system have an updated Emergency Response Plan that is reviewed annually? (Inspect)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the emergency response plan include a plan for responding to water shortages and loss of service?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Is the Emergency Response Plan exercised?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
How is the Emergency Response Plan communicated to all employees? <u>Available Online; Onsite</u>	
Does the distribution system ever disable the telemetry/SCADA system and run on manual?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Has the system developed procedures for securing computer/SCADA usage?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Are backup copies of O & M manuals maintained in a location other than the office?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Is the purchased water source equipped with emergency standby power generation or is there a secondary source of power? (e.g. contracts in place with suppliers for emergency generators or dual electrical feed)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A <input type="checkbox"/>
Are backup emergency generators exercised regularly?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Is other backup equipment exercised regularly?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Have arrangements been made with outside contractors, other utilities, etc. to provide needed emergency equipment?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<p>COMMENTS:</p>	

DOCUMENTATION (✓ all that apply)	
<input type="checkbox"/> Photographs obtained by DEP	
<input checked="" type="checkbox"/> Copies of records obtained by DEP	
<input type="checkbox"/> Other documentation	

OVERALL COMPLIANCE STATUS		
<input checked="" type="checkbox"/> No Violations Observed		
<input type="checkbox"/> No Violations Observed - Advisory Action Taken (Impending trends)		
<input type="checkbox"/> Out of Compliance – Verbal notice given (Non-recurrent deficiency noted or violation corrected at time of inspection.)		
CDPM: Ryan Reed	Title: Environmental Scientist IV	Date: 9/23/2019



MATTHEW G. BEVIN
GOVERNOR

CHARLES G. SNAVELY
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

ANTHONY R. HATTON
COMMISSIONER

DIVISION OF WATER
300 SOWER BLVD
FRANKFORT, KY, 40601

October 14, 2019

Ms. Dorothy Rader
KY American Water Co
2300 Richmond Rd
Lexington, Kentucky 40502

RE: KY American Water Co -- 1063
Permit No.: KY0340250
Fayette County, Kentucky
Activity ID: CIN20190004

Dear Ms. Rader:

Attached for your information and records is a copy of the drinking water comprehensive inspection performed at KY American Water Co on August 23, 2019.

Please review the enclosed inspection report.

If you have any questions or comments concerning this inspection, please contact the Frankfort Regional Office at: (502) 564-3358.

Sincerely,

A handwritten signature in cursive script that reads "Deborah E. Singleton".

Deborah Singleton
Environmental Inspector
Frankfort Regional Office
Division of Water

DES
Enclosure: inspection report



**ENERGY AND ENVIRONMENT CABINET
KENTUCKY DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
Routine Surface Inspection**

Site/Permit ID: KY0340250	Division: Water	Regional Office: Frankfort
Site Name: Kentucky American Water Plant C	Program: Drinking Water	
Site Address: 16035 hwy127 sough		
City: owenton	State: KY	Zip: 40359 County: Owen
Inspection Type: Routine Surface	Purpose: Comprehensive	AI #: 1063
Inspection Date: 8/23/19	Time: Start 09:00 AM End 14:00 PM	
Latitude:	Longitude:	
Coordinate Collection Method: G40-Handheld receiver		Revision Code: 112108
Drinking Water Data		
Plant Name: Kentucky River Station #2	Contact Name: Dorothy Rader	
Phone No.: 859-335-3660	Fax No: 859-335-3388	Email Address: dorothy.rader@amwater.com

I. Administrative Requirements

Comments: [The facility has not received any violations since the last inspection.](#)

I. Compliance Status - No violations observed

II. Operator Certification/Accreditation Requirements

Operator in Charge or on duty.

Operator Name	Plant Certification #	Distribution Certification #
William Allen	Class IV #20649	
Ralph Pittman	Class IV #29309	
Jarold Jackson		IVA#20948

Comments: [Monthly Operating Reports list the current shift in charge operators. Certifications are current. A current list was provided during the inspection.](#)

II. Compliance Status - No violations observed

III. Record Keeping Requirements

Comments: The facility maintains the required records in an orderly manner. Records observed during the inspection include analytical information, calibration logs, temperature logs, and maintenance logs.

III. Compliance Status - No violations observed

IV. Reporting Requirements

Comments: The facility provides timely reports to the Division of Water as required.

IV. Compliance Status - No violations observed

V. Operation & Maintenance/Performance Requirements	
Plant Type: <input checked="" type="checkbox"/> C <input type="checkbox"/> N <input type="checkbox"/> P Service Connections:	Population Served:
Average Production MGD: 7.5 MG Max. Production MGD: 10.2 MG Design Capacity MGD: 20.0 MG	
Source: Kentucky River pool #3	

RATING CODES: S1=No Violations Observed; S2=No Violations Obs-but impending viol trends obs; U1=Out of Compliance-No action taken; U2= Out of Comp-LOW non-recurrent Adm. or O & M; U3= Out of Compliance-NOV; NA = Not Applicable; NE = Not Evaluated. (Add additional comments if U1-U3.)

	RATING	Equipment / Inspection Data	<input type="checkbox"/> Checking block means item is present: # Of Levels ¹ # Pumps ⁴ Max pump. ² @10MG; 2 @7
CHEMICAL & PHYSICAL TREATMENT	S1	a) Intakes, pumps, piping <input checked="" type="checkbox"/>	
	NA	b) Aeration <input type="checkbox"/>	
	S1	c) Rapid mix <input checked="" type="checkbox"/>	Type: If other:
	S1	d) Flocculation <input checked="" type="checkbox"/>	# of Stages # of Trains ⁴ Variable Speed
	S1	e) Sedimentation <input checked="" type="checkbox"/>	Type: Conventional # of trains:4
	S1	f) Chemical feed coagulation	Polyaluminum Cl/SO4
	NA	g) Carbon Feed: <input type="checkbox"/>	Feed Site1: Feed Site 2:
	S1	h) Filters & controls	Mixed Media Filter to Waste <input checked="" type="checkbox"/>
	S1	i) Filters / size sq.ft each./ rate	# 5 Size702 Filtration Rate:5
	S1	j) Automatic analyzers:	Chlorine: <input checked="" type="checkbox"/> Turbidity: <input checked="" type="checkbox"/> Each filter: <input checked="" type="checkbox"/> pH: <input checked="" type="checkbox"/>
	S1	k) Chemical storage:	Dry on pallets? <input checked="" type="checkbox"/> Chemical containment: <input checked="" type="checkbox"/>
	NI	l) Clearwell / screened vents	Size: Baffling: <input type="checkbox"/> Locked <input type="checkbox"/> Screened <input type="checkbox"/>
	SITE DATA	S1	m) Pumps # and size in gpm	High Service^{2} @ 10 Backwash 2 @ 150
S1		n) Site Data: Brock	Cl. Free:DOW->2.20 Total: KAW-3.64 pH:
S1		o) Site Data: Blue Moon	Cl. Free:DOW-1.56 Total: KAW-1.86 pH: OL-1.71
S1		p) Site Data: Fair Grounds	Cl. Free:DOW-1.5 Total: KAW-1.76 pH: OL-1.00
DISINFECTION	S1	q) Site Data: Wheatly	Cl. Free:DOW-0.97 Total: KAW-1.02 pH: OL-1.01
	S1	r) Disinfection Pre: <input type="checkbox"/> Post: <input type="checkbox"/>	Pre Type: Post type: Chlorine gas
	S1	s) Automatic chlorinator <input checked="" type="checkbox"/>	Automatic changeover <input checked="" type="checkbox"/> Proper Fan <input checked="" type="checkbox"/>
	S1	t) Separate room & ventilation	Crash Bar <input checked="" type="checkbox"/> Alarm <input checked="" type="checkbox"/>
	S1	u) Safety equipment	SCBA <input type="checkbox"/> Ammonia <input checked="" type="checkbox"/> Detector <input checked="" type="checkbox"/>
LABORATORY & RECORDS	S1	v) Laboratory equipment	Adequate Space <input checked="" type="checkbox"/> Equipment <input checked="" type="checkbox"/> Lighting : <input checked="" type="checkbox"/>
	S1	(1) Turbidimeter <input type="checkbox"/>	Type: HACH Last calibrated: 02/2019
	S1	(2) Adequate reagent supply	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	S1	(3) Chlorine Test Kit <input checked="" type="checkbox"/>	Type: HACH DPD reagent up-to-date: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
	S1	w) Monthly operating reports	<input checked="" type="checkbox"/> Daily Record Sheet <input checked="" type="checkbox"/> Agreement: <input checked="" type="checkbox"/>
	S1	x) Housekeeping	
	NI	y) Master meter ; Recorder	Raw: <input type="checkbox"/> Finished: <input type="checkbox"/> ; Raw: <input type="checkbox"/> Finished: <input type="checkbox"/>

DISTRIBUTION	NI	z) Blowoffs / hydrants; flushing	Flushing Schedule: <input type="checkbox"/> Blowoffs on deadends: <input type="checkbox"/>
	NI	aa) Water storage:	# of Tanks Total Storage:
	NI	bb) Booster pumps / chlorinators	Booster pumps: <input type="checkbox"/> Booster chlorinators: <input type="checkbox"/>
PLANT ON SITE OBSERVATION	S1	cc) Plant Data:	Cl free: total-OL-3.99 total: 3.95 pH: 7.3
	S1	dd) Turbidity	Raw:7 Settled:0.18 Combined Filter:0.06
	NI	ee) Bacteriological monitoring	Samples per mo. Records: <input type="checkbox"/>
	NI	ff) No cross-connections observed	None observed: <input type="checkbox"/> Observed: <input type="checkbox"/> Program: <input type="checkbox"/>
	NI	gg) Wastewater discharge	Is sizing adequate? <input type="checkbox"/> Yes <input type="checkbox"/> NO

Comments: A Division of Water comprehensive inspection was conducted on August 23, 2019. No major concerns were noted during the inspection. The sedimentation basins, chemical storage area, and filters were observed. The basins are cleaned monthly. Filters were observed in operation with no issues noted.

Chemical storage areas are marked appropriately and are secure. The laboratory was satisfactory. Standards were observed to be current. Instrumentation is calibrated by an outside source periodically and by facility personnel daily. The equipment was last inspected by an outside source on 02/28/2019 by Scientific Equipment Service.

The Bluemoon, Fairground, and Wheatly tanks were observed during the inspection. The tanks were fenced, secure and flappered. Chlorine reading in the distribution system were acceptable and comparable between the Division of Water and the facility.

V. Compliance Status - No violations observed

VI. Discharge/Emission Compliance

Comments: Not evaluated.

VI. Compliance Status - Not Evaluated

VII. Monitoring/Analyses Evaluation

Comments: The facility performs the required monitoring and analysis.

VII. Compliance Status - No violations observed

VIII. Environmental/Health Impact

Work Site Hazard Assessment : ATTACHED REVIEWED

Comments: No major concerns were noted at the time of the inspection.

VIII. Compliance Status – No violations observed

IX. Documentation

- Samples taken by DEP
- Samples taken by outside source
- Instrument readings taken by DEP regional office
- Photographs obtained by DEP
- Copies of records obtained by DEP
- Other documentation

Inspector: Deborah Singleton	Title: Environmental Inspector III	Date: 09/10/2019
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Deborah E. Singleton

Signature:

- Overall Compliance Status**
- No violations observed
 - No violations observed, but impending violation trends observed
 - Out of Compliance- No action taken
 - Out of Compliance LOW non-recurrent administrative or O & M
 - Out of Compliance - NOV

Comments:

Delivery Method: Regular Mail	Cert. Mail #:
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MATTHEW G. BEVIN
GOVERNOR

CHARLES G. SNAVELY
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

ANTHONY R. HATTON
COMMISSIONER

300 SOWER BOULEVARD
FRANKFORT, KENTUCKY 40601
November 12, 2019

Mrs. Dorothy Rader
Kentucky American Water - Millersburg
2300 Richmond Rd
Lexington, KY 40502

RE: AI: 296
PWSID: KY0090287
Drinking Water Sanitary Survey

Dear Mrs. Rader:


The Division of Water conducted a Drinking Water Sanitary Survey (attached) of [Kentucky American Water - Millersburg](#) on [September 13, 25, 2019](#). A Capacity Development assessment was done as part of the survey.

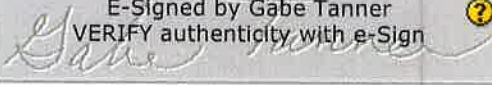
[Kentucky American Water - Millersburg](#) is to be commended as they did not have any deficiencies at this time.

Assistance with the "Managerial and Financial Assessment" section of the sanitary survey for [Kentucky American Water - Millersburg](#) can be obtained by contacting [Ryan Reed at 502-782-7045](#).

If you have any questions regarding the "Technical Inspection" portion, contact [Wesley Byrd](#) in the [Frankfort Regional Office](#) at [502-782-6333](#).

Sincerely,

E-Signed by Gabe Tanner
VERIFY authenticity with e-Sign 



Gabriel Tanner
Environmental Scientist
Division of Water

C: [Frankfort Regional Office](#)

**KENTUCKY DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER**

Drinking Water Sanitary Survey

Managerial and Financial Assessment of Distribution-Only Surface Water & Ground Water Systems

PWS ID: KY0090287

Agency Interest Number: 296

AI Name: Kentucky American Water - Millersburg

County: Bourbon

Regional Office: Frankfort Regional Office

Capacity Development Inspection Date(s): 9/13/2019

SYSTEM CONTACT INFORMATION

Full Name: Dorothy Rader			Title: Manager, Water Quality & Environmental Compliance		
Phone Number: 859-268-6317	FAX Number:		E-Mail Address: dorothy.rader@amwater.com		
Mailing Address: 2300 Richmond Road			City: Lexington	State: KY	Zip Code: 40502
Physical Address of Office: 2300 Richmond Road					

DISTRIBUTION SYSTEM INFORMATION

Contact Person: Dorothy Rader	Title: See Above	Phone Number: 859-268-6317
Distribution Class: ID-Pop. < 1500	System Service Connections (meters): 373	
System Population Served Calculated: 1,003	System Population Served Reported:	
Meters Served Outside Your System: 7,155	Consecutive Systems Population Served Calculated: 19,247	

WATER PURCHASED, SOLD, & EMERGENCY CONNECTIONS

WATER PURCHASED FROM: <i>(List primary purchase source first.)</i>			Number of Master Meters	Amount Monthly (average)	Amount Available by Contract (monthly)
SYSTEM NAME	PWS ID #	AI #			
Paris Water Works	KY0090343	300	1	3,720,063	6,000,000
Average Total Water Purchased Daily: 121,842 gallons			Maximum Total Water Purchased Daily: 194,065 gallons		
WATER SOLD TO: <input type="checkbox"/> Not Applicable			Number of Master Meters	Amount Monthly (average)	Amount Available by Contract (monthly)
SYSTEM NAME	PWS ID #	AI #			
Harrison Co. Water Association	KY0490179	33915	1	1,480,000	1,200,000
Nicholas Co. Water District	KY0910314	34050	1	28,600	1,500,000

COMMENTS: Consider the following: Reviewing the Harrison Co Water Association purchase limit

PWS ID Number: KY0090287

I. OPERATOR COMPLIANCE

Do the operators perform maintenance as well as distribution operations?		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Do you have contingency plans for replacing retiring system personnel?		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Who provides training/technical assistance for license renewal? (✓ all that apply): <input checked="" type="checkbox"/> AWWA <input type="checkbox"/> DCA <input checked="" type="checkbox"/> DOW <input checked="" type="checkbox"/> KRWA <input checked="" type="checkbox"/> KWWOA <input type="checkbox"/> RCAP <input checked="" type="checkbox"/> Other <u>KAW (internal training)</u>				
What type of training is typically obtained? (✓ all that apply): <input checked="" type="checkbox"/> REGULATIONS <input checked="" type="checkbox"/> SAFETY <input checked="" type="checkbox"/> UMI <input checked="" type="checkbox"/> WATER QUALITY				
Does the system pay for registration, lodging and meals?		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system allow operators to attend training on company time?		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Number of shifts on weekdays: <u>1</u>	Length of Shift (hours)	Number of Operators		
	1 st Shift	<u>8</u>		
	2 nd Shift	<u>On-Call</u>		
	3 rd Shift	<u>On-Call</u>		
How are weekends covered? <u>Regular Schedule (Weekend Crew)</u>				
How are holidays covered? <u>On-Call</u>				
OPERATOR CERTIFICATION				
LICENSEE NAME	LICENSEE AI #	LICENSE ID	LICENSE TYPE	
Jackson, Jarold T.	103825	18683	DW Distribution IVD	
Sensabaugh, Justin D.	30399	20165	DW Distribution IVD	
*See Comment Below				
Is the system staffed with appropriately certified operators? (Verify certification with DCA.)		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
COMMENTS: *Union Contract determines staffing within KY American Water (Additional operators other than the two listed above).				

II. MONITORING, REPORTING & DATA VERIFICATION*(Part A must be completed for all water systems. Part B must be completed for groundwater systems only.)*

PART A <i>(Complete for all water systems.)</i>		
REPORTING ITEM – Information gathered from DWW	RETENTION TIME	
<i>Bacteriological - 2</i> per month (See DWW)	5 Years	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>Chlorine/Chloramines</i> – Free chlorine monthly with BACTs, daily for MORs, residual chlorine monthly	10 Years	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>MORs</i> – Monthly (Turbidity Analysis)	1 Year	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>Lead & Copper - 10</i> every 3 years (June to September)	12 Years	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>TTHM & HAA5 2</i> per Quarter (see DWW)	10 Years	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>Asbestos</i> – 1 sample in the 1 st 3 years of the 9 year compliance cycle (SOC) *Check for Waiver (only purchasers can have waiver)*	Begin 2011/2013	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>Stage 2 IDSE Sampling Plan or 40/30 Certification</i>	10 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
<i>Stage 2 IDSE Report</i>	10 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
<i>Data Summaries</i> (if actual data not retained)	12 Years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
<i>NOVs</i> (Notices of Violation)	10 Years	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>Sanitary Surveys</i> (every 3 years)	10 Years	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>CCR</i> (Consumer Confidence Report) – Annually by July 1 (by April 1 to consecutive systems)	Current one on file	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system maintain a current sampling plan for BacTs?	Date updated 2019	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system maintain a current sampling plan for LCR?	Date updated 2019	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system maintain a current sampling plan for DBPs?	Date updated 2019	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system have an up-to-date map of distribution assets? (Map shall show a minimum of all line sizes, cutoff valves, fire hydrants, flush hydrants, tanks, booster pumps, chlorination stations, connections to emergency or alternative sources, wholesale customer master meters, & the type of piping material in the distribution system and its location.)	Date updated Continuously Updated	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
PART B <i>(Complete for groundwater systems only.)</i>		
<input checked="" type="checkbox"/> Not Applicable		
<i>GWR Corrective Action</i>	10 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>GWR Public Notices</i>	3 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>GWR Fecal-positive invalidation</i>	5 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>GWR State-specified minimum disinfectant residual</i> (letter from CTAB)	10 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>GWR Lowest daily disinfectant residual level</i> (submitted with MOR)	5 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
What method is used to record this? (i.e. SCADA, chart recorders, download to CD)	N/A	
<i>GWR Date and duration of time less than minimum daily disinfectant residual level</i>	5 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>GWR Records of state-specific compliance requirements for membrane filtration and alternative treatment</i>	5 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system maintain compliance records as required? (answer for both Parts A & B)		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
COMMENTS:		

III. MANAGEMENT & OPERATIONS

What professional organizations does the water system belong to? <u>AWWA; KRWA; Chamber of Commerce; KWWOA; WEF; NAWC</u>			
Is the system subject to Public Service Commission regulations?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system attend Water Management Council meetings of the Area Development District?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
Does the system have a governing entity? If not, explain: <u>KY Board of Directors</u>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
What is the name of the system's OTHER? <u>President - Nick Rowe</u>			
What is his or her mailing address? <u>2300 Richmond Road, Lexington, KY</u>			
How often does the governing body meet? <u>Monthly</u>			
Do operators attend these meetings?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
Is the governing entity provided with documented information regarding technical, managerial, and financial operations of the water system? (Inspect)			
Is the governing entity familiar with water treatment/distribution?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
Does the system offer continuing education opportunities for members of the governing entity?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
Does the system have regular staff meetings?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
How often? <u>Weekly</u>			
Who is involved? <u>Employees meet by department</u>			
Does the system have a documented strategic plan (mission statement, goals and objectives)? (Inspect)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system have a defined organizational structure?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system have a documented description of each job classification with minimum position qualifications? (Inspect)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system have documented policies and procedures governing human resource management (such as an employee handbook)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system periodically review its insurance coverage is in place for liability, property, automobiles, directors, and officers?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system have a documented policy for delegation of authority such as signing agreements, contracts, resolutions, easements, etc.?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system have a documented procurement policy for purchasing supplies?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system have professional services available under a current contract, retainer, or other similar arrangement for engineering, accounting, and legal counsel?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system have an asset management program?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system have a documented preventive maintenance program?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system have a capital improvement plan? (Inspect)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
How many years does the plan cover? <u>KY Wide CIP (5 Yr; Annual Review)</u>			
Does the system have a documented policy governing water main extensions? (Inspect)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Are chemicals inventoried? If so, how? <u>Inventory System (Monthly Audit)</u>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Are distribution materials inventoried? If so, how? <u>Inventory System (Work Order System)</u>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Is there a bid process for chemicals, pipe, or large item purchases?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>

PWS ID Number: KY0090287

Agency Interest Number: 296

Does the system have rules and regulations governing the provision of service? (Inspect)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system make available in a public place the rules, rates, and regulations? (Inspect)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system provide 24-hour service response for customers?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system notify customers prior to performing scheduled maintenance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system log customer complaints and track resolution?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system provide any educational activities to the public?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Who is responsible for providing this? <u>External Affairs Staff</u>			
What types of educational activities are done? <u>Bill Inserts; In-School Activities; Water-Wise Academy; Grants for Environmental Projects (i.e. rainbarrels); Educational Grants</u>			
Does the system have sufficient O & M manuals? (Inspect) (O & M manuals shall include: a detailed design of the plant, daily operating procedures, a schedule of testing requirements designating who is responsible for the tests, and safety procedures for operation of the facility – including storage and inventory requirements for materials and supplies.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
How are the operators made aware of O & M procedures? <u>OTJ; Field SOPs</u>			
Has the system received any NOV's for MCLs in the last 3 years? If yes, answer the following:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
If more than one NOV, were any for the same contaminant?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Was a public notice issued when required?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
What remedial measures did the system take to prevent future occurrences of these violations? <u>GAC Filters installed at purchase site</u>			
Does the system maintain a log of all breaks or ruptures per 401 KAR 8:150, Section 4? (Inspect)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Is the system operating at or above 85% of water available through purchase contracts? (see COW)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
If yes, what is the percentage? _____%			
If system's average daily demand exceeds 85% of available water through purchase contracts, does system have a plan for obtaining additional water, including cost and timeframes to address the needed additional water?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
If applicable, describe plan for obtaining additional water: _____			
COMMENTS: The managerial section's information applies to KY American Water as a whole. The Board of Directors are presented with "big picture" information for KY as a whole.			

IV. FINANCIAL

Does the system prepare an annual operating budget? (Provide summary)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Does the system prepare an annual capital budget? (Inspect)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Who prepares the budget? _____			
Do the operators have input into the budget?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Are training and license funds built into the budget?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Does the governing entity review and approve the budget?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Does the system prepare regular monthly reports to show variances between budgeted and actual revenue and expenses? (Inspect)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Does the system maintain its financial records utilizing the Kentucky Uniform System of Accounting or a comparable system? (Inspect)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Are financial statements audited by a CPA as required? (Inspect) (Water districts, special districts – i.e. regional water commissions and cities have specific requirements.)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>

If audit is completed, does the governing entity receive and review the audit report?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Does the system employ a method for depreciation of system assets?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Is the system operating at a retained earnings surplus? <small>(Retained earnings is the net income that is available at the end of the year and available for transfer.)</small>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Is the current debt-to-equity ratio below 1.0? <small>(The debt-to equity ratio for any given year is computed by dividing total liabilities by total equity.)</small>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Does the water system meet a debt coverage ratio needed for bond ordinances, loan agreements, and bond requirements? A typical value is 1.2. <small>(Debt coverage ratio is computed by dividing cash available for debt service (net income with annual interest, depreciation, amortization, and other non-cash items added back) by debt service requirements for the year.)</small>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Does the water system revenue go to meet other expenses (i.e. electric, sewer or garbage)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Is there a documented policy for delinquent accounts? What is it? <u>Per PSC Requirements (See Tariff)</u>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
For accounts payable, has the system kept payments less than 45 days past due over the last 12 months?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Does the system write-off bad debt annually?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Where does the system typically go for financial assistance? _____			
Does the system have any long-term debts?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Is the system current on all debt service payments (if applicable)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Is the system meeting reserve account requirements (if applicable)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Is there an approved* rate structure in place? (Provide copy of rate sheet.) <small>(*Approved by governing entity/PSC as applicable.)</small>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
What were the dates of the system's last 2 non-pass-through rate increases? <u>2019 & _____</u>			
What were the dates of the system's last 2 pass-through rate increases? _____ & _____			
Does the system perform a review annually to determine if the rates fully cover the expenses?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Are long-term needs built into rate increases?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Do rates promote conservation in time of drought?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
COST OF WATER PURCHASED AND SOLD			
Purchasers	What is the highest wholesale price you pay per 1,000 gallons of water?	<u>\$2.25</u>	N/A <input type="checkbox"/>
	What is the lowest wholesale price you pay per 1,000 gallons of water?	\$ _____	N/A <input checked="" type="checkbox"/>
Sellers	What is your highest wholesale price which you charge per 1,000 gallons of water?	<u>\$2.25</u>	N/A <input type="checkbox"/>
	What is your lowest wholesale price which you charge per 1,000 gallons of water?	<u>\$2.25</u>	N/A <input type="checkbox"/>
WATER LOSS			
Does the system track water loss on a monthly basis?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
Report water loss for the past year as a percentage of total water purchased in gallons and as a dollar value.	<u>21.4%</u> _____ gallons \$ _____		
If water loss is above 15%, does the system have a plan to address this?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
If yes, describe plan to address water loss: <u>Water loss is tracked for KY American as a whole</u>			

COMMENTS: The financial section's information applies to KY American Water as a whole (Private Company)

V. SECURITY

Does the system have a documented safety policy?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system provide regular safety training to its employees?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Is the utility a member of the Local Emergency Planning Committee?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system have an updated Emergency Response Plan that is reviewed annually? (Inspect)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the emergency response plan include a plan for responding to water shortages and loss of service?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Is the Emergency Response Plan exercised?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
How is the Emergency Response Plan communicated to all employees? <u>Roundtable Exercises</u>			
Does the distribution system ever disable the telemetry/SCADA system and run on manual?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Has the system developed procedures for securing computer/SCADA usage?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Are backup copies of O & M manuals maintained in a location other than the office?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Is the purchased water source equipped with emergency standby power generation or is there a secondary source of power? (e.g. contracts in place with suppliers for emergency generators or dual electrical feed)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
Are backup emergency generators exercised regularly?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Is other backup equipment exercised regularly?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Have arrangements been made with outside contractors, other utilities, etc. to provide needed emergency equipment?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
COMMENTS:			

DOCUMENTATION (✓ all that apply)	
<input type="checkbox"/> Photographs obtained by DEP	
<input checked="" type="checkbox"/> Copies of records obtained by DEP	
<input type="checkbox"/> Other documentation	

OVERALL COMPLIANCE STATUS		
<input checked="" type="checkbox"/> No Violations Observed		
<input type="checkbox"/> No Violations Observed - Advisory Action Taken (Impending trends)		
<input type="checkbox"/> Out of Compliance – Verbal notice given (Non-recurrent deficiency noted or violation corrected at time of inspection.)		
CDPM: Ryan Reed	Title: Environmental Scientist IV	Date: 10/31/2019

Drinking Water Sanitary Survey

TECHNICAL INSPECTION OF SURFACE WATER DISTRIBUTION-ONLY SYSTEM OPERATIONS

PWS ID: KY0090287

Agency Interest Number: 296; %%activity_id%%

AI Name: Kentucky American Water - Millersburg

County: Bourbon

Office Latitude: 38.297222 Office Longitude: -84.145556

CTAB Inspection Date(s) : 09/25/2019 09:00 AM

I. SOURCE

Does the system perform water quality monitoring in accordance with the approved DOW schedule for this facility?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Are there any unaddressed process factors that limit the purchased water contracted amount in the last 10 years?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Is the system(s) you purchase from drought-vulnerable?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Describe any water quality monitoring done on the water at the master meter: _____ List any chemicals fed at the master meters: _____		
If multiple sources are available, is the one in use considered to be the best in terms of water quality?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is purchased water flow measured? When was the meter last calibrated? _____	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
COMMENTS: No issues noted at the time of inspection. No recommendations.		

II. TREATMENT

GAS CHLORINE SAFETY

N/A

Is the chlorine room enclosed and separate from other operating areas?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is there a working exhaust fan in the chlorine room?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Does it provide one complete air change per minute?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Does it exhaust from floor level?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is intake air near the ceiling?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is there an external audible and visual alarm?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Are switches located outside the chlorine room?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Are chlorine tanks secured?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Are the scales operational?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is automatic switchover of chlorine cylinders provided?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is there a shatterproof viewing window in chlorine room?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is there a crash bar on the door of the chlorine room?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Does the door open out and to the exterior of the building?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is there a SCBA unit meeting NIOSH standards outside the chlorine room?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Are personnel trained to use the SCBA?	Yes <input type="checkbox"/>	No <input type="checkbox"/>

Is the "buddy system" practiced when changing or moving chlorine cylinders?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is leak detection provided?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is ammonia available for chlorine leak detection?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is there a chlorine tank repair kit?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Are personnel trained and certified to use the kits?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
COMMENTS:		

III. DISTRIBUTION SYSTEM

DISTRIBUTION SYSTEM		
Does the system have standard specifications for design and construction of the distribution system?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Does the system prohibit new connections where pressure on the discharge side of the meter will be <30 psi?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is the system able to meet minimum pressure requirements of DOW and/or other regulating authority?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Does the system have a documented leak detection program?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Does the distribution system have a sufficient number of valves to isolate portions of the system (for leak detection, maintenance, etc.)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
If there are separate distribution system areas, are they interconnected with each other?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
If they are not interconnected, how many separate areas are there? _____		
What prevents these systems from being interconnected? _____		
How many pressure zones are there? _____		
What is the range of distribution pressures? _____		
Do any distribution areas require reduced pressure valves?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
What piping materials are included in the distribution system? _____		
Does the system have a program for flushing water mains?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Describe the process for sterilizing new mains/main breaks: <u>sterilize with 50 PPM chlorine hold for 24 hours and 25 ppm for additional 24 hours. Breaks are repaired, flushed, chlorinated and BACTs collected analyzed.</u>		
What types of on-line instrumentation are located at booster or pump stations and tanks? <u>Chlorine/pressure</u>		
Does the system have a documented program for exercising distribution system valves?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Does the system have a documented program for regular testing of water meters including master meter and customer?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is there a water meter replacement program?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Are there main break/emergency notification procedures?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Does the system have a documented procedure for issuing a boil water advisory and a consumer advisory?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
The procedure shall identify when (how soon after the occurrence) and how the system shall notify the affected health department, to whom that notification shall be made both during and after normal business hours, and procedures for issuing the advisory to the public. The public notification shall include instructions for the public (including how to properly boil water) and an explanation of steps being taken to correct the problem.		
Describe how the decision is made to issue a Boil Water Advisory: <u>Issued if break, leak or if suspected contamination occurs. If pressure of less than 20 psi is detected.</u>		
Does the system have a cross-connection control program?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
If yes, is the cross-connection control program documented in writing?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
If the cross-connection control program is not documented in writing, describe the process for finding and eliminating cross connections: _____		
Does a certified tester test the backflow prevention devices on a regular basis?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Has a calibrated hydraulic model been developed for the system?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

COMMENTS: No issues at the time of inspection. No recommendations.

DISTRIBUTION STORAGE FACILITIES
 Inspected

LOCATION			VOLUME (gallons)	TANK TYPE	OVERFLOW		LAST CLEANED/ INSPECTED	TELEMETRY	% TURNOVER (Per Day)
ROAD/AREA	LATITUDE	LONGITUDE			SCREEN/ FLAPPER	>10' FROM TANK			
Millersburg Tank	38.294556	-84.152249	125,000	Elevated	YES	YES	2017 new	YES	100

Are all storage tanks professionally inspected at least every 5 years (including interior, coating systems, & piping)? Yes No
 How often are tanks inspected and cleaned? INSPECTED: _____ CLEANED: _____

Are all storage tanks and water plants equipped with hatches, covers, screens, vandal guards and locks and all tank sites fenced for security? Yes No

Are all hatches, screens, and overflows on the storage tanks checked at least monthly? Yes No

Is there corrosion protection in the tanks? Yes No

COMMENTS: Tank is on Scada, pump informatino goes to central HQ

DISTRIBUTION BOOSTER PUMPS AND/OR BOOSTER DISINFECTION FACILITIES
 Inspected

LOCATION			PUMP or DISINFECTION	NUMBER & CAPACITY OF PUMPS (gpm)	DISINFECTION TYPE	AUXILIARY POWER
ROAD/AREA	LATITUDE	LONGITUDE				
US 68	38.295084	-84.51855	Disinfection	@	Chlorine Liquid	No
				@		
				@		
				@		
				@		
				@		
				@		
				@		
				@		
				@		

COMMENTS: No issues noted, no recommendations.

DISTRIBUTION SAMPLING (a minimum of N, S, E, W)					
SITE	CHLORINE		pH	TURBIDITY	OTHER
	FREE	TOTAL			
S WWTP		2.18			KAW 2.00 /Online 2.16
N Marathon		.97			
W Trigg Street		1.85			
E Vimont Street		2.00			
Is the system maintaining the required chlorine (0.2 mg/l) / chloramine (0.5 mg/l) residuals in the distribution system? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>					
COMMENTS: No issues noted					

MAINTENANCE	
Is office housekeeping adequate?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Is distribution storage housekeeping adequate?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Are adequate supplies of spare parts kept on hand?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Are needed tools available?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
If not, is preventive maintenance performed?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Is a lock-out/tag-out system used for electrical repairs?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
What is the general condition of operating equipment? <u>Good</u>	Yes <input type="checkbox"/> No <input type="checkbox"/>
COMMENTS: No issues noted	

DOCUMENTATION (✓ all that apply)	
<input checked="" type="checkbox"/> Samples taken by DEP	<input type="checkbox"/> Photographs obtained by DEP
<input type="checkbox"/> Samples taken by outside source	<input type="checkbox"/> Copies of records obtained by DEP
<input type="checkbox"/> Instrument readings taken by DEP	<input type="checkbox"/> Other documentation

OVERALL TECHNICAL COMPLIANCE STATUS		
<input checked="" type="checkbox"/> No Violations Observed		
<input type="checkbox"/> No Violations Observed - Advisory Action Taken (Impending trends)		
<input type="checkbox"/> Out of Compliance – Verbal notice given (Non-recurrent deficiency noted or violation corrected at time of inspection.)		
INSPECTOR: Wesley Byrd	TITLE: Environmental Scientist	DATE: 09/25/2019



ANDY BESHEAR
GOVERNOR

REBECCA W. GOODMAN
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

ANTHONY R. HATTON
COMMISSIONER

DIVISION OF WATER
300 SOWER BLVD
FRANKFORT, KY, 40601

August 28, 2020

Ms. Dorothy Rader
Kentucky American Water - Millersburg
304 E 4th St
Millersburg, Kentucky 40348

RE: Kentucky American Water - Millersburg
AI# 296
Permit No.: KY0090287
Bourbon County, Kentucky
Activity ID: CIN20200001

Dear Ms. Rader:

Attached for your information and records is a copy of the drinking water comprehensive inspection performed at Kentucky American Water - Millersburg on August 14, 2020.

Please review the enclosed inspection report.

If you have any questions or comments concerning this inspection, please contact the Frankfort Regional Office at: (502) 782-6449.

Sincerely,

Deborah E. Singleton

Deborah Singleton
Environmental Inspector
Frankfort Regional Office
Division of Water

DES
Enclosure: inspection report

**ENERGY AND ENVIRONMENT CABINET
KENTUCKY DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
Routine Distribution Inspection**

Site/Permit ID: KY0090287	Division: Water	Regional Office: Frankfort
Site Name: Kentucky American Water-Millersburg	Program: Drinking Water	
Site Address: 304 E 4th street		
City: Millersburg	State: KY	Zip: 40348 County: Bourbon
Inspection Type: Routine Distribution	Purpose: Comprehensive	AI #: 296
Inspection Date: 8/14/20	Time: Start 0900 AM End 1130 AM	
Latitude: N 38 17' 54.7	Longitude: W84 8 50.3	
Coordinate Collection Method: GP0-With differential correction		Revision Code: 112108
Drinking Water Data		
Plant Name: Kentucky American Water-Millersburg	Contact Name: Dorothy Rader	
Phone No.: 859-268-6317	Fax No: cell-423-355-8591	Email Address: dorothy.rader@amwater.com

I. Administrative Requirements

Comments: **Not evaluated.**

I. Compliance Status - Not Evaluated

II. Operator Certification/Accreditation Requirements

Operator in Charge and on duty.

Operator Name	Plant Certification #	Distribution Certification #
Jon Wes Felts		IVD#18681

Comments: **A complete list of the Kentucky American Water system operators was provided during the inspection. Mr. Felts is the main distribution operator for the Millersburg system.**

II. Compliance Status - No violations observed

III. Record Keeping Requirements

Comments: **Not evaluated.**

III. Compliance Status - Not Evaluated

IV. Reporting Requirements

Comments: The facility provides the required timely reports to the Division of Water. Reporting is done several ways including electronically- email, text, e-notification system, and cell phones.

IV. Compliance Status - No violations observed

V. Operation & Maintenance/Performance Requirements	
Plant Type: <input checked="" type="checkbox"/> C <input type="checkbox"/> N <input type="checkbox"/> P	Service Connections:376 Population Served:1011
Average Purchased MGD: 0.152 Max. Purchased MGD: 0.287 Contract Amount MGD:	
Source:city of Paris Water Works	Seller PWSID: KY0090343 Multiple Sellers <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

RATING CODES: S1 = No Violations Observed; S2= No Violations Observed-but impending viol trends obs; U1 = Out of Compliance-No action taken; U2= Out of Compliance-LOW non-recurrent Adm. or O & M; U3= Out of Compliance-NOV Issued; NA = Not Applicable; NE = Not Evaluated. (Add additional comments if U1-U3.)

SELLER INFORMATION	Seller # 1	Name City of Paris Water	PWSID# KY0090343 Contract Amount:	
	Seller # 2	Name	PWSID# Contract Amount:	
	Seller # 3	Name	PWSID# Contract Amount:	
	Seller # 4	Name	PWSID# Contract Amount:	
	Seller # 5	Name	PWSID# Contract Amount:	
STORAGE TANK INFORMATION	RATING	Equipment / Inspection Data	<input type="checkbox"/> Checking block means item is present:	
	S1	a) Storage Tank 1 Size:125,000 Name: Millersburg tank	Screened Vent: <input checked="" type="checkbox"/> Overflow <input checked="" type="checkbox"/> Telemetry: <input checked="" type="checkbox"/> Last Cleaned: Coating condition: Good	
		b) Storage Tank 2 Size: Name:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
		c) Storage Tank 3 Size: Name:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
		d) Storage Tank 4 Size: Name:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
		e) Storage Tank 5 Size: Name:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
		f) Storage Tank 6 Size: Name:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
		g) Storage Tank 7 Size: Name:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
		h) Storage Tank 8 Size: Name:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
	GENERAL INFORMATION	NI	j) Master meter <input type="checkbox"/>	Last Calibrated: Recorder: <input type="checkbox"/>
		S1	k) Flushing Schedule	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No/ Frequency: as needed
		S1	l) Chlorine Test Kit <input checked="" type="checkbox"/>	Type: HACH Last calibrated
		S1	m) DPD reagent up-to-date	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
S1		n) Blow-off / Hydrants on dead	<input type="checkbox"/> Yes <input type="checkbox"/> No	
S1		o) Monthly operating reports	<input checked="" type="checkbox"/> Daily Record Sheet <input type="checkbox"/> Agreement: <input type="checkbox"/>	
S1		p) Bacteriological monitoring	Samples per mo.4 Records: <input type="checkbox"/>	
BOOSTER PUMPS	S1	q) <input type="checkbox"/> Booster pumps <input checked="" type="checkbox"/> Disinfection	Capacity Disinfection Type: NA hypochlorite	
	NA	r) <input type="checkbox"/> Booster pumps <input type="checkbox"/> Disinfection	Capacity Disinfection Type:	
	NA	s) <input type="checkbox"/> Booster pumps <input type="checkbox"/> Disinfection	Capacity Disinfection Type:	
ON SITE OBSERVATIONS	S1	t) Site Data: S-	Cl. Free: DOW Total: 1.56 pH: KAW 1.63	
	S1	u) Site Data: W- WW plant	Cl. Free: DOW Total: 2.04 pH: KAW 2.13	
	S1	v) Site Data: N-marathon	Cl. Free: DOW Total: 0.90 pH: KAW 1.06	
	S1	w) Site Data: E- Maple	Cl. Free: DOW Total: 0.73 pH: KAW 1.08	

OTHER INFORMATION	S1	x) Cross connection program	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	S1	y) Water meter replacement	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	S1	z) Valve exercise program	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	S1	aa) Is unaccounted for water	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes what is % loss?
	S1	bb) Up to date distribution map	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Comments: DOW meet with Kentucky American Water employees Dorothy Rader, Mike Maggard, and Wes Felts. Observations during the inspection included disinfection booster building, GAC filter, Millersburg storage tank, and residual samples at four locations in the distribution system. Disinfection residual at all four sample locations was within required limits. No issues observed during the inspection.

V. Compliance Status - No violations observed

VI. Discharge/Emission Compliance

Comments: Not applicable.

VI. Compliance Status - Not Applicable

VII. Monitoring/Analyses Evaluation

Comments: Not evaluated.

VII. Compliance Status - Not Evaluated

VIII. Environmental /Health Impact

Work Site Hazard Assessment:

ATTACHED REVIEWED

Comments: No major concerns were noted at the time of the inspection.

VIII. Compliance Status – No violations observed

IX. Documentation

- Samples taken by DEP
- Samples taken by outside source
- Instrument readings taken by DEP regional office
- Photographs obtained by DEP
- Copies of records obtained by DEP
- Other documentation

Inspector: Deborah Singleton	Title: Environmental Inspector III	Date: 8/21/2020
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 Signature:
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Overall Compliance Status
<input checked="" type="checkbox"/> No violations observed
<input type="checkbox"/> No violations observed, but impending violation trends observed
<input type="checkbox"/> Out of Compliance- No action taken
<input type="checkbox"/> Out of Compliance- LOW Non-recurrent administrative or O & M
<input type="checkbox"/> Out of Compliance – NOV

Comments:

Delivery Method: Regular Mail	Cert. Mail #:
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**KENTUCKY DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER**

Drinking Water Sanitary Survey

Managerial and Financial Assessment of Surface Water & Ground Water Systems

PWS ID: KY0340250

Agency Interest Number: 1063

AI Name: KY American Water Co

County: Fayette

Regional Office: Frankfort Regional Office

Capacity Development Inspection Date(s): September 2020*

SYSTEM CONTACT INFORMATION					
Full Name: Bob Money			Title: Water Quality & Environmental Compliance Manager		
Phone Number: 859-268-6317		FAX Number:		E-Mail Address: Bob.Money@amwater.com	
Mailing Address: 2300 Richmond Road			City: Lexington		State: KY
Physical Address of Office: 2300 Richmond Road			Zip Code: 40502		
WATER TREATMENT PLANT INFORMATION					
Plant Contact Person: Brandon Smith (Plant A)			Title: Supervisor - Production		Phone Number: 859-550-3387
Physical Street Address: 6300 Cedar Creek Lane			City: Lexington, KY 40515		
Plant Type: C (community)		Plant Class: IV (>3 MGD)		Plant Capacity: 40 MGD 27,778 GPM	
WATER TREATMENT PLANT INFORMATION					
Plant Contact Person: Mike Maggard (Plant B)			Title: Supervisor - Production		Phone Number: 859-321-3674
Physical Street Address: 2400 Richmond Road			City: Lexington, KY 40502		
Plant Type: C (community)		Plant Class: IV (>3 MGD)		Plant Capacity: 25 MGD 17,361 GPM	
WATER TREATMENT PLANT INFORMATION					
Plant Contact Person: Jason Case (Plant C)			Title: Supervisor - Production		Phone Number: 859-304-0004
Physical Street Address: 16035 Hwy 127 South			City: Owenton, KY 40359		
Plant Type: C (community)		Plant Class: IV (>3 MGD)		Plant Capacity: 20 MGD 13,889 GPM	
DISTRIBUTION SYSTEM INFORMATION					
Distribution Contact Person: Justin Sensabaugh			Title: Sr. Operations Manager		Phone Number: 859-455-6749
Distribution Class: IVD-Pop. >50,000			System Service Connections (meters): 129,493		
System Population Served Calculated: 348,336			System Population Served Reported: 300,502 (WRIS)		
Meters Served Outside Your System: 44,063			Consecutive Systems Population Served Calculated: 104,313		
WATER PURCHASED, SOLD, & EMERGENCY CONNECTIONS					
WATER PURCHASED FROM: <input type="checkbox"/> Not Applicable			Number of Master Meters	Amount Monthly (average)	Amount Available by Contract (monthly)
SYSTEM NAME	PWS ID #	AI #			

WATER SOLD TO: <input type="checkbox"/> Not Applicable			Number of Master Meters	Amount Monthly (average)	Amount Available by Contract (monthly)
SYSTEM NAME	PWS ID #	AI #			

COMMENTS: Due to the Covid-19 pandemic of 2020, this Managerial and Financial Assessment was conducted remotely and reduced to the review of four (4) components: Operator Certification, Records/Map, Operation & Maintenance Manual, and Line Break Log. A full Managerial and Financial Assessment may be conducted in the future to update and complete this report.

I. OPERATOR COMPLIANCE

Are operators cross-trained (by shift, by plant, with distribution, with maintenance, etc)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Do you have contingency plans for replacing retiring system personnel?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Who provides training/technical assistance for license renewal? (✓ all that apply): <input type="checkbox"/> AWWA <input type="checkbox"/> DCA <input type="checkbox"/> DOW <input type="checkbox"/> KRWA <input type="checkbox"/> KWWOA <input type="checkbox"/> RCAP <input type="checkbox"/> Other _____			
What type of training is typically obtained? (✓ all that apply): <input type="checkbox"/> REGULATIONS <input type="checkbox"/> SAFETY <input type="checkbox"/> UMI <input type="checkbox"/> WATER QUALITY			
Does the system pay for registration, lodging and meals?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system allow operators to attend training on company time?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
	<u>Water Treatment Plant</u>	<u>Distribution System</u>	
Length of each shift:	_____ hours	_____ hours	
Number of operators per shift:	_____	_____	
How are weekends covered?	_____	_____	
How are holidays covered?	_____	_____	
Do operators leave the water plant property while the plant is producing water?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
How long are the operators typically away from the plant? _____			
What duties are they performing when they are away from the plant? _____			
OPERATOR CERTIFICATION			
LICENSEE NAME	LICENSEE AI #	LICENSE ID	LICENSE TYPE
Please see comment below	*	*	
Is the system staffed with appropriately certified operators? (Verify certification with DCA.)			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
COMMENTS: *A Complete list of the system's operators was provided at the time of the survey			

II. MONITORING, REPORTING & DATA VERIFICATION*(Part A must be completed for all water systems. Part B must be completed for groundwater systems only.)*

PART A <i>(Complete for all water systems.)</i>		
REPORTING ITEM – Information gathered from DWW	RETENTION TIME	
<i>Bacteriological – 180 per month (See DWW)</i>	5 Years	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>Chlorine/Chloramines – Free chlorine monthly with BACTs, daily for MORs, residual chlorine monthly</i>	10 Years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>C-T Profiling Data</i>	See if doing/min 1 year	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>Individual Filter Turbidity Data (Other than MOR)</i>	3 Years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>MORs – Monthly (Turbidity Analysis)</i>	1 Year	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>Lead & Copper – 50 every 3 years (June to September)</i>	12 Years	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>Nitrate – Annually</i>	10 Years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>Nitrite – 1 sample in the 1st 3 years of the 9 year compliance cycle</i>	10 Years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>Secondary/Corrosivity – Annually</i>	10 Years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>Sodium – annually; can be with SECs</i>	10 Years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>IOCs (Inorganic Chemicals) – Annually</i>	10 Years	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>SOCs (Synthetic Organic Compounds) – >3300, 2 quarterly samples in 12 consecutive months in 3 years.</i>	10 Years	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>VOCs (Volatile Organic Chemicals) – Annually</i>	10 Years	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>TOCs (Total Organic Carbon) – Monthly, Raw TOC/Alkalinity & CFE TOC</i>	10 Years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>TTHM & HAA5 12 per Quarter (see DWW)</i>	10 Years	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>Asbestos – 1 sample in the 1st 3 years of the 9 year compliance cycle (SOC) *Check for Waiver (only purchasers can have waiver)*</i>	Begin 2011/2013	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>RADs (Radionuclides) – Every 6 years</i>	See if conducting	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>LT2 Cryptosporidium and E.coli Plan – 3 years after bin classification (see rule - first one is April 2009)</i>	3 Years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>LT2 Source Water Monitoring Avoidance</i>	3 Years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>LT2 Toolbox Treatment Monitoring Results</i>	3 Years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>Stage 2 IDSE Sampling Plan or 40/30 Certification</i>	10 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>Stage 2 IDSE Report</i>	10 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>Bromate (Only used on systems treating with Ozone)</i>	10 Years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>Chlorine Dioxide</i>	10 Years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>Chlorite (Only used on systems treating with Chlorine Dioxide)</i>	10 Years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>Dioxin – w/SOCs if required *Check for Waiver*</i>	10 Years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>Data Summaries (if actual data not retained)</i>	12 Years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>NOVs (Notices of Violation)</i>	10 Years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>Sanitary Surveys (every 3 years)</i>	10 Years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>CCR (Consumer Confidence Report) – Annually by July 1 (by April 1 to consecutive systems)</i>	Current one on file	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>

Does the system maintain a current sampling plan for BacTs?	Date updated	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system maintain a current sampling plan for LCR?	Date updated	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system maintain a current sampling plan for DBPs?	Date updated	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system have an up-to-date map of distribution assets? (Map shall show a minimum of all line sizes, cutoff valves, fire hydrants, flush hydrants, tanks, booster pumps, chlorination stations, connections to emergency or alternative sources, wholesale customer master meters, & the type of piping material in the distribution system and its location.)	Date updated Updated Continuously	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>

PART B <i>(Complete for groundwater systems only.)</i>		
<input type="checkbox"/> Not Applicable		
<i>GWR Corrective Action</i>	10 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>GWR Public Notices</i>	3 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>GWR Fecal-positive invalidation</i>	5 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>GWR State-specified minimum disinfectant residual (letter from CTAB)</i>	10 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>GWR Lowest daily disinfectant residual level (submitted with MOR)</i> What method is used to record this? (i.e. SCADA, chart recorders, download to CD)	5 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>GWR Date and duration of time less than minimum daily disinfectant residual level</i>	5 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>GWR Records of state-specific compliance requirements for membrane filtration and alternative treatment</i>	5 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>

Does the system maintain compliance records as required? (answer for both Parts A & B)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
COMMENTS:	

III. MANAGEMENT & OPERATIONS

What professional organizations does the water system belong to? _____	
Is the system subject to Public Service Commission regulations?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system attend Water Management Council meetings of the Area Development District?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system have a governing entity? If not, explain: _____	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
What is the name of the system's _____ ? _____	
What is his or her mailing address? _____	
How often does the governing body meet? <u>Monthly</u>	
Do operators attend these meetings?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Is the governing entity provided with documented information regarding technical, managerial, and financial operations of the water system? (Inspect)	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Is the governing entity familiar with water treatment/distribution?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system offer continuing education opportunities for members of the governing entity?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>

PWS ID Number: KY0340250

Does the governing entity visit the water plant? How often? _____	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system have regular staff meetings? How often? _____ Who is involved? _____	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system have a documented strategic plan (mission statement, goals and objectives)? (Inspect)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system have a defined organizational structure?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system have a documented description of each job classification with minimum position qualifications? (Inspect)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system have documented policies and procedures governing human resource management (such as an employee handbook)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system periodically review its insurance coverage is in place for liability, property, automobiles, directors, and officers?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system have a documented policy for delegation of authority such as signing agreements, contracts, resolutions, easements, etc.?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system have a documented procurement policy for purchasing supplies?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system have professional services available under a current contract, retainer, or other similar arrangement for engineering, accounting, and legal counsel?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system have an asset management program?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system have a documented preventive maintenance program?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system have a capital improvement plan? (Inspect) How many years does the plan cover? _____	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system have a documented policy governing water main extensions? (Inspect)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Are chemicals inventoried? If so, how? _____	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Are distribution materials inventoried? If so, how? _____	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Is there a bid process for chemicals, pipe, or large item purchases?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system have rules and regulations governing the provision of service? (Inspect)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system make available in a public place the rules, rates, and regulations? (Inspect)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system provide 24-hour service response for customers?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system notify customers prior to performing scheduled maintenance?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system log customer complaints and track resolution?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system provide any educational activities to the public? Who is responsible for providing this? _____ What types of educational activities are done? _____	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system have sufficient O & M manuals? (Inspect) (O & M manuals shall include: a detailed design of the plant, daily operating procedures, a schedule of testing requirements designating who is responsible for the tests, and safety procedures for operation of the facility – including storage and inventory requirements for materials and supplies.) How are the operators made aware of O & M procedures? <u>OTJ Training; SOPs</u>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Has the system received any NOV's for MCLs in the last 3 years? If yes, answer the following:	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>

If more than one NOV, were any for the same contaminant?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Was a public notice issued when required?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
What remedial measures did the system take to prevent future occurrences of these violations? _____			
Does the system maintain a log of all breaks or ruptures per 401 KAR 8:150, Section 4? (Inspect)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Is the system operating at or above 85% of its Rated Design Capacity or using at or above 85% of water available through purchase contracts? (see COW)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Plant is currently operating at _____% (gpm) and _____% (gpd) of its Rated Design Capacity.			
If system's average daily demand (including volume of water specified through contracts) exceeds 85% of total available capacity (including both plant capacity and water available through purchase contracts), does system have a plan for obtaining additional capacity, including cost and timeframes to address the needed additional capacity?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
If applicable, describe plan for obtaining additional capacity: _____			
COMMENTS:			

IV. FINANCIAL

Does the system prepare an annual operating budget? (Provide summary)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system prepare an annual capital budget? (Inspect)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Who prepares the budget? _____			
Do the operators have input into the budget?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Are training and license funds built into the budget?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the governing entity review and approve the budget?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system prepare regular monthly reports to show variances between budgeted and actual revenue and expenses? (Inspect)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system maintain its financial records utilizing the Kentucky Uniform System of Accounting or a comparable system? (Inspect)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Are financial statements audited by a CPA as required? (Inspect) (Water districts, special districts – i.e. regional water commissions and cities have specific requirements.)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
If audit is completed, does the governing entity receive and review the audit report?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system employ a method for depreciation of system assets?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Is the system operating at a retained earnings surplus? (Retained earnings is the net income that is available at the end of the year and available for transfer.)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Is the current debt-to-equity ratio below 1.0? (The debt-to equity ratio for any given year is computed by dividing total liabilities by total equity.)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the water system meet a debt coverage ratio needed for bond ordinances, loan agreements, and bond requirements? A typical value is 1.2. (Debt coverage ratio is computed by dividing cash available for debt service (net income with annual interest, depreciation, amortization, and other non-cash items added back) by debt service requirements for the year.)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the water system revenue go to meet other expenses (i.e. electric, sewer or garbage)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Is there a documented policy for delinquent accounts? What is it? _____	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
For accounts payable, has the system kept payments less than 45 days past due over the last 12 months?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>

Does the system write-off bad debt annually?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Where does the system typically go for financial assistance? _____				
Does the system have any long-term debts?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Is the system current on all debt service payments (if applicable)?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Is the system meeting reserve account requirements (if applicable)?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Is there an approved* rate structure in place? (Provide copy of rate sheet.) (*Approved by governing entity/PSC as applicable.)		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
What are the dates of the system's last 2 rate increases? _____				
Does the system perform a review annually to determine if the rates fully cover the expenses?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Are long-term needs built into rate increases?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Do rates promote conservation in time of drought?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
COST OF WATER PRODUCED, PURCHASED AND SOLD				
Does the system calculate the cost to produce water?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Producers	How much does it cost your system to produce 1,000 gallons of water?	\$_____	N/A <input type="checkbox"/>	
Purchasers	What is the highest wholesale price you pay per 1,000 gallons of water?	\$_____	N/A <input type="checkbox"/>	
	What is the lowest wholesale price you pay per 1,000 gallons of water?	\$_____	N/A <input type="checkbox"/>	
Sellers	What is your highest wholesale price which you charge per 1,000 gallons of water?	\$_____	N/A <input type="checkbox"/>	
	What is your lowest wholesale price which you charge per 1,000 gallons of water?	\$_____	N/A <input type="checkbox"/>	
WATER LOSS				
Does the system track water loss on a monthly basis?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Report water loss for the past year as a percentage of total water produced/purchased in gallons and as a dollar value (use \$1.50 as an example if cost to produce water is unknown).		_____%	_____ gallons	
		\$_____		
If water loss is above 15%, does the system have a plan to address this?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
If yes, describe plan to address water loss: _____				
COMMENTS:				

V. SECURITY

Does the system have a documented safety policy?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system provide regular safety training to its employees?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Is the utility a member of the Local Emergency Planning Committee?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system have an updated Emergency Response Plan that is reviewed annually? (Inspect)		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the emergency response plan include a plan for responding to water shortages and loss of service?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Is the Emergency Response Plan exercised?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
How is the Emergency Response Plan communicated to all employees? _____				
Are there safeguards on water plant operations when operators may be doing work outside on the plant grounds?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>

What types of safeguards? _____		
Does the plant ever disable the telemetry/SCADA system and run on manual?	Yes <input type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
Has the system developed procedures for securing computer/SCADA usage?	Yes <input type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
Are backup copies of O & M manuals maintained in a location other than the water plant?	Yes <input type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
Is the raw water, treatment, distribution, and purchased water source equipped with emergency standby power generation or is there a secondary source of power? (e.g. contracts in place with suppliers for emergency generators or dual electrical feed)	Yes <input type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
Are backup emergency generators exercised regularly?	Yes <input type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
Is other backup equipment exercised regularly?	Yes <input type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
Have arrangements been made with outside contractors, other utilities, etc. to provide needed emergency equipment?	Yes <input type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
If the system has an inactive water plant, is the plant exercised to maintain preparedness for emergencies?	Yes <input type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
How often? _____		
How is the plant disinfected prior to bringing it back on line? _____		
Is equipment shared with the wastewater plant?	Yes <input type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
If so, how is the equipment disinfected prior to use at the water plant? _____		
COMMENTS:		

DOCUMENTATION (✓ all that apply)
<input type="checkbox"/> Photographs obtained by DEP <input type="checkbox"/> Copies of records obtained by DEP <input type="checkbox"/> Other documentation

OVERALL COMPLIANCE STATUS			
<input checked="" type="checkbox"/> No Violations Observed			
<input type="checkbox"/> No Violations Observed – Advisory Action Taken (impending trends)			
<input type="checkbox"/> Out of Compliance – Verbal Notice Given (non-recurrent deficiency noted or violation corrected at time of inspection)			
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:33%;">CDPM: Ryan Reed</td> <td style="width:33%;">Title: Environmental Scientist IV</td> <td style="width:33%;">Date: 9/16/2020</td> </tr> </table>	CDPM: Ryan Reed	Title: Environmental Scientist IV	Date: 9/16/2020
CDPM: Ryan Reed	Title: Environmental Scientist IV	Date: 9/16/2020	

I. SOURCE

SOURCE				
SOURCE NAME	WATER WITHDRAWAL NUMBER	PERMITTED AMOUNT (MGD)	IS CAPACITY ADEQUATE?	ARE THERE WATER QUALITY ISSUES?
KY River Pool #9	0200	63 MGD	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
			Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
Upstream land uses (✓ all that apply): <input checked="" type="checkbox"/> Farmland <input type="checkbox"/> Industry <input type="checkbox"/> Logging <input type="checkbox"/> Mining <input type="checkbox"/> Oil and Gas <input checked="" type="checkbox"/> Recreation <input checked="" type="checkbox"/> Residential <input type="checkbox"/> Other _____				
Upstream discharges within 5 miles (✓ all that apply): <input checked="" type="checkbox"/> Farmland <input type="checkbox"/> Industry <input type="checkbox"/> Logging <input type="checkbox"/> Mining <input type="checkbox"/> Oil and Gas <input checked="" type="checkbox"/> Recreation <input checked="" type="checkbox"/> Residential <input type="checkbox"/> Water/Wastewater Discharge <input type="checkbox"/> Other _____				
Is there a source water protection plan in place? (Call ADD if no one at plant knows.)				Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Are there any sources of Cryptosporidium in the watershed?				Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe the sources: <u>farming, animals</u>				
Is the system drought-vulnerable? (Has the system ever been on water conservation or dealt with a dwindling water source during warm weather?)				Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Does the system perform both source and finished water quality monitoring as required?				Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
What type of water quality monitoring is done on the source water (✓ all that apply): <input checked="" type="checkbox"/> Alkalinity <input checked="" type="checkbox"/> BacTs <input checked="" type="checkbox"/> Hardness <input checked="" type="checkbox"/> Iron <input checked="" type="checkbox"/> Manganese <input checked="" type="checkbox"/> pH <input checked="" type="checkbox"/> Temperature <input checked="" type="checkbox"/> Turbidity <input type="checkbox"/> None				
If multiple sources are available, is the one in use the "best" in terms of both water quality and quantity?				Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Are there any factors that have limited the capacity of raw water source(s) within the last 10 years?				Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
If the capacity of a raw source has been limited within the past 10 years, have the contributing factors already been successfully addressed? If not, explain: _____				Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Are there any unaddressed factors that have reduced the quality of raw water source(s) in the last 10 years?				Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
If the quality of the raw water source(s) has been reduced within the past 10 years, have the contributing factors already been successfully addressed? If not, explain: _____				Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Are there any unaddressed factors that have limited the water available for purchase from contracted source(s) in the last 10 years?				Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
If water available for purchase through contracted source(s) has been limited within the past 10 years, have the contributing factors already been successfully addressed? If not, explain: _____				Yes <input type="checkbox"/> No <input type="checkbox"/>
COMMENTS: Limiting factors for the capacity of raw water have been eliminated with the construction of the new KRS#2 plant. Raw water quality monitoring also includes UV254 for organics.				

INTAKE STRUCTURE							
LOCATION			TYPE	# of INLETS	SCREEN GRID SIZE	IS FLOODING A PROBLEM?	IS SILT BUILD-UP A PROBLEM?
ROAD/AREA	LATITUDE	LONGITUDE					
KY River	37,902198	84.376652	Fixed	1	1/2	NO	NO

Number of raw water mains: <u>3</u> which are: PUMPED <input checked="" type="checkbox"/> or GRAVITY FED <input type="checkbox"/>							
Is raw water flow measured? Yes <input type="checkbox"/> No <input type="checkbox"/>							
If yes, when was the meter last calibrated? <u>October 2019</u>							
List any chemicals fed at the source: <u>n/a</u>							
If source is a reservoir, is it aerated? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>							
List depths of intake levels (normal pool): <u>8'</u>							
Screens are: STATIONARY <input type="checkbox"/> or MECHANICAL <input checked="" type="checkbox"/>							
Is screen clogging a problem? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>							
How are screens cleaned? _____							
Are Zebra mussels a problem? Yes <input type="checkbox"/> No <input type="checkbox"/>							
If yes, list actions taken: _____							
How often are the submerged portions of the intake inspected? <u>annually</u>							
When was the date of the last inspection? <u>2019</u>							
COMMENTS: The intake structure was not inspected during the inspection due to construction of a new tram car.							

II. TREATMENT/PUMPS

PRE-SEDIMENTATION			
N/A			
CAPACITY (gallons)	FLEXIBILITY TO BYPASS	CHEMICAL FEED CAPABILITY	LIST CHEMICALS FED
	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are treatment chemicals fed at the inlet to the pre-sedimentation basin? Yes <input type="checkbox"/> No <input type="checkbox"/>			
If so, is the chemical fed: ALL THE TIME <input type="checkbox"/> or INTERMITTENTLY <input type="checkbox"/>			
Is algae growth a problem? Yes <input type="checkbox"/> No <input type="checkbox"/>			
How often are the pre-sedimentation basin(s) cleaned? _____			
COMMENTS:			

AERATION		
N/A		
TYPE	CAPACITY (gallons)	REASON FOR AERATION
COMMENTS:		

RAPID MIX			
Inspected			
TYPE	NUMBER	VOLUME (gallons)	PHYSICAL CONDITION

Mechanical Mixer	2	27170	Good
List chemicals in the order they are fed at the rapid mix: <u>chlorine/PACL/ polymer</u>			
Is adequate mixing of chemicals taking place?			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Are there flow splits after the rapid mix?			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
If so, is the flow distribution even?			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
COMMENTS: The facility has the ability to feed carbon and ferric if needed.			

FLOCCULATION BASINS				
N/A				
TYPE	# of TRAINS / STAGES	VARIABLE SPEED DRIVE	VOLUME (gallons)	PHYSICAL CONDITION
	/	Yes <input type="checkbox"/> No <input type="checkbox"/>		
	/	Yes <input type="checkbox"/> No <input type="checkbox"/>		
List any chemicals fed in the flocculation process: _____				
What is the size and appearance of the floc? Size: <u>N/A</u> & Appearance: <u>N/A</u>				
How often are flocculation basins cleaned? _____				
Are the flocculation speeds tapered (decreased) through the flocculation stages?				Yes <input type="checkbox"/> No <input type="checkbox"/>
Are there flow splits after flocculation?				Yes <input type="checkbox"/> No <input type="checkbox"/>
Is flow distribution even?				Yes <input type="checkbox"/> No <input type="checkbox"/>
COMMENTS:				

SEDIMENTATION BASINS					
Inspected					
TYPE	TRAINS / STAGES	VOLUME (gallons)	SQ. FT. AREA PER BASIN	% WITH TUBE SETTLERS	PHYSICAL CONDITION
Hydrotreator	10 / 1	411,000	14580	0	Good
	/				
List any chemicals fed in the sedimentation process: <u>chlorine</u>					
What is the sedimentation turbidity goal? <u><10 NTU</u>					
Where is this sample taken? <u>at the flow over the weir</u>					
What is the overflow rate of the basins? <u>0.19 gpm/ft²</u>					
If system has an Actiflo process, what is the rise rate? _____					
How often are the basins cleaned? <u>continuously</u>					
How often is sludge removed from the basins? <u>continuous</u>					
Sludge removal is: MECHANICAL <input checked="" type="checkbox"/> or MANUAL <input type="checkbox"/>					
What was the sludge depth at the time of this inspection? _____					
What was the settled water turbidity at the time of this inspection? <u>2.6</u>					
Is there evidence of short-circuiting (flow or density currents)?					Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Is baffling present in the basins?					Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

If yes, describe the baffling: metal plates inside the hydrotreators

If multiple sedimentation basins, describe the piping from the basins to the filters: _____

Is there evidence of floc carryover to the filters?

Yes No

COMMENTS: All hydrotreators were on line at the time of the inspection.

FILTERS

Total Number of Filters: 10

Plant flow rate divided by total square footage of filters in service at the time of inspection.

TYPE	MEDIA TYPE	FILTER RATE (at insp.)	FILTER CONTROL	SURFACE WASH TYPE	FILTER TO WASTE	FILTER AREA	PHYSICAL CONDITION
High Rate	Mixed Media	variable gpm/ft ²	Rate of Flow	Fixed Nozzle	Yes	718	Good
		gpm/ft ²					

List any chemicals fed in the filtration process: chlorine

What is the filtered water turbidity goal? <0.10

Does this apply to the combined filter effluent?

Yes No

To individual filter effluents?

Yes No

What criteria are used for filter backwash? loss of head, turbidity levels and 100 hour rule

What is the backwash rate in gallons per minute? 2700

Is filter backwash rate ramped up and down?

Yes No

Is backwash flow rate measured?

Yes No

Are filters ever bumped?

Yes No

Is air scouring used?

Yes No

What was the combined filter effluent turbidity at time of inspection? 0.05 NTU

Are individual filters monitored for turbidity?

Yes No

Are the IFE turbidimeters calibrated per the manufacturer's instructions? (inspect documentation)

Yes No

Is this turbidity continuously recorded?

Yes No

Can this data be retrieved in usable form from storage (tape or CDs)?

Yes No

Is filter to waste (rewash) present?

Yes No

Is it used?

Yes No

Can turbidity be measured while filtering to waste?

Yes No

Are flows adjusted on remaining in-service filters during a backwash?

Yes No

COMMENTS: On-line instrumentation upgrade on all filters has been completed.

MEMBRANE FILTRATION

N/A

What type of membrane filtration is used? N/A

The membrane filtration process is PRESSURE or VACUUM driven.

What is the designed membrane flux (flow per unit of membrane area)? _____

Are pre-filters used ahead of the membranes?

Yes No

Describe the direct integrity testing procedure. _____
Describe how membrane breaks are isolated and repaired. _____
How are the membranes “backwashed”? _____
What type of chemical cleaning is used? _____
How is this waste handled? _____
Have there been any operational or maintenance issues with the membranes? Yes <input type="checkbox"/> No <input type="checkbox"/>
If yes, explain: _____
COMMENTS:

RESIDUALS HANDLING	
What percent of plant production is used for in-plant processes (backwash, chemical feed, sanitary)? <u>1.5-2.5%</u>	
How are spent backwash water and other liquid residuals handled? <u>backwash is sent to filter bags.</u>	
If applicable, is the spent backwash holding tank/lagoon volume adequate? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Does the plant discharge water from this tank/lagoon back to a body of water? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Does the plant have a KPDES discharge permit? If so, what is the permit number? <u>KY0091049</u> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Is the discharge meeting permit requirements? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Is the discharge point upstream of the intake? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
If yes, how far upstream is the discharge point from the intake? _____	
Is spent backwash water recycled? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
If yes, is the spent backwash water recycled as a: “SLUG” <input type="checkbox"/> or as a CONSTANT FLOW <input type="checkbox"/>	
What percent of the flow is recycled? _____%	
Are chemical feed rates adjusted during recycling? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are raw water flows adjusted during recycling? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are all recordkeeping requirements of the <i>Filter Backwash Rule</i> being followed? Yes <input type="checkbox"/> No <input type="checkbox"/>	
How are solid residuals handled? _____	
COMMENTS:	

CHEMICAL FEED EQUIPMENT				
CHEMICAL NAME	PURPOSE	FEEDER TYPE	FEED POINT	NUMBER & CONDITION
Caustic Soda	pH Adjustment	Metering Pump	Post-Clearwell	3 Good
Powdered Activated Carbon	Taste Odor	Volumetric	Quick/Flash Mix	1 Good
Polymer	Coagulation	Metering Pump	Quick/Flash Mix	2 Good
Polyaluminum Cl/SO4	Coagulation	Metering Pump	Pre Quick/Flash Mix	2 Good
Hydrofluosilicic Acid	Dental Health	Metering Pump	Clearwell	2 Good
Orthophosphate	Corrosion Control	Metering Pump	Clearwell	2 Good
Ferric Chloride	Coagulation	Metering Pump	Quick/Flash Mix	2 Good
Sodium Permanganate	Taste Odor	Metering Pump	Pre Quick/Flash Mix	2 Good

How are chemical feeders calibrated? <u>calibration cylinders</u>		
How often are chemical feeders calibrated? <u>each shift/ pumpage change</u>		
Are chemical dosages calculated?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
How often are dosages calculated? <u>each shift and pumpage change</u>		
Are chemicals NSF or United Laboratories certified and approved by DOW prior to use?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Do the bulk liquid feed systems have day tanks?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Are there at least two feeders provided for essential processes (such as coagulation and disinfection)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Are spare parts available?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is there enough storage for at least a 30-day supply of chemicals used?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Are there containment areas around the chemicals in case of spills or leaks?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Are in-plant water supplies protected from backflow (cross connections)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Does a certified tester test backflow prevention devices?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
If yes: What is the testing frequency? <u>once/year</u> Last Tested: <u>10/2019</u>		
COMMENTS: No major concerns were noted at the time of the inspection. A new chemical building is close to being brought on-line.		

GAS CHLORINE SAFETY		
Inspected		
Is the chlorine room enclosed and separate from other operating areas?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is there a working exhaust fan in the chlorine room?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Does it provide one complete air change per minute?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Does it exhaust from floor level?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is intake air near the ceiling?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is there an external audible and visual alarm?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Are switches located outside the chlorine room?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Are chlorine tanks secured?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Are the scales operational?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is automatic switchover of chlorine cylinders provided?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is there a shatterproof viewing window in chlorine room?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is there a crash bar on the door of the chlorine room?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Does the door open out and to the exterior of the building?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is there a SCBA unit meeting NIOSH standards outside the chlorine room?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Are personnel trained to use the SCBA?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Is the "buddy system" practiced when changing or moving chlorine cylinders?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is leak detection provided?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is ammonia available for chlorine leak detection?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is there a chlorine tank repair kit?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Are personnel trained and certified to use the kits?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
COMMENTS: Appropriate emergency response personnel would be activated(fire department) for higher level leak emergencies		

requiring full SCBA. A scrubber has been installed.

CHLORINE DIOXIDE SAFETY

N/A

Many materials will catch fire and burn violently when in contact with chlorite.

Is sodium chlorite stored in a separate room? Yes No

Is sodium chlorite stored away from organic material? Yes No

COMMENTS:

GAS (ANHYDROUS) AMMONIA SAFETY

Inspected

Is the ammonia room enclosed and separate from other operating areas? Yes No

Is there a working exhaust fan in the ammonia room? Yes No

If there is a working exhaust fan, does it provide one complete air change per minute? Yes No

Does the exhaust fan exhaust from ceiling level? Yes No

Is intake air near the floor? Yes No

Are switches located outside the ammonia room? Yes No

Are ammonia tanks secured? Yes No

Is there a shatterproof viewing window in ammonia room? Yes No

Is there a crash bar on the door of the ammonia room? Yes No

Does the ammonia room door open out and to the exterior of the building? Yes No

Is there a SCBA unit meeting NIOSH standards outside the ammonia room? Yes No

Are personnel trained to use the SCBA? Yes No

Is leak detection provided? Yes No

If leak detection is provided, is there an external audible and visual alarm? Yes No

How are ammonia leaks detected? gas detector and alarm

COMMENTS: No major concerns were noted at the time of the inspection.

DISINFECTION

TYPE	APPLICATION POINT	REDUNDANCY AVAILABLE	FEEDER TYPE
Chlorine Gas	Quick/Flash Mix	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Chlorinator
Chlorine Gas	Pre-Filter	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Chlorinator
Chloramine	Clearwell	Yes <input type="checkbox"/> No <input type="checkbox"/>	

What is the means used to measure disinfectant chemical usage? scales

How is the disinfectant residual monitored? continuously with on-line analyzers and in house testing.

Is there an on-line, recording chlorine analyzer on the plant tap (for systems serving >3,300)? Yes No

Are C-Ts calculated daily? Yes No

COMMENTS:

CLEARWELLS

VOLUME (gallons)	BAFFLING TYPE	DISINFECTANT RESIDUAL	
		TOTAL	FREE
0.486	Poor (0.3)		
2 MG	Unbaffled (0.1)		
0.490	Poor (0.3)		

List chemicals in the order in which they are fed into the clearwell: fluoride, ammonia, caustic, corrosion inhibitor

If multiple clearwells, are they:
 IN SERIES (one following the other) or PARALLEL (side by side and not connected)

Are hatches secured? Yes No

Are vents screened? Yes No

How often are clear wells cleaned? 2016

COMMENTS: No major concerns were noted at the time of the inspection.

WATER PLANT PUMPS (Low service/raw water, high service/finished water and backwash)					
FLOW STREAM	LOCATION	NUMBER OF PUMPS	CAPACITY (gpm)	PUMP TYPE	FLOW CONTROL METHOD
Primary Raw Water	intake	6	10,000	Vertical Turbine	Automatic
Primary Raw Water	intake	2	12,600	Centrifugal	Automatic
Finished Water	HS pump room	2	5,560	Vertical Turbine	Automatic
Finished Water	HS pump	1	5600		Automatic
Finished Water	HS pump room	2	7000		Automatic

Are documented maintenance and pumping records maintained for all distribution pumping stations? (minimum of pump run times, pump testing, maintenance log) Yes No

Do all pumping facilities have the ability to meet demand with one pump out of service during peak demand? Yes No

COMMENTS: Additional pumps include: 1 finished water at 7000 GPM and 2 backwash water at 1000 gpm each.

WATER PLANT ON-LINE INSTRUMENTATION			
TYPE	FLOW STREAM (Location)	MANUFACTURER	LAST CALIBRATION DATE
Streaming Current	Settled Water	HACH	6/2020
pH	Raw Water	HACH	6/2020
pH	Combined Filter Effluent	HACH	6/2020
Turbidity	Raw Water	HACH	6/2020
Turbidity	Individual Filter Effluent	SWAN	6/2020
Turbidity	EPTDS	SWAN	6/2020
Chlorine	Combined Filter Effluent	HACH CL 17	6/2020
Turbidity	Combined Filter Effluent	SWAN	6/2020

Chlorine	EPTDS	HACH CI 17	6/2020
COMMENTS: A complete listing of on-line instrumentation was provided during a previous inspection.			

LABORATORY (PLANT)			
PARAMETERS TESTED	FREQUENCY	EQUIPMENT USED	CALIBRATION METHOD
turbidity	continuous	SWAN	ck and calibration standards
chlorine	continuous	HACH	ck anc calibration standards
ammonia	contunuous	ASA analytical	ck and calibration standards
fluoride	continuous	HACH	ck and calibration standards
pH	continuous	HACH	ck and calibration stadards
UV254	1/day	HACH	
speciation	continuous	ASA analytical	ck and calibration standards
hardness		titration	check sample
Is laboratory space and lighting adequate?			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Are analyses conducted according to approved EPA methods?			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Does the lab have SOPs for sample collection, analysis, and reporting?			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Are daily log sheets used to record day-to-day operations, testing, etc?			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
If daily log sheets are used, are they: ELECTRONIC (on the computer) <input type="checkbox"/> or HAND-WRITTEN <input checked="" type="checkbox"/>			
COMMENTS: Standards operating procedures have been written and are being followed. instrumentation is claibrated quarterly. The faciclity maintains the required laboratory records.			

IN-PLANT SAMPLING (for example, top and bottom of filters)				
SITE	CHLORINE		pH	TURBIDITY
	FREE	TOTAL		
tap		3.63	7.5	
raw				8
settled				2.5
final				0.01
COMMENTS:				

III. DISTRIBUTION SYSTEM/FINISHED WATER STORAGE

DISTRIBUTION SYSTEM	
Does the system have standard specifications for design and construction of the distribution system?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Does the system prohibit new connections where pressure on the discharge side of the meter will be <30 psi?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Is the system able to meet minimum pressure requirements of DOW and/or other regulating authority?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Does the system have a documented leak detection program?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Does the distribution system have a sufficient number of valves to isolate portions of the system (for leak detection, maintenance, etc.)?	Yes <input type="checkbox"/> No <input type="checkbox"/>
If there are separate distribution system areas, are they interconnected with each other?	Yes <input type="checkbox"/> No <input type="checkbox"/>
If they are not interconnected, how many separate areas are there? _____	
What prevents these systems from being interconnected? _____	
How many pressure zones are there? _____	
What is the range of distribution pressures? _____	
Do any distribution areas require reduced pressure valves?	Yes <input type="checkbox"/> No <input type="checkbox"/>
What piping materials are included in the distribution system? _____	
Does the system have a program for flushing water mains?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Describe the process for sterilizing new mains/main breaks: _____	
What types of on-line instrumentation are located at booster or pump stations and tanks? _____	
Does the system have a documented program for exercising distribution system valves?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Does the system have a documented program for regular testing of water meters including raw water, distributed and customer?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Is there a water meter replacement program?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Are there main break/emergency notification procedures?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Does the system have a documented procedure for issuing a boil water advisory and a consumer advisory? The procedure shall identify when (how soon after the occurrence) and how the system shall notify the affected health department, to whom that notification shall be made both during and after normal business hours, and procedures for issuing the advisory to the public. The public notification shall include instructions for the public (including how to properly boil water) and an explanation of steps being taken to correct the problem.	Yes <input type="checkbox"/> No <input type="checkbox"/>
Describe how the decision is made to issue a Boil Water Advisory: _____	
Does the system have a cross-connection control program?	Yes <input type="checkbox"/> No <input type="checkbox"/>
If yes, is the cross-connection control program documented in writing?	Yes <input type="checkbox"/> No <input type="checkbox"/>
If the cross-connection control program is not documented in writing, describe the process for finding and eliminating cross connections: _____	
Does a certified tester test the backflow prevention devices on a regular basis?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Has a calibrated hydraulic model been developed for the system?	Yes <input type="checkbox"/> No <input type="checkbox"/>
COMMENTS: distribution system is covered under the Richmond Road Water treatment plant inspection.	

DISTRIBUTION STORAGE FACILITIES									
N/A									
LOCATION			VOLUME (gallons)	TANK TYPE	OVERFLOW		LAST CLEANED/ INSPECTED	TELEME -TRY	% TURNOVER (Per Day)
ROAD/AREA	LATITUDE	LONGITUDE			SCREEN/ FLAPPER	>10' FROM TANK			

Are all storage tanks professionally inspected at least every 5 years (including interior, coating systems, & piping)? How often are tanks: INSPECTED ____ and CLEANED ____?

Are all storage tanks and water plants equipped with hatches, covers, screens, vandal guards and locks and all tank sites fenced for security? Yes No

Are all hatches, screens, and overflows on the storage tanks checked at least monthly? Yes No

Is there corrosion protection in the tanks? Yes No

COMMENTS:

DISTRIBUTION BOOSTER PUMPS AND/OR BOOSTER DISINFECTION FACILITIES

N/A

LOCATION			PUMP or DISINFECTION	NUMBER & CAPACITY OF PUMPS (gpm)	DISINFECTION TYPE	AUXILIARY POWER
ROAD/AREA	LATITUDE	LONGITUDE				
				@		
				@		
				@		
				@		
				@		
				@		
				@		
				@		
				@		
				@		
				@		

DISTRIBUTION SAMPLING

(a minimum of N, S, E, W)

SITE	CHLORINE		pH	TURBIDITY	OTHER
	FREE	TOTAL			

Is the system maintaining the required chlorine (0.2 mg/l) / chloramine (0.5 mg/l) residuals in the distribution system? Yes No

COMMENTS:

MAINTENANCE

- Is plant housekeeping adequate? Yes No
- Is distribution storage housekeeping adequate? Yes No
- Are adequate supplies of spare parts kept on hand? Yes No
- Are needed tools available? Yes No
- If not, is preventive maintenance performed? Yes No
- Is a lock-out/tag-out system used for electrical repairs? Yes No

What is the general condition of operating equipment? good

COMMENTS:

DOCUMENTATION

(✓ all that apply)

- | | |
|--|--|
| <input checked="" type="checkbox"/> Samples taken by DEP | <input type="checkbox"/> Photographs obtained by DEP |
| <input type="checkbox"/> Samples taken by outside source | <input type="checkbox"/> Copies of records obtained by DEP |
| <input checked="" type="checkbox"/> Instrument readings taken by DEP | <input type="checkbox"/> Other documentation |

OVERALL TECHNICAL COMPLIANCE STATUS

- No Violations Observed
- No Violations Observed - Advisory Action Taken (Impending trends)
- Out of Compliance – Verbal notice given (Non-recurrent deficiency noted or violation corrected at time of inspection.)

INSPECTOR: Deborah Singleton

TITLE: Environmental Inspector

DATE: 8/31/2020

Drinking Water Sanitary Survey

TECHNICAL INSPECTION OF SURFACE WATER PLANT AND DISTRIBUTION SYSTEM OPERATIONS

PWS ID: KY0340250

Agency Interest Number: 1063; CIN20200001

AI Name: KY American Water Co

County: Fayette

WTP Latitude: 38.011157 WTP Longitude: -84.465995

CTAB Inspection Date(s): August 19, 20, and 25 2020.

TREATMENT PROCESS SUMMARY

Primary Source: Kentucky River		Maximum Pumping Rate: 30 MGD
Secondary Source: Jacobson park reservoir		Filter Design Rate (gpm/ft ²): 5
Pre-sedimentation Size: n/a	Aeration: 1)N/A 2) N/A	
Sedimentation (Primary): Conventional/Baffled Basin	Filter (Primary): Conventional/Sand	
Sedimentation 2: 1) N/A 2) N/A	Filter 2 (if 2 different filter types): 1) N/A 2) N/A	
Total Clear Well Size (gallons): 0.650 MG	Total Distribution Storage Capacity (gallons): 27,807,000	
Does each component of the WTP meet 10 State Standards or has each been approved by the Division of Water? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
COMMENTS: Filters are actually a conventional/ dual media type(sand and GAC).		

CHEMICALS SUMMARY

Pre-Disinfection/Treatment: 1) Chlorine Liquid 2) N/A	Primary Coagulant: Polyaluminum Chlorides/Sulfates
Post-Disinfection: 1) Chlorine Liquid 2) N/A	Secondary Coagulant (Name): N/A
Filter Aid Name:	Corrosion Control: Phosphate-Based Inhibitor
Taste and Odor: Sodium Permanganate	Softening: N/A
Iron and Manganese Removal: Sodium Permanganate	Fluoride Supplement: Hydrofluosilicic Acid
COMMENTS:	

PLANT SCHEMATIC (OPTIONAL)

*Include a plant schematic indicating the following details.
Place an "X" in the box to indicate this item is included on the schematic.*

<input type="checkbox"/> Source water type/location	<input type="checkbox"/> Major unit processes (including baffling factors and volumes)
<input type="checkbox"/> Flow measurement locations	<input type="checkbox"/> Chemical injection locations
<input type="checkbox"/> Piping Flexibility (including # of raw and finished water mains)	<input type="checkbox"/> Waste handling

I. SOURCE

SOURCE				
SOURCE NAME	WATER WITHDRAWAL NUMBER	PERMITTED AMOUNT (MGD)	IS CAPACITY ADEQUATE?	ARE THERE WATER QUALITY ISSUES?
Kentucky River	200	63	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Jacobson Reservoir	201	16	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Upstream land uses (✓ all that apply): <input checked="" type="checkbox"/> Farmland <input type="checkbox"/> Industry <input type="checkbox"/> Logging <input type="checkbox"/> Mining <input type="checkbox"/> Oil and Gas <input checked="" type="checkbox"/> Recreation <input checked="" type="checkbox"/> Residential <input type="checkbox"/> Other _____				
Upstream discharges within 5 miles (✓ all that apply): <input type="checkbox"/> Farmland <input type="checkbox"/> Industry <input type="checkbox"/> Logging <input type="checkbox"/> Mining <input type="checkbox"/> Oil and Gas <input checked="" type="checkbox"/> Recreation <input checked="" type="checkbox"/> Residential <input type="checkbox"/> Water/Wastewater Discharge <input type="checkbox"/> Other _____				
Is there a source water protection plan in place? (Call ADD if no one at plant knows.)				Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Are there any sources of Cryptosporidium in the watershed?				Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe the sources: <u>farming, animals</u>				
Is the system drought-vulnerable? (Has the system ever been on water conservation or dealt with a dwindling water source during warm weather?)				Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Does the system perform both source and finished water quality monitoring as required?				Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
What type of water quality monitoring is done on the source water (✓ all that apply): <input checked="" type="checkbox"/> Alkalinity <input checked="" type="checkbox"/> BacTs <input checked="" type="checkbox"/> Hardness <input checked="" type="checkbox"/> Iron <input checked="" type="checkbox"/> Manganese <input checked="" type="checkbox"/> pH <input checked="" type="checkbox"/> Temperature <input checked="" type="checkbox"/> Turbidity <input type="checkbox"/> None				
If multiple sources are available, is the one in use the "best" in terms of both water quality and quantity?				Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Are there any factors that have limited the capacity of raw water source(s) within the last 10 years?				Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
If the capacity of a raw source has been limited within the past 10 years, have the contributing factors already been successfully addressed? If not, explain: _____				Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Are there any unaddressed factors that have reduced the quality of raw water source(s) in the last 10 years?				Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
If the quality of the raw water source(s) has been reduced within the past 10 years, have the contributing factors already been successfully addressed? If not, explain: _____				Yes <input type="checkbox"/> No <input type="checkbox"/>
Are there any unaddressed factors that have limited the water available for purchase from contracted source(s) in the last 10 years?				Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
If water available for purchase through contracted source(s) has been limited within the past 10 years, have the contributing factors already been successfully addressed? If not, explain: _____				Yes <input type="checkbox"/> No <input type="checkbox"/>
COMMENTS: Source water quality monitoring also includes testing for chlorides and taste/ odor.				

INTAKE STRUCTURE							
LOCATION			TYPE	# of INLETS	SCREEN GRID SIZE	IS FLOODING A PROBLEM?	IS SILT BUILD-UP A PROBLEM?
ROAD/AREA	LATITUDE	LONGITUDE					
Kentucky River			Fixed	1	1/2"	NO	NO
Jacobson Reservoir			Fixed	1	1/2"	NO	NO

Number of raw water mains: 3 which are: PUMPED or GRAVITY FED

Is raw water flow measured? Yes No
If yes, when was the meter last calibrated? 08/2020

List any chemicals fed at the source: carbons

If source is a reservoir, is it aerated? Yes No

List depths of intake levels (normal pool): 14.5

Screens are: STATIONARY or MECHANICAL

Is screen clogging a problem? Yes No
How are screens cleaned? _____

Are Zebra mussels a problem? Yes No
If yes, list actions taken: _____

How often are the submerged portions of the intake inspected? as needed
When was the date of the last inspection? new screens were installed in July 2019.

COMMENTS: No major concerns were noted at the time of the inspection.

II. TREATMENT/PUMPS

PRE-SEDIMENTATION			
N/A			
CAPACITY (gallons)	FLEXIBILITY TO BYPASS	CHEMICAL FEED CAPABILITY	LIST CHEMICALS FED
	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	

Are treatment chemicals fed at the inlet to the pre-sedimentation basin? Yes No
If so, is the chemical fed: ALL THE TIME or INTERMITTENTLY ?

Is algae growth a problem? Yes No
How often are the pre-sedimentation basin(s) cleaned? _____

COMMENTS:

AERATION		
N/A		
TYPE	CAPACITY (gallons)	REASON FOR AERATION

COMMENTS:

RAPID MIX			
Inspected			
TYPE	NUMBER	VOLUME (gallons)	PHYSICAL CONDITION
Mechanical Mixer	2	7100/basin	Good

List chemicals in the order they are fed at the rapid mix: <u>polyaluminum chloride, sodium hypochlorite, NaMnO4,</u>			
Is adequate mixing of chemicals taking place?			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Are there flow splits after the rapid mix?			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
If so, is the flow distribution even?			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
COMMENTS: No major concerns were noted at the time of the inspection.			

FLOCCULATION BASINS				
Inspected				
TYPE	# of TRAINS / STAGES	VARIABLE SPEED DRIVE	VOLUME (gallons)	PHYSICAL CONDITION
Vertical Paddle	2 / Multiple	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	350,000	Good
	/	Yes <input type="checkbox"/> No <input type="checkbox"/>		
List any chemicals fed in the flocculation process: <u>cationic polymer and carbon if needed</u>				
What is the size and appearance of the floc? Size: <u>OK</u> & Appearance: <u>Fluffy</u>				
How often are flocculation basins cleaned? <u>once per year or when needed</u>				
Are the flocculation speeds tapered (decreased) through the flocculation stages?			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Are there flow splits after flocculation?			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Is flow distribution even?			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
COMMENTS: No major concerns were noted at the time of the inspections.				

SEDIMENTATION BASINS					
Inspected					
TYPE	TRAINS / STAGES	VOLUME (gallons)	SQ. FT. AREA PER BASIN	% WITH TUBE SETTLERS	PHYSICAL CONDITION
Conventional/Package	4 / 1	750/000		0	Good
	/				
List any chemicals fed in the sedimentation process: _____					
What is the sedimentation turbidity goal? <u><2 NTU</u>					
Where is this sample taken? <u>at basin</u>					
What is the overflow rate of the basins? <u>0.5181 gpm/ft²</u>					
If system has an Actiflo process, what is the rise rate? _____					
How often are the basins cleaned? <u>1-2 times per quarter or as needed</u>					
How often is sludge removed from the basins? <u>continuous</u>					
Sludge removal is: MECHANICAL <input checked="" type="checkbox"/> or MANUAL <input type="checkbox"/>					
What was the sludge depth at the time of this inspection? _____					
What was the settled water turbidity at the time of this inspection? <u>0.4 NTU</u>					
Is there evidence of short-circuiting (flow or density currents)?				Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Is baffling present in the basins?				Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
If yes, describe the baffling: _____					

If multiple sedimentation basins, describe the piping from the basins to the filters: _____

Is there evidence of floc carryover to the filters? Yes No

COMMENTS: No major concerns were noted at the time of the inspection.

FILTERS

Total Number of Filters: 8

Plant flow rate divided by total square footage of filters in service at the time of inspection.

TYPE	MEDIA TYPE	FILTER RATE (at insp.)	FILTER CONTROL	SURFACE WASH TYPE	FILTER TO WASTE	FILTER AREA	PHYSICAL CONDITION
Conventional	Dual Media	3.1 gpm/ft ²	Rate of Flow	Air Scour	Yes	496.6	Good
		gpm/ft ²					

List any chemicals fed in the filtration process: nonw

What is the filtered water turbidity goal? <0.1 NTU

Does this apply to the combined filter effluent? Yes No

To individual filter effluents? Yes No

What criteria are used for filter backwash? increase in turbidity, loss of head, 100 hour rule

What is the backwash rate in gallons per minute? 5000

Is filter backwash rate ramped up and down? Yes No

Is backwash flow rate measured? Yes No

Are filters ever bumped? Yes No

Is air scouring used? Yes No

What was the combined filter effluent turbidity at time of inspection? 0.035 NTU

Are individual filters monitored for turbidity? Yes No

Are the IFE turbidimeters calibrated per the manufacturer's instructions? (inspect documentation) Yes No

Is this turbidity continuously recorded? Yes No

Can this data be retrieved in usable form from storage (tape or CDs)? Yes No

Is filter to waste (rewash) present? Yes No

Is it used? Yes No

Can turbidity be measured while filtering to waste? Yes No

Are flows adjusted on remaining in-service filters during a backwash? Yes No

COMMENTS:

MEMBRANE FILTRATION

N/A

What type of membrane filtration is used? N/A

The membrane filtration process is PRESSURE or VACUUM driven.

What is the designed membrane flux (flow per unit of membrane area)? _____

Are pre-filters used ahead of the membranes? Yes No

Describe the direct integrity testing procedure. _____

Describe how membrane breaks are isolated and repaired. _____
How are the membranes "backwashed"? _____
What type of chemical cleaning is used? _____
How is this waste handled? _____
Have there been any operational or maintenance issues with the membranes? Yes <input type="checkbox"/> No <input type="checkbox"/>
If yes, explain: _____
COMMENTS:

RESIDUALS HANDLING	
What percent of plant production is used for in-plant processes (backwash, chemical feed, sanitary)? <u>1-2%</u>	
How are spent backwash water and other liquid residuals handled? <u>Backwash is sent to holding tanks and allowed to settle. The supernatant is decanted to Lake Ellerslie and sludge is filter pressed and used as beneficial reuse on site.</u>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
If applicable, is the spent backwash holding tank/lagoon volume adequate?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Does the plant discharge water from this tank/lagoon back to a body of water?	
Does the plant have a KPDES discharge permit? If so, what is the permit number? <u>KY0093301</u>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Is the discharge meeting permit requirements?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Is the discharge point upstream of the intake?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
If yes, how far upstream is the discharge point from the intake? _____	
Is spent backwash water recycled?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
If yes, is the spent backwash water recycled as a: "SLUG" <input type="checkbox"/> or as a CONSTANT FLOW <input type="checkbox"/> ?	
What percent of the flow is recycled? _____%	
Are chemical feed rates adjusted during recycling?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Are raw water flows adjusted during recycling?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Are all recordkeeping requirements of the <i>Filter Backwash Rule</i> being followed?	Yes <input type="checkbox"/> No <input type="checkbox"/>
How are solid residuals handled? _____	
COMMENTS: The wastewater handling system was found to be in compliance regarding KPDES Permit #KY0093301.	

CHEMICAL FEED EQUIPMENT				
CHEMICAL NAME	PURPOSE	FEEDER TYPE	FEED POINT	NUMBER & CONDITION
Powdered Activated Carbon	Taste Odor	Peristaltic	Pre-Sedimentation	2 Good
Orthophosphate	Coagulation	Peristaltic	Pre-Flocculation	2 Good
Lime	pH Adjustment	Peristaltic	Clearwell	2 Good
Hydrofluosilicic Acid	Dental Health	Peristaltic	Clearwell	2 Good
Sodium Permanganate	Taste Odor	Peristaltic	Intake	2 Good
Polyaluminum Cl/SO4	Coagulation	Peristaltic	Quick/Flash Mix	2 Good
Polymer	Coagulation	Peristaltic	Quick/Flash Mix	2 Good

How are chemical feeders calibrated? <u>calibration cylinders</u>					
How often are chemical feeders calibrated? <u>with pumpage changes</u>					
Are chemical dosages calculated?				Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
How often are dosages calculated? <u>continuous by SCADA system and 3 times per shift manually</u>					
Are chemicals NSF or United Laboratories certified and approved by DOW prior to use?				Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Do the bulk liquid feed systems have day tanks?				Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Are there at least two feeders provided for essential processes (such as coagulation and disinfection)?				Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Are spare parts available?				Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is there enough storage for at least a 30-day supply of chemicals used?				Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Are there containment areas around the chemicals in case of spills or leaks?				Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Are in-plant water supplies protected from backflow (cross connections)?				Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Does a certified tester test backflow prevention devices?				Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
If yes: What is the testing frequency? <u>yearly</u> Last Tested: <u>2020</u>					
COMMENTS: The facility is now using 1) sodium hypo for disinfection. 2) aqua ammonia, 3) caustic was replaced with liquid lime 4) carbon was moved from River Station #1 to the Jacobson Reservoir intake. 5) Sodium permanganate was moved from the reservoir to the River Station #1.					

GAS CHLORINE SAFETY		
N/A		
Is the chlorine room enclosed and separate from other operating areas?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is there a working exhaust fan in the chlorine room?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Does it provide one complete air change per minute?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Does it exhaust from floor level?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is intake air near the ceiling?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is there an external audible and visual alarm?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Are switches located outside the chlorine room?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Are chlorine tanks secured?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Are the scales operational?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is automatic switchover of chlorine cylinders provided?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is there a shatterproof viewing window in chlorine room?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is there a crash bar on the door of the chlorine room?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Does the door open out and to the exterior of the building?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is there a SCBA unit meeting NIOSH standards outside the chlorine room?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Are personnel trained to use the SCBA?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is the "buddy system" practiced when changing or moving chlorine cylinders?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is leak detection provided?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is ammonia available for chlorine leak detection?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is there a chlorine tank repair kit?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Are personnel trained and certified to use the kits?	Yes <input type="checkbox"/>	No <input type="checkbox"/>

COMMENTS:

CHLORINE DIOXIDE SAFETY

N/A

Many materials will catch fire and burn violently when in contact with chlorite.

Is sodium chlorite stored in a separate room? Yes No

Is sodium chlorite stored away from organic material? Yes No

COMMENTS:

GAS (ANHYDROUS) AMMONIA SAFETY

N/A

Is the ammonia room enclosed and separate from other operating areas? Yes No

Is there a working exhaust fan in the ammonia room? Yes No

If there is a working exhaust fan, does it provide one complete air change per minute? Yes No

Does the exhaust fan exhaust from ceiling level? Yes No

Is intake air near the floor? Yes No

Are switches located outside the ammonia room? Yes No

Are ammonia tanks secured? Yes No

Is there a shatterproof viewing window in ammonia room? Yes No

Is there a crash bar on the door of the ammonia room? Yes No

Does the ammonia room door open out and to the exterior of the building? Yes No

Is there a SCBA unit meeting NIOSH standards outside the ammonia room? Yes No

Are personnel trained to use the SCBA? Yes No

Is leak detection provided? Yes No

If leak detection is provided, is there an external audible and visual alarm? Yes No

How are ammonia leaks detected? _____

COMMENTS:

DISINFECTION

TYPE	APPLICATION POINT	REDUNDANCY AVAILABLE	FEEDER TYPE
Chlorine Liquid	Clearwell	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Metering Pump
		Yes <input type="checkbox"/> No <input type="checkbox"/>	
		Yes <input type="checkbox"/> No <input type="checkbox"/>	

What is the means used to measure disinfectant chemical usage? volume

How is the disinfectant residual monitored? on-line analyzers with chart recorders, SCADA, and lab analysis.

Is there an on-line, recording chlorine analyzer on the plant tap (for systems serving >3,300)? Yes No

Are C-Ts calculated daily? Yes No

COMMENTS: The facility is now using liquid chlorine for disinfection purposes. Aqua Ammonia is used for a chloramine system.

CLEARWELLS

VOLUME (gallons)	BAFFLING TYPE	DISINFECTANT RESIDUAL	
		TOTAL	FREE
200,000	none	3.7	
450,000	none	3.7	

List chemicals in the order in which they are fed into the clearwell: aqua ammonia, liquid lime, and phosphate blend

If multiple clearwells, are they:
 IN SERIES (one following the other) or PARALLEL (side by side and not connected)

Are hatches secured? Yes No

Are vents screened? Yes No

How often are clear wells cleaned? disinfected yearly

COMMENTS: No major concerns were noted at the time of the inspection.

WATER PLANT PUMPS (Low service/raw water, high service/finished water and backwash)					
FLOW STREAM	LOCATION	NUMBER OF PUMPS	CAPACITY (gpm)	PUMP TYPE	FLOW CONTROL METHOD
Primary Raw Water	KY River	2	25,000	Centrifugal	Automatic
Primary Raw Water	#4 reservoir	3	14,355	Centrifugal	Automatic
Primary Raw Water	LS at plant	1	4166	Centrifugal	Automatic
Primary Raw Water	LS at plant	1	2800	Centrifugal	Automatic
Secondary Raw Source	basement of filter building	1	1000	Centrifugal	Automatic

Are documented maintenance and pumping records maintained for all distribution pumping stations? (minimum of pump run times, pump testing, maintenance log) Yes No

Do all pumping facilities have the ability to meet demand with one pump out of service during peak demand? Yes No

COMMENTS: The following are additional finished water pumps located in the high service pump room and are all centrifugal with automatic flow control: 1) 1@ 2780 gpm, 2) 1 @6950 GPM 3) 1 @4520 gpm 4) 1@3850 gpm 5) 1@ 2800 gpm 6) 1@4862 gpm.
 No major concerns were noted at the time of the inspection.

WATER PLANT ON-LINE INSTRUMENTATION			
TYPE	FLOW STREAM (Location)	MANUFACTURER	LAST CALIBRATION DATE
Streaming Current	Raw Water	HACH	6/2020
pH	Raw Water	HACH	6/2020
Turbidity	Individual Filter Effluent	Swan	6/2020
Turbidity	Combined Filter Effluent	SWAN	6/2020
Turbidity	Tap	SWAN	6/2020
Chlorine	Combined Filter Effluent	HACH	6/2020

pH	Tap	Peek	6/2020
Chlorine	Tap	HACH	6/2020

COMMENTS: A complete list of on-line instrumentation was provided during previous inspections. Calibrations are current. NO major concerns were noted at the time of the inspection.

LABORATORY (PLANT)

PARAMETERS TESTED	FREQUENCY	EQUIPMENT USED	CALIBRATION METHOD
turbidity	continuous	HACH	calibration and chk standards
pH	continuous	HACH	calibration and check standards
Chlorine	continuous	HACH	calibration and check standards
ammonia	continuous	ASA analytical-chemscan	calibration and check standards
phosphate	continuous	ASA analytical- chemscan	calibraton and check standards
hardness	1/day	titrator	
chloride	1/day	titrator	
speciation	continuous	ASA analytical- chemscan	
UV 254	1/day	HACH	

Is laboratory space and lighting adequate? Yes No

Are analyses conducted according to approved EPA methods? Yes No

Does the lab have SOPs for sample collection, analysis, and reporting? Yes No

Are daily log sheets used to record day-to-day operations, testing, etc? Yes No

If daily log sheets are used, are they: ELECTRONIC (on the computer) or HAND-WRITTEN

COMMENTS: The laboratory was clean and operational. Standards were observed to be current. Standards operating procedures have been written. Instrumentation is calibrated quarterly. records include calibration information, analytical information, and temperature logs.

IN-PLANT SAMPLING
(for example, top and bottom of filters)

SITE	CHLORINE		pH	TURBIDITY
	FREE	TOTAL		
Raw			7.76	12
finished	3.7		7.5	0.023
CFE				0.035

COMMENTS: No major concerns were noted at the time of the inspection.

III. DISTRIBUTION SYSTEM/FINISHED WATER STORAGE

DISTRIBUTION SYSTEM

Does the system have standard specifications for design and construction of the distribution system?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Does the system prohibit new connections where pressure on the discharge side of the meter will be <30 psi?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is the system able to meet minimum pressure requirements of DOW and/or other regulating authority?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Does the system have a documented leak detection program?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Does the distribution system have a sufficient number of valves to isolate portions of the system (for leak detection, maintenance, etc.)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
If there are separate distribution system areas, are they interconnected with each other?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
If they are not interconnected, how many separate areas are there? _____		
What prevents these systems from being interconnected? _____		
How many pressure zones are there? <u>8</u>		
What is the range of distribution pressures? <u>35-130</u>		
Do any distribution areas require reduced pressure valves?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
What piping materials are included in the distribution system? <u>AC, PVC, ductile iron and cast iron</u>		
Does the system have a program for flushing water mains?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Describe the process for sterilizing new mains/main breaks: <u>per regulations and AWWa standards</u>		
What types of on-line instrumentation are located at booster or pump stations and tanks? <u>chlorine</u>		
Does the system have a documented program for exercising distribution system valves?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Does the system have a documented program for regular testing of water meters including raw water, distributed and customer?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is there a water meter replacement program?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Are there main break/emergency notification procedures?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Does the system have a documented procedure for issuing a boil water advisory and a consumer advisory? The procedure shall identify when (how soon after the occurrence) and how the system shall notify the affected health department, to whom that notification shall be made both during and after normal business hours, and procedures for issuing the advisory to the public. The public notification shall include instructions for the public (including how to properly boil water) and an explanation of steps being taken to correct the problem.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Describe how the decision is made to issue a Boil Water Advisory: <u>anytime contamination is suspected, when the pressure outside the break drops below 20 PSI, repair take more than 8 hours to repair, loss of chlorine.</u>		
Does the system have a cross-connection control program?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
If yes, is the cross-connection control program documented in writing?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
If the cross-connection control program is not documented in writing, describe the process for finding and eliminating cross connections: _____		
Does a certified tester test the backflow prevention devices on a regular basis?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Has a calibrated hydraulic model been developed for the system?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
COMMENTS: No major concerns were noted during the inspection. Copies of the written procedures were provided for the following: new main disinfection procedures; line break / main repair disinfection procedures, and Boil Water Guidance form.		

DISTRIBUTION STORAGE FACILITIES

Inspected

LOCATION			VOLUME (gallons)	TANK TYPE	OVERFLOW		LAST CLEANED/INSPECTED	TELEME-TRY	% TURNOVER (Per Day)
ROAD/AREA	LATITUDE	LONGITUDE			SCREEN/FLAPPER	>10' FROM TANK			
Muddy Ford			0.750	Elevated	YES	YES	2019	YES	>50
HUme	38.23233	-84.74165	3.0 MG	Ground	YES	YES	2016	YES	>50
Hall Tank	37.90435	-84.73824	0.2 MG	Standpipe	YES	YES	2013	YES	>50
Mt STerling			0.100 MG	Elevated	YES	YES		YES	>50
Wilson St			0.100 MG	Elevated	YES	YES		YES	>50
Brock			0.300 MG	Ground	YES	YES	2013	YES	>50
Blue Moon			0.500 MG	Elevated	YES	YES	2013	YES	>50

Are all storage tanks professionally inspected at least every 5 years (including interior, coating systems, & piping)? How often are tanks: INSPECTED every 7 years and CLEANED as needed?

Are all storage tanks and water plants equipped with hatches, covers, screens, vandal guards and locks and all tank sites fenced for security? Yes No

Are all hatches, screens, and overflows on the storage tanks checked at least monthly? Yes No

Is there corrosion protection in the tanks? Yes No

COMMENTS: No major concerns were noted during the inspection. The tanks listed above were observed during the inspection. They were fenced and secure and were in good condition. A complete list of system tanks was provided during the inspection which included all the inspection and rehab dates.

DISTRIBUTION BOOSTER PUMPS AND/OR BOOSTER DISINFECTION FACILITIES

Not Inspected

LOCATION			PUMP or DISINFECTION	NUMBER & CAPACITY OF PUMPS (gpm)	DISINFECTION TYPE	AUXILIARY POWER
ROAD/AREA	LATITUDE	LONGITUDE				
				@		
				@		
				@		
				@		
				@		
				@		
				@		
				@		
				@		

DISTRIBUTION SAMPLING

(a minimum of N, S, E, W)

SITE	CHLORINE	pH	TURBIDITY	OTHER
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	FREE	TOTAL			
Hume Tank	DOW	2.03	KAW	2.17	On-line 1.89
Muddy Ford	dOW	1.64	KAW	1.68	
Hall tank	DOW	1.41	KAW	1.44	On-line 1.52
Brock Tank	DOW	> 2.20	KAW	3.60	
Blue Moon Tank	DOW	2.00	KAW	2.03	On-line 2.16
New Office	DOW	2.4	KAW	2.41	
Briar Hill	DOW	1.58	KAW	1.61	on-line 1.51
Mt Sterling road	DOW	0.95	KAW	0.97	
fAmily Dollar	DOW	1.32	KAW	1,34	

Is the system maintaining the required chlorine (0.2 mg/l) / chloramine (0.5 mg/l) residuals in the distribution system? Yes No

COMMENTS: No major concerns were noted at the time of the inspection. All results between DOW, Kentucky American Water, and the on-line instrumentation were comparable.

MAINTENANCE

Is plant housekeeping adequate?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Is distribution storage housekeeping adequate?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Are adequate supplies of spare parts kept on hand?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Are needed tools available?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
If not, is preventive maintenance performed?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Is a lock-out/tag-out system used for electrical repairs?	Yes <input type="checkbox"/> No <input type="checkbox"/>
What is the general condition of operating equipment? <u>good</u>	

COMMENTS:

DOCUMENTATION
(✓ all that apply)

<input checked="" type="checkbox"/> Samples taken by DEP	<input type="checkbox"/> Photographs obtained by DEP
<input type="checkbox"/> Samples taken by outside source	<input checked="" type="checkbox"/> Copies of records obtained by DEP
<input checked="" type="checkbox"/> Instrument readings taken by DEP	<input type="checkbox"/> Other documentation

OVERALL TECHNICAL COMPLIANCE STATUS

<input checked="" type="checkbox"/> No Violations Observed
<input type="checkbox"/> No Violations Observed - Advisory Action Taken (Impending trends)
<input type="checkbox"/> Out of Compliance – Verbal notice given (Non-recurrent deficiency noted or violation corrected at time of inspection.)

INSPECTOR: Deborah Singleton	TITLE: Environmental Inspector	DATE: 9/18/2020
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Drinking Water Sanitary Survey

TECHNICAL INSPECTION OF SURFACE WATER PLANT AND DISTRIBUTION SYSTEM OPERATIONS

PWS ID: KY0340250

Agency Interest Number: 1063; CIN20200003

AI Name: KY American Water Co

County: Fayette

WTP Latitude: 38.011157 WTP Longitude: -84.465995

CTAB Inspection Date(s): Plant C 8/25/2020

TREATMENT PROCESS SUMMARY

Primary Source: Kentucky River pool #3		Maximum Pumping Rate: 20 MGD
Secondary Source:		Filter Design Rate (gpm/ft ²): 4.95
Pre-sedimentation Size:	Aeration: 1)N/A 2) N/A	
Sedimentation (Primary): Conventional/Tubes/Plates	Filter (Primary): High Rate/Sand Anthracite	
Sedimentation 2: 1) N/A 2) N/A	Filter 2 (if 2 different filter types): 1) N/A 2) N/A	
Total Clear Well Size (gallons): 1.6 MG	Total Distribution Storage Capacity (gallons): see plant B	
Does each component of the WTP meet 10 State Standards or has each been approved by the Division of Water? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
COMMENTS: The mixed media filters also contain gravel.		

CHEMICALS SUMMARY

Pre-Disinfection/Treatment: 1) Chlorine Gas 2) N/A	Primary Coagulant: Polyaluminum Chlorides/Sulfates
Post-Disinfection: 1) Chlorine Gas 2) Chloramines	Secondary Coagulant (Name): N/A
Filter Aid Name: cationic polymer	Corrosion Control: Phosphate-Based Inhibitor
Taste and Odor: Potassium Permanganate	Softening: N/A
Iron and Manganese Removal: Potassium Permanganate	Fluoride Supplement: Hydrofluosilicic Acid
COMMENTS: The facility also has the ability to feed carbon is needed for taste and odor. 50/50 poly/ ortho is used for corrosion control.	

PLANT SCHEMATIC (OPTIONAL)

*Include a plant schematic indicating the following details.
Place an "X" in the box to indicate this item is included on the schematic.*

<input type="checkbox"/> Source water type/location	<input type="checkbox"/> Major unit processes (including baffling factors and volumes)
<input type="checkbox"/> Flow measurement locations	<input type="checkbox"/> Chemical injection locations
<input type="checkbox"/> Piping Flexibility (including # of raw and finished water mains)	<input type="checkbox"/> Waste handling

I. SOURCE

SOURCE				
SOURCE NAME	WATER WITHDRAWAL NUMBER	PERMITTED AMOUNT (MGD)	IS CAPACITY ADEQUATE?	ARE THERE WATER QUALITY ISSUES?
Ky River @pool #3	1572	10 MGD(Jan-May, Nov, Dec) 20 MGD(June-Aug) 15 MGD(sept-Oct)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
			Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
Upstream land uses (✓ all that apply): <input checked="" type="checkbox"/> Farmland <input type="checkbox"/> Industry <input type="checkbox"/> Logging <input type="checkbox"/> Mining <input type="checkbox"/> Oil and Gas <input checked="" type="checkbox"/> Recreation <input checked="" type="checkbox"/> Residential <input type="checkbox"/> Other _____				
Upstream discharges within 5 miles (✓ all that apply): <input checked="" type="checkbox"/> Farmland <input type="checkbox"/> Industry <input type="checkbox"/> Logging <input type="checkbox"/> Mining <input type="checkbox"/> Oil and Gas <input checked="" type="checkbox"/> Recreation <input checked="" type="checkbox"/> Residential <input type="checkbox"/> Water/Wastewater Discharge <input type="checkbox"/> Other _____				
Is there a source water protection plan in place? (Call ADD if no one at plant knows.)				Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Are there any sources of Cryptosporidium in the watershed?				Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe the sources: <u>farming and animals</u>				
Is the system drought-vulnerable? (Has the system ever been on water conservation or dealt with a dwindling water source during warm weather?)				Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Does the system perform both source and finished water quality monitoring as required?				Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
What type of water quality monitoring is done on the source water (✓ all that apply): <input checked="" type="checkbox"/> Alkalinity <input checked="" type="checkbox"/> BacTs <input checked="" type="checkbox"/> Hardness <input checked="" type="checkbox"/> Iron <input checked="" type="checkbox"/> Manganese <input checked="" type="checkbox"/> pH <input checked="" type="checkbox"/> Temperature <input checked="" type="checkbox"/> Turbidity <input type="checkbox"/> None				
If multiple sources are available, is the one in use the "best" in terms of both water quality and quantity?				Yes <input type="checkbox"/> No <input type="checkbox"/>
Are there any factors that have limited the capacity of raw water source(s) with in the last 10 years?				Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
If the capacity of a raw source has been limited within the past 10 years, have the contributing factors already been successfully addressed? If not, explain: _____				Yes <input type="checkbox"/> No <input type="checkbox"/>
Are there any unaddressed factors that have reduced the quality of raw water source(s) in the last 10 years?				Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
If the quality of the raw water source(s) has been reduced within the past 10 years, have the contributing factors already been successfully addressed? If not, explain: _____				Yes <input type="checkbox"/> No <input type="checkbox"/>
Are there any unaddressed factors that have limited the water available for purchase from contracted source(s) in the last 10 years?				Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
If water available for purchase through contracted source(s) has been limited within the past 10 years, have the contributing factors already been successfully addressed? If not, explain: _____				Yes <input type="checkbox"/> No <input type="checkbox"/>
COMMENTS: No major concerns were noted at the time of the inspection.				

INTAKE STRUCTURE							
LOCATION			TYPE	# of INLETS	SCREEN GRID SIZE	IS FLOODING A PROBLEM?	IS SILT BUILD-UP A PROBLEM?
ROAD/AREA	LATITUDE	LONGITUDE					

Ky River	38.356130	-84.869978	Fixed	3	1/8	NO	NO
Number of raw water mains: <u>1-42"</u> which are: PUMPED <input checked="" type="checkbox"/> or GRAVITY FED <input type="checkbox"/>							
Is raw water flow measured? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>							
If yes, when was the meter last calibrated? <u>12/2019 by Service Specilities</u>							
List any chemicals fed at the source: <u>potassium permanganate</u>							
If source is a reservoir, is it aerated? Yes <input type="checkbox"/> No <input type="checkbox"/>							
List depths of intake levels (normal pool): <u>26'</u>							
Screens are: STATIONARY <input checked="" type="checkbox"/> or MECHANICAL <input type="checkbox"/>							
Is screen clogging a problem? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>							
How are screens cleaned? <u>air burst</u>							
Are Zebra mussels a problem? Yes <input type="checkbox"/> No <input type="checkbox"/>							
If yes, list actions taken: <u>KMnO4</u>							
How often are the submerged portions of the intake inspected? <u>at least once every 2 years</u>							
When was the date of the last inspection? <u>2019 by Marine Solutions</u>							
COMMENTS: No major concerns were noted at the time of the inspection.							

II. TREATMENT/PUMPS

PRE-SEDIMENTATION			
N/A			
CAPACITY (gallons)	FLEXIBILITY TO BYPASS	CHEMICAL FEED CAPABILITY	LIST CHEMICALS FED
	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are treatment chemicals fed at the inlet to the pre-sedimentation basin? Yes <input type="checkbox"/> No <input type="checkbox"/>			
If so, is the chemical fed: ALL THE TIME <input type="checkbox"/> or INTERMITTENTLY <input type="checkbox"/> ?			
Is algae growth a problem? Yes <input type="checkbox"/> No <input type="checkbox"/>			
How often are the pre-sedimentation basin(s) cleaned? _____			
COMMENTS:			

AERATION		
N/A		
TYPE	CAPACITY (gallons)	REASON FOR AERATION
COMMENTS:		

RAPID MIX			
Inspected			
TYPE	NUMBER	VOLUME (gallons)	PHYSICAL CONDITION
Mechanical Mixer	2	3750 each	Good
List chemicals in the order they are fed at the rapid mix: <u>PACL</u>			
Is adequate mixing of chemicals taking place?			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Are there flow splits after the rapid mix?			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
If so, is the flow distribution even?			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
COMMENTS: No major concerns were noted at the time of the inspection.			

FLOCCULATION BASINS				
Inspected				
TYPE	# of TRAINS / STAGES	VARIABLE SPEED DRIVE	VOLUME (gallons)	PHYSICAL CONDITION
Horizontal Paddle	4 / Multiple	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	153,000	Good
	/	Yes <input type="checkbox"/> No <input type="checkbox"/>		
List any chemicals fed in the flocculation process: <u>polymer, chlorine, and carbon if needed</u>				
What is the size and appearance of the floc? Size: <u>OK</u> & Appearance: <u>Fluffy</u>				
How often are flocculation basins cleaned? <u>1-2 times a quarter or for maintenance reasons</u>				
Are the flocculation speeds tapered (decreased) through the flocculation stages?				Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Are there flow splits after flocculation?				Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Is flow distribution even?				Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
COMMENTS: No major concerns were noted at the time of the inspection.				

SEDIMENTATION BASINS					
N/A					
TYPE	TRAINS / STAGES	VOLUME (gallons)	SQ. FT. AREA PER BASIN	% WITH TUBE SETTLERS	PHYSICAL CONDITION
Conventional with Tubes	4 / 1	156,000	1015	0% tubes/100% plates	Good
	/				
List any chemicals fed in the sedimentation process: _____					
What is the sedimentation turbidity goal? <u><2 NTU</u>					
Where is this sample taken? <u>effluent leaving the basin</u>					
What is the overflow rate of the basins? <u>4.56 gpm/ft²</u>					
If system has an Actiflo process, what is the rise rate? _____					
How often are the basins cleaned? <u>as needed</u>					
How often is sludge removed from the basins? <u>three times a day</u>					
Sludge removal is: MECHANICAL <input checked="" type="checkbox"/> or MANUAL <input type="checkbox"/>					
What was the sludge depth at the time of this inspection? _____					

What was the settled water turbidity at the time of this inspection? <u>0.17</u>
Is there evidence of short-circuiting (flow or density currents)? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Is baffling present in the basins? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
If yes, describe the baffling: <u>ported baffled walls</u>
If multiple sedimentation basins, describe the piping from the basins to the filters: <u>common flume</u>
Is there evidence of floc carryover to the filters? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
COMMENTS: sedimentation basins are conventional with plates.

FILTERS Total Number of Filters: 5 <i>Plant flow rate divided by total square footage of filters in service at the time of inspection.</i>							
TYPE	MEDIA TYPE	FILTER RATE (at insp.)	FILTER CONTROL	SURFACE WASH TYPE	FILTER TO WASTE	FILTER AREA	PHYSICAL CONDITION
Conventional	Mixed Media	3.4 gpm/ft ²	Rate of Flow	Air Scour	Yes	702	Good
		gpm/ft ²					
List any chemicals fed in the filtration process: <u>chlorine, polymer if needed</u>							
What is the filtered water turbidity goal? <u>< 0.10</u>							
Does this apply to the combined filter effluent? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>							
To individual filter effluents? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>							
What criteria are used for filter backwash? <u>turbidity level, loss of head, and 100 hr rule</u>							
What is the backwash rate in gallons per minute? <u>2500 and ramped to 7500</u>							
Is filter backwash rate ramped up and down? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>							
Is backwash flow rate measured? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>							
Are filters ever bumped? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>							
Is air scouring used? Yes <input type="checkbox"/> No <input type="checkbox"/>							
What was the combined filter effluent turbidity at time of inspection? <u>0.04</u>							
Are individual filters monitored for turbidity? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>							
Are the IFE turbidimeters calibrated per the manufacturer's instructions? (inspect documentation) Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>							
Is this turbidity continuously recorded? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>							
Can this data be retrieved in usable form from storage (tape or CDs)? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>							
Is filter to waste (rewash) present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>							
Is it used? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>							
Can turbidity be measured while filtering to waste? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>							
Are flows adjusted on remaining in-service filters during a backwash? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>							
COMMENTS: Filters are mixed media with 12" gravel, 12" sand, and 18" antracite.							

MEMBRANE FILTRATION
N/A
What type of membrane filtration is used? <u>N/A</u>

The membrane filtration process is PRESSURE <input type="checkbox"/> or VACUUM <input type="checkbox"/> driven.
What is the designed membrane flux (flow per unit of membrane area)? _____
Are pre-filters used ahead of the membranes? Yes <input type="checkbox"/> No <input type="checkbox"/>
Describe the direct integrity testing procedure. _____
Describe how membrane breaks are isolated and repaired. _____
How are the membranes "backwashed"? _____
What type of chemical cleaning is used? _____
How is this waste handled? _____
Have there been any operational or maintenance issues with the membranes? Yes <input type="checkbox"/> No <input type="checkbox"/>
If yes, explain: _____
COMMENTS:

RESIDUALS HANDLING	
What percent of plant production is used for in-plant processes (backwash, chemical feed, sanitary)? <u>1-2%%</u>	
How are spent backwash water and other liquid residuals handled? <u>backwash water is sent to clarifiers (holding tanks) and allowed to settle. Supernatant is decanted off and discharges to the KY River. Sludge is filter pressed and stored on site for beneficial reuse.</u>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
If applicable, is the spent backwash holding tank/lagoon volume adequate?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Does the plant discharge water from this tank/lagoon back to a body of water?	
Does the plant have a KPDES discharge permit? If so, what is the permit number? <u>KYG640175</u>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Is the discharge meeting permit requirements?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Is the discharge point upstream of the intake?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
If yes, how far upstream is the discharge point from the intake? _____	
Is spent backwash water recycled?	Yes <input type="checkbox"/> No <input type="checkbox"/>
If yes, is the spent backwash water recycled as a: "SLUG" <input type="checkbox"/> or as a CONSTANT FLOW <input type="checkbox"/> ?	
What percent of the flow is recycled? _____%	
Are chemical feed rates adjusted during recycling?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Are raw water flows adjusted during recycling?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Are all recordkeeping requirements of the <i>Filter Backwash Rule</i> being followed?	Yes <input type="checkbox"/> No <input type="checkbox"/>
How are solid residuals handled? _____	
COMMENTS: Wastewater compliance inspection was not performed at the time of the sanitary survey. Florence Regional Office will conduct the wastewater compliance inspection at a later time.	

CHEMICAL FEED EQUIPMENT				
CHEMICAL NAME	PURPOSE	FEEDER TYPE	FEED POINT	NUMBER & CONDITION
Powdered Activated Carbon	Taste Odor	Volumetric	Pre-Flocculation	1 Good
Caustic Soda	pH Adjustment	Metering Pump	Clearwell	2 Good
Hydrofluosilicic Acid	Dental Health	Metering Pump	Post-Clearwell	2 Good
Polyaluminum Cl/SO4	Coagulation	Metering Pump	Quick/Flash Mix	2 Good

KMnO4	Taste Odor	Metering Pump	Intake	2 Good
How are chemical feeders calibrated? <u>calibration cylinders</u>				
How often are chemical feeders calibrated? <u>with change of pumpage or as needed.</u>				
Are chemical dosages calculated? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
How often are dosages calculated? <u>each shift of with change of pumpage</u>				
Are chemicals NSF or United Laboratories certified and approved by DOW prior to use? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Do the bulk liquid feed systems have day tanks? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Are there at least two feeders provided for essential processes (such as coagulation and disinfection)? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Are spare parts available? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Is there enough storage for at least a 30-day supply of chemicals used? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Are there containment areas around the chemicals in case of spills or leaks? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Are in-plant water supplies protected from backflow (cross connections)? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Does a certified tester test backflow prevention devices? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
If yes: What is the testing frequency? <u>1/year</u> Last Tested: <u>10/2019</u>				
COMMENTS: No major concerns were noted at the time of the inspection.				

GAS CHLORINE SAFETY				
Inspected				
Is the chlorine room enclosed and separate from other operating areas? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Is there a working exhaust fan in the chlorine room? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Does it provide one complete air change per minute? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Does it exhaust from floor level? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Is intake air near the ceiling? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Is there an external audible and visual alarm? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Are switches located outside the chlorine room? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Are chlorine tanks secured? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Are the scales operational? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Is automatic switchover of chlorine cylinders provided? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Is there a shatterproof viewing window in chlorine room? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Is there a crash bar on the door of the chlorine room? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Does the door open out and to the exterior of the building? Yes <input type="checkbox"/> No <input type="checkbox"/>				
Is there a SCBA unit meeting NIOSH standards outside the chlorine room? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>				
Are personnel trained to use the SCBA? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>				
Is the "buddy system" practiced when changing or moving chlorine cylinders? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				

Is leak detection provided?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is ammonia available for chlorine leak detection?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is there a chlorine tank repair kit?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Are personnel trained and certified to use the kits?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
COMMENTS: Facility personnel are trained for low level leak emergencies. Appropriate response personnel(fire dept) would be activated for higher level leak emergencies.		

CHLORINE DIOXIDE SAFETY		
N/A		
<i>Many materials will catch fire and burn violently when in contact with chlorite.</i>		
Is sodium chlorite stored in a separate room?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is sodium chlorite stored away from organic material?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
COMMENTS:		

GAS (ANHYDROUS) AMMONIA SAFETY		
N/A		
Is the ammonia room enclosed and separate from other operating areas?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is there a working exhaust fan in the ammonia room?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
If there is a working exhaust fan, does it provide one complete air change per minute?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Does the exhaust fan exhaust from ceiling level?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is intake air near the floor?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Are switches located outside the ammonia room?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Are ammonia tanks secured?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is there a shatterproof viewing window in ammonia room?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is there a crash bar on the door of the ammonia room?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Does the ammonia room door open out and to the exterior of the building?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is there a SCBA unit meeting NIOSH standards outside the ammonia room?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Are personnel trained to use the SCBA?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is leak detection provided?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
If leak detection is provided, is there an external audible and visual alarm?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
How are ammonia leaks detected? _____		
COMMENTS: liquid ammonia is used at this facility.		

DISINFECTION			
TYPE	APPLICATION POINT	REDUNDANCY AVAILABLE	FEEDER TYPE
Chlorine Gas	Clearwell	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Chlorinator
		Yes <input type="checkbox"/> No <input type="checkbox"/>	
		Yes <input type="checkbox"/> No <input type="checkbox"/>	
What is the means used to measure disinfectant chemical usage? <u>scale weights</u>			
How is the disinfectant residual monitored? <u>on line analyzers, SCADA system, lab analysis</u>			

Is there an on-line, recording chlorine analyzer on the plant tap (for systems serving >3,300)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Are C-Ts calculated daily?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
COMMENTS: The facility also utilizes liquid ammonia for disinfection purposes. Ammonia is added at the post clearwell. Ammonia use is measured by a sonic level indicator.			
CLEARWELLS			
VOLUME (gallons)	BAFFLING TYPE	DISINFECTANT RESIDUAL	
		TOTAL	FREE
800,000			
800,000			
List chemicals in the order in which they are fed into the clearwell: <u>hydrofluorosilicic acid</u>			
If multiple clearwells, are they:			
<input checked="" type="checkbox"/> IN SERIES (one following the other) or <input type="checkbox"/> PARALLEL (side by side and not connected)			
Are hatches secured?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Are vents screened?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
How often are clear wells cleaned? <u>as needed.</u>			
COMMENTS: No major concerns were noted at the time of the inspection.			

WATER PLANT PUMPS					
(Low service/raw water, high service/finished water and backwash)					
FLOW STREAM	LOCATION	NUMBER OF PUMPS	CAPACITY (gpm)	PUMP TYPE	FLOW CONTROL METHOD
Primary Raw Water	intake	2	7000	Vertical Turbine	Automatic
Primary Raw Water	intake	2	4200	Vertical Turbine	Automatic
Finished Water	HS pump room	2	7000	Vertical Turbine	Automatic
Finished Water	HS pump room	2	4200	Vertical Turbine	Automatic
Backwash Water	HS pump room	2	880	Vertical Turbine	Automatic
Are documented maintenance and pumping records maintained for all distribution pumping stations? (minimum of pump run times, pump testing, maintenance log)					Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Do all pumping facilities have the ability to meet demand with one pump out of service during peak demand?					Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
COMMENTS: No major concerns were noted at the time of the inspection.					

WATER PLANT ON-LINE INSTRUMENTATION			
TYPE	FLOW STREAM (Location)	MANUFACTURER	LAST CALIBRATION DATE
Streaming Current	Raw Water	HACH	6/2020
Turbidity	Raw Water	HACH	6/2020
pH	Raw Water	HACH	6/2020

pH	Combined Filter Effluent	HACH	6/2020
Turbidity	Settled Water	HACH	6/2020
pH	Settled Water	HACH	6/2020
Chlorine	Settled Water	HACH	6/2020

COMMENTS: A complete list of onlne instrumentation was provided during a previous inspection. All instrumentation was calibrated in June 2020.

LABORATORY (PLANT)			
PARAMETERS TESTED	FREQUENCY	EQUIPMENT USED	CALIBRATION METHOD
chlorine	every 2 hrs/continuously	HACH	by KAW quarterly
phosphate	continuous	ASA analytical	BY KAW quarterly
fluoride	every 2 hours/continuous	Hydrodyne	by KAW quarterly
hardness	1/week	titration	check standard
pH	continuous	HACH	by KAW quarterly
turbidity	continyous	HACH	by KAW quarterly
alkalinity	1/day	titration	
organics/ UV254	daily	HACH0DR5000	
Is laboratory space and lighting adequate?			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Are analyses conducted according to approved EPA methods?			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Does the lab have SOPs for sample collection, analysis, and reporting?			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Are daily log sheets used to record day-to-day operations, testing, etc?			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
If daily log sheets are used, are they: ELECTRONIC (on the computer) <input checked="" type="checkbox"/> or HAND-WRITTEN <input checked="" type="checkbox"/>			
COMMENTS: Standards were observed to be current. records include calibration information, analytical information, temperature locs and check sample information.			

IN-PLANT SAMPLING (for example, top and bottom of filters)				
SITE	CHLORINE		pH	TURBIDITY
	FREE	TOTAL		
CFE	5.0		7.1	0.04
top of filter	0.57		7.1	0.25
plant effluent	4.5		7.1	0.05
raw			7.3	13
plant effluent- on line	4.3		7.1	0.052

COMMENTS:

III. DISTRIBUTION SYSTEM/FINISHED WATER STORAGE

DISTRIBUTION SYSTEM	
Does the system have standard specifications for design and construction of the distribution system?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Does the system prohibit new connections where pressure on the discharge side of the meter will be <30 psi?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Is the system able to meet minimum pressure requirements of DOW and/or other regulating authority?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Does the system have a documented leak detection program?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Does the distribution system have a sufficient number of valves to isolate portions of the system (for leak detection, maintenance, etc.)?	Yes <input type="checkbox"/> No <input type="checkbox"/>
If there are separate distribution system areas, are they interconnected with each other?	Yes <input type="checkbox"/> No <input type="checkbox"/>
If they are not interconnected, how many separate areas are there? _____	
What prevents these systems from being interconnected? _____	
How many pressure zones are there? _____	
What is the range of distribution pressures? _____	
Do any distribution areas require reduced pressure valves?	Yes <input type="checkbox"/> No <input type="checkbox"/>
What piping materials are included in the distribution system? _____	
Does the system have a program for flushing water mains?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Describe the process for sterilizing new mains/main breaks: _____	
What types of on-line instrumentation are located at booster or pump stations and tanks? _____	
Does the system have a documented program for exercising distribution system valves?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Does the system have a documented program for regular testing of water meters including raw water, distributed and customer?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Is there a water meter replacement program?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Are there main break/emergency notification procedures?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Does the system have a documented procedure for issuing a boil water advisory and a consumer advisory? The procedure shall identify when (how soon after the occurrence) and how the system shall notify the affected health department, to whom that notification shall be made both during and after normal business hours, and procedures for issuing the advisory to the public. The public notification shall include instructions for the public (including how to properly boil water) and an explanation of steps being taken to correct the problem.	Yes <input type="checkbox"/> No <input type="checkbox"/>
Describe how the decision is made to issue a Boil Water Advisory: _____	
Does the system have a cross-connection control program?	Yes <input type="checkbox"/> No <input type="checkbox"/>
If yes, is the cross-connection control program documented in writing?	Yes <input type="checkbox"/> No <input type="checkbox"/>
If the cross-connection control program is not documented in writing, describe the process for finding and eliminating cross connections: _____	
Does a certified tester test the backflow prevention devices on a regular basis?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Has a calibrated hydraulic model been developed for the system?	Yes <input type="checkbox"/> No <input type="checkbox"/>

COMMENTS: The distribution system inspection is included under the Richmond Road Plant sanitary survey.

DISTRIBUTION STORAGE FACILITIES

Not Inspected

LOCATION			VOLUME (gallons)	TANK TYPE	OVERFLOW		LAST CLEANED/ INSPECTED	TELEME -TRY	% TURNOVER (Per Day)
ROAD/AREA	LATITUDE	LONGITUDE			SCREEN/ FLAPPER	>10' FROM TANK			

Are all storage tanks professionally inspected at least every 5 years (including interior, coating systems, & piping)? How often are tanks: INSPECTED ____ and CLEANED ____?

Are all storage tanks and water plants equipped with hatches, covers, screens, vandal guards and locks and all tank sites fenced for security? Yes No

Are all hatches, screens, and overflows on the storage tanks checked at least monthly? Yes No

Is there corrosion protection in the tanks? Yes No

COMMENTS:

DISTRIBUTION BOOSTER PUMPS AND/OR BOOSTER DISINFECTION FACILITIES

N/A

LOCATION			PUMP or DISINFECTION	NUMBER & CAPACITY OF PUMPS (gpm)	DISINFECTION TYPE	AUXILIARY POWER
ROAD/AREA	LATITUDE	LONGITUDE				
				@		
				@		
				@		
				@		
				@		
				@		
				@		
				@		
				@		
				@		

DISTRIBUTION SAMPLING

(a minimum of N, S, E, W)					
SITE	CHLORINE		pH	TURBIDITY	OTHER
	FREE	TOTAL			

Is the system maintaining the required chlorine (0.2 mg/l) / chloramine (0.5 mg/l) residuals in the distribution system? Yes No

COMMENTS:

MAINTENANCE

- Is plant housekeeping adequate? Yes No
- Is distribution storage housekeeping adequate? Yes No
- Are adequate supplies of spare parts kept on hand? Yes No
- Are needed tools available? Yes No
- If not, is preventive maintenance performed? Yes No
- Is a lock-out/tag-out system used for electrical repairs? Yes No
- What is the general condition of operating equipment? good

COMMENTS:

DOCUMENTATION

(✓ all that apply)

- | | |
|---|--|
| <input checked="" type="checkbox"/> Samples taken by DEP
<input type="checkbox"/> Samples taken by outside source
<input type="checkbox"/> Instrument readings taken by DEP | <input type="checkbox"/> Photographs obtained by DEP
<input type="checkbox"/> Copies of records obtained by DEP
<input type="checkbox"/> Other documentation |
|---|--|

OVERALL TECHNICAL COMPLIANCE STATUS

- No Violations Observed
- No Violations Observed - Advisory Action Taken (Impending trends)
- Out of Compliance – Verbal notice given (Non-recurrent deficiency noted or violation corrected at time of inspection.)

INSPECTOR: Deborah Singleton	TITLE: Environmental Inspector	DATE: 8/31/2020
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ANDY BESHEAR
GOVERNOR

REBECCA W. GOODMAN
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

ANTHONY R. HATTON
COMMISSIONER

DIVISION OF WATER
875 S MAIN ST
LONDON, KY, 407411902

October 2, 2020

Kentucky American Water - Eastern Rockcastle
Brush Creek Rd
Mount Vernon, Kentucky 40456

RE: Kentucky American Water - Eastern Rockcastle
Permit No.: KY1020288
Rockcastle County, Kentucky
Activity ID: CIN20200001

Dear Mr. Money:

Attached for your information and records is a copy of the Non-comprehensive Drinking Water Inspection performed at Kentucky American Water - Eastern Rockcastle on September 23, 2020.

If you have any questions or comments concerning this inspection, please contact the London Regional Office at: (606) 330-2080.

Sincerely,

Rob Miller
Environmental Inspector
London Regional Office
Division of Water

RM
Enclosure:



**ENERGY AND ENVIRONMENT CABINET
KENTUCKY DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
Routine Distribution Inspection**

Site/Permit ID: KY1020288	Division: Water	Regional Office: London
Site Name: Kentucky American Water - Eastern Rockcastle	Program: Drinking Water	
Site Address: 9264 Main Street		
City: Livingston	State: KY	Zip: 40445 County: Rockcastle
Inspection Type: Routine Distribution	Purpose: Noncomprehensive	AI #: 34097
Inspection Date: 9/23/20	Time: Start 11:00 AM End 3:00 PM	
Latitude:	Longitude:	
Coordinate Collection Method:		Revision Code: 112108
Drinking Water Data		
Plant Name: Kentucky American Water - Eastern Rockcastle	Contact Name: Robert Money 859-268-6317	
Phone No.: Livingston Office 606-453-0019	Fax No:	Email Address: bob.money@amwater.com

I. Administrative Requirements

Comments:

I. Compliance Status - No violations observed

II. Operator Certification/Accreditation Requirements

Operator in Charge and on duty.

Operator Name	Plant Certification #	Distribution Certification #
Justin Sensabaugh		20165 - IV

Comments: [Mr. Sensabaugh's license is good through 6/30/22.](#)

II. Compliance Status - No violations observed

III. Record Keeping Requirements

Comments:

III. Compliance Status - Not Evaluated

IV. Reporting Requirements

Comments:

IV. Compliance Status - No violations observed

V. Operation & Maintenance/Performance Requirements			
Plant Type:	<input type="checkbox"/> C	<input type="checkbox"/> N	<input checked="" type="checkbox"/> P
Service Connections:	621		
Population Served:	1670		
Average Purchased MGD:	0.11	Max. Purchased MGD:	
Contract Amount MGD:			
Source:	Seller PWSID:	Multiple Sellers	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

RATING CODES: S1 = No Violations Observed; S2= No Violations Observed-but impending viol trends obs; U1 = Out of Compliance-No action taken; U2= Out of Compliance-LOW non-recurrent Adm. or O & M; U3= Out of Compliance-NOV Issued; NA = Not Applicable; NE = Not Evaluated. (Add additional comments if U1-U3.)

SELLER INFORMATION	Seller # 1	Name Jackson County	PWSID# KY0550209 Contract Amount: 0.028 MGD	
	Seller # 2	Name Mt. Vernon	PWSID# KY1020299 Contract Amount: 0.011 MGD	
	Seller # 3	Name Livingston	PWSID# KY1020253 Contract Amount: 0.015 MGD	
	Seller # 4	Name	PWSID# Contract Amount:	
	Seller # 5	Name	PWSID# Contract Amount:	
STORAGE TANK INFORMATION	RATING	Equipment / Inspection Data	<input type="checkbox"/> Checking block means item is present:	
	NI	a) Storage Tank 1 Size: 80,000 Name: Three Links (Jackson Co.	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
	NI	b) Storage Tank 2 Size: 15,000 Name: Sand Springs aka Pongo	Screened Vent: <input checked="" type="checkbox"/> Overflow <input checked="" type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
		c) Storage Tank 3 Size:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
		d) Storage Tank 4 Size:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
		e) Storage Tank 5 Size:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
		f) Storage Tank 6 Size:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
		g) Storage Tank 7 Size:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
		h) Storage Tank 8 Size:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
		j) Master meter <input type="checkbox"/>	Last Calibrated: Recorder: <input type="checkbox"/>	
		k) Flushing Schedule	<input type="checkbox"/> Yes <input type="checkbox"/> No/ Frequency:	
		l) Chlorine Test Kit <input type="checkbox"/>	Type: Last calibrated	
	GENERAL INFORMATION	NI	m) DPD reagent up-to-date	<input type="checkbox"/> Yes <input type="checkbox"/> No
NI		n) Blow-off / Hydrants on dead	<input type="checkbox"/> Yes <input type="checkbox"/> No	
S1		o) Monthly operating reports	<input checked="" type="checkbox"/> Daily Record Sheet <input checked="" type="checkbox"/> Agreement: <input type="checkbox"/>	
S1		p) Bacteriological monitoring	Samples per mo.5 Records: <input checked="" type="checkbox"/>	
BOOSTER PUMPS		NI	q) <input checked="" type="checkbox"/> Booster pumps <input type="checkbox"/> Disinfection	Capacity2 @80 Disinfection Type:
		NI	r) <input checked="" type="checkbox"/> Booster pumps <input type="checkbox"/> Disinfection	Capacity2 @80 Disinfection Type:
	NI	s) <input checked="" type="checkbox"/> Booster pumps <input type="checkbox"/> Disinfection	Capacity2 @60 Disinfection Type:	
ON SITE OBSERVATIONS	S1	t) Site Data: Miller's - River Rd	Cl. Free: 0.84 Total: pH: Turbidity: 0.8	
	S1	u) Site Data: 11924 Sand Springs	Cl. Free: 0.38 Total: pH: Turbidity: 0.83	
	S1	v) Site Data: Morning View Ch	Cl. Free: 0.67 Total: pH: Turbidity:0.38	

	S1	w) Site Data: Climax Fire Dept	Cl. Free:0.68 Total: pH: Turbidity:0.58
OTHER INFORMATION	NI	x) Cross connection program	<input type="checkbox"/> Yes <input type="checkbox"/> No
	NI	y) Water meter replacement	<input type="checkbox"/> Yes <input type="checkbox"/> No
		z) Valve exercise program	<input type="checkbox"/> Yes <input type="checkbox"/> No
	NI	aa) Is unaccounted for water	<input type="checkbox"/> Yes <input type="checkbox"/> No If Yes what is % loss?
	NI	bb) Up to date distribution map	<input type="checkbox"/> Yes <input type="checkbox"/> No

Comments:

V. Compliance Status - No violations observed

VI. Discharge/Emission Compliance

Comments:

VI. Compliance Status - Not Applicable

VII. Monitoring/Analyses Evaluation

Comments:

VII. Compliance Status - No violations observed

VIII. Environmental /Health Impact

Work Site Hazard Assessment: ATTACHED REVIEWED

Comments:

VIII. Compliance Status – No violations observed

IX. Documentation

- Samples taken by DEP
- Samples taken by outside source
- Instrument readings taken by DEP regional office
- Photographs obtained by DEP
- Copies of records obtained by DEP
- Other documentation

Inspector: Rob Miller	Title: Environmental Control Supervisor	Date: 9/23/20
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/

Signature: 10/6/2020 <u>X Rob Miller</u> Signed by: Rob Miller
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Overall Compliance Status
<input checked="" type="checkbox"/> No violations observed
<input type="checkbox"/> No violations observed, but impending violation trends observed
<input type="checkbox"/> Out of Compliance- No action taken
<input type="checkbox"/> Out of Compliance- LOW Non-recurrent administrative or O & M
<input type="checkbox"/> Out of Compliance – NOV

Comments:

Delivery Method: Regular Mail	Cert. Mail #: N/A
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ANDY BESHEAR
GOVERNOR

REBECCA W. GOODMAN
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

ANTHONY R. HATTON
COMMISSIONER

DIVISION OF WATER
300 SOWER BLVD
FRANKFORT, KY, 40601

June 9, 2021

Kentucky American Water - Millersburg
304 E 4th St
Millersburg, Kentucky 40348

RE: Kentucky American Water – Millersburg
A.I. 296
Permit No.: KY0090287
Bourbon County, Kentucky
Activity ID: CIN20210001

To Whom It May Concern:

Attached for your information and records is a copy of the DW NonComp-Purchaser performed at Kentucky American Water - Millersburg on May 21, 2021.

If you have any questions or comments concerning this inspection, please contact the Frankfort Regional Office at: (502) 564-3358.

Sincerely,

Jarod Jones
Environmental Inspector
Frankfort Regional Office
Division of Water

**ENERGY AND ENVIRONMENT CABINET
KENTUCKY DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
Routine Distribution Inspection**

Site/Permit ID: KY0090287	Division: Water	Regional Office: Frankfort
Site Name: Kentucky American Water-Millersburg	Program: Drinking Water	
Site Address: 304 E 4th street		
City: Millersburg	State: KY	Zip: 40348 County: Bourbon
Inspection Type: Routine Distribution	Purpose: Noncomprehensive	AI #: 296
Inspection Date: 5/21/21	Time: Start 1000 AM End 1200 PM	
Latitude: N 38 17' 54.7	Longitude: W84 8 50.3	
Coordinate Collection Method: GPO-With differential correction		Revision Code: 112108
Drinking Water Data		
Plant Name: Kentucky American Water-Millersburg	Contact Name: Bob Money	
Phone No.: 859-268-6317	Fax No: cell: 859-797-7374	Email Address: Bob.Money@amwater.com

I. Administrative Requirements

Comments: **Not evaluated.**

I. Compliance Status - Not Evaluated

II. Operator Certification/Accreditation Requirements

Operator in Charge and on duty.

Operator Name	Plant Certification #	Distribution Certification #
Jon Wes Felts		IVD#18681

Comments: **Mr. Felts is the main distribution operator for the Millersburg system. Ky American has multiple certified operators.**

II. Compliance Status - No violations observed

III. Record Keeping Requirements

Comments: **Not evaluated.**

III. Compliance Status - Not Evaluated

IV. Reporting Requirements

Comments: The facility provides the required timely reports to the Division of Water.

IV. Compliance Status - No violations observed

V. Operation & Maintenance/Performance Requirements	
Plant Type: <input checked="" type="checkbox"/> C <input type="checkbox"/> N <input type="checkbox"/> P	Service Connections: 376 Population Served: 1011
Average Purchased MGD: 0.152 Max. Purchased MGD: 0.287 Contract Amount MGD:	
Source: City of Paris Water Works	Seller PWSID: KY0090343 Multiple Sellers <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

RATING CODES: S1 = No Violations Observed; S2= No Violations Observed-but impending viol trends obs; U1 = Out of Compliance-No action taken; U2= Out of Compliance-LOW non-recurrent Adm. or O & M; U3= Out of Compliance-NOV Issued; NA = Not Applicable; NE = Not Evaluated. (Add additional comments if U1-U3.)

SELLER INFORMATION	Seller # 1	Name City of Paris Water	PWSID# KY0090343 Contract Amount:	
	Seller # 2	Name	PWSID# Contract Amount:	
	Seller # 3	Name	PWSID# Contract Amount:	
	Seller # 4	Name	PWSID# Contract Amount:	
	Seller # 5	Name	PWSID# Contract Amount:	
STORAGE TANK INFORMATION	RATING	Equipment / Inspection Data	<input type="checkbox"/> Checking block means item is present:	
	S1	a) Storage Tank 1 Size: 125,000 Name: Millersburg tank	Screened Vent: <input checked="" type="checkbox"/> Overflow <input checked="" type="checkbox"/> Telemetry: <input checked="" type="checkbox"/> Last Cleaned: Coating condition: Good	
		b) Storage Tank 2 Size: Name:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
		c) Storage Tank 3 Size: Name:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
		d) Storage Tank 4 Size: Name:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
		e) Storage Tank 5 Size: Name:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
		f) Storage Tank 6 Size: Name:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
		g) Storage Tank 7 Size: Name:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
		h) Storage Tank 8 Size: Name:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
	GENERAL INFORMATION	NI	j) Master meter <input type="checkbox"/>	Last Calibrated: Recorder: <input type="checkbox"/>
		S1	k) Flushing Schedule	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No/ Frequency: as needed
		S1	l) Chlorine Test Kit <input checked="" type="checkbox"/>	Type: HACH Last calibrated
		S1	m) DPD reagent up-to-date	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
S1		n) Blow-off / Hydrants on dead	<input type="checkbox"/> Yes <input type="checkbox"/> No	
S1		o) Monthly operating reports	<input checked="" type="checkbox"/> Daily Record Sheet <input type="checkbox"/> Agreement: <input type="checkbox"/>	
S1		p) Bacteriological monitoring	Samples per mo. 4 Records: <input type="checkbox"/>	
BOOSTER PUMPS	S1	q) <input type="checkbox"/> Booster pumps <input checked="" type="checkbox"/> Disinfection	Capacity Disinfection Type: NA hypochlorite	
	NA	r) <input type="checkbox"/> Booster pumps <input type="checkbox"/> Disinfection	Capacity Disinfection Type:	
	NA	s) <input type="checkbox"/> Booster pumps <input type="checkbox"/> Disinfection	Capacity Disinfection Type:	
ON SITE OBSERVATIONS	S1	t) Site Data: South - near tank	Cl. Free: DOW Total: 1.49 pH: KAW 1.34	
	S1	u) Site Data: East - 6th st.	Cl. Free: DOW Total: 1.50 pH: KAW 1.42	
	S1	v) Site Data: West - Marathon	Cl. Free: DOW Total: 1.02 pH: KAW 1.01	
	S1	w) Site Data: North - Oak Ave.	Cl. Free: DOW Total: 1.32 pH: KAW 1.14	
OTHER INFORMATION	S1	x) Cross connection program	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	S1	y) Water meter replacement	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	S1	z) Valve exercise program	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

	S1	aa) Is unaccounted for water	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes what is % loss?
	S1	bb) Up to date distribution map	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Comments: No issues observed during the inspection. All components inspected were clean and well maintained.

V. Compliance Status - No violations observed

VI. Discharge/Emission Compliance

Comments: Not applicable.

VI. Compliance Status - Not Applicable

VII. Monitoring/Analyses Evaluation

Comments: Not evaluated.

VII. Compliance Status - Not Evaluated

VIII. Environmental /Health Impact

Work Site Hazard Assessment: ATTACHED REVIEWED

Comments: No major concerns were noted at the time of the inspection.


VIII. Compliance Status – No violations observed

IX. Documentation

- Samples taken by DEP
- Samples taken by outside source
- Instrument readings taken by DEP regional office
- Photographs obtained by DEP
- Copies of records obtained by DEP
- Other documentation

Inspector: Jarod Jones	Title: Environmental Inspector II	Date: 05/21/2021
-------------------------------	--	-------------------------

5/26/2021

X 

Signature: Signed by: Jarod Jones

Overall Compliance Status

- No violations observed**
- No violations observed, but impending violation trends observed**
- Out of Compliance- No action taken**
- Out of Compliance- LOW Non-recurrent administrative or O & M**
- Out of Compliance – NOV**

Comments: No compliance issues noted during the inspection.

Delivery Method: E-mail	Cert. Mail #:
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ANDY BESHEAR
GOVERNOR

REBECCA W. GOODMAN
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

ANTHONY R. HATTON
COMMISSIONER

DIVISION OF WATER
300 SOWER BLVD
FRANKFORT, KY, 40601

July 16, 2021

Mr. Bob Money
KY American Water Co
2300 Richmond Rd
Lexington, Kentucky 40502

RE: KY American Water Co -- 1063
Permit No.: KY0340250
Fayette County, Kentucky
Activity ID: CIN20210001

Dear Mr. Money:

Attached for your information and records is a copy of the drinking water non-comprehensive inspection performed at KY American Water Co on June 21, 2021.

Please review the enclosed inspection report.

If you have any questions or comments concerning this inspection, please contact the Frankfort Regional Office at: (502) 564-3358.

Sincerely,

A handwritten signature in cursive script that reads "Deborah E. Singleton".

Deborah Singleton
Environmental Inspector
Frankfort Regional Office
Division of Water

DES
Enclosure:

**ENERGY AND ENVIRONMENT CABINET
KENTUCKY DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
Routine Surface Inspection**

Site/Permit ID: KY0340250	Division: Water	Regional Office: Frankfort
Site Name: Kentucky American Water Plant C	Program: Drinking Water	
Site Address: 16035 hwy 127 south		
City: Owenton	State: KY	Zip: 40359 County: Owen
Inspection Type: Routine Surface	Purpose: Noncomprehensive	AI #: 1063
Inspection Date: 6/21/21	Time: Start 09:00 AM End 11:30 AM	
Latitude:	Longitude:	
Coordinate Collection Method: G40-Handheld receiver		Revision Code: 112108
Drinking Water Data		
Plant Name: Kentucky River station #2	Contact Name: Robert Money	
Phone No.: 859-335-3660	Fax No: 859-335-3388	Email Address: bob.money@amwater.com

I. Administrative Requirements

Comments: [Not evaluated. Non-comprehensive inspection performed](#)

I. Compliance Status - Not Evaluated

II. Operator Certification/Accreditation Requirements

Operator in Charge or on duty.

Operator Name	Plant Certification #	Distribution Certification #
Scott Huddleston	IVA#21329	
Justin Sensabaugh		IVD#20165

Comments: [A complete list of operators was provided during the inspection. No concerns noted.](#)

II. Compliance Status - No violations observed

III. Record Keeping Requirements

Comments: [Not evaluated.](#)

III. Compliance Status - Not Evaluated

IV. Reporting Requirements

Comments: The facility provides timely reports to the Division of Water as required.

IV. Compliance Status - No violations observed

V. Operation & Maintenance/Performance Requirements	
Plant Type: <input checked="" type="checkbox"/> C <input type="checkbox"/> N <input type="checkbox"/> P Service Connections:	Population Served:
Average Production MGD: 7.93 Max. Production MGD: 14.8 Design Capacity MGD: 20.0 MGD	
Source: Kentucky River pool #3	

RATING CODES: S1=No Violations Observed; S2=No Violations Obs-but impending viol trends obs; U1=Out of Compliance-No action taken; U2= Out of Comp-LOW non-recurrent Adm. or O & M; U3= Out of Compliance-NOV; NA = Not Applicable; NE = Not Evaluated. **(Add additional comments if U1-U3.)**

	RATING	Equipment / Inspection Data	<input type="checkbox"/> Checking block means item is present:
CHEMICAL & PHYSICAL TREATMENT	NI	a) Intakes, pumps, piping <input type="checkbox"/>	# Of Levels # Pumps Max pump.
	NA	b) Aeration <input type="checkbox"/>	
	S1	c) Rapid mix <input checked="" type="checkbox"/>	Type: If other: <u>mechanical mixer</u>
	S1	d) Flocculation <input checked="" type="checkbox"/>	# of Stages# of Trains Variable Speed
	S1	e) Sedimentation <input checked="" type="checkbox"/>	Type: <u>Conventional</u> # of trains:4
	NI	f) Chemical feed coagulation	
	NI	g) Carbon Feed: <input type="checkbox"/>	Feed Site1: Feed Site 2:
	S1	h) Filters & controls	<u>Mixed Media</u> Filter to Waste <input checked="" type="checkbox"/>
	S1	i) Filters / size sq.ft each./ rate	# 5 Size702 Filtration Rate:5
	S1	j) Automatic analyzers:	Chlorine: <input checked="" type="checkbox"/> Turbidity: <input checked="" type="checkbox"/> Each filter: <input checked="" type="checkbox"/> pH: <input checked="" type="checkbox"/>
	NI	k) Chemical storage:	Dry on pallets? <input type="checkbox"/> Chemical containment: <input type="checkbox"/>
	NI	l) Clearwell / screened vents	Size: Baffling: <input type="checkbox"/> Locked <input type="checkbox"/> Screened <input type="checkbox"/>
	NI	m) Pumps # and size in gpm	High Service @ Backwash @
	SITE DATA	S1	n) Site Data: <u>BM tank</u>	Cl. Free:DOW Total: 2.8 pH: KAWC :2.56
S1		o) Site Data: <u>office</u>	Cl. Free:DOW Total: 2.9 pH: <u>KAWC 2.8</u>
S1		p) Site Data: <u>brock</u>	Cl. Free:DOW Total: 3.8 pH: <u>KAWC 3.72</u>
S1		q) Site Data: <u>on-line</u>	Cl. Free:BM tank Total: 2.9 pH: <u>brock 3.74</u>
DISINFECTION	NI	r) Disinfection Pre: <input type="checkbox"/> Post: <input type="checkbox"/>	Pre Type: Post type:
	NI	s) Automatic chlorinator <input type="checkbox"/>	Automatic changeover <input type="checkbox"/> Proper Fan <input type="checkbox"/>
	NI	t) Separate room & ventilation	Crash Bar <input type="checkbox"/> Alarm <input type="checkbox"/>
	NI	u) Safety equipment	SCBA <input type="checkbox"/> Ammonia <input type="checkbox"/> Detector <input type="checkbox"/>
LABORATORY & RECORDS	S1	v) Laboratory equipment	Adequate Space <input checked="" type="checkbox"/> Equipment <input checked="" type="checkbox"/> Lighting : <input checked="" type="checkbox"/>
	S1	(1) Turbidimeter <input checked="" type="checkbox"/>	Type: <u>HACH</u> Last calibrated: <u>2/26/21</u>
	S1	(2) Adequate reagent supply	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	S1	(3) Chlorine Test Kit <input checked="" type="checkbox"/>	Type: <u>HACH</u> DPD reagent up-to-date: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
	NI	w) Monthly operating reports	<input type="checkbox"/> Daily Record Sheet <input type="checkbox"/> Agreement: <input type="checkbox"/>
DISTRIBUTION	S1	x) Housekeeping	<u>good</u>
	NI	y) Master meter ; Recorder	Raw: <input type="checkbox"/> Finished: <input type="checkbox"/> ; Raw: <input type="checkbox"/> Finished: <input type="checkbox"/>
	NI	z) Blowoffs / hydrants; flushing	Flushing Schedule: <input type="checkbox"/> Blowoffs on deadends: <input type="checkbox"/>
	S1	aa) Water storage:	# of Tanks Total Storage:
PLANT ON SITE OBSERVATION	NI	bb) Booster pumps / chlorinators	Booster pumps: <input type="checkbox"/> Booster chlorinators: <input type="checkbox"/>
	S1	cc) Plant Data:	Cl free: <u>online-4.61</u> total: 4.3 pH: 7.1
	S1	dd) Turbidity	Raw:36 Settled:0.16 Combined Filter:0.03
	NI	ee) Bacteriological monitoring	Samples per mo. Records: <input type="checkbox"/>
NI	ff) No cross-connections observed	None observed: <input type="checkbox"/> Observed: <input type="checkbox"/> Program: <input type="checkbox"/>	

SI	gg) Wastewater discharge	KPDES Is sizing adequate? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> NO
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Comments: A Division of Water Non-Comprehensive inspection was conducted on May 21, 2021. no major concerns were noted during the inspection. The floc basins, sedimentation basins, laboratory, and filters were observed. The basins are cleaned monthly. The laboratory was satisfactory. Instrumentation was last calibrated by Morsten Technical Services on February 26, 2021. Standards were observed to be current. Standard Operating Procedures have been developed.

The Brock and Blue moon tanks were observed during the inspection. Both tanks were fenced, secure, and had overflow protection installed. Distribution system chlorine readings were acceptable and comparable between the DOW and KAWC readings along with the on-line instrumentation reading.

V. Compliance Status - No violations observed

VI. Discharge/Emission Compliance

Comments: A KPDES wastewater discharge inspection was performed after the drinking water inspection.

VI. Compliance Status - No violations observed

VII. Monitoring/Analyses Evaluation

Comments: Not evaluated.

VII. Compliance Status - Not Evaluated

VIII. Environmental /Health Impact

Work Site Hazard Assessment : ATTACHED REVIEWED

Comments:

VIII. Compliance Status – No violations observed

IX. Documentation

- Samples taken by DEP
- Samples taken by outside source
- Instrument readings taken by DEP regional office
- Photographs obtained by DEP
- Copies of records obtained by DEP

Other documentation

Inspector: Deborah Singleton	Title: Environmental Inspector III	Date: July 8, 2021
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Signature:

Deborah E. Singleton

Overall Compliance Status

- No violations observed**
- No violations observed, but impending violation trends observed**
- Out of Compliance- No action taken**
- Out of Compliance LOW non-recurrent administrative or O & M**
- Out of Compliance - NOV**

Comments:

Delivery Method: Regular Mail	Cert. Mail #:
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Inspection Report

GenTrack Item # 225

Section	Field Name	Response
Facility		
	Inspector ID	4
	PWS ID:	0340250A
	Category:	Plants
	Facility Name:	KENTUCKY AMERICAN WATER CO. A
	Status:	Active
	Status Date:	
	Address 1:	6300 Cedar Creek Lane (plant)
	Address 2:	2300 Richmond Road (mail)
	City:	LEXINGTON
	State:	KY
	Zip Code:	40515
	Phone:	859-268-6317
	Email:	bob.money@amwater.com
	County:	Fayette
	Fluoridation:	Yes
	Contact First Name:	Bob
	Contact Last Name:	Money
	Contact Address 1:	
	Contact Address 2:	
	Contact Phone Number	859-268-6317

GenTrack Item # 225 - 7

Section	Field Name	Response
General		
	Inspection Date:	08/17/2021
	Inspector:	Lucas Bentley
	Inspector Information:	275 east Main Street Frankfort KY 40621 Office Phone: 502-564-3246 Home Phone: Lucas.Bentley@ky.gov Active
	Contact First Name:	Ed
	Contact Last Name:	Sturgis
	Contact Address 1:	

Contact Address 2:	Bob Money (cell)
Contact Phone:	859-268-6317
Certification Number:	25173
Water Source:	Surface Water
Fluoridation Type:	Acid
Service Connections:	116000
Populations Served:	290000.0
AVG Production:	30 MGD
Flow Rate:	30.4 mgd
Design Capacity:	54 MGD
PWSI Number:	0340250a
GPS Coordinates:	37.903847, -84.378059

Chemical Treatment

Activated Carbon:	No
Aluminum Chloride (Brennfloc):	No
Aluminum Chlorohydrate:	No
Aluminum Potassium:	No
Aluminum Sulfate:	No
Amonia:	Yes
Calcium Hydroxide:	No
Calcium Oxide:	No
Carbon Dioxide:	No
Charcoal:	No
Chlorine:	Yes
Chlorine Dioxide:	No
Copper Sulfate:	No
Ferric Chloride:	Yes
Ferric Sulfate:	No
Fluorosilic Acid:	Yes
Hydrochloirc Acid:	No
Hydrochlorites:	No
Hydrogen Peroxide:	No
Hydroxide Ammonium:	No
Phosphate:	No
Polyaluminum Chloride:	No
Polyelectrolytes:	No
Polyphosphates:	No
Potassium Hydroxide:	No

Potassium Permanganate:	Yes
Silica:	No
Sodium Aluminate:	No
Sodium Bicarbonate:	No
Sodium Carbonate:	No
Sodium Chloride:	Yes
Sodium Fluoride:	No
Sodium Fluorosilicate:	No
Sodium Hydroxide:	No
Sodium Permanganate:	No
Sodium Thiosulfite:	No
Sulfur Dioxide:	No
Sulfuric Acid:	No
Ultraviolet:	No
Others:	POLYMER, ORTHOPHOSPHATE,

Plant Safety Equipment

Syphon Breakers Rating:	Satisfactory
Comments:	
Ventilation Rating:	Satisfactory
Comments:	
Storage Rating:	Satisfactory
Comments:	
Method Of Measurement:	Volumetric
Method of Measurement Rating:	Satisfactory
Comments:	ULTRA SONIC

Operator Safety Equipments

Respirator:	Satisfactory
Comments:	
Face Shield:	Satisfactory
Comments:	
Gloves:	Satisfactory
Comments:	
Apron:	Satisfactory
Comments:	

Laboratory and Records

Tester Brands:	CH EZ-CHECK
Tester Brand Rating:	Satisfactory

	Comments:	
	Adequate Reagent Supply:	Satisfactory
	Comments:	
	Reagent Up-To-Date:	Satisfactory
	Comments:	
	Monthly Operating Reports:	Satisfactory
	Last Month AVG-Daily Usage in Pounds:	773.0
	Last Month AVG Daily Pre-Population Results:	3.7
	Last Month AVG Tap Reading:	0.88
	Last Month AVG Raw Reading:	0.20
	Comments:	
	Housekeeping:	Satisfactory
	Comments:	

Distribution

	Master Meter:	Satisfactory
	Comments:	
	Point Of Injection:	Satisfactory
	Comments:	PRIOR TO THE CLEARWELL.
	Chemical Feeder:	Satisfactory
	Comments:	Day Tank - 280g max Bulk Tank - 8200 max
	Feeder's Brand:	Jesco
	Feeder Size:	
	Setting:	
	Speed:	
	Stroke:	

On-Site Observation

	Fluoride Rating:	Satisfactory
	Comments:	PLANT IN COMPLIANCE ALL YEAR. SAMPLES SENT IN ON TIME. WELL RUN PLANT. VERY PROFESSIONAL PLANT.
	Private Labs:	State Lab
	Split Rating:	Satisfactory
	Comments:	
	Insp:	1.03
	Plant:	0.88
	LAB:	0.85

Inspection Report

GenTrack Item # 226

Section	Field Name	Response
Facility		
	Inspector ID	4
	PWS ID:	0340250B
	Category:	Plants
	Facility Name:	KENTUCKY AMERICAN WATER CO. B
	Status:	Active
	Status Date:	
	Address 1:	2300 RICHMOND RD
	Address 2:	
	City:	LEXINGTON
	State:	KY
	Zip Code:	40505
	Phone:	859 268-6317
	Email:	bob.money@amwater.com
	County:	Fayette
	Fluoridation:	Yes
	Contact First Name:	Bob
	Contact Last Name:	Money
	Contact Address 1:	
	Contact Address 2:	
	Contact Phone Number	859 268-6317

GenTrack Item # 226 - 7

Section	Field Name	Response
General		
	Inspection Date:	08/17/2021
	Inspector:	Lucas Bentley
	Inspector Information:	275 east Main Street Frankfort KY 40621 Office Phone: 502-564-3246 Home Phone: Lucas.Bentley@ky.gov Active
	Contact First Name:	Ben
	Contact Last Name:	Corbin
	Contact Address 1:	

Contact Address 2:	
Contact Phone:	859 268-6348
Certification Number:	16483
Water Source:	Surface Water
Fluoridation Type:	Acid
Service Connections:	130000
Populations Served:	325000.0
AVG Production:	12 MGD
Flow Rate:	7 MGD
Design Capacity:	25 MGD
PWSI Number:	0340250b
GPS Coordinates:	37.904274 -84.377505

Chemical Treatment

Activated Carbon:	Yes
Aluminum Chloride (Brennfloc):	No
Aluminum Chlorohydrate:	No
Aluminum Potassium:	No
Aluminum Sulfate:	No
Amonia:	Yes
Calcium Hydroxide:	No
Calcium Oxide:	No
Carbon Dioxide:	No
Charcoal:	No
Chlorine:	Yes
Chlorine Dioxide:	No
Copper Sulfate:	Yes
Ferric Chloride:	No
Ferric Sulfate:	No
Fluorosilic Acid:	Yes
Hydrochloirc Acid:	No
Hydrochlorites:	No
Hydrogen Peroxide:	No
Hydroxide Ammonium:	No
Phosphate:	No
Polyaluminum Chloride:	No
Polyelectrolytes:	No
Polyphosphates:	No
Potassium Hydroxide:	No

Potassium Permanganate:	Yes
Silica:	No
Sodium Aluminate:	No
Sodium Bicarbonate:	No
Sodium Carbonate:	No
Sodium Chloride:	Yes
Sodium Fluoride:	No
Sodium Fluorosilicate:	No
Sodium Hydroxide:	No
Sodium Permanganate:	No
Sodium Thiosulfite:	No
Sulfur Dioxide:	No
Sulfuric Acid:	No
Ultraviolet:	No
Others:	POLYMER, ORTHOPHOSHATE.

Plant Safety Equipment

Syphon Breakers Rating:	Satisfactory
Comments:	
Ventilation Rating:	Satisfactory
Comments:	
Storage Rating:	Satisfactory
Comments:	
Method Of Measurement:	Volumetric
Method of Measurement Rating:	Satisfactory
Comments:	ULTRA SONIC

Operator Safety Equipments

Respirator:	Satisfactory
Comments:	
Face Shield:	Satisfactory
Comments:	
Gloves:	Satisfactory
Comments:	
Apron:	Satisfactory
Comments:	

Laboratory and Records

Tester Brands:	CH EZ-CHECK
Tester Brand Rating:	Satisfactory

	Comments:	
	Adequate Reagent Supply:	Satisfactory
	Comments:	
	Reagent Up-To-Date:	Satisfactory
	Comments:	
	Monthly Operating Reports:	Satisfactory
	Last Month AVG-Daily Usage in Pounds:	320.7
	Last Month AVG Daily Pre-Population Results:	3.7
	Last Month AVG Tap Reading:	0.85
	Last Month AVG Raw Reading:	0.42
	Comments:	
	Housekeeping:	Satisfactory
	Comments:	
Distribution		
	Master Meter:	Satisfactory
	Comments:	
	Point Of Injection:	Satisfactory
	Comments:	AFTER FILTERS
	Chemical Feeder:	Satisfactory
	Comments:	Setting: 1.03 GPH
	Feeder's Brand:	Vacon
	Feeder Size:	6.1 GPH
	Setting:	
	Speed:	
	Stroke:	
On-Site Observation		
	Fluoride Rating:	Satisfactory
	Comments:	PLANT IN COMPLIANCE ALL YEAR. SAMPLES SENT IN ON TIME. WELL RUN PLANT. VERY PROFESSIONAL PLANT.
	Private Labs:	
	Split Rating:	Satisfactory
	Comments:	Serve as their own certified lab
	Insp:	0.98
	Plant:	0.83
	LAB:	0.71



ANDY BESHEAR
GOVERNOR

REBECCA W. GOODMAN
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

ANTHONY R. HATTON
COMMISSIONER

DIVISION OF WATER
300 SOWER BLVD
FRANKFORT, KY, 40601

October 1, 2021

Mr. Bob Money
KY American Water Co
2300 Richmond Rd
Lexington, Kentucky 40502

RE: KY American Water Co -- 1063
Permit No.: KY0340250
Fayette County, Kentucky
Activity ID: CIN20210003

Dear Mr. Money:

Attached for your information and records is a copy of the drinking water non-comprehensive inspection performed at KY American Water Co- plant A on September 2, 2021.

Please review the enclosed inspection report.

If you have any questions or comments concerning this inspection, please contact the Frankfort Regional Office at: (502) 564-3358.

Sincerely,

A handwritten signature in cursive script that reads "Deborah E. Singleton".

Deborah Singleton
Environmental Inspector
Frankfort Regional Office
Division of Water

DES
Enclosure:

**ENERGY AND ENVIRONMENT CABINET
KENTUCKY DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
Routine Surface Inspection**

Site/Permit ID: KY0340250	Division: Water	Regional Office: Frankfort
Site Name: Kentucky Americal Water- Plant A	Program: Drinking Water	
Site Address: 6300 Cedar Creek Road		
City: Lexington	State: KY	Zip: 40515 County: Fayette
Inspection Type: Routine Surface	Purpose: Noncomprehensive	AI #: 1063
Inspection Date: 9/2/21	Time: Start 0830 AM End 0930 AM	
Latitude: 37 54' 16"	Longitude: 84 22' 42"	
Coordinate Collection Method: G40-Handheld receiver		Revision Code: 112108
Drinking Water Data		
Plant Name: Kentucky American Water- Plant A	Contact Name: Robert Money	
Phone No.: 858-335-3660	Fax No: 859-335-3388	Email Address: bob.money@amwater.com

I. Administrative Requirements

Comments: [The facility has not received any enforcement actions since the previous inspection.](#)

I. Compliance Status - No violations observed

II. Operator Certification/Accreditation Requirements

Operator in Charge or on duty.

Operator Name	Plant Certification #	Distribution Certification #
Edwin Sturgis	Class 4A, #81	
Janet Bemiss	IVA#1551	I

Comments: [A complete list of operators was provided during the inspection.](#)

II. Compliance Status - No violations observed

III. Record Keeping Requirements

Comments: [Not evaluated. Non-comprehensive inspection performed.](#)

III. Compliance Status - Not Evaluated

IV. Reporting Requirements

Comments: **Not evaluated. Non-comprehensive inspection performed.**

IV. Compliance Status - Not Evaluated

V. Operation & Maintenance/Performance Requirements
Plant Type: <input checked="" type="checkbox"/> C <input type="checkbox"/> N <input type="checkbox"/> P Service Connections: 129,493 Population Served: 348,336
Average Production MGD: 23.23 Max. Production MGD: 32.16 Design Capacity MGD: 45
Source: Kentucky River

RATING CODES: S1=No Violations Observed; S2=No Violations Obs-but impending viol trends obs; U1=Out of Compliance-No action taken; U2= Out of Comp-LOW non-recurrent Adm. or O & M; U3= Out of Compliance-NOV; NA = Not Applicable; NE = Not Evaluated. **(Add additional comments if U1-U3.)**

	RATING	Equipment / Inspection Data	<input type="checkbox"/> Checking block means item is present:
CHEMICAL & PHYSICAL TREATMENT	S1	a) Intakes, pumps, piping <input checked="" type="checkbox"/>	# Of Levels 1 # Pumps 6 Max pump.
	NA	b) Aeration <input type="checkbox"/>	
	NI	c) Rapid mix <input type="checkbox"/>	Type: If other:
	NA	d) Flocculation <input type="checkbox"/>	# of Stages # of Trains Variable Speed
	S1	e) Sedimentation <input checked="" type="checkbox"/>	Type: Hydrotreator # of trains:
	NI	f) Chemical feed coagulation	
	NI	g) Carbon Feed: <input type="checkbox"/>	Feed Site 1: Feed Site 2:
	S1	h) Filters & controls	Mixed Media Filter to Waste <input checked="" type="checkbox"/>
	S1	i) Filters / size sq.ft each./ rate	# 10 Size 718 Filtration Rate: 4
	NI	j) Automatic analyzers:	Chlorine: <input type="checkbox"/> Turbidity: <input type="checkbox"/> Each filter: <input type="checkbox"/> pH: <input type="checkbox"/>
	NI	k) Chemical storage:	Dry on pallets? <input type="checkbox"/> Chemical containment: <input type="checkbox"/>
	NI	l) Clearwell / screened vents	Size: Baffling: <input type="checkbox"/> Locked <input type="checkbox"/> Screened <input type="checkbox"/>
	NI	m) Pumps # and size in gpm	High Service 61 @ Backwash @
	SITE DATA		n) Site Data:	Cl. Free: Total: pH: :
		o) Site Data:	Cl. Free: Total: pH: :
		p) Site Data:	Cl. Free: Total: pH: :
		q) Site Data:	Cl. Free: Total: pH: :
DISINFECTION	NI	r) Disinfection Pre: <input type="checkbox"/> Post: <input type="checkbox"/>	Pre Type: Post type:
	NI	s) Automatic chlorinator <input type="checkbox"/>	Automatic changeover <input type="checkbox"/> Proper Fan <input type="checkbox"/>
	NI	t) Separate room & ventilation	Crash Bar <input type="checkbox"/> Alarm <input type="checkbox"/>
	NI	u) Safety equipment	SCBA <input type="checkbox"/> Ammonia <input type="checkbox"/> Detector <input type="checkbox"/>
LABORATORY & RECORDS	S1	v) Laboratory equipment	Adequate Space <input checked="" type="checkbox"/> Equipment <input checked="" type="checkbox"/> Lighting : <input checked="" type="checkbox"/>
	S1	(1) Turbidimeter <input checked="" type="checkbox"/>	Type: HACH Last calibrated: 2/24/2021
	S1	(2) Adequate reagent supply	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	S1	(3) Chlorine Test Kit <input checked="" type="checkbox"/>	Type: HACH DPD reagent up-to-date: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
	S1	w) Monthly operating reports	<input checked="" type="checkbox"/> Daily Record Sheet <input checked="" type="checkbox"/> Agreement: <input checked="" type="checkbox"/>
S1	x) Housekeeping	good	
DISTRIBUTION	NA	y) Master meter ; Recorder	Raw: <input type="checkbox"/> Finished: <input type="checkbox"/> ; Raw: <input type="checkbox"/> Finished: <input type="checkbox"/>
	NA	z) Blowoffs / hydrants; flushing	Flushing Schedule: <input type="checkbox"/> Blowoffs on deadends: <input type="checkbox"/>
	NA	aa) Water storage:	# of Tanks Total Storage:
	NA	bb) Booster pumps / chlorinators	Booster pumps: <input type="checkbox"/> Booster chlorinators: <input type="checkbox"/>
PLANT ON SITE OBSERVATION	S1	cc) Plant Data:	Cl free: total: 3.11 pH: 6.98
	S1	dd) Turbidity	Raw: 16.0 Settled: 1.7 Combined Filter: 0.05
	NI	ee) Bacteriological monitoring	Samples per mo. Records: <input type="checkbox"/>
	NI	ff) No cross-connections observed	None observed: <input type="checkbox"/> Observed: <input type="checkbox"/> Program: <input type="checkbox"/>

	S1	gg) Wastewater discharge	Is sizing adequate? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> NO
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Comments: The facility was clean and operational at the time of the inspection. The new intake access car system has been completed. Flow is directed through a rapid mix where DeIPAC 202 and other polymers are added. Water is then processed through hydrotreaters. All five hydrotreater valve houses have been reworked and new Swan Sewnaos Turbiwell instrumentation has been installed. Weekly calibration checks are performed on all sampling equipment by facility personnel. A new THM on-line analyzer has been installed on the plant effluent. The new chemical building has been completed. The facility is now using liquid chlorine for disinfection. Chemical areas are marked appropriately and are secure.

The laboratory was satisfactory. Standards were observed to be current. Records observed during the inspection include analytical bench sheets, temperature log books, and calibration logs.

Laboratory instrumentation was calibrated by an outside source in February 2021. The plant on-line chlorine and bench top chlorine readings were comparable.

The distribution system for this plant is associated with the Richmond Road facility.

V. Compliance Status - No violations observed

VI. Discharge/Emission Compliance

Comments: Not evaluated.

VI. Compliance Status - Not Evaluated

VII. Monitoring/Analyses Evaluation

Comments: Not evaluated.

VII. Compliance Status - Not Evaluated

VIII. Environmental /Health Impact

Work Site Hazard Assessment : ATTACHED REVIEWED

Comments: No major concerns were noted at the time of the inspection.

VIII. Compliance Status – No violations observed

IX. Documentation

- Samples taken by DEP
- Samples taken by outside source
- Instrument readings taken by DEP regional office
- Photographs obtained by DEP

- Copies of records obtained by DEP
 Other documentation

Inspector: Deborah Singleton	Title: Environmental Inspector III	Date: 9/17/2021
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Signature: DES

Overall Compliance Status
<input checked="" type="checkbox"/> No violations observed
<input type="checkbox"/> No violations observed, but impending violation trends observed
<input type="checkbox"/> Out of Compliance- No action taken
<input type="checkbox"/> Out of Compliance LOW non-recurrent administrative or O & M
<input type="checkbox"/> Out of Compliance - NOV

Comments:

Delivery Method: Regular Mail	Cert. Mail #:
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ANDY BESHEAR
GOVERNOR

REBECCA W. GOODMAN
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

ANTHONY R. HATTON
COMMISSIONER

DIVISION OF WATER
300 SOWER BLVD
FRANKFORT, KY, 40601

October 4, 2021

Mr. Bob Money
KY American Water Co
2300 Richmond Rd
Lexington, Kentucky 40502

RE: KY American Water Co -- 1063
Permit No.: KY0340250
Fayette County, Kentucky
Activity ID: CIN20210005

Dear Mr. Money:

Attached for your information and records is a copy of the drinking water non-comprehensive inspection performed at KY American Water Co Plant B on September 2, 2021.

Please review the enclosed inspection report.

If you have any questions or comments concerning this inspection, please contact the Frankfort Regional Office at: (502) 564-3358.

Sincerely,

A handwritten signature in black ink that reads "Deborah E. Singleton".

Deborah Singleton
Environmental Inspector
Frankfort Regional Office
Division of Water

DES
Enclosure:

**ENERGY AND ENVIRONMENT CABINET
KENTUCKY DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
Routine Surface Inspection**

Site/Permit ID: KY0340250	Division: Water	Regional Office: Frankfort
Site Name: Kentucky American Water- Plant B	Program: Drinking Water	
Site Address: 2300 Richmond Road		
City: Lexington	State: KY	Zip: 40502 County: Fayette
Inspection Type: Routine Surface	Purpose: Noncomprehensive	AI #: 1063
Inspection Date: 9/2/21	Time: Start 10:00 AM End 14:00 PM	
Latitude: 37 39' 24"	Longitude: 84 26' 11"	
Coordinate Collection Method: G40-Handheld receiver		Revision Code: 112108
Drinking Water Data		
Plant Name: Kentucky American Water- Plant-B	Contact Name: Robert Money	
Phone No.: 423-355-8591	Fax No: 859-335-3388	Email Address: bob.money@amwater.com

I. Administrative Requirements

Comments: [The facility has not received any enforcement actions since the previous inspection.](#)

I. Compliance Status - No violations observed

II. Operator Certification/Accreditation Requirements

Operator in Charge or on duty.

Operator Name	Plant Certification #	Distribution Certification #
Nathan Coyle	IVA#31126	
Benjamin Corbin	IVA#16483	
Richard Howard	IVA#20165	

Comments: [A full list of operators was provided during the inspection. Justin Sensabaugh is in charge of the distribution system: active Class IVD, license #20165.](#)

II. Compliance Status - No violations observed

III. Record Keeping Requirements

Comments: [Not evaluated. Non-comprehensive inspection performed.](#)

III. Compliance Status - Not Evaluated

IV. Reporting Requirements

Comments: **Not evaluated.**

IV. Compliance Status - Not Evaluated

V. Operation & Maintenance/Performance Requirements	
Plant Type: <input checked="" type="checkbox"/> C <input type="checkbox"/> N <input type="checkbox"/> P	Service Connections: 129493 Population Served: 348,336
Average Production MGD: 9.39 Max. Production MGD: 16.39 MGD	
Design Capacity MGD: 25 MGD	
Source: Kentucky River and Jacobson Reservoir.	

RATING CODES: S1=No Violations Observed; S2=No Violations Obs-but impending viol trends obs; U1=Out of Compliance-No action taken; U2= Out of Comp-LOW non-recurrent Adm. or O & M; U3= Out of Compliance-NOV; NA = Not Applicable; NE = Not Evaluated. **(Add additional comments if U1-U3.)**

	RATING	Equipment / Inspection Data	<input type="checkbox"/> Checking block means item is present:
CHEMICAL & PHYSICAL TREATMENT	NI	a) Intakes, pumps, piping <input type="checkbox"/>	# Of Levels # Pumps Max pump.
	NA	b) Aeration <input type="checkbox"/>	
	S1	c) Rapid mix <input checked="" type="checkbox"/>	Type: <u>Mechanical paddle</u> If other:
	S1	d) Flocculation <input type="checkbox"/>	# of Stages ² # of Trains ² Variable Speed ^{yes}
	S1	e) Sedimentation <input type="checkbox"/>	Type: <u>Conventional</u> # of trains:4
	S1	f) Chemical feed coagulation	<u>Alum-polymer blends</u>
	NA	g) Carbon Feed: <input type="checkbox"/>	Feed Site 1: Feed Site 2:
	S1	h) Filters & controls	<u>Mixed Media</u> Filter to Waste <input checked="" type="checkbox"/>
	S1	i) Filters / size sq.ft each./ rate	# 8 Size Filtration Rate:4
	S1	j) Automatic analyzers:	Chlorine: <input checked="" type="checkbox"/> Turbidity: <input checked="" type="checkbox"/> Each filter: <input checked="" type="checkbox"/> pH: <input checked="" type="checkbox"/>
	S1	k) Chemical storage:	Dry on pallets? <input checked="" type="checkbox"/> Chemical containment: <input checked="" type="checkbox"/>
	NI	l) Clearwell / screened vents	Size: <u>1.2 MG</u> Baffling: <input checked="" type="checkbox"/> Locked <input checked="" type="checkbox"/> Screened <input checked="" type="checkbox"/>
	SITE DATA	NI	m) Pumps # and size in gpm	High Service^{6} @ Backwash 2 @ 9933
S1		n) Site Data: <u>Clays Mill</u>	Cl. Free: <u>DOW</u> Total: <u>1.7</u> pH: <u>on-line :1.54</u>
S1		o) Site Data: <u>Clays Mill</u>	Cl. Free: <u>WTP</u> Total: <u>1.55</u> pH:
S1		p) Site Data: <u>Mercer</u>	Cl. Free: <u>DOW</u> Total: <u>2.6</u> pH: <u>On-Line 2.50</u>
DISINFECTION	S1	q) Site Data: <u>Mercer</u>	Cl. Free: <u>WTP</u> Total: <u>2.25</u> pH:
	NI	r) Disinfection Pre: <input type="checkbox"/> Post: <input type="checkbox"/>	Pre Type: Post type:
	NA	s) Automatic chlorinator <input checked="" type="checkbox"/>	Automatic changeover <input checked="" type="checkbox"/> Proper Fan <input checked="" type="checkbox"/>
	NA	t) Separate room & ventilation	Crash Bar <input checked="" type="checkbox"/> Alarm <input checked="" type="checkbox"/>
LABORATORY & RECORDS	NA	u) Safety equipment	SCBA <input checked="" type="checkbox"/> Ammonia <input checked="" type="checkbox"/> Detector <input checked="" type="checkbox"/>
	S1	v) Laboratory equipment	Adequate Space <input checked="" type="checkbox"/> Equipment <input checked="" type="checkbox"/> Lighting : <input checked="" type="checkbox"/>
	S1	(1) Turbidimeter <input checked="" type="checkbox"/>	Type: <u>HACH</u> Last calibrated: <u>02/2021</u>
	S1	(2) Adequate reagent supply	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	S1	(3) Chlorine Test Kit <input checked="" type="checkbox"/>	Type: <u>HACH</u> DPD reagent up-to-date: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
	S1	w) Monthly operating reports	<input checked="" type="checkbox"/> Daily Record Sheet <input checked="" type="checkbox"/> Agreement: <input checked="" type="checkbox"/>
DISTRIBUTION	S1	x) Housekeeping	<u>Good</u>
	NI	y) Master meter ; Recorder	Raw: <input checked="" type="checkbox"/> Finished: <input checked="" type="checkbox"/> ; Raw: <input checked="" type="checkbox"/> Finished: <input checked="" type="checkbox"/>
	NI	z) Blowoffs / hydrants; flushing	Flushing Schedule: <input checked="" type="checkbox"/> Blowoffs on deadends: <input checked="" type="checkbox"/>
	S1	aa) Water storage:	# of Tanks <u>12</u> Total Storage:
NI	bb) Booster pumps / chlorinators	Booster pumps: <input checked="" type="checkbox"/> Booster chlorinators: <input type="checkbox"/>	

PLANT ON SITE OBSERVATION	SI	cc) Plant Data:	Cl free: total: 3.15 pH: 7.36
	SI	dd) Turbidity	Raw:7 Settled:0.16 Combined Filter:0.026
	NI	ee) Bacteriological monitoring	Samples per mo. Records: <input type="checkbox"/>
	NI	ff) No cross-connections observed	None observed: <input type="checkbox"/> Observed: <input type="checkbox"/> Program: <input checked="" type="checkbox"/>
	NI	gg) Wastewater discharge	Is sizing adequate? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> NO

Comments: The Division of Water conducted a comprehensive inspection on September 2, 2021. The inspection included a tour of the facility's process, laboratory procedures, and the KAW distribution system. No major concerns were noted during the inspection. The facility was clean and operational. Raw water is continually monitored as it enters the plant and is then directed to the rapid mix, floc basins, and sedimentation basins. The flow leaving the weirs were satisfactory. Basins are cleaned quarterly. Filters were satisfactory and used on a rotating basis. Online instrumentation is calibrated quarterly. Flow leaves the filters and is directed to one of two chlorine contact basins.

The new chemical building has been completed. The facility now used liquid chlorine for disinfection purposes. Liquid lime is now used. Current chemical storage areas are marked appropriately and are secure. The laboratory was satisfactory. Standards were observed to be current.

The following tanks were observed during the inspection: Arboretum, Clays Mill, Mercer, Briar Hill, and Eastland. The tanks were secure, flappered, and observed to be in good condition.

Chlorine residuals in the system were acceptable. Daily chlorine check standards are performed and recorded. Tanks are inspected once every five years. System flushing is performed in the spring. Most meters are radio read. Additional chlorine sample: Briar Hill: DOW 1.4; WTP 1.31; On-Line- 1.0.

V. Compliance Status - No violations observed

VI. Discharge/Emission Compliance

Comments: A KPDES inspection was performed and the facility was found to be in compliance.

VI. Compliance Status - No violations observed

VII. Monitoring/Analyses Evaluation

Comments: Not evaluated.

VII. Compliance Status - Not Evaluated

VIII. Environmental /Health Impact

Work Site Hazard Assessment : ATTACHED REVIEWED

Comments: No major concerns were noted at the time of the inspection.

VIII. Compliance Status – No violations observed

IX. Documentation

- Samples taken by DEP
- Samples taken by outside source
- Instrument readings taken by DEP regional office
- Photographs obtained by DEP
- Copies of records obtained by DEP
- Other documentation

Inspector: Deborah Singleton	Title: Environmental Inspector III	Date: 09/17/21
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Signature:	<div style="border: 1px solid gray; padding: 5px; background-color: #f0f0f0;"> <p style="font-size: small; margin: 0;">E-Signed by Singleton, Deborah VERIFY authenticity with e-Sign ?</p>  </div>
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- | |
|---|
| Overall Compliance Status |
| <input checked="" type="checkbox"/> No violations observed |
| <input type="checkbox"/> No violations observed, but impending violation trends observed |
| <input type="checkbox"/> Out of Compliance- No action taken |
| <input type="checkbox"/> Out of Compliance LOW non-recurrent administrative or O & M |
| <input type="checkbox"/> Out of Compliance - NOV |

Comments:

Delivery Method: Regular Mail	Cert. Mail #:
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**ENERGY AND ENVIRONMENT CABINET
KENTUCKY DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
Routine Distribution Inspection**

Site/Permit ID: KY1020288	Division: Water	Regional Office: London
Site Name: Kentucky American Water - Eastern Rockcastle	Program: Drinking Water	
Site Address: 9264 Main Street		
City: Livingston	State: KY	Zip: 40445 County: Rockcastle
Inspection Type: Routine Distribution	Purpose: Comprehensive	AI #: 34097
Inspection Date: 9/22/21	Time: Start 11:00 AM End 6:15 PM	
Latitude:	Longitude:	
Coordinate Collection Method:		Revision Code: 112108
Drinking Water Data		
Plant Name: Kentucky American Water - Eastern Rockcastle	Contact Name: Dorothy Johnson 859-335-3670 (office) 859-537-0744 (mobile)	
Phone No.: Livingston Office 606-453-0019	Fax No:	Email Address: Dorothy.Johnson@amwater.com

I. Administrative Requirements

Comments: [As required, the system submitted a written response to the August 2019 Sanitary Survey's non-significant deficiencies.](#)

I. Compliance Status - No violations observed

II. Operator Certification/Accreditation Requirements

Operator in Charge and on duty.

Operator Name	Plant Certification #	Distribution Certification #
Charles Dick - AI 46253		64535 - IV
Justin Sensabaugh AI 30399	9579 - IV	20165 - IV

Comments: [The Class II distribution system is adequately staffed. Mr. Sensabaugh is the Senior Manager of Field Operation and Mr. Dick is the Manager of Field Operations. Their licenses have been renewed through 6/30/22. Daily operation of the distribution system is conducted by Rodney Trowbridge and Josh Martin.](#)

II. Compliance Status - No violations observed

III. Record Keeping Requirements

Comments: The system does not maintain a line break log in accordance with 401 KAR 8:150 Section 4(2). The system should maintain a log of all breaks or ruptures, which shall include the:

- a. date and location of the break;
- b. time it was discovered;
- c. the population affected;
- d. length of time required to repair the break;
- e. date and time disinfectant residuals are detected;
- f. date and time bacteriological samples are taken.

Daily distribution chlorine monitoring logs are maintained well. One log is maintained for four of the areas within the system: Brush Creek, Jackson Co. Water, Sand Springs and Sand Hill. Each log includes all pertinent information, including the date and time, location, analysts' initials and chlorine result.

Chains of custody and laboratory analysis reports are maintained and available for review.

Mr. Trowbridge maintains a monthly secondary standard check for the Hach II pocket colorimeter used for compliance monitoring. The log includes all pertinent information including the standard reading and its acceptable range.

Customer complaints are stored electronically.

III. Compliance Status - No violations obs- but impending viol trends obs

IV. Reporting Requirements

Comments: BWAs are reported well.

MORs are signed by Dorothy Johnson (Ky American Water - Water Quality Specialist) and submitted as required. The system normally reports 4 daily chlorine residual readings: Jackson Co. supplied water at Three Links (reported as the North), Livingston supplied water on Sand Hill (East), Mt. Vernon supplied water at Sand Springs (West) and Mt. Vernon supplied water at the Brush Creek master meter (South).

IV. Compliance Status - No violations observed

V. Operation & Maintenance/Performance Requirements

Plant Type: C N P Service Connections: 667 Population Served: 1794

Average Purchased MGD: 0.089 Max. Purchased MGD: Contract Amount MGD:

Source: Seller PWSID: Multiple Sellers Yes No

RATING CODES: S1 = No Violations Observed; S2= No Violations Observed-but impending viol trends obs;
 U1 = Out of Compliance-No action taken; U2= Out of Compliance-LOW non-recurrent Adm. or O & M;
 U3= Out of Compliance-NOV Issued; NA = Not Applicable; NE = Not Evaluated. **(Add additional comments if U1-U3.)**

SELLER INFORMATION	Seller # 1	Name Jackson County	PWSID# KY0550209 Contract Amount: 0.049 MGD	
	Seller # 2	Name Mt. Vernon	PWSID# KY1020299 Contract Amount: 0.038 MGD	
	Seller # 3	Name Livingston	PWSID# KY1020253 Contract Amount: 0.015 MGD	
	Seller # 4	Name	PWSID# Contract Amount:	
	Seller # 5	Name	PWSID# Contract Amount:	
STORAGE TANK INFORMATION	RATING	Equipment / Inspection Data	<input type="checkbox"/> Checking block means item is present:	
	S1	a) Storage Tank 1 Size: 80,000 Name: Three Links (Jackson Co.	Screened Vent: <input type="checkbox"/> Overflow <input checked="" type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: 2019 Coating condition: Good	
	S1	b) Storage Tank 2 Size: 15,000 Name: Sand Springs aka Pongo	Screened Vent: <input checked="" type="checkbox"/> Overflow <input checked="" type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: 2019 Coating condition: Good	
		c) Storage Tank 3 Size: Name:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
		d) Storage Tank 4 Size: Name:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
		e) Storage Tank 5 Size: Name:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
		f) Storage Tank 6 Size: Name:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
		g) Storage Tank 7 Size: Name:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
		h) Storage Tank 8 Size: Name:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
		j) Master meter <input type="checkbox"/>	Last Calibrated: Recorder: <input type="checkbox"/>	
		k) Flushing Schedule	<input type="checkbox"/> Yes <input type="checkbox"/> No/ Frequency: Annually	
		l) Chlorine Test Kit <input checked="" type="checkbox"/>	Type: HACH II Last calibrated 9/6/21	
	GENERAL INFORMATION	S1	m) DPD reagent up-to-date	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
S1		n) Blow-off / Hydrants on dead	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
S1		o) Monthly operating reports	<input checked="" type="checkbox"/> Daily Record Sheet <input checked="" type="checkbox"/> Agreement: <input type="checkbox"/>	
S1		p) Bacteriological monitoring	Samples per mo. 5 Records: <input checked="" type="checkbox"/>	
BOOSTER PUMPS		NI	q) <input checked="" type="checkbox"/> Booster pumps <input type="checkbox"/> Disinfection	Capacity 2 @80 Disinfection Type:
		NI	r) <input checked="" type="checkbox"/> Booster pumps <input type="checkbox"/> Disinfection	Capacity 2 @80 Disinfection Type:
	NI	s) <input checked="" type="checkbox"/> Booster pumps <input type="checkbox"/> Disinfection	Capacity 2 @60 Disinfection Type:	
ON SITE OBSERVATIONS	S1	t) Site Data: Buffalo Baptist Ch.	Cl. Free: 0.60 Total: 0.72 pH: Turbidity: 0.08	
	S1	u) Site Data: Climax VFD	Cl. Free: 0.77 Total: pH: Turbidity: 1.46	
	S1	v) Site Data: Ballinger Farms	Cl. Free: 1.11 Total: pH: Turbidity: 0.18	
	S1	w) Site Data: 3753 Sand Hill Rd	Cl. Free: 1.41 Total: pH: Turbidity: 0.21	
OTHER INFORMATION	S1	x) Cross connection program	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	S1	y) Water meter replacement	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	S1	z) Valve exercise program	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	S1	aa) Is unaccounted for water	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes what is % loss? 35.6	
	S1	bb) Up to date distribution map	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Comments: The system is serviced by 4 master meters; 2 from Mt. Vernon/KY1020299 (Brush Creek and Sand Springs), 1 from Jackson Co./KY0550209 in the Three Links community and 1 from Livingston/KY1020253 in the Sand Hill area.

In August 2021, the system averaged 134 ga/connection/day.

The 25', Mt. Vernon Water fed tank at Pongo is controlled by an altitude valve, it is set to kick on at 8' and off at 23.5'. The tank was inspected in 2019 by Tank Industry Consultants and found to be in good condition. The tank's exterior was blasted and painted late 2019/early 2020.

The Jackson Co. Water fed tank at Three Links was fully restored on the inside & outside and painted on the exterior. The work was performed by Currens Construction in the fall of 2019/early 2020.

Distribution pump stations include 2 at Sand Hill, 2 at Pongo and 2 which are currently out of operation at Ole Gauley.

The system's Neptune radio-read meter replacement project was completed in 2018.

KAW (Jennifer Shrewsberry) implements the system's Cross Connection Control Program.

The system's GIS mapping project was completed in early 2020.

V. Compliance Status - No violations observed

VI. Discharge/Emission Compliance

Comments:

VI. Compliance Status - Not Applicable

VII. Monitoring/Analyses Evaluation

Comments: Daily chlorine monitoring is conducted by Rodney Throwbridge and Josh Martin.

Normally four locations are monitored for free residual daily. The locations include water from all three of the suppliers. The normal locations include Three Links (Jackson Co. Water), Sand Hill Road (Livingston Water), Sand Springs (Mt. Vernon Water on the West side of the system) and at the Brush Creek master meter (Mt. Vernon Water on the East side of the system). To adequately monitor the chlorine residual throughout the distribution system, sampling should routinely occur further down the Jackson Co. line and past the Brush Creek master meter. On August 25th, 2021 the chlorine level at the Brush Creek master meter was 0.52 mg/l.

Mr. Trowbridge maintains a monthly secondary standard check for the Hach II pocket colorimeter used for compliance monitoring. The log for 2021 was reviewed and includes all pertinent information including the standard reading and its acceptable range. The standard kit lot number is A0007 and it expires 1/22.

The system is required to collect 2 bact samples/month based on population. The system collects 5 monthly; 3 samples during the first week and 2 samples during the third week. The samples are collected by Mr. Trowbridge. Prior to the sample collection, he performs a secondary reference

standard check on his pocket colorimeter. The check is documented on the chain of custody. Lab reports indicate hold times are met. Sample sites are repeated weekly. The system should routinely sample from other DOW approved monitoring locations to adequately represent the entire distribution system.

Special BACT samples are collected by Mr. Trowbridge and delivered to the Ky American Richmond Road lab (#00011) for analysis.

The system is required to collect DBP samples from 2 locations quarterly. Their monitoring sites are Big Cave Road (Mt. Vernon Water) and 3333 Upper Piney Branch Road (Jackson Co. Water). Until the most recent 8/2/21 monitoring event, the system had not exceeded the MCL for HAA5s or TTHMs since the 3Q20. On 8/2/21, HAA5s and TTHMs were just slightly over the MCL at one of the two monitoring locations. The system conducts DBP monitoring at the Jackson MM, Sand Springs MM, and Brush Creek MM to have a background level. The samples are collected by Mr. Trowbridge and analyzed by the American Water lab in Bellville, IL (#90005).

VII. Compliance Status - No violations observed

VIII. Environmental /Health Impact

Work Site Hazard Assessment: ATTACHED REVIEWED

Comments:

VIII. Compliance Status – No violations observed

IX. Documentation

- Samples taken by DEP
- Samples taken by outside source
- Instrument readings taken by DEP regional office
- Photographs obtained by DEP
- Copies of records obtained by DEP
- Other documentation

Inspector: Beth Trent	Title: Environmental Inspector III	Date: 10/5/21
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<div style="display: flex; align-items: center; justify-content: center;"> <div style="margin-right: 10px;">X</div> <div style="font-family: cursive; font-size: 1.2em;">Beth Trent</div> </div> <hr style="width: 100%; border: 0.5px solid black; margin-top: 5px;"/>	10/5/2021
Signature: Signed by: Beth Trent	

Overall Compliance Status
<input type="checkbox"/> No violations observed
<input checked="" type="checkbox"/> No violations observed, but impending violation trends observed
<input type="checkbox"/> Out of Compliance- No action taken
<input type="checkbox"/> Out of Compliance- LOW Non-recurrent administrative or O & M
<input type="checkbox"/> Out of Compliance – NOV

Comments: The system does not maintain a line break log in accordance with 401 KAR 8:150 Section 4(2). The system should maintain a log of all breaks or ruptures, which shall include the:

- a. date and location of the break;
- b. time it was discovered;
- c. the population affected;
- d. length of time required to repair the break;
- e. date and time disinfectant residuals are detected;
- f. date and time bacteriological samples are taken.

To adequately monitor the chlorine residual throughout the distribution system, sampling should routinely occur further down the Jackson Co. line and past the Brush Creek master meter. On August 25th, 2021 the chlorine level at the Brush Creek master meter was 0.52 mg/l.

Delivery Method: E-mail	Cert. Mail #: N/A
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Inspection Report

GenTrack Item # 227

Section	Field Name	Response
Facility		
	Region:	Central
	PWS ID:	0340250C
	Category:	Plants
	Facility Name:	KENTUCKY AMERICAN WATER CO. C
	Status:	Active
	GPS Location:	38.358527 -84.865399
	Physical Address:	16035 HWY 127
	Mailing Address:	
	City:	OWENTON
	State:	KY
	Zip Code:	40359
	Phone:	502 484-8373
	Plant Email:	bob.money@amwater.com
	County:	Owen
	Fluoridation:	Yes
	Contact First Name:	Jason
	Contact Last Name:	Case
	Contact Address 1:	
	Contact Address 2:	
	Contact Phone Number:	502 395-2945
	Contact Email:	bob.money@amwater.com

GenTrack Item # 227 - 8

Section	Field Name	Response
General		
	Inspection Date:	03/11/2022
	Inspector:	Lucas Bentley
	Inspector Information:	275 east Main Street Frankfort KY 40621 Office Phone: 502-564-3246 Home Phone: Lucas.Bentley@ky.gov Active
	Operator On Duty First Name:	Chris

Operator On Duty Last Name:	Riddle
Contact Address 1:	16035 HWY 127
Contact Address 2:	
Contact Phone:	502 484-8373
Certification Number:	16208
Water Plant Operator Certification Level:	
Facility Classification Level:	
[BLANK]	
Water Source:	Surface Water
Fluoridation Type:	Acid
Service Connections:	3900
Populations Served:	10491.00
AVG Production:	7.5 MGD
Flow Rate (Influent):	4200 GPM
Master Meter (Raw):	Satisfactory
Design Capacity:	20 MGD
PWSI Number:	0340250C
GPS Coordinates:	38.358527 -84.865399
Comments:	

Chemical Treatment

Activated Carbon (Activated Charcoal):	Yes
Aluminum Chloride:	Yes
Aluminum Chlorohydrate:	No
Aluminum Potassium:	No
Aluminum Sulfate (Alum):	No
Amonia:	Yes
Calcium Hydroxide (Hydrated Lime):	No
Calcium Oxide (Quick Lime):	No
Carbon Dioxide:	No
Charcoal:	No
Chlorine (gas):	Yes
Chlorine (liquid):	No
Chlorine Dioxide:	No
Copper Sulfate:	No
Ferric Chloride:	No

	Ferric Sulfate:	No
	Hydrofluorosilicic Acid (HFS):	Yes
	Hydrochloric Acid:	No
	Hydrochlorites:	No
	Hydrogen Peroxide:	No
	Hydroxide Ammonium:	No
	Phosphate:	No
	Polyaluminum Chloride (PAC):	No
	Polyelectrolytes:	No
	Polyphosphates:	No
	Potassium Hydroxide (Caustic Potash):	No
	Potassium Permanganate:	Yes
	Silica:	No
	Sodium Aluminate:	No
	Sodium Bicarbonate (Baking Soda):	No
	Sodium Carbonate (Soda Ash):	No
	Sodium Chloride (Salt):	No
	Sodium Fluoride:	No
	Sodium Fluorosilicate:	No
	Sodium Hydroxide (Caustic Soda):	No
	Sodium Hypochlorite:	No
	Sodium Permanganate:	No
	Sodium Thiosulfite:	Yes
	Sulfur Dioxide:	No
	Sulfuric Acid:	No
	Ultraviolet:	No
	Others:	ORTHOPHOSPHATE, POLYMER & CAUSTIC SODA.

Fluoride System

	Saturator System:	
	Saturator Cleanout Date (recommended annually or as needed):	
	[BLANK]	

	[BLANK]	
	Comments:	
	Dry System:	
	Comments:	
	Tablet System:	
	Tablet System Flow Rate:	
	Comments:	
	Hydrofluorosilicic Acid (HFS) System:	
	Hydrofluorosilicic Acid (HFS) Bulk Tank Size (gallons):	
	HFS Day Tank Size (dimensions in inches):	
	HFS Day Tank Size (gallons):	
	HFS Day Tank Limitations:	
	HFS Day Tank Loss of Suction Point (lbs if scale used and inches if volumetric loss used):	
	HFS Day/Bulk Tank Vented to the Outside Atmosphere:	
	Transfer Pump:	
	Liquid Level Limit Switch:	
	HFS Usage Table:	
	Comments:	
	[BLANK]	

Plant Safety Equipment

	Syphon Breakers Rating:	Satisfactory
	Comments:	
	Ventilation Rating:	Satisfactory
	Forced Ventilation Switch Location:	
	Comments:	
	Chemical Storage Rating:	Satisfactory
	Comments:	

	Method Of Measurement:	Volumeric
	Method of Measurement Rating:	Satisfactory
	Comments:	ULTRA SONIC
	Secondary Containment:	
	Comments:	

Operator Safety Equipment

	Respirator Available:	Yes
	Comments:	
	Face Shield/Safety Glasses Available:	Yes
	Comments:	
	Gloves Available:	Yes
	Comments:	
	Apron/Coat Available:	Yes
	Comments:	
	Eye Wash Station/Deluge Shower:	Satisfactory
	Eye Wash Station/Deluge Shower Maintenance Check (recommended monthly):	
	Comments:	

Laboratory and Records

	Tester Brands:	CH EZ-CHECK
	Tester Brand Rating:	Satisfactory
	Comments:	
	Adequate Reagent Supply:	Satisfactory
	Comments:	
	Reagent Up-To-Date (Include either the expiration date or the Lot number in the comments):	Satisfactory
	Comments:	
	Monthly Operating Reports:	Satisfactory
	Last Month AVG-Daily Usage in Pounds:	4.0
	Last Month AVG Daily Pre-Population Results:	0
	Last Month AVG Tap Reading:	0.87

Last Month AVG Raw Reading:	0.13
Comments:	
505 Reporting:	Satisfactory
505 Sample Locations (First Plant/Second Distribution):	Satisfactory
505 Dates:	Satisfactory
[BLANK]	
In Compliance Year to Date:	Yes
Housekeeping:	Satisfactory
Comments:	

Distribution

Point Of Injection:	Satisfactory
Injection Site:	
Comments:	PRIOR TO THE CLEARWELL
Chemical Feeder:	Satisfactory
Comments:	Speed and Stroke are percentages
Feeder's Brand:	JAC
Feeder Model #:	1731
Feeder Size:	4.9 GPH
Setting:	0.88ppm
Speed:	11
Stroke:	15

On-Site Observation

Fluoride Rating:	Satisfactory
Comments:	
Private Labs:	Kentucky America
Other Water Treatment Systems Directly Connected:	
Other Water Treatment Systems Water Sold To:	
Other Water Treatment Systems Water Purchased From:	
[BLANK]	
Facility Entrance:	
Laboratory:	

	Fluoride Tester:	
	Fluoride Room:	
	Ventilation:	
	Fluoride Metering Pump Tag:	
	Overall Fluoride System (Saturator, Bulk/Day Tank, Dry Hopper, Tablet):	
	Injection Site:	
	Scales (if applicable):	
	Anti-Syphon Device (if applicable):	
	Eye Wash/Deluge Shower Station (if applicable):	
	[BLANK]	
	Split Rating:	Satisfactory
	Insp:	0.64
	Plant:	0.91
	LAB:	0.87
	Comments:	Well Ran Facility In Compliance YTD
	[BLANK]	



ANDY BESHEAR
GOVERNOR

REBECCA W. GOODMAN
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

ANTHONY R. HATTON
COMMISSIONER

DIVISION OF WATER
300 SOWER BLVD
FRANKFORT, KY, 40601

August 10, 2022

Mr. Bob Money
KY American Water Co
2300 Richmond Rd
Lexington, Kentucky 40502

RE: KY American Water Co
AI# 1063
Permit No.: KY0340250
Fayette County, Kentucky
Activity ID: CIN20220001

Dear Mr. Money:

Attached for your information and records is a copy of the drinking water comprehensive inspection performed at KY American Water Co plant C on June 15, 2022.

Please review the enclosed inspection report.

If you have any questions or comments concerning this inspection, please contact the Frankfort Regional Office at: (502) 564-3358.

Sincerely,

Deborah E. Singleton

Deborah Singleton
Environmental Inspector
Frankfort Regional Office
Division of Water

DES
Enclosure:

**ENERGY AND ENVIRONMENT CABINET
KENTUCKY DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
Routine Surface Inspection**

Site/Permit ID: KY0340250	Division: Water	Regional Office: Frankfort
Site Name: Kentucky American Water Plant C	Program: Drinking Water	
Site Address: 16035 hwy 127 south		
City: Owenton	State: KY	Zip: 40359 County: Owen
Inspection Type: Routine Surface	Purpose: Comprehensive	AI #: 1063
Inspection Date: 6/15/2022	Time: Start 09:00 AM End 1:30 PM	
Latitude:	Longitude:	
Coordinate Collection Method: G40-Handheld receiver		Revision Code: 112108
Drinking Water Data		
Plant Name: Kentucky River station #2	Contact Name: Robert Money	
Phone No.: 859-335-3660	Fax No: 859-335-3388	Email Address: bob.money@amwater.com

I. Administrative Requirements

Comments: [Not evaluated.](#)

I. Compliance Status - Not Evaluated

II. Operator Certification/Accreditation Requirements

Operator in Charge or on duty.

Operator Name	Plant Certification #	Distribution Certification #
Scott Huddleston	IVA#21329	
Justin Sensabaugh		IVD#20165

Comments: [A complete list of operators was provided during the inspection. No concerns noted.](#)

II. Compliance Status - No violations observed

III. Record Keeping Requirements

Comments: [Not evaluated.](#)

III. Compliance Status - Not Evaluated

IV. Reporting Requirements

Comments: The facility provides timely reports to the Division of Water as required.

IV. Compliance Status - No violations observed

V. Operation & Maintenance/Performance Requirements	
Plant Type: <input checked="" type="checkbox"/> C <input type="checkbox"/> N <input type="checkbox"/> P Service Connections:	Population Served:
Average Production MGD: 7.62 Max. Production MGD: 14.02 Design Capacity MGD: 20.0 MGD	
Source: Kentucky River pool #3	

RATING CODES: S1=No Violations Observed; S2=No Violations Obs-but impending viol trends obs; U1=Out of Compliance-No action taken; U2= Out of Comp-LOW non-recurrent Adm. or O & M; U3= Out of Compliance-NOV; NA = Not Applicable; NE = Not Evaluated. (Add additional comments if U1-U3.)

	RATING	Equipment / Inspection Data	<input type="checkbox"/> Checking block means item is present:	
CHEMICAL & PHYSICAL TREATMENT	NI	a) Intakes, pumps, piping <input type="checkbox"/>	# Of Levels # Pumps Max pump.	
	NA	b) Aeration <input type="checkbox"/>		
	NI	c) Rapid mix <input checked="" type="checkbox"/>	Type: If other: <u>mechanical mixer</u>	
	NI	d) Flocculation <input checked="" type="checkbox"/>	# of Stages ⁴ # of Trains Variable Speed	
	NI	e) Sedimentation <input checked="" type="checkbox"/>	Type: <u>Conventional</u> # of trains:4	
	NI	f) Chemical feed coagulation		
	NI	g) Carbon Feed: <input type="checkbox"/>	Feed Site1: Feed Site 2:	
	NI	h) Filters & controls	<u>Mixed Media</u> Filter to Waste <input checked="" type="checkbox"/>	
	NI	i) Filters / size sq.ft each./ rate	# <u>5</u> Size <u>702</u> Filtration Rate: <u>5</u>	
	S1	j) Automatic analyzers:	Chlorine: <input checked="" type="checkbox"/> Turbidity: <input checked="" type="checkbox"/> Each filter: <input checked="" type="checkbox"/> pH: <input checked="" type="checkbox"/>	
	NI	k) Chemical storage:	Dry on pallets? <input type="checkbox"/> Chemical containment: <input type="checkbox"/>	
	NI	l) Clearwell / screened vents	Size: Baffling: <input type="checkbox"/> Locked <input type="checkbox"/> Screened <input type="checkbox"/>	
	NI	m) Pumps # and size in gpm	High Service @ Backwash @	
	SITE DATA	S1	n) Site Data: <u>ellis tank</u>	Cl. Free:DOW Total: <u>1.64</u> pH: <u>KAWC :2.84</u>
		S1	o) Site Data: <u>wheatly</u>	Cl. Free:DOW Total: <u>0.85</u> pH: <u>KAWC 1.01</u>
S1		p) Site Data: <u>blue moon</u>	Cl. Free:DOW Total: <u>> 2.20</u> pH: <u>KAWC 2.80</u>	
S1		q) Site Data: <u>on-line</u>	Cl. Free:BM tank Total: <u>2.81</u> pH: <u>wheatly 0.8</u>	
DISINFECTION	NI	r) Disinfection Pre: <input type="checkbox"/> Post: <input type="checkbox"/>	Pre Type: Post type:	
	NI	s) Automatic chlorinator <input type="checkbox"/>	Automatic changeover <input type="checkbox"/> Proper Fan <input type="checkbox"/>	
	NI	t) Separate room & ventilation	Crash Bar <input type="checkbox"/> Alarm <input type="checkbox"/>	
	NI	u) Safety equipment	SCBA <input type="checkbox"/> Ammonia <input type="checkbox"/> Detector <input type="checkbox"/>	
LABORATORY & RECORDS	S1	v) Laboratory equipment	Adequate Space <input checked="" type="checkbox"/> Equipment <input checked="" type="checkbox"/> Lighting : <input checked="" type="checkbox"/>	
	S1	(1) Turbidimeter <input checked="" type="checkbox"/>	Type: <u>HACH</u> Last calibrated: <u>2/2022</u>	
	S1	(2) Adequate reagent supply	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	S1	(3) Chlorine Test Kit <input checked="" type="checkbox"/>	Type: <u>HACH</u> DPD reagent up-to-date: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
	NI	w) Monthly operating reports	<input checked="" type="checkbox"/> Daily Record Sheet <input checked="" type="checkbox"/> Agreement: <input checked="" type="checkbox"/>	
DISTRIBUTION	S1	x) Housekeeping	<u>good</u>	
	NI	y) Master meter ; Recorder	Raw: <input type="checkbox"/> Finished: <input type="checkbox"/> ; Raw: <input type="checkbox"/> Finished: <input type="checkbox"/>	
	NI	z) Blowoffs / hydrants; flushing	Flushing Schedule: <input type="checkbox"/> Blowoffs on deadends: <input type="checkbox"/>	
	S1	aa) Water storage:	# of Tanks Total Storage:	
PLANT ON SITE OBSERVATION	NI	bb) Booster pumps / chlorinators	Booster pumps: <input type="checkbox"/> Booster chlorinators: <input type="checkbox"/>	
	S1	cc) Plant Data:	Cl free: total: <u>4.5</u> pH: <u>7.0</u>	
	S1	dd) Turbidity	Raw: Settled: Combined Filter: <u>0.04</u>	
	NI	ee) Bacteriological monitoring	Samples per mo. Records: <input type="checkbox"/>	
NI	ff) No cross-connections observed	None observed: <input type="checkbox"/> Observed: <input type="checkbox"/> Program: <input type="checkbox"/>		

NI	gg) Wastewater discharge	KPDES Is sizing adequate? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> NO
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Comments: A Division of Water Comprehensive inspection was conducted on June 15, 2022. no major concerns were noted during the inspection. The facility was not producing water at the time of the inspection due to participating in an energy reduction event. Production was finished by the time distribution was completed. The basins are cleaned monthly. The laboratory was satisfactory. Instrumentation was last calibrated by Morsten Technical Services on in February 2022. Standards were observed to be current. Standard Operating Procedures have been developed.

The Ellis, Wheatly, and Blue moon tanks were observed during the inspection. All three tanks were fenced and secure. Overflow protection was installed on the Ellis and Blue Moon tanks. Wheatly tank was missing part of the overflow pipe. Distribution system chlorine readings were acceptable and comparable between the DOW and KAWC readings along with the on-line instrumentation reading.

V. Compliance Status - No violations observed

VI. Discharge/Emission Compliance

Comments: Not inspected.

VI. Compliance Status - Not Evaluated

VII. Monitoring/Analyses Evaluation

Comments: Not evaluated.

VII. Compliance Status - Not Evaluated

VIII. Environmental /Health Impact

Work Site Hazard Assessment : ATTACHED REVIEWED

Comments:

VIII. Compliance Status – No violations observed

IX. Documentation

- Samples taken by DEP
- Samples taken by outside source
- Instrument readings taken by DEP regional office
- Photographs obtained by DEP
- Copies of records obtained by DEP
- Other documentation

Inspector: Deborah Singleton	Title: Environmental Inspector III	Date: July 11, 2022
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Signature:

Deborah E. Singleton

Overall Compliance Status

- No violations observed
- No violations observed, but impending violation trends observed
- Out of Compliance- No action taken
- Out of Compliance LOW non-recurrent administrative or O & M
- Out of Compliance - NOV

Comments:

Delivery Method: Regular Mail	Cert. Mail #:
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ANDY BESHEAR
GOVERNOR

REBECCA W. GOODMAN
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

ANTHONY R. HATTON
COMMISSIONER

DIVISION OF WATER
300 SOWER BLVD
FRANKFORT, KY, 40601

September 29, 2022

Mr. Bob Money
KY American Water Co
2300 Richmond Rd
Lexington, Kentucky 40502

RE: KY American Water Co -- 1063
Permit No.: KY0093301
Fayette County, Kentucky
Activity ID: CIN20220003

Dear Mr. Money:

Attached for your information and records is a copy of the wastewater compliance inspection performed at KY American Water Co on August 3, 2022.

Please review the enclosed inspection report.

If you have any questions or comments concerning this inspection, please contact the Frankfort Regional Office at: (502) 564-3358.

Sincerely,

A handwritten signature in cursive script that reads "Deborah E. Singleton".

Deborah Singleton
Environmental Inspector
Frankfort Regional Office
Division of Water

DES
Enclosure:

Energy and Environment Cabinet
 Department for Environmental Protection
 Division of Water
 Wastewater Inspection Report

AI ID: 1063 **AI Type:** WATER-Public Water System (2213)
AI Name: KY American Water Co
AI Address: 2300 Richmond Rd

City: Lexington, **State:** Kentucky **Zip:** 40502
County: Fayette **Regional Office:** Frankfort Regional Office
Latitude: 38.011157 **Longitude:** -84.465995
Site Contact: Bob Money
Title: facility contact **Phone #:** 859-797-7374
Inspection Type: WW CEI-DW Plt Idv **Activity #:** CIN20220003
Incident IDs:
Inspection Start Date: August 3, 2022 **Time:** 08:45 AM **End Date:** August 3, 2022 **Time:** 09:15 AM
Site/Permit ID: KY0093301

Lead DEP Investigator: Deborah Singleton
Other DEP Investigators:
External Investigators:
Persons Interviewed: Bob Money

General Comments: The facility has applied for and obtained KPDES Permit #KY0093301. The permit is current and expires on June 30, 2027.

The facility has two permitted outfalls.

Outfall 001 - Lake Ellerslie (Reservoir No. 1) at latitude 38°00'46"N and longitude 84°27'50"W

Outfall 002 - Lake Ellerslie (Reservoir No. 1) at latitude 38°00'46"N and longitude 84°27'50"W

The facility was clean and operational at the time of the inspection. The facility maintains two permitted outfalls. Outfall 001 is the discharge from the filter backwash water. Outfall 002 is the diesel cooling water. See inspection report for full details.

Overall Compliance Status: No Violations Observed

Investigation Results

SI: AIOO1063

SI Description:

Inspector Comment:

Requirement: Does the facility hold the proper KPDES permit for the filter backwash discharge(s) from their public or privately owned drinking water treatment plant? [401 KAR 5:055 Section 2]. [401 KAR 5:055 Section 2]

Compliance Status: C-No Violations observed

Comment: The facility has applied for and obtained KPDES Permit #KY0093301. The permit is current and expires on June 30, 2027.

Requirement: Does the permittee retain records of all monitoring information including: the date, exact place, and time of sampling or measurements; the name of the individual who performed the sampling or measurements; the dates and times analyses were performed; the name of the individual who performed the analyses; the analytical techniques or methods used; the results of the analyses; all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation; copies of all reports required by this permit; and records

of all data used to complete the application for this permit, for the period required by the cabinet and at a minimum of at least three (3) years from the date of the sample, measurement, report, or application? [401 KAR 5:065 Section 2(1)]. [401 KAR 5:065 Section 2(1)]

Compliance Status: C-No Violations observed

Comment: The permittee maintains the required records in an orderly manner. Records observed during the inspection include inspection reports, laboratory bench sheets, analytical information, calibration logs, chain of custodies, and temperature logs.

Requirement: Has the permittee adequately developed a Best Management Practices Plan? [40 C.F.R. 122.41(a)]. [401 KAR 5:065 Section 2(1)]

Compliance Status: C-No Violations observed

Comment: The permittee has developed a Best Management Practices Plan that appears to contain the required information. The plan is updated periodically.

Requirement: Is the BMP plan required by 401 KAR 5:065 Section 2(4) and Part IV Section A (5) of the facility's permit consistent with the general guidance contained in the publication entitled "NPDES Best Management Practices Guidance Document," to include the following baseline BMPs as a minimum:

- a. BMP Committee
- b. Reporting of BMP Incidents
- c. Risk Identification and Assessment
- d. Employee Training
- e. Inspections and Records
- f. Preventative Maintenance
- g. Good Housekeeping
- h. Materials Compatibility
- i. Security
- j. Materials Inventory

If a BMP plan has not been developed, has the permittee demonstrated that the BMP requirements have been met by an existing plan?

If all stormwater can not be diverted to a pit or sediment control structure, does the BMP plan address this runoff? [401 KAR 5:065 Section 2(1)]. [401 KAR 5:065 Section 2(1)]

Compliance Status: C-No Violations observed

Comment: The Best Management Practices Plan appears to be consistent with the general guidance.

Requirement: Has the permittee adequately implemented the BMP plan? [401 KAR 5:065 Section 2(1)]. [401 KAR 5:065 Section 2(1)]

Compliance Status: C-No Violations observed

Comment: The permittee appears to be adequately implementing the best management practices Plan. Good housekeeping was observed. Safety is a priority. MSDS sheets are maintained on site. Containment areas have been installed around potential contaminants. Spill kits are maintained on site. Site inspections are being performed and documented.

Requirement: Is the facility required to prepare and implement a groundwater protection plan (GPP) as specified in regulation 401 KAR 5:037? If yes, does the facility have a GPP? [401 KAR 5:037 Section 3]. [401 KAR 5:037 Section 3]

Compliance Status: C-No Violations observed

Comment: The facility has developed a groundwater protection plan.

Requirement: Is the effluent in compliance with KPDES permit limitations? Do the Discharge Monitoring Reports indicate KPDES permit violations? [401 KAR 5:065 Section 2(1)]. [401 KAR 5:065 Section 2(1)]

Compliance Status: C-No Violations observed

Comment: A review of the submitted Discharge Monitoring Reports revealed the facility to be in compliance on all parameters.

Requirement: Are samples taken in compliance with the monitoring requirements and taken at the following location(s): nearest accessible point after final treatment, but prior to actual discharge or mixing with receiving waters? [401 KAR 5:065 Section 2(1)]. [401 KAR 5:065 Section 2(1)]

Compliance Status: C-No Violations observed

Comment: In compliance.

Requirement: Is the permittee reporting monitoring results to the cabinet at the intervals specified in the permit? [401 KAR 5:065 Section 2(1)]. [401 KAR 5:065 Section 2(1)]

Compliance Status: C-No Violations observed

Comment: A review of the submitted Discharge Monitoring Reports revealed that the monitoring results are being reported to the cabinet at the intervals specified in the issued KPDES Permit. The facility submits the results utilizing the Net-DMR system.

Requirement: Is discharge being monitored, at the specified outfall(s)/monitoring point(s), for parameters specified in the facility's permit within the required timeframe? [401 KAR 5:065 Section 2(1)]. [401 KAR 5:065 Section 2(1)]

Compliance Status: C-No Violations observed

Comment: The discharge is being monitored for the parameters specified in the issued KPDES Permit within the required timeframes. The facility is required to perform the following analysis: Outfall 001- pH, total suspended solids, phosphorus, iron, aluminum, and total residual chlorine by grab sample once per month and flow by instantaneous measurement once per month. Outfall 002- total suspended solids, temperature, and pH once per month by grab sample and flow by instantaneous measurement once per month;

Requirement: Are the monitoring results reported to the cabinet on a Discharge Monitoring Report (DMR)? [401 KAR 5:065 Section 2(1)]. [401 KAR 5:065 Section 2(1)]

Compliance Status: C-No Violations observed

Comment: A review of the submitted Discharge Monitoring Reports revealed that the monitoring results are being reported to the cabinet on a Discharge Monitoring Report. The facility submits the results utilizing the Net-DMR system.

Requirement: Did the facility notify the Division of Water by the most rapid means available whenever, by reason of emergency or accident, a spill or discharge occurs which results in pollution of the waters of the Commonwealth? [401 KAR 5:015 Section 2]. [401 KAR 5:015 Section 2]

Compliance Status: C-No Violations observed

Comment: The facility is aware of the requirement to report all spills, accidents, bypasses, releases, etc. to the Cabinet by the most rapid means available. The 24-hour emergency reporting number is: (800) 928-2380.

Requirement: Is the permittee in compliance for the reporting of spills, bypasses, and non-compliance according 401 KAR 5:065 Section 2(1). [401 KAR 5:065 Section 2(1)]. [401 KAR 5:065 Section 2(1)]

Compliance Status: C-No Violations observed

Comment: The facility is aware of the requirement to report all spills, accidents, bypasses, releases, etc. to the Cabinet by the most rapid means available. The 24-hour emergency reporting number is: (800) 928-2380.

Requirement: Is the facility being properly operated and maintained as specified in 401 KAR 5:065? This includes:

- (a) proper operation and maintenance of all facilities, systems of treatment and control, and related appurtenances which are installed or used by the permittee to achieve compliance with permit conditions;
- (b) proper operation and maintenance also includes adequate laboratory controls, and appropriate quality assurance procedures;
- (c) this provision also requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit;
- (d) is the cleaning frequency of lagoons adequate to ensure compliance with the facility permit? [401 KAR 5:065 Section 2(1)]. [401 KAR 5:065 Section 2(1)]

Compliance Status: C-No Violations observed

Comment: The facility was clean and operational at the time of the inspection. The facility maintains two permitted outfalls. Outfall 001 is the discharge from the filter backwash water. Outfall 002 is the diesel cooling water. Good housekeeping was observed. Filter backwash water is pumped to two holding tanks with waters then directed to three sludge concentrators. Sludge is processed through a belt press and the decant is discharged through Outfall 001. The pressed sludge is placed in a beneficial re-use area. The re-use area has a berm constructed around it. Laboratory analysis is being performed as required. Outfall 002 temperatures are recorded with a NIST certified thermometer. The facility has obtained the field only laboratory certification. Remaining laboratory analysis is conducted by Fouser Environmental.

Requirement: Have pollutants entered the waters of the Commonwealth? [KRS 224.70-110]. [KRS 224.70-110]

Compliance Status: C-No Violations observed

Comment: The facility maintains two permitted outfalls. Both outfall areas were observed during the inspection and were observed to be in good condition. There was not any visual evidence of pollutants entering the waters of the Commonwealth noted at the time of the inspection.

Requirement: Have surface waters been aesthetically or otherwise degraded? [401 KAR 10:031 Section 2]. [401 KAR 10:031 Section 2(1)]

Compliance Status: C-No Violations observed

Comment: The facility maintains two permitted outfalls. Both outfall areas were observed during the inspection and were observed to be in good condition. There was not any visual evidence of surface water degradation noted at the time of the inspection.

Requirement: Is the permittee in compliance with all permit conditions? [401 KAR 5:065 Section 2(1)]. [401 KAR 5:065 Section 2(1)]

Compliance Status: C-No Violations observed

Comment: In compliance.

Documentation

- | | |
|---|--|
| <input type="checkbox"/> Photos taken | <input type="checkbox"/> Record of visual determination of opacity |
| <input type="checkbox"/> Documents obtained from facility | <input type="checkbox"/> Samples taken by DEP |
| <input type="checkbox"/> Samples taken by outside source | <input type="checkbox"/> Regional office instrument readings taken |
| <input type="checkbox"/> Request for Submission of Documents | <input type="checkbox"/> Other documentation |

Inspector: Deborah Singleton

Deborah E. Singleton

Date: September 29, 2022



ANDY BESHEAR
GOVERNOR

REBECCA W. GOODMAN
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

ANTHONY R. HATTON
COMMISSIONER

DIVISION OF WATER
300 SOWER BLVD
FRANKFORT, KY, 40601

September 29, 2022

Mr. Bob Money
KY American Water Co
2300 Richmond Rd
Lexington, Kentucky 40502

RE: KY American Water Co -- 1063
Permit No.: KY0340250
Fayette County, Kentucky
Activity ID: CIN20220002

Dear Mr. Money:

Attached for your information and records is a copy of the drinking water comprehensive inspection performed at KY American Water Co on August 3, 2022.

Please review the enclosed inspection report.

If you have any questions or comments concerning this inspection, please contact the Frankfort Regional Office at: (502) 564-3358.

Sincerely,

A handwritten signature in cursive script that reads "Deborah E. Singleton".

Deborah Singleton
Environmental Inspector
Frankfort Regional Office
Division of Water

DES
Enclosure:

**ENERGY AND ENVIRONMENT CABINET
KENTUCKY DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
Routine Surface Inspection**

Site/Permit ID: KY0340250	Division: Water	Regional Office: Frankfort
Site Name: Kentucky American Water- Plant B	Program: Drinking Water	
Site Address: 2300 Richmond Road		
City: Lexington	State: KY	Zip: 40502 County: Fayette
Inspection Type: Routine Surface	Purpose: Comprehensive	AI #: 1063
Inspection Date: 8/3/22	Time: Start 0830 AM End 1:30 PM	
Latitude: 37 39' 24"	Longitude: 84 26' 11"	
Coordinate Collection Method: G40-Handheld receiver		Revision Code: 112108
Drinking Water Data		
Plant Name: Kentucky American Water- Plant-B	Contact Name: Robert Money	
Phone No.: 859-797-7374	Fax No: 859-335-3388	Email Address: bob.money@amwater.com

I. Administrative Requirements

Comments: [The facility has not received any enforcement actions since the previous inspection.](#)

I. Compliance Status - No violations observed

II. Operator Certification/Accreditation Requirements

Operator in Charge or on duty.

Operator Name	Plant Certification #	Distribution Certification #
Nathan Coyle	IVA#31126	
Deke Whitaker	IVA#29935	
Richard Howard	IVA#31670	

Comments: [A full list of operators was provided during the inspection. Justin Sensabaugh is in charge of the distribution system: active Class IVD, license #20165.](#)

II. Compliance Status - No violations observed

III. Record Keeping Requirements

Comments: [The facility maintains the required records.](#)

III. Compliance Status - No violations observed

IV. Reporting Requirements

Comments: **The facility provides the reports to the Division of Water in a timely manner**

IV. Compliance Status - No violations observed

V. Operation & Maintenance/Performance Requirements

Plant Type: C N P Service Connections: 129493 Population Served: 348,336

Average Production MGD: 11.24 Max. Production MGD: 20.18

Design Capacity MGD: 25 MGD

Source: Kentucky River and Jacobson Reservoir.

RATING CODES: S1=No Violations Observed; S2=No Violations Obs-but impending viol trends obs; U1=Out of Compliance-No action taken; U2= Out of Comp-LOW non-recurrent Adm. or O & M; U3= Out of Compliance-NOV; NA = Not Applicable; NE = Not Evaluated. (Add additional comments if U1-U3.)

	RATING	Equipment / Inspection Data	<input type="checkbox"/> Checking block means item is present:
CHEMICAL & PHYSICAL TREATMENT	NI	a) Intakes, pumps, piping <input type="checkbox"/>	# Of Levels # Pumps Max pump.
	NA	b) Aeration <input type="checkbox"/>	
	S1	c) Rapid mix <input checked="" type="checkbox"/>	Type: Mechanical paddle If other:
	S1	d) Flocculation <input type="checkbox"/>	# of Stages ² # of Trains ² Variable Speed ^{yes}
	S1	e) Sedimentation <input type="checkbox"/>	Type: Conventional # of trains: 4
	S1	f) Chemical feed coagulation	Alum-polymer blends
	NI	g) Carbon Feed: <input type="checkbox"/>	Feed Site 1: Feed Site 2:
	S1	h) Filters & controls	Mixed Media Filter to Waste <input checked="" type="checkbox"/>
	S1	i) Filters / size sq.ft each./ rate	# 8 Size Filtration Rate: 4
	S1	j) Automatic analyzers:	Chlorine: <input checked="" type="checkbox"/> Turbidity: <input checked="" type="checkbox"/> Each filter: <input checked="" type="checkbox"/> pH: <input checked="" type="checkbox"/>
	S1	k) Chemical storage:	Dry on pallets? <input checked="" type="checkbox"/> Chemical containment: <input checked="" type="checkbox"/>
	S1	l) Clearwell / screened vents	Size: 1.2 MG Baffling: <input checked="" type="checkbox"/> Locked <input checked="" type="checkbox"/> Screened <input checked="" type="checkbox"/>
	S1	m) Pumps # and size in gpm	High Service 6 @ Backwash 2 @
SITE DATA	S1	n) Site Data: Parkers Mill	Cl. Free: DOW Total: 1.7 pH: on-line : 1.45
	S1	o) Site Data: Parkers Mill	Cl. Free: WTP Total: 1.36 pH:
	S1	p) Site Data: Muddy Ford	Cl. Free: DOW Total: 1.16 pH: On-Line 1.16
	S1	q) Site Data: Muddy Ford	Cl. Free: dOW Total: 1.18 pH:
DISINFECTION	S1	r) Disinfection Pre: <input checked="" type="checkbox"/> Post: <input checked="" type="checkbox"/>	Pre Type: Post type:
	NA	s) Automatic chlorinator <input type="checkbox"/>	Automatic changeover <input type="checkbox"/> Proper Fan <input type="checkbox"/>
	NA	t) Separate room & ventilation	Crash Bar <input type="checkbox"/> Alarm <input type="checkbox"/>
	NA	u) Safety equipment	SCBA <input type="checkbox"/> Ammonia <input type="checkbox"/> Detector <input type="checkbox"/>
LABORATORY & RECORDS	S1	v) Laboratory equipment	Adequate Space <input checked="" type="checkbox"/> Equipment <input checked="" type="checkbox"/> Lighting : <input checked="" type="checkbox"/>
	S1	(1) Turbidimeter <input checked="" type="checkbox"/>	Type: HACH Last calibrated: 02/2022
	S1	(2) Adequate reagent supply	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	S1	(3) Chlorine Test Kit <input checked="" type="checkbox"/>	Type: HACH DPD reagent up-to-date: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
	S1	w) Monthly operating reports	<input checked="" type="checkbox"/> Daily Record Sheet <input checked="" type="checkbox"/> Agreement: <input checked="" type="checkbox"/>
	S1	x) Housekeeping	Good
DISTRIBUTION	NI	y) Master meter ; Recorder	Raw: <input checked="" type="checkbox"/> Finished: <input checked="" type="checkbox"/> ; Raw: <input checked="" type="checkbox"/> Finished: <input checked="" type="checkbox"/>
	NI	z) Blowoffs / hydrants; flushing	Flushing Schedule: <input checked="" type="checkbox"/> Blowoffs on deadends: <input checked="" type="checkbox"/>
	S1	aa) Water storage:	# of Tanks 12 Total Storage:
	NI	bb) Booster pumps / chlorinators	Booster pumps: <input checked="" type="checkbox"/> Booster chlorinators: <input type="checkbox"/>

PLANT ON SITE OBSERVATION	SI	cc) Plant Data:	Cl free: total: 3.48 pH: 7.33
	SI	dd) Turbidity	Raw:8 Settled:0.20 Combined Filter:0.25
	SI	ee) Bacteriological monitoring	Samples per mo.180 Records: <input type="checkbox"/>
	NI	ff) No cross-connections observed	None observed: <input type="checkbox"/> Observed: <input type="checkbox"/> Program: <input checked="" type="checkbox"/>
	SI	gg) Wastewater discharge	KPDES Is sizing adequate? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> NO

Comments: The Division of Water conducted a comprehensive inspection on August 3, 2022. The inspection included a tour of the facility's process, laboratory procedures, and the KAW distribution system. No major concerns were noted during the inspection. The facility was clean and operational. Raw water is continually monitored as it enters the plant and is then directed to the rapid mix, floc basins, and sedimentation basins. The flow leaving the weirs were satisfactory. Basins are cleaned quarterly. Filters were satisfactory and used on a rotating basis. Online instrumentation is calibrated quarterly. Flow leaves the filters and is directed to one of two chlorine contact basins.

The new chemical building has been completed. The facility now used liquid chlorine for disinfection purposes. Liquid lime is now used. Current chemical storage areas are marked appropriately and are secure. The laboratory was satisfactory. Standards were observed to be current.

The following tanks were observed during the inspection: Parkers Mill, Muddy Ford, Hume, Hayes booster, ground Cox tank, and York Street tank. The tanks were secure, flappered, and observed to be in good condition. The elevated Cox tank was having valve work done at the time of the inspection. KAW is planning to replace the analyzers the Cox street tanks.

Chlorine residuals in the system were acceptable. Daily chlorine check standards are performed and recorded. Tanks are inspected once every five years. System flushing is performed in the spring. Most meters are radio read. Additional chlorine sample: Hume tank: DOW 1.63; WTP 1.93; On-Line- 2.06. Hayes booster chlorine: DOW- > 2.20; WTP 3.56.

V. Compliance Status - No violations observed

VI. Discharge/Emission Compliance

Comments: A KPDES inspection was performed and the facility was found to be in compliance.

VI. Compliance Status - No violations observed

VII. Monitoring/Analyses Evaluation

Comments: Not evaluated.

VII. Compliance Status - Not Evaluated

VIII. Environmental /Health Impact

Work Site Hazard Assessment : ATTACHED REVIEWED

Comments: No major concerns were noted at the time of the inspection.

VIII. Compliance Status – No violations observed

IX. Documentation

- Samples taken by DEP
- Samples taken by outside source
- Instrument readings taken by DEP regional office
- Photographs obtained by DEP
- Copies of records obtained by DEP
- Other documentation

Inspector: Deborah Singleton	Title: Environmental Inspector III	Date: 8/19/2022
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Signature:	<div style="border: 1px solid gray; padding: 5px; background-color: #f0f0f0;"> <p style="font-size: small;">E-Signed by Singleton, Deborah VERIFY authenticity with e-Sign ?</p>  </div>
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Overall Compliance Status
<input checked="" type="checkbox"/> No violations observed
<input type="checkbox"/> No violations observed, but impending violation trends observed
<input type="checkbox"/> Out of Compliance- No action taken
<input type="checkbox"/> Out of Compliance LOW non-recurrent administrative or O & M
<input type="checkbox"/> Out of Compliance - NOV

Comments:

Delivery Method: Regular Mail	Cert. Mail #:
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ANDY BESHEAR
GOVERNOR



REBECCA W. GOODMAN
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

ANTHONY R. HATTON
COMMISSIONER

300 SOWER BOULEVARD
FRANKFORT, KENTUCKY 40601
TELEPHONE: 502-564-2150
TELEFAX: 502-564-4245
October 20, 2022

Bob Money
Kentucky American Water - Eastern Rockcastle
2300 Richmond Rd
Lexington, KY 40502
AI: 34097 PWSID: KY1020288

RE: Drinking Water Sanitary Survey

Dear Mr. Money,

The Division of Water conducted a Drinking Water Sanitary Survey (attached) of Kentucky American Water - Eastern Rockcastle on August 15, 2022. A Capacity Development assessment was also completed as part of the survey.

Significant Deficiencies Observed

There were no Significant Deficiencies Observed at the time of the survey.

Non-Significant Deficiencies Observed

There were no Non-Significant Deficiencies Observed at the time of the survey.

The Division recommends the following:

- Review the contract purchase limits for Jackson Co Water Association and Mt. Vernon Water Works
- Continue to address water loss

All deficiency responses should be sent to the attention of David L. Messer, Drinking Water Technical Assistance, London Regional Office, 875 South Main Street, London, KY 40741. I may also be reached by phone at 606-330-2080 or by email at david.messer@ky.gov.

Assistance with the "Managerial and Financial Assessment" section of the sanitary survey can be obtained by contacting Ryan Reed at 502-564-3410

If you have any questions regarding the "Technical Inspection" portion, contact Beth Trent in the London Regional Office at (606) 330-2080.

Sincerely,

A handwritten signature in black ink, appearing to read "D. L. Messer", written over a horizontal line.

Drinking Water Sanitary Survey

TECHNICAL INSPECTION OF SURFACE WATER DISTRIBUTION-ONLY SYSTEM OPERATIONS

PWS ID: KY1020288

Agency Interest Number: 34097; CIN20220001

AI Name: Kentucky American Water - Eastern Rockcastle

County: Rockcastle

Office Latitude: 37.29748 Office Longitude: -84.215249

CTAB Inspection Date(s):8/15/22

I. SOURCE

Does the system perform water quality monitoring in accordance with the approved DOW schedule for this facility?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Are there any unaddressed process factors that limit the purchased water contracted amount in the last 10 years?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Is the system(s) you purchase from drought-vulnerable?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Describe any water quality monitoring done on the water at the master meter: <u>TTHMs, HAA5s, Taste & Odor, Chlorine</u>		
List any chemicals fed at the master meters: <u>none</u>		
If multiple sources are available, is the one in use considered to be the best in terms of water quality?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is purchased water flow measured?	Yes <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>
When was the meter last calibrated? <u>9/20/21</u>		
<p>COMMENTS: The system is serviced by 4 master meters; 2 from Mt. Vernon (KY1020299 = Brush Creek and Sand Springs), 1 from Jackson Co. (KY0550209) in the Three Links community and 1 from Livingston (KY1020253) in the Sand Hill area.</p> <p>The Mt. Vernon mms are 4" & 6" mag meters, they were both certified on 9/20/21.</p> <p>The 2" Jackson Co. mm was certified on 12/4/19 (required by PSC once every 4 years). It does not presently have a digital readout.</p> <p>On 8/16/22, the operator at Livingston submitted a request to a contractor to have the mm calibrated.</p> <p>The system also has ultrasonic meters installed right after the seller's for reference, they are calibrated annually.</p>		

II. TREATMENT

GAS CHLORINE SAFETY		
N/A		
Is the chlorine room enclosed and separate from other operating areas?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is there a working exhaust fan in the chlorine room?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Does it provide one complete air change per minute?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Does it exhaust from floor level?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is intake air near the ceiling?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is there an external audible and visual alarm?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Are switches located outside the chlorine room?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Are chlorine tanks secured?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Are the scales operational?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is automatic switchover of chlorine cylinders provided?	Yes <input type="checkbox"/>	No <input type="checkbox"/>

Is there a shatterproof viewing window in chlorine room?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is there a crash bar on the door of the chlorine room?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Does the door open out and to the exterior of the building?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is there a SCBA unit meeting NIOSH standards outside the chlorine room?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Are personnel trained to use the SCBA?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is the "buddy system" practiced when changing or moving chlorine cylinders?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is leak detection provided?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is ammonia available for chlorine leak detection?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is there a chlorine tank repair kit?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Are personnel trained and certified to use the kits?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
COMMENTS:		

III. DISTRIBUTION SYSTEM

DISTRIBUTION SYSTEM		
Does the system have standard specifications for design and construction of the distribution system?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Does the system prohibit new connections where pressure on the discharge side of the meter will be <30 psi?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is the system able to meet minimum pressure requirements of DOW and/or other regulating authority?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Does the system have a documented leak detection program?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Does the distribution system have a sufficient number of valves to isolate portions of the system (for leak detection, maintenance, etc.)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
If there are separate distribution system areas, are they interconnected with each other?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
If they are not interconnected, how many separate areas are there? <u>4</u>		
What prevents these systems from being interconnected? <u>topography</u>		
How many pressure zones are there? <u>4</u>		
What is the range of distribution pressures? <u>80-200</u>		
Do any distribution areas require reduced pressure valves?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
What piping materials are included in the distribution system? <u>PVC, DI</u>		
Does the system have a program for flushing water mains?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Describe the process for sterilizing new mains/main breaks: <u>all line repairs are contracted</u>		
What types of on-line instrumentation are located at booster or pump stations and tanks? <u>telemetry, pressure, chlorine</u>		
Does the system have a documented program for exercising distribution system valves?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Does the system have a documented program for regular testing of water meters including master meter and customer?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is there a water meter replacement program?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Are there main break/emergency notification procedures?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Does the system have a documented procedure for issuing a boil water advisory and a consumer advisory?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
The procedure shall identify when (how soon after the occurrence) and how the system shall notify the affected health department, to whom that notification shall be made both during and after normal business hours, and procedures for issuing the advisory to the public. The public notification shall include instructions for the public (including how to properly boil water) and an explanation of steps being taken to correct the problem.		
Describe how the decision is made to issue a Boil Water Advisory: <u>consecutive system, if the repair takes longer than 8 hours, loss of pressure below <20 psi</u>		

				@		
				@		
				@		
				@		

COMMENTS: There is a pump station (2@80) located in Gausey (37.31152 / -84.20085) that is not in operation.

Pongo pumps are located ~1 mile before (North of) the tank. At the tank site, there are 4 pressurized bladder tanks (15 ga each = 60 ga) that operate at 63 psi each.

Sand Hill pumps are located in a vault at the Livingston MM on Ford Hollow Rd. The 600 ga pneumatic tank located on Sand Hill Road was taken out of service in the Summer of 2021. There are 4 pressurized bladder tanks (15 ga each = 60 gallon) on Sand Hill Road near 37.28575 -84.24427.

Generators will be installed at both PS sites in the near future.

Each of the 2 pumps at the PS sites alternate in usage.

Bladders in the pressurized tanks are changed out annually (PM) by Service Specialties.

DISTRIBUTION SAMPLING
 (a minimum of N, S, E, W)

SITE	CHLORINE		pH	TURBIDITY	OTHER
	FREE	TOTAL			
Buffalo Baptist Church (seller = Mt. Vernon Water)	0.82	0.96		0.08	
6461 Red Hill Road (seller = Jackson Co. Water)	1.46	1.55		0.09	Facility (BM) = 1.23 free
5052 Sand Hill Road (seller = City of Livingston)	0.79	0.91		0.45	Facility (BM) = 0.61 free
Johnetta Schoolhouse Inn = EOL (seller = Mt. Vernon Water)	1.13			0.13	Facility (BM) = 1.02 free

Is the system maintaining the required chlorine (0.2 mg/l) / chloramine (0.5 mg/l) residuals in the distribution system? Yes No

COMMENTS: Hach in-line chlorine analyzers are in service at the Three Links tank, the Pongo tank and the Sand Hill bladder tank. Data is electronically recorded and monitored by staff.

MAINTENANCE

Is office housekeeping adequate?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Is distribution storage housekeeping adequate?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Are adequate supplies of spare parts kept on hand?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Are needed tools available?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
If not, is preventive maintenance performed?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is a lock-out/tag-out system used for electrical repairs?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
What is the general condition of operating equipment? _____	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
COMMENTS: Electrical repairs are performed by a contractor.		

DOCUMENTATION (✓ all that apply)	
<input type="checkbox"/> Samples taken by DEP	<input checked="" type="checkbox"/> Photographs obtained by DEP
<input type="checkbox"/> Samples taken by outside source	<input type="checkbox"/> Copies of records obtained by DEP
<input checked="" type="checkbox"/> Instrument readings taken by DEP	<input type="checkbox"/> Other documentation

OVERALL TECHNICAL COMPLIANCE STATUS		
<input checked="" type="checkbox"/> No Violations Observed		
<input type="checkbox"/> No Violations Observed - Advisory Action Taken (Impending trends)		
<input type="checkbox"/> Out of Compliance – Verbal notice given (Non-recurrent deficiency noted or violation corrected at time of inspection.)		
INSPECTOR: Beth Trent	TITLE: Environmental Inspector	DATE: 08/18/2022

**KENTUCKY DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER**

Drinking Water Sanitary Survey

Managerial and Financial Assessment of Distribution-Only Surface Water & Ground Water Systems

PWS ID: KY1020288

Agency Interest Number: 34097

AI Name: Kentucky American Water - Eastern Rockcastle

County: Rockcastle

Regional Office: London Regional Office

Capacity Development Inspection Date(s): 8/23/2022

SYSTEM CONTACT INFORMATION						
Full Name: Bob Money			Title: Manager, Water Quality & Env. Compliance			
Phone Number: 859-268-6317		FAX Number:		E-Mail Address: bob.money@amwater.com		
Mailing Address: 2300 Richmond Road			City: Lexington	State: KY	Zip Code: 40502	
Physical Address of Office: 9246 Main Street (Livingston)						
DISTRIBUTION SYSTEM INFORMATION						
Contact Person: Charles Dick			Title: Senior Operations Supt.	Phone Number: 859-268-6317		
Distribution Class: IID-Pop. 1500-15,000			System Service Connections (meters): 651			
System Population Served Calculated: 1,751			System Population Served Reported:			
Meters Served Outside Your System:			Consecutive Systems Population Served Calculated:			
WATER PURCHASED, SOLD, & EMERGENCY CONNECTIONS						
WATER PURCHASED FROM: <i>(List primary purchase source first.)</i>			Number of Master Meters	Amount Monthly (average)	Amount Available by Contract (monthly)	
SYSTEM NAME	PWS ID #	AI #				
Jackson Co. Water Assoc.	KY0550209	1924	1	1,925,267	1,500,000	
Mt. Vernon Water Works	KY1020299	3859	2	1,543,917	1,180,000	
Livingston Municipal WW	KY1020253	34096	2 (1 Active)	283,158	450,000	
Average Total Water Purchased Daily: 124,514 gallons			Maximum Total Water Purchased Daily: 299,443 gallons			
WATER SOLD TO: <input checked="" type="checkbox"/> Not Applicable			Number of Master Meters	Amount Monthly (average)	Amount Available by Contract (monthly)	
SYSTEM NAME	PWS ID #	AI #				
Jackson Co. Water Assoc.	KY0550209	1924	1		Unusable due to Pressure Difference	
COMMENTS: Consider the following: Reviewing the contract purchase limits for Jackson Co Water Association and Mt. Vernon Water Works						

II. MONITORING, REPORTING & DATA VERIFICATION*(Part A must be completed for all water systems. Part B must be completed for groundwater systems only.)*

PART A <i>(Complete for all water systems.)</i>		
REPORTING ITEM – Information gathered from DWW	RETENTION TIME	
<i>Bacteriological - 2</i> per month (See DWW)	5 Years	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>Chlorine/Chloramines</i> – Free chlorine monthly with BACTs, daily for MORs, residual chlorine monthly	10 Years	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>MORs</i> – Monthly (Turbidity Analysis)	1 Year	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>Lead & Copper - 10</i> every 3 years (June to September)	12 Years	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>TTHM & HAA5 2</i> per Quarter (see DWW)	10 Years	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>Asbestos</i> – 1 sample in the 1 st 3 years of the 9 year compliance cycle (SOC) *Check for Waiver (only purchasers can have waiver)*	Begin 2011/2013	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>Stage 2 IDSE Sampling Plan or 40/30 Certification</i>	10 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
<i>Stage 2 IDSE Report</i>	10 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
<i>Data Summaries</i> (if actual data not retained)	12 Years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
<i>NOVs</i> (Notices of Violation)	10 Years	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>Sanitary Surveys</i> (every 3 years)	10 Years	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>CCR</i> (Consumer Confidence Report) – Annually by July 1 (by April 1 to consecutive systems)	Current one on file	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system maintain a current sampling plan for BacTs?	Date updated	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system maintain a current sampling plan for LCR?	Date updated	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system maintain a current sampling plan for DBPs?	Date updated	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system have an up-to-date map of distribution assets? (Map shall show a minimum of all line sizes, cutoff valves, fire hydrants, flush hydrants, tanks, booster pumps, chlorination stations, connections to emergency or alternative sources, wholesale customer master meters, & the type of piping material in the distribution system and its location.)	Date updated Continuously Updated	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
PART B <i>(Complete for groundwater systems only.)</i>		
<input checked="" type="checkbox"/> Not Applicable		
<i>GWR Corrective Action</i>	10 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>GWR Public Notices</i>	3 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>GWR Fecal-positive invalidation</i>	5 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>GWR State-specified minimum disinfectant residual</i> (letter from CTAB)	10 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>GWR Lowest daily disinfectant residual level</i> (submitted with MOR)	5 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
What method is used to record this? (i.e. SCADA, chart recorders, download to CD)	N/A	
<i>GWR Date and duration of time less than minimum daily disinfectant residual level</i>	5 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>GWR Records of state-specific compliance requirements for membrane filtration and alternative treatment</i>	5 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system maintain compliance records as required? (answer for both Parts A & B)		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
COMMENTS:		

III. MANAGEMENT & OPERATIONS

What professional organizations does the water system belong to? <u>KRWA; AWWA; KWWOA; NAWC; Chamber of Commerce</u>		
Is the system subject to Public Service Commission regulations?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system attend Water Management Council meetings of the Area Development District?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system have a governing entity? If not, explain: <u>Board of Directors</u>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
What is the name of the system's OTHER? <u>Kathyrn Wash</u>		
What is his or her mailing address? <u>Same as system</u>		
How often does the governing body meet? <u>Monthly</u>		
Do operators attend these meetings?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/> N/A <input type="checkbox"/>
Is the governing entity provided with documented information regarding technical, managerial, and financial operations of the water system? (Inspect)		
Is the governing entity familiar with water treatment/distribution?	Yes <input type="checkbox"/>	No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Does the system offer continuing education opportunities for members of the governing entity?	Yes <input type="checkbox"/>	No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Does the system have regular staff meetings?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
How often? <u>Weekly</u> _____		
Who is involved? <u>Departments (Employees)</u>		
Does the system have a documented strategic plan (mission statement, goals and objectives)? (Inspect)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system have a defined organizational structure?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system have a documented description of each job classification with minimum position qualifications? (Inspect)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system have documented policies and procedures governing human resource management (such as an employee handbook)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system periodically review its insurance coverage is in place for liability, property, automobiles, directors, and officers?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system have a documented policy for delegation of authority such as signing agreements, contracts, resolutions, easements, etc.?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system have a documented procurement policy for purchasing supplies?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system have professional services available under a current contract, retainer, or other similar arrangement for engineering, accounting, and legal counsel?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system have an asset management program?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system have a documented preventive maintenance program?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system have a capital improvement plan? (Inspect)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
How many years does the plan cover? <u>KY Wide; Priority Ranking</u>		
Does the system have a documented policy governing water main extensions? (Inspect)		
Are chemicals inventoried? If so, how? _____	Yes <input type="checkbox"/>	No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Are distribution materials inventoried? If so, how? <u>Inventory System (Employee)</u>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
Is there a bid process for chemicals, pipe, or large item purchases?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>

Does the system have rules and regulations governing the provision of service? (Inspect)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system make available in a public place the rules, rates, and regulations? (Inspect)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system provide 24-hour service response for customers?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system notify customers prior to performing scheduled maintenance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system log customer complaints and track resolution?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system provide any educational activities to the public?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Who is responsible for providing this? <u>External Affairs Staff</u>			
What types of educational activities are done? <u>Special Events; Bill Inserts; School Presentations; Social Media Outreach</u>			
Does the system have sufficient O & M manuals? (Inspect) (O & M manuals shall include: a detailed design of the plant, daily operating procedures, a schedule of testing requirements designating who is responsible for the tests, and safety procedures for operation of the facility – including storage and inventory requirements for materials and supplies.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
How are the operators made aware of O & M procedures? <u>SOPs; Available for reference; Internal Training</u>			
Has the system received any NOV's for MCLs in the last 3 years? If yes, answer the following:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
If more than one NOV, were any for the same contaminant?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Was a public notice issued when required?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
What remedial measures did the system take to prevent future occurrences of these violations? _____			
Does the system maintain a log of all breaks or ruptures per 401 KAR 8:150, Section 4? (Inspect)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Is the system operating at or above 85% of water available through purchase contracts? (see COW)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
If yes, what is the percentage? <u>See Below%</u>			
If system's average daily demand exceeds 85% of available water through purchase contracts, does system have a plan for obtaining additional water, including cost and timeframes to address the needed additional water?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
If applicable, describe plan for obtaining additional water: <u>Contract Usage: Jackson Co. W.A. (128 %); Mt. Vernon WW (130.8 %); Livingston Municipal WW (62.9 %); See Water Loss Section; Updating purchase contract</u>			
COMMENTS:			

IV. FINANCIAL

Does the system prepare an annual operating budget? (Provide summary)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Does the system prepare an annual capital budget? (Inspect)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Who prepares the budget? _____			
Do the operators have input into the budget?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Are training and license funds built into the budget?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Does the governing entity review and approve the budget?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Does the system prepare regular monthly reports to show variances between budgeted and actual revenue and expenses? (Inspect)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Does the system maintain its financial records utilizing the Kentucky Uniform System of Accounting or a comparable system? (Inspect)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>

Are financial statements audited by a CPA as required? (Inspect) <small>(Water districts, special districts – i.e. regional water commissions and cities have specific requirements.)</small>		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
If audit is completed, does the governing entity receive and review the audit report?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Does the system employ a method for depreciation of system assets?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Is the system operating at a retained earnings surplus? <small>(Retained earnings is the net income that is available at the end of the year and available for transfer.)</small>		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Is the current debt-to-equity ratio below 1.0? <small>(The debt-to equity ratio for any given year is computed by dividing total liabilities by total equity.)</small>		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Does the water system meet a debt coverage ratio needed for bond ordinances, loan agreements, and bond requirements? A typical value is 1.2. <small>(Debt coverage ratio is computed by dividing cash available for debt service (net income with annual interest, depreciation, amortization, and other non-cash items added back) by debt service requirements for the year.)</small>		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Does the water system revenue go to meet other expenses (i.e. electric, sewer or garbage)?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Is there a documented policy for delinquent accounts? What is it? <u>Per PSC Requirements (See Tariff)</u>		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
For accounts payable, has the system kept payments less than 45 days past due over the last 12 months?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Does the system write-off bad debt annually?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Where does the system typically go for financial assistance? _____				
Does the system have any long-term debts?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Is the system current on all debt service payments (if applicable)?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Is the system meeting reserve account requirements (if applicable)?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Is there an approved* rate structure in place? (Provide copy of rate sheet.) <small>(*Approved by governing entity/PSC as applicable.)</small>		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
What were the dates of the system’s last 2 non-pass-through rate increases? <u>6/2019 & 6/2015</u>				
What were the dates of the system’s last 2 pass-through rate increases? _____ & _____				
Does the system perform a review annually to determine if the rates fully cover the expenses?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Are long-term needs built into rate increases?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Do rates promote conservation in time of drought?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
COST OF WATER PURCHASED AND SOLD				
Purchasers	What is the highest wholesale price you pay per 1,000 gallons of water?	<u>\$3.69</u> <small>(Livingston)</small>	N/A <input type="checkbox"/>	
	What is the lowest wholesale price you pay per 1,000 gallons of water?	<u>\$2.93 (Mt. Vernon WW)</u>	N/A <input type="checkbox"/>	
Sellers	What is your highest wholesale price which you charge per 1,000 gallons of water?	\$_____	N/A <input checked="" type="checkbox"/>	
	What is your lowest wholesale price which you charge per 1,000 gallons of water?	\$_____	N/A <input checked="" type="checkbox"/>	
WATER LOSS				
Does the system track water loss on a monthly basis?		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Report water loss for the past year as a percentage of total water purchased in gallons and as a dollar value.		<u>37.39%</u>		
		<u>16,162,000</u> gallons		
		<u>\$~47,355 (@ \$2.93/1K gal)</u>		

If water loss is above 15%, does the system have a plan to address this?

Yes No N/A

If yes, describe plan to address water loss: Non-Revenue Water Reduction Plan; Replaced all meters after acquisition in 2018; Targeted line replacements; Active leak detection

COMMENTS: Consider the following: Continuing to address water loss

V. SECURITY

Does the system have a documented safety policy?

Yes No N/A

Does the system provide regular safety training to its employees?

Yes No N/A

Is the utility a member of the Local Emergency Planning Committee?

Yes No N/A

Does the system have an updated Emergency Response Plan that is reviewed annually? (Inspect)

Yes No N/A

Does the emergency response plan include a plan for responding to water shortages and loss of service?

Yes No N/A

Yes No N/A

Is the Emergency Response Plan exercised?

How is the Emergency Response Plan communicated to all employees? Available Online; Onsite

Does the distribution system ever disable the telemetry/SCADA system and run on manual?

Yes No N/A

Has the system developed procedures for securing computer/SCADA usage?

Yes No N/A

Are backup copies of O & M manuals maintained in a location other than the office?

Yes No N/A

Is the purchased water source equipped with emergency standby power generation or is there a secondary source of power? (e.g. contracts in place with suppliers for emergency generators or dual electrical feed)

Yes No N/A

Are backup emergency generators exercised regularly?

Yes No N/A

Is other backup equipment exercised regularly?

Yes No N/A

Have arrangements been made with outside contractors, other utilities, etc. to provide needed emergency equipment?

Yes No N/A

COMMENTS: *System is working to acquire emergency generators

DOCUMENTATION (✓ all that apply)

Photographs obtained by DEP

Copies of records obtained by DEP

Other documentation

OVERALL COMPLIANCE STATUS

No Violations Observed

No Violations Observed - Advisory Action Taken (Impending trends)

Out of Compliance – Verbal notice given (Non-recurrent deficiency noted or violation corrected at time of inspection.)

CDPM: Ryan Reed

Title: Environmental Scientist IV

Date: 9/29/2022



ANDY BESHEAR
GOVERNOR

REBECCA W. GOODMAN
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

ANTHONY R. HATTON
COMMISSIONER

DIVISION OF WATER
300 SOWER BLVD
FRANKFORT, KY, 40601

September 29, 2022

Mr. Bob Money
KY American Water Co
2300 Richmond Rd
Lexington, Kentucky 40502

RE: KY American Water Co -- 1063
Permit No.: KY0340250
Fayette County, Kentucky
Activity ID: CIN20220004

Dear Mr. Money:

Attached for your information and records is a copy of the drinking water comprehensive inspection performed at KY American Water Co on August 31, 2022.

Please review the enclosed inspection report.

If you have any questions or comments concerning this inspection, please contact the Frankfort Regional Office at: (502) 564-3358.

Sincerely,

A handwritten signature in cursive script that reads "Deborah E. Singleton".

Deborah Singleton
Environmental Inspector
Frankfort Regional Office
Division of Water

DES
Enclosure:

**ENERGY AND ENVIRONMENT CABINET
KENTUCKY DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
Routine Surface Inspection**

Site/Permit ID: KY0340250	Division: Water	Regional Office: Frankfort
Site Name: Kentucky Americal Water- Plant A	Program: Drinking Water	
Site Address: 6300 Cedar Creek Road		
City: Lexington	State: KY	Zip: 40515 County: Fayette
Inspection Type: Routine Surface	Purpose: Comprehensive	AI #: 1063
Inspection Date: 8/31/22	Time: Start 1230 PM End 14:15 PM	
Latitude: 37 54' 16"	Longitude: 84 22' 42"	
Coordinate Collection Method: G40-Handheld receiver		Revision Code: 112108
Drinking Water Data		
Plant Name: Kentucky American Water- Plant A	Contact Name: Robert Money	
Phone No.: 858-335-3660	Fax No: 859-335-3388	Email Address: bob.money@amwater.com

I. Administrative Requirements

Comments: [The facility has not received any enforcement actions since the previous inspection.](#)

I. Compliance Status - No violations observed

II. Operator Certification/Accreditation Requirements

Operator in Charge or on duty.

Operator Name	Plant Certification #	Distribution Certification #
Edwin Sturgis	Class IVA, #81	
Janet Bemiss	IVA#1551	

Comments: [A complete list of operators was provided during the inspection.](#)

II. Compliance Status - No violations observed

III. Record Keeping Requirements

Comments: [Not evaluated. Non-comprehensive inspection performed.](#)

III. Compliance Status - Not Evaluated

IV. Reporting Requirements

Comments: The facility provides the reports to the Division of Water in a timely manner.

IV. Compliance Status - No violations observed

V. Operation & Maintenance/Performance Requirements
Plant Type: <input checked="" type="checkbox"/> C <input type="checkbox"/> N <input type="checkbox"/> P Service Connections: 129,493 Population Served: 348,336
Average Production MGD: 22.69 Max. Production MGD: 39.4 Design Capacity MGD: 45
Source: Kentucky River

RATING CODES: S1=No Violations Observed; S2=No Violations Obs-but impending viol trends obs; U1=Out of Compliance-No action taken; U2= Out of Comp-LOW non-recurrent Adm. or O & M; U3= Out of Compliance-NOV; NA = Not Applicable; NE = Not Evaluated. (Add additional comments if U1-U3.)

	RATING	Equipment / Inspection Data	<input type="checkbox"/> Checking block means item is present:
CHEMICAL & PHYSICAL TREATMENT	S1	a) Intakes, pumps, piping <input checked="" type="checkbox"/>	# Of Levels 1 # Pumps 6 Max pump.
	NA	b) Aeration <input type="checkbox"/>	
	S1	c) Rapid mix <input type="checkbox"/>	Type: Mechanical paddle If other:
	NA	d) Flocculation <input type="checkbox"/>	# of Stages # of Trains Variable Speed
	S1	e) Sedimentation <input checked="" type="checkbox"/>	Type: Hydrotreator # of trains:
	S1	f) Chemical feed coagulation	Polyaluminum Cl/SO4
	S1	g) Carbon Feed: <input checked="" type="checkbox"/>	Feed Site 1: Feed Site 2:
	S1	h) Filters & controls	Mixed Media Filter to Waste <input checked="" type="checkbox"/>
	S1	i) Filters / size sq.ft each./ rate	# 10 Size 718 Filtration Rate: 4
	S1	j) Automatic analyzers:	Chlorine: <input checked="" type="checkbox"/> Turbidity: <input checked="" type="checkbox"/> Each filter: <input checked="" type="checkbox"/> pH: <input type="checkbox"/>
	S1	k) Chemical storage:	Dry on pallets? <input type="checkbox"/> Chemical containment: <input type="checkbox"/>
	NI	l) Clearwell / screened vents	Size: Baffling: <input type="checkbox"/> Locked <input type="checkbox"/> Screened <input type="checkbox"/>
	NI	m) Pumps # and size in gpm	High Service @ Backwash @
	SITE DATA		n) Site Data:	Cl. Free: Total: pH: :
		o) Site Data:	Cl. Free: Total: pH:
		p) Site Data:	Cl. Free: Total: pH:
		q) Site Data:	Cl. Free: Total: pH:
DISINFECTION	NI	r) Disinfection Pre: <input type="checkbox"/> Post: <input type="checkbox"/>	Pre Type: Post type:
	NI	s) Automatic chlorinator <input type="checkbox"/>	Automatic changeover <input type="checkbox"/> Proper Fan <input type="checkbox"/>
	NI	t) Separate room & ventilation	Crash Bar <input type="checkbox"/> Alarm <input type="checkbox"/>
	NI	u) Safety equipment	SCBA <input type="checkbox"/> Ammonia <input type="checkbox"/> Detector <input type="checkbox"/>
LABORATORY & RECORDS	S1	v) Laboratory equipment	Adequate Space <input checked="" type="checkbox"/> Equipment <input checked="" type="checkbox"/> Lighting : <input checked="" type="checkbox"/>
	S1	(1) Turbidimeter <input checked="" type="checkbox"/>	Type: HACH Last calibrated: 2/24/2022
	S1	(2) Adequate reagent supply	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	S1	(3) Chlorine Test Kit <input checked="" type="checkbox"/>	Type: HACH DPD reagent up-to-date: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
	S1	w) Monthly operating reports	<input checked="" type="checkbox"/> Daily Record Sheet <input checked="" type="checkbox"/> Agreement: <input checked="" type="checkbox"/>
S1	x) Housekeeping	good	
DISTRIBUTION	NA	y) Master meter ; Recorder	Raw: <input type="checkbox"/> Finished: <input type="checkbox"/> ; Raw: <input type="checkbox"/> Finished: <input type="checkbox"/>
	NA	z) Blowoffs / hydrants; flushing	Flushing Schedule: <input type="checkbox"/> Blowoffs on deadends: <input type="checkbox"/>
	NA	aa) Water storage:	# of Tanks Total Storage:
	NA	bb) Booster pumps / chlorinators	Booster pumps: <input type="checkbox"/> Booster chlorinators: <input type="checkbox"/>
PLANT ON SITE OBSERVATION	S1	cc) Plant Data:	Cl free: total: 3.3 pH: 7.7 on line-CL 3.23
	S1	dd) Turbidity	Raw: 14 Settled: 1.6 Combined Filter: 0.03
	NI	ee) Bacteriological monitoring	Samples per mo. Records: <input type="checkbox"/>
	NI	ff) No cross-connections observed	None observed: <input type="checkbox"/> Observed: <input type="checkbox"/> Program: <input type="checkbox"/>

SI	gg) Wastewater discharge	Is sizing adequate? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> NO
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Comments: The facility was clean and operational at the time of the inspection. The new intake access car system has been completed. Flow is directed through a rapid mix where DelPAC 202 and other polymers are added. Water is then processed through hydrotreaters. All five hydrotreater valve houses have been reworked and new Swan Sewnaos Turbiwell instrumentation has been installed. Weekly calibration checks are performed on all sampling equipment by facility personnel. A THM on-line analyzer has been installed on the plant effluent. The new chemical building has been completed. The facility is now using liquid chlorine for disinfection. Chemical areas are marked appropriately and are secure. The intake screens were being worked on at the time of the inspection.

The laboratory was satisfactory. Standards were observed to be current. Records observed during the inspection include analytical bench sheets, temperature log books, and calibration logs. Laboratory instrumentation was calibrated by an outside source in February 2022. The plant on-line chlorine and bench top chlorine readings were comparable.

The distribution system for this plant is associated with the Richmond Road facility.

The following upgrades are being looked at or are in the planning state: A UV disinfection system; a new solids/ filter backwash handling system.

V. Compliance Status - No violations observed

VI. Discharge/Emission Compliance

Comments: The facility holds a KPDES Permit for the wastewater discharge.

VI. Compliance Status - No violations observed

VII. Monitoring/Analyses Evaluation

Comments: Not evaluated.

VII. Compliance Status - Not Evaluated

VIII. Environmental /Health Impact

Work Site Hazard Assessment : ATTACHED REVIEWED

Comments: No major concerns were noted at the time of the inspection.

VIII. Compliance Status – No violations observed

IX. Documentation

Samples taken by DEP

- Samples taken by outside source
 Instrument readings taken by DEP regional office
 Photographs obtained by DEP
 Copies of records obtained by DEP
 Other documentation

Inspector: Deborah Singleton	Title: Environmental Inspector III	Date: 8/31/2022
--	--	---------------------------------

Signature: DES

Overall Compliance Status
<input checked="" type="checkbox"/> No violations observed
<input type="checkbox"/> No violations observed, but impending violation trends observed
<input type="checkbox"/> Out of Compliance- No action taken
<input type="checkbox"/> Out of Compliance LOW non-recurrent administrative or O & M
<input type="checkbox"/> Out of Compliance - NOV

Comments:

Delivery Method: Regular Mail	Cert. Mail #:
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ANDY BESHEAR
GOVERNOR



REBECCA W. GOODMAN
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

ANTHONY R. HATTON
COMMISSIONER

300 SOWER BOULEVARD
FRANKFORT, KENTUCKY 40601
TELEPHONE: 502-564-2150
TELEFAX: 502-564-4245
November 7, 2022

Bob Money
Kentucky American Water - Millersburg
2300 Richmond Rd
Lexington, KY 40502
AI: 296 PWSID: KY0090287

RE: Drinking Water Sanitary Survey

Dear Mr. Money:

The Division of Water conducted a Drinking Water Sanitary Survey (attached) of [Kentucky American Water - Millersburg](#) on [September 7th, 14th 2022](#). A Capacity Development assessment was done as part of the survey.

[Kentucky American Water - Millersburg](#) is to be commended as they did not have any deficiencies at this time.

The Division recommends the following:

- **Reviewing the Harrison Co Water Association's and Paris Water Work's contract limit**
- **Continuing to address water loss**

Assistance with the "Managerial and Financial Assessment" section of the sanitary survey for [Kentucky American Water - Millersburg](#) can be obtained by contacting [Ryan Reed](#) at (502) 782-7045.

If you have any questions regarding the "Technical Inspection" portion, contact [Jarod Jones](#) in the [Frankfort Regional Office](#) at (502) 564-3358.

Sincerely,

A handwritten signature in cursive script that reads "Gabriel Tanner".

Gabriel Tanner
Technical Assistance
Drinking Water Branch
Division of Water

Drinking Water Sanitary Survey

TECHNICAL INSPECTION OF SURFACE WATER DISTRIBUTION-ONLY SYSTEM OPERATIONS

PWS ID: **KY0090287**

Agency Interest Number: **296; %%activity_id%%**

AI Name: **Kentucky American Water - Millersburg**

County: **Bourbon**

Office Latitude: **38.297222** **Office Longitude:** **-84.145556**

CTAB Inspection Date(s): : 09/07/2022 10:00 AM

I. SOURCE

Does the system perform water quality monitoring in accordance with the approved DOW schedule for this facility?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Are there any unaddressed process factors that limit the purchased water contracted amount in the last 10 years?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Is the system(s) you purchase from drought-vulnerable?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Describe any water quality monitoring done on the water at the master meter: _____ List any chemicals fed at the master meters: _____		
If multiple sources are available, is the one in use considered to be the best in terms of water quality?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is purchased water flow measured?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
When was the meter last calibrated? <u>Meters are calibrated annually</u>		
COMMENTS: KYAM personnel monitor water usage as required.		

II. TREATMENT

GAS CHLORINE SAFETY		
N/A		
Is the chlorine room enclosed and separate from other operating areas?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is there a working exhaust fan in the chlorine room?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Does it provide one complete air change per minute?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Does it exhaust from floor level?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is intake air near the ceiling?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is there an external audible and visual alarm?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Are switches located outside the chlorine room?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Are chlorine tanks secured?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Are the scales operational?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is automatic switchover of chlorine cylinders provided?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is there a shatterproof viewing window in chlorine room?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is there a crash bar on the door of the chlorine room?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Does the door open out and to the exterior of the building?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is there a SCBA unit meeting NIOSH standards outside the chlorine room?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Are personnel trained to use the SCBA?	Yes <input type="checkbox"/>	No <input type="checkbox"/>

Is the "buddy system" practiced when changing or moving chlorine cylinders?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is leak detection provided?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is ammonia available for chlorine leak detection?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is there a chlorine tank repair kit?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Are personnel trained and certified to use the kits?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
COMMENTS:		

III. DISTRIBUTION SYSTEM

DISTRIBUTION SYSTEM		
Does the system have standard specifications for design and construction of the distribution system?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Does the system prohibit new connections where pressure on the discharge side of the meter will be <30 psi?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is the system able to meet minimum pressure requirements of DOW and/or other regulating authority?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Does the system have a documented leak detection program?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Does the distribution system have a sufficient number of valves to isolate portions of the system (for leak detection, maintenance, etc.)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
If there are separate distribution system areas, are they interconnected with each other?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
If they are not interconnected, how many separate areas are there? _____		
What prevents these systems from being interconnected? _____		
How many pressure zones are there? _____		
What is the range of distribution pressures? _____		
Do any distribution areas require reduced pressure valves?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
What piping materials are included in the distribution system? _____		
Does the system have a program for flushing water mains?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Describe the process for sterilizing new mains/main breaks: <u>sterilize with 50 PPM chlorine hold for 24 hours and 25 ppm for additional 24 hours. Breaks are repaired, flushed, chlorinated and BACTs collected analyzed.</u>		
What types of on-line instrumentation are located at booster or pump stations and tanks? <u>Chlorine/pressure</u>		
Does the system have a documented program for exercising distribution system valves?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Does the system have a documented program for regular testing of water meters including master meter and customer?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is there a water meter replacement program?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Are there main break/emergency notification procedures?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Does the system have a documented procedure for issuing a boil water advisory and a consumer advisory?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
The procedure shall identify when (how soon after the occurrence) and how the system shall notify the affected health department, to whom that notification shall be made both during and after normal business hours, and procedures for issuing the advisory to the public. The public notification shall include instructions for the public (including how to properly boil water) and an explanation of steps being taken to correct the problem.		
Describe how the decision is made to issue a Boil Water Advisory: <u>Issued if break, leak or if suspected contamination occurs. If pressure of less than 20 psi is detected.</u>		
Does the system have a cross-connection control program?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
If yes, is the cross-connection control program documented in writing?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
If the cross-connection control program is not documented in writing, describe the process for finding and eliminating cross connections: _____		
Does a certified tester test the backflow prevention devices on a regular basis?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Has a calibrated hydraulic model been developed for the system?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

COMMENTS: No issues at the time of inspection. No recommendations.

DISTRIBUTION STORAGE FACILITIES									
Inspected									
LOCATION			VOLUME (gallons)	TANK TYPE	OVERFLOW		LAST CLEANED/INSPECTED	TELEMETRY	% TURNOVER (Per Day)
ROAD/AREA	LATITUDE	LONGITUDE			SCREEN/FLAPPER	>10' FROM TANK			
Millersburg Tank	38.294556	-84.152249	125,000	Elevated	YES	YES	2017	YES	100

Are all storage tanks professionally inspected at least every 5 years (including interior, coating systems, & piping)? Yes No
 How often are tanks inspected and cleaned? INSPECTED: 5 yrs CLEANED: As needed

Are all storage tanks and water plants equipped with hatches, covers, screens, vandal guards and locks and all tank sites fenced for security? Yes No

Are all hatches, screens, and overflows on the storage tanks checked at least monthly? Yes No

Is there corrosion protection in the tanks? Yes No

COMMENTS: Scada system trasnmits information to KYAM central location.

DISTRIBUTION BOOSTER PUMPS AND/OR BOOSTER DISINFECTION FACILITIES						
Inspected						
LOCATION			PUMP or DISINFECTION	NUMBER & CAPACITY OF PUMPS (gpm)	DISINFECTION TYPE	AUXILIARY POWER
ROAD/AREA	LATITUDE	LONGITUDE				
US 68	38.295084	-84.51855	Disinfection	@	Chlorine Liquid	No
				@		
				@		
				@		
				@		
				@		
				@		
				@		
				@		
				@		

COMMENTS: Booster station and its components were observed to be well-maintained at the time of the inspection.

DISTRIBUTION SAMPLING (a minimum of N, S, E, W)					
SITE	CHLORINE		pH	TURBIDITY	OTHER
	FREE	TOTAL			
North	1.71	1.95			
South	2.20	2,20			
East	2.20	2.20			
West	1.80	2.20			
Is the system maintaining the required chlorine (0.2 mg/l) / chloramine (0.5 mg/l) residuals in the distribution system? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>					
COMMENTS: Millersber system generally has no issues with maintaining the required disinfectant levels					

MAINTENANCE	
Is office housekeeping adequate?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Is distribution storage housekeeping adequate?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Are adequate supplies of spare parts kept on hand?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Are needed tools available?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
If not, is preventive maintenance performed?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Is a lock-out/tag-out system used for electrical repairs?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
What is the general condition of operating equipment? <u>Good</u>	Yes <input type="checkbox"/> No <input type="checkbox"/>
COMMENTS: KYAM personnel did not indicate any issues with maintaining necessary supplies.	

DOCUMENTATION (✓ all that apply)	
<input checked="" type="checkbox"/> Samples taken by DEP	<input type="checkbox"/> Photographs obtained by DEP
<input type="checkbox"/> Samples taken by outside source	<input type="checkbox"/> Copies of records obtained by DEP
<input type="checkbox"/> Instrument readings taken by DEP	<input type="checkbox"/> Other documentation

OVERALL TECHNICAL COMPLIANCE STATUS		
<input checked="" type="checkbox"/> No Violations Observed		
<input type="checkbox"/> No Violations Observed - Advisory Action Taken (Impending trends)		
<input type="checkbox"/> Out of Compliance – Verbal notice given (Non-recurrent deficiency noted or violation corrected at time of inspection.)		
INSPECTOR: Jarod Jones	TITLE: Environmental Inspector	DATE: 10/13/2022

**KENTUCKY DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER**

Drinking Water Sanitary Survey

Managerial and Financial Assessment of Distribution-Only Surface Water & Ground Water Systems

PWS ID: KY0090287

Agency Interest Number: 296

AI Name: Kentucky American Water - Millersburg

County: Bourbon

Regional Office: Frankfort Regional Office

Capacity Development Inspection Date(s): 9/14/2022

SYSTEM CONTACT INFORMATION						
Full Name: Bob Money			Title: Manager, Water Quality & Environmental Compliance			
Phone Number: 859-268-6317		FAX Number:		E-Mail Address: bob.money@amwater.com		
Mailing Address: 2300 Richmond Road			City: Lexington	State: KY	Zip Code: 40502	
Physical Address of Office: 2300 Richmond Road						
DISTRIBUTION SYSTEM INFORMATION						
Contact Person: Jon "Wes" Felts			Title: Senior Operations Supervisor		Phone Number: 859-268-6317	
Distribution Class: ID-Pop. < 1500			System Service Connections (meters): 450			
System Population Served Calculated: 1,211			System Population Served Reported: 1,211			
Meters Served Outside Your System: 7,155			Consecutive Systems Population Served Calculated: 19,247			
WATER PURCHASED, SOLD, & EMERGENCY CONNECTIONS						
WATER PURCHASED FROM: <i>(List primary purchase source first.)</i>			Number of Master Meters	Amount Monthly (average)	Amount Available by Contract (monthly)	
SYSTEM NAME	PWS ID #	AI #				
Paris Water Works	KY0090343	300	1	5,738,446	6,000,000	
Average Total Water Purchased Daily: 189,140 gallons			Maximum Total Water Purchased Daily: 234,357 gallons			
WATER SOLD TO: <input type="checkbox"/> Not Applicable			Number of Master Meters	Amount Monthly (average)	Amount Available by Contract (monthly)	
SYSTEM NAME	PWS ID #	AI #				
Harrison Co. Water Association	KY0490179	33915	1	1,742,263	1,200,000	
Nicholas Co. Water District	KY0910314	34050	1	73,790	1,500,000	
COMMENTS: Consider the following: Reviewing the Harrison Co Water Association's and Paris Water Work's contract limit						

I. OPERATOR COMPLIANCE

Do the operators perform maintenance as well as distribution operations?		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Do you have contingency plans for replacing retiring system personnel?		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Who provides training/technical assistance for license renewal? (✓ all that apply): <input type="checkbox"/> AWWA <input type="checkbox"/> DCA <input checked="" type="checkbox"/> DOW <input checked="" type="checkbox"/> KRWA <input checked="" type="checkbox"/> KWWOA <input type="checkbox"/> RCAP <input checked="" type="checkbox"/> Other <u>In-House/Online (Suncoast)</u>				
What type of training is typically obtained? (✓ all that apply): <input checked="" type="checkbox"/> REGULATIONS <input checked="" type="checkbox"/> SAFETY <input type="checkbox"/> UMI <input checked="" type="checkbox"/> WATER QUALITY				
Does the system pay for registration, lodging and meals?		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system allow operators to attend training on company time?		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Number of shifts on weekdays: <u>1</u>		Length of Shift (hours)		Number of Operators
	1 st Shift	<u>8</u>		<u>2</u>
	2 nd Shift	<u>On-Call</u>		<u>On-Call</u>
	3 rd Shift	<u>On-Call</u>		<u>On-Call</u>
How are weekends covered? <u>On-Call</u>				
How are holidays covered? <u>On-Call</u>				
OPERATOR CERTIFICATION				
LICENSEE NAME	LICENSEE AI #	LICENSE ID	LICENSE TYPE	
Felts, Jon "Wes"	103831	18681	DW Distribution IVD	
*See Comment Below				
Is the system staffed with appropriately certified operators? (Verify certification with DCA.)		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
COMMENTS: *Union Contract determines staffing within KY American Water (Additional operators)				

II. MONITORING, REPORTING & DATA VERIFICATION*(Part A must be completed for all water systems. Part B must be completed for groundwater systems only.)*

PART A <i>(Complete for all water systems.)</i>		
REPORTING ITEM – Information gathered from DWW	RETENTION TIME	
<i>Bacteriological - 2</i> per month (See DWW)	5 Years	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>Chlorine/Chloramines</i> – Free chlorine monthly with BACTs, daily for MORs, residual chlorine monthly	10 Years	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>MORs</i> – Monthly (Turbidity Analysis)	1 Year	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>Lead & Copper - 10</i> every 3 years (June to September)	12 Years	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>TTHM & HAA5 2</i> per Quarter (see DWW)	10 Years	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>Asbestos</i> – 1 sample in the 1 st 3 years of the 9 year compliance cycle (SOC) *Check for Waiver (only purchasers can have waiver)*	Begin 2011/2013	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>Stage 2 IDSE Sampling Plan or 40/30 Certification</i>	10 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
<i>Stage 2 IDSE Report</i>	10 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
<i>Data Summaries</i> (if actual data not retained)	12 Years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
<i>NOVs</i> (Notices of Violation)	10 Years	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>Sanitary Surveys</i> (every 3 years)	10 Years	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>CCR</i> (Consumer Confidence Report) – Annually by July 1 (by April 1 to consecutive systems)	Current one on file	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system maintain a current sampling plan for BacTs?	Date updated	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system maintain a current sampling plan for LCR?	Date updated	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system maintain a current sampling plan for DBPs?	Date updated	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system have an up-to-date map of distribution assets? (Map shall show a minimum of all line sizes, cutoff valves, fire hydrants, flush hydrants, tanks, booster pumps, chlorination stations, connections to emergency or alternative sources, wholesale customer master meters, & the type of piping material in the distribution system and its location.)	Date updated Continuously Updated	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
PART B <i>(Complete for groundwater systems only.)</i>		
<input checked="" type="checkbox"/> Not Applicable		
<i>GWR Corrective Action</i>	10 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>GWR Public Notices</i>	3 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>GWR Fecal-positive invalidation</i>	5 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>GWR State-specified minimum disinfectant residual</i> (letter from CTAB)	10 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>GWR Lowest daily disinfectant residual level</i> (submitted with MOR)	5 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
What method is used to record this? (i.e. SCADA, chart recorders, download to CD)	N/A	
<i>GWR Date and duration of time less than minimum daily disinfectant residual level</i>	5 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<i>GWR Records of state-specific compliance requirements for membrane filtration and alternative treatment</i>	5 years	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Does the system maintain compliance records as required? (answer for both Parts A & B)		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
COMMENTS:		

III. MANAGEMENT & OPERATIONS

What professional organizations does the water system belong to? <u>KRWA; AWWA; KWWOA; NAWC; Chamber of Commerce; WEF</u>			
Is the system subject to Public Service Commission regulations?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system attend Water Management Council meetings of the Area Development District?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system have a governing entity? If not, explain: <u>KY Board of Directors</u>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
What is the name of the system's OTHER? <u>Kathryn Wash (President)</u>			
What is his or her mailing address? <u>Same as System</u>			
How often does the governing body meet? <u>Monthly</u>			
Do operators attend these meetings?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
Is the governing entity provided with documented information regarding technical, managerial, and financial operations of the water system? (Inspect)			
Is the governing entity familiar with water treatment/distribution?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Does the system offer continuing education opportunities for members of the governing entity?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Does the system have regular staff meetings?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
How often? <u>Weekly</u> _____			
Who is involved? <u>By Department (Employees)</u>			
Does the system have a documented strategic plan (mission statement, goals and objectives)? (Inspect)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system have a defined organizational structure?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system have a documented description of each job classification with minimum position qualifications? (Inspect)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system have documented policies and procedures governing human resource management (such as an employee handbook)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system periodically review its insurance coverage is in place for liability, property, automobiles, directors, and officers?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system have a documented policy for delegation of authority such as signing agreements, contracts, resolutions, easements, etc.?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system have a documented procurement policy for purchasing supplies?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system have professional services available under a current contract, retainer, or other similar arrangement for engineering, accounting, and legal counsel?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system have an asset management program?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system have a documented preventive maintenance program?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system have a capital improvement plan? (Inspect)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
How many years does the plan cover? <u>KY Wide; Priority Ranking</u>			
Does the system have a documented policy governing water main extensions? (Inspect)			
Are chemicals inventoried? If so, how? <u>Inventory System (Employee)</u>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Are distribution materials inventoried? If so, how? <u>Inventory System (Employee); Work Order System</u>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Is there a bid process for chemicals, pipe, or large item purchases?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>

Does the system have rules and regulations governing the provision of service? (Inspect)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system make available in a public place the rules, rates, and regulations? (Inspect)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system provide 24-hour service response for customers?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system notify customers prior to performing scheduled maintenance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system log customer complaints and track resolution?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system provide any educational activities to the public?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Who is responsible for providing this? <u>External Affairs Staff</u>			
What types of educational activities are done? <u>Bill Inserts; In-School Activities; Water-Wise Academy; Grants for Environmental Projects (i.e. rainbarrels); Educational Grants</u>			
Does the system have sufficient O & M manuals? (Inspect) (O & M manuals shall include: a detailed design of the plant, daily operating procedures, a schedule of testing requirements designating who is responsible for the tests, and safety procedures for operation of the facility – including storage and inventory requirements for materials and supplies.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
How are the operators made aware of O & M procedures? <u>Field SOPs; OTJ; Available for Reference</u>			
Has the system received any NOV's for MCLs in the last 3 years? If yes, answer the following:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
If more than one NOV, were any for the same contaminant?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Was a public notice issued when required?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
What remedial measures did the system take to prevent future occurrences of these violations? <u>GAC Filters installed at purchase site</u>			
Does the system maintain a log of all breaks or ruptures per 401 KAR 8:150, Section 4? (Inspect)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Is the system operating at or above 85% of water available through purchase contracts? (see COW)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
If yes, what is the percentage? <u>95.6%</u>			
If system's average daily demand exceeds 85% of available water through purchase contracts, does system have a plan for obtaining additional water, including cost and timeframes to address the needed additional water?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
If applicable, describe plan for obtaining additional water: <u>See Recommendation on 1st Page</u>			
COMMENTS: The managerial section's information applies to KY American Water as a whole. The Board of Directors are presented with "big picture" information for KY as a whole.			

IV. FINANCIAL

Does the system prepare an annual operating budget? (Provide summary)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Does the system prepare an annual capital budget? (Inspect)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Who prepares the budget? _____			
Do the operators have input into the budget?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Are training and license funds built into the budget?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Does the governing entity review and approve the budget?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Does the system prepare regular monthly reports to show variances between budgeted and actual revenue and expenses? (Inspect)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Does the system maintain its financial records utilizing the Kentucky Uniform System of Accounting or a comparable system? (Inspect)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Are financial statements audited by a CPA as required? (Inspect) (Water districts, special districts – i.e. regional water commissions and cities have specific requirements.)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>

If audit is completed, does the governing entity receive and review the audit report?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Does the system employ a method for depreciation of system assets?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Is the system operating at a retained earnings surplus? <small>(Retained earnings is the net income that is available at the end of the year and available for transfer.)</small>		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Is the current debt-to-equity ratio below 1.0? <small>(The debt-to equity ratio for any given year is computed by dividing total liabilities by total equity.)</small>		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Does the water system meet a debt coverage ratio needed for bond ordinances, loan agreements, and bond requirements? A typical value is 1.2. <small>(Debt coverage ratio is computed by dividing cash available for debt service (net income with annual interest, depreciation, amortization, and other non-cash items added back) by debt service requirements for the year.)</small>		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Does the water system revenue go to meet other expenses (i.e. electric, sewer or garbage)?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Is there a documented policy for delinquent accounts? What is it? <u>Per PSC Requirements (See Tariff)</u>		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
For accounts payable, has the system kept payments less than 45 days past due over the last 12 months?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Does the system write-off bad debt annually?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Where does the system typically go for financial assistance? _____				
Does the system have any long-term debts?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Is the system current on all debt service payments (if applicable)?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Is the system meeting reserve account requirements (if applicable)?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Is there an approved* rate structure in place? (Provide copy of rate sheet.) <small>(*Approved by governing entity/PSC as applicable.)</small>		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
What were the dates of the system's last 2 non-pass-through rate increases? <u>6/2019 & 6/2015</u>				
What were the dates of the system's last 2 pass-through rate increases? _____ & _____				
Does the system perform a review annually to determine if the rates fully cover the expenses?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Are long-term needs built into rate increases?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Do rates promote conservation in time of drought?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
COST OF WATER PURCHASED AND SOLD				
Purchasers	What is the highest wholesale price you pay per 1,000 gallons of water?	<u>\$2.25</u>		N/A <input type="checkbox"/>
	What is the lowest wholesale price you pay per 1,000 gallons of water?	\$ _____		N/A <input checked="" type="checkbox"/>
Sellers	What is your highest wholesale price which you charge per 1,000 gallons of water?	<u>\$2.25</u>		N/A <input type="checkbox"/>
	What is your lowest wholesale price which you charge per 1,000 gallons of water?	<u>\$2.25</u>		N/A <input type="checkbox"/>
WATER LOSS				
Does the system track water loss on a monthly basis?		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Report water loss for the past year as a percentage of total water purchased in gallons and as a dollar value.		<u>21.06%</u>		
		<u>3,145,198</u> gallons		
		<u>\$~7,077</u>		
If water loss is above 15%, does the system have a plan to address this?		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
If yes, describe plan to address water loss: <u>Targeted Line Replacements; Active Leak Detection; Acoustic Loggers</u>				

COMMENTS: Consider the following: Continuing to address water loss
*The financial section's information applies to KY American Water as a whole.

V. SECURITY

Does the system have a documented safety policy?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system provide regular safety training to its employees?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Is the utility a member of the Local Emergency Planning Committee?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the system have an updated Emergency Response Plan that is reviewed annually? (Inspect)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the emergency response plan include a plan for responding to water shortages and loss of service?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Is the Emergency Response Plan exercised?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
How is the Emergency Response Plan communicated to all employees? <u>Available Online; Onsite</u>			
Does the distribution system ever disable the telemetry/SCADA system and run on manual?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Has the system developed procedures for securing computer/SCADA usage?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Are backup copies of O & M manuals maintained in a location other than the office?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Is the purchased water source equipped with emergency standby power generation or is there a secondary source of power? (e.g. contracts in place with suppliers for emergency generators or dual electrical feed)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
Are backup emergency generators exercised regularly?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Is other backup equipment exercised regularly?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Have arrangements been made with outside contractors, other utilities, etc. to provide needed emergency equipment?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>

COMMENTS:

DOCUMENTATION (✓ all that apply)
<input type="checkbox"/> Photographs obtained by DEP <input checked="" type="checkbox"/> Copies of records obtained by DEP <input type="checkbox"/> Other documentation

OVERALL COMPLIANCE STATUS			
<input checked="" type="checkbox"/> No Violations Observed			
<input type="checkbox"/> No Violations Observed - Advisory Action Taken (Impending trends)			
<input type="checkbox"/> Out of Compliance – Verbal notice given (Non-recurrent deficiency noted or violation corrected at time of inspection.)			
<table style="width: 100%; border: none;"> <tr> <td style="width: 33%; border: none;">CDPM: Ryan Reed</td> <td style="width: 33%; border: none;">Title: Environmental Scientist IV</td> <td style="width: 33%; border: none;">Date: 10/7/2022</td> </tr> </table>	CDPM: Ryan Reed	Title: Environmental Scientist IV	Date: 10/7/2022
CDPM: Ryan Reed	Title: Environmental Scientist IV	Date: 10/7/2022	

Inspection Report

GenTrack Item # 227

Section	Field Name	Response
Facility		
	Region:	Northern
	PWS ID:	0340250C
	Category:	Plants
	Facility Name:	KENTUCKY AMERICAN WATER CO. C
	Status:	Active
	GPS Location:	38.358527 -84.865399
	Physical Address:	16035 HWY 127
	Mailing Address:	
	City:	OWENTON
	State:	KY
	Zip Code:	40359
	Phone:	502 484-8373
	Plant Email:	bob.money@amwater.com
	County:	Owen
	Fluoridation:	Yes
	Contact First Name:	Jason
	Contact Last Name:	Case
	Contact Address 1:	
	Contact Address 2:	
	Contact Phone Number:	502 395-2945 (Op)
	Contact Email:	jason.m.case@amwater.com

GenTrack Item # 227 - 9

Section	Field Name	Response
General		
	Inspection Date:	03/21/2023
	Inspector:	Lucas Bentley
	Inspector Information:	275 east Main Street Frankfort KY 40621 Office Phone: 502-564-3246 Home Phone: Lucas.Bentley@ky.gov Active
	Operator On Duty First Name:	Scott

Operator On Duty Last Name:	Huddleston
Contact Address 1:	16035 HWY 127
Contact Address 2:	
Contact Phone:	502 484-8373
Certification Number:	21329
Water Plant Operator Certification Level:	IVA
Facility Classification Level:	IVA
[BLANK]	If the Water Plant Operator on Duty is not certified or does not have a certification equal to
	or higher than the Facility Classification, include the name and certification number of the
	operator responsible for the facility instead.
Water Source:	Surface Water
Fluoridation Type:	Acid
Service Connections:	3900
Populations Served:	10491.00
AVG Production:	7.5 MGD
Flow Rate (Influent)(GPM):	4200 GPM
Master Meter (Raw):	Satisfactory
Design Capacity:	40 MGD
PWSI Number:	0340250C
GPS Coordinates:	38.358527 -84.865399
Comments:	

Chemical Treatment

Activated Carbon (Activated Charcoal):	Yes
Aluminum Chloride:	Yes
Aluminum Chlorohydrate:	No
Aluminum Potassium:	No
Aluminum Sulfate (Alum):	No
Amonia:	Yes
Calcium Hydroxide (Hydrated Lime):	No
Calcium Oxide (Quick Lime):	No
Carbon Dioxide:	No
Charcoal:	No
Chlorine (gas):	Yes

	Chlorine (liquid):	No
	Chlorine Dioxide:	No
	Copper Sulfate:	No
	Ferric Chloride:	No
	Ferric Sulfate:	No
	Hydrofluorosilicic Acid (HFS):	Yes
	Hydrochloric Acid:	No
	Hydrochlorites:	No
	Hydrogen Peroxide:	No
	Hydroxide Ammonium:	No
	Phosphate:	No
	Polyaluminum Chloride (PAC):	No
	Polyelectrolytes:	No
	Polyphosphates:	No
	Potassium Hydroxide (Caustic Potash):	No
	Potassium Permanganate:	Yes
	Silica:	No
	Sodium Aluminate:	No
	Sodium Bicarbonate (Baking Soda):	No
	Sodium Carbonate (Soda Ash):	No
	Sodium Chloride (Salt):	No
	Sodium Fluoride:	No
	Sodium Fluorosilicate:	No
	Sodium Hydroxide (Caustic Soda):	No
	Sodium Hypochlorite:	No
	Sodium Permanganate:	No
	Sodium Thiosulfite:	Yes
	Sulfur Dioxide:	No
	Sulfuric Acid:	No
	Ultraviolet:	No
	Others:	ORTHOPHOSPHATE, POLYMER & CAUSTIC SODA.
Fluoride System		
	Saturator System:	Not Applicable

	Saturator Cleanout Date (recommended annually or as needed):	
	Saturator Feed Line Flow Meter	N/A
	Saturator Flow Rate	.
	Feed Water Hardness (ppm as calcium carbonate)"	.
	[BLANK]	
	Saturator Instructions:	<p>*If issues arise with the saturator, please contact your water fluoridation specialist and check the following:</p> <ul style="list-style-type: none"> • Saturated solution of the chemical should be approximately 18,000 ppm and can be verified through either your private lab or the state lab. Be sure to let the lab know that this is a saturated sample by writing the information on the Lab 505 form in red ink and putting "Saturator Sample" at the top of the form. If the results are below 18,000 ppm, saturation of the chemical is not occurring, and the following items need to be checked. <p>If the saturator has not been cleaned out within the last year, a thorough breakdown and cleanout of the saturator and all parts is recommended. Special attention should be given to the complete cleanout of the spider and all connections in the saturator. The flow rate of the feed water flowing through the saturator should not exceed 2 GPM.</p> <p>The hardness of the feed water of the saturator should not exceed 75 ppm as calcium carbonate. If it does, installation of a water softener is recommended.</p> <ul style="list-style-type: none"> • If the results are approximately 18,000 ppm, a drawdown of the metering pump should be conducted to verify proper operation. Contact your water fluoridation specialist to identify the proper dose rate of the metering pump.
	Comments:	
	Dry System:	Not Applicable
	Dry Hopper Scale Mounted	N/A
	Comments:	
	Tablet System:	Not Applicable
	Tablet System Flow Rate:	.
	Comments:	
	Hydrofluorosilicic Acid (HFS) System:	Satisfactory
	Hydrofluorosilicic Acid (HFS) Bulk Tank Size (gallons):	6083
	HFS Day Tank Size (dimensions in inches):	.
	HFS Day Tank Size (gallons):	147
	HFS Day Tank Limitations:	.

	HFS Day Tank Loss of Suction Point (lbs if scale used and inches if volumetric loss used):	.
	HFS Day/Bulk Tank Vented to the Outside Atmosphere:	Satisfactory
	Transfer Pump:	Yes
	Liquid Level Limit Switch:	Satisfactory
	HFS Usage Table:	Yes
	Comments:	Usage Table on SCADA
	[BLANK]	
		Ensure only a maximum 30-hour supply of (HFS) is kept in the day tank to prevent exceeding the MCL

Plant Safety Equipment

	Syphon Breakers Rating:	Satisfactory
	Comments:	
	Ventilation Rating:	Satisfactory
	Forced Ventilation Switch Location:	
	Comments:	
	Chemical Storage Rating:	Satisfactory
	Comments:	
	Method Of Measurement:	Volumetric
	Method of Measurement Rating:	Satisfactory
	Comments:	ULTRA SONIC
	Secondary Containment:	Satisfactory
	Comments:	

Operator Safety Equipment

	Respirator Available:	Yes
	Comments:	
	Face Shield/Safety Glasses Available:	Yes
	Comments:	
	Gloves Available:	Yes
	Comments:	
	Apron/Coat Available:	Yes
	Comments:	
	Eye Wash Station/Deluge Shower:	Satisfactory

	Eye Wash Station/Deluge Shower Maintenance Check (recommended monthly):	Satisfactory
	Comments:	
	Safety Data Sheets (SDS) On-Hand	Yes
Laboratory and Records		
	Tester Brands:	CH EZ-CHECK
	Fluoride Tester Instruction Manual On-Hand	
	Fluoride Tester Calibration Frequency	batteries
	Tester Brand Rating:	Satisfactory
	Comments:	
	Adequate Reagent Supply:	Satisfactory
	Comments:	
	Reagent Up-To-Date (Include either the expiration date or the Lot number in the comments):	Satisfactory
	Comments:	
	Monthly Operating Reports:	Satisfactory
	Last Month AVG-Daily Usage in Pounds:	213.1
	Last Month AVG Daily Pre-Population Results:	3.4
	Last Month AVG Tap Reading:	0.82
	Last Month AVG Raw Reading:	0.09
	Comments:	
	505 Reporting:	Satisfactory
	505 Sample Locations (First Plant/Second Distribution):	Satisfactory
	505 Dates:	Satisfactory
	[BLANK]	The first sample shall be collected from the plant tap during the first week of the month.
		The second sample collected at a point of maximum retention, during the third week of the month
	In Compliance Year to Date:	Yes

	CDC Quality Award Received Two Years Previously	Yes
	Housekeeping:	Satisfactory
	Comments:	
Distribution		
	Point Of Injection:	Satisfactory
	Injection Site:	Pre-Clearwell
	Comments:	
	Chemical Feeder:	Satisfactory
	Comments:	*Entered 0 below because inspection report does not recognize decimal points or percentages. SPEED and STROKE are percentages. Current Settings are a Speed of 17.5% and Stroke of 33%
	Feeder's Brand:	JAC
	Peristaltic Pump Tube Size	.
	Feeder Model #:	1731
	Feeder Size:	4.9 GPH
	Setting:	55 mL/min
	Speed:	0
	Stroke:	0
On-Site Observation		
	Fluoride Rating:	Satisfactory
	Comments:	
	Private Labs:	Kentucky America
	Other Water Treatment Systems Directly Connected:	Georgetown, Nicholasville, Judy, South Elkhorn, Midway, Versailles, Peaks Mill, East Clark County
	Other Water Treatment Systems Water Sold To:	Georgetown, Nicholasville, Judy, South Elkhorn, Midway, Versailles, Peaks Mill, East Clark County
	Other Water Treatment Systems Water Purchased From:	Gallatin County, Carroll County
	[BLANK]	
	Facility Entrance:	Yes
	Laboratory:	Yes
	Fluoride Tester:	Yes
	Fluoride Room:	Yes
	Ventilation:	Yes

	Fluoride Metering Pump Tag:	Yes
	Overall Fluoride System (Saturator, Bulk/Day Tank, Dry Hopper, Tablet):	Yes
	Injection Site:	Yes
	Scales (if applicable):	N/A
	Anti-Syphon Device (if applicable):	Yes
	Eye Wash/Deluge Shower Station (if applicable):	Yes
	[BLANK]	
	Split Rating:	Satisfactory
	Raw:	
	Saturator Sample:	n/a
	Insp:	0.88
	Plant:	0.91
	LAB:	0.80
	Comments:	Well Ran Facility In Compliance YTD
	[BLANK]	We appreciate all the work and effort this year in staying in compliance with the fluoride program.
		If any issues arise, please contact your water fluoridation specialist.



Andy Beshear
GOVERNOR

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

FRANKFORT REGIONAL OFFICE
300 SOWER BLVD
FRANKFORT, KY, 40601

Rebecca W. Goodman
SECRETARY

Anthony R. Hatton
COMMISSIONER

June 27, 2023

Kentucky American Water - Millersburg
304 E 4th St
Millersburg, Kentucky 40348

RE: Kentucky American Water - Millersburg
AI 296
Permit No.: KY0090287
Bourbon County, Kentucky
Activity ID: CIN20230001

To Whom It May Concern:

Attached for your information and records is a copy of the drinking water distribution only (DW NonComp-Purchaser) inspection conducted at the Kentucky American Water – Millersburg system on June 7, 2023.

If you have any questions or comments concerning this inspection, please contact the Frankfort Regional Office at: (502) 564-3358.

Sincerely,

Jarod Jones
Environmental Inspector
Frankfort Regional Office
Division of Water

**ENERGY AND ENVIRONMENT CABINET
KENTUCKY DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
Routine Distribution Inspection**

Site/Permit ID: KY0090287	Division: Water	Regional Office: Frankfort
Site Name: Kentucky American Water-Millersburg	Program: Drinking Water	
Site Address: 304 E 4th street		
City: Millersburg	State: KY	Zip: 40348 County: Bourbon
Inspection Type: Routine Distribution	Purpose: Noncomprehensive	AI #: 296
Inspection Date: 6/7/23	Time: Start 1030 AM End 1200 PM	
Latitude: N 38 17' 54.7	Longitude: W84 8 50.3	
Coordinate Collection Method: GPO-With differential correction		Revision Code: 112108
Drinking Water Data		
Plant Name: Kentucky American Water-Millersburg	Contact Name: Bob Money	
Phone No.: 859-268-6317	Fax No: cell: 859-797-7374	Email Address: Bob.Money@amwater.com

I. Administrative Requirements

Comments: [Not evaluated.](#)

I. Compliance Status - Not Evaluated

II. Operator Certification/Accreditation Requirements

Operator in Charge and on duty.

Operator Name	Plant Certification #	Distribution Certification #
Jon Wes Felts		IVD#18681

Comments: [Ky American maintains multiple certified operators.](#)

II. Compliance Status - No violations observed

III. Record Keeping Requirements

Comments: [Not evaluated.](#)

III. Compliance Status - Not Evaluated

IV. Reporting Requirements

Comments: **Reporting is conducted as required**

IV. Compliance Status - No violations observed

V. Operation & Maintenance/Performance Requirements	
Plant Type: <input checked="" type="checkbox"/> C <input type="checkbox"/> N <input type="checkbox"/> P	Service Connections:376 Population Served:1011
Average Purchased MGD: 0.152 Max. Purchased MGD: 0.287 Contract Amount MGD:	
Source:City of Paris Water Works	Seller PWSID: KY0090343 Multiple Sellers <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

RATING CODES: S1 = No Violations Observed; S2= No Violations Observed-but impending viol trends obs;
 U1 = Out of Compliance-No action taken; U2= Out of Compliance-LOW non-recurrent Adm. or O & M;
 U3= Out of Compliance-NOV Issued; NA = Not Applicable; NE = Not Evaluated. (Add additional comments if U1-U3.)

SELLER INFORMATION	Seller # 1	Name City of Paris Water	PWSID# KY0090343 Contract Amount:	
	Seller # 2	Name	PWSID# Contract Amount:	
	Seller # 3	Name	PWSID# Contract Amount:	
	Seller # 4	Name	PWSID# Contract Amount:	
	Seller # 5	Name	PWSID# Contract Amount:	
STORAGE TANK INFORMATION	RATING	Equipment / Inspection Data	<input type="checkbox"/> Checking block means item is present:	
	S1	a) Storage Tank 1 Size:125,000 Name: Millersburg tank	Screened Vent: <input checked="" type="checkbox"/> Overflow <input checked="" type="checkbox"/> Telemetry: <input checked="" type="checkbox"/> Last Cleaned: Coating condition: Good	
		b) Storage Tank 2 Size: Name:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
		c) Storage Tank 3 Size: Name:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
		d) Storage Tank 4 Size: Name:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
		e) Storage Tank 5 Size: Name:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
		f) Storage Tank 6 Size: Name:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
		g) Storage Tank 7 Size: Name:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
		h) Storage Tank 8 Size: Name:	Screened Vent: <input type="checkbox"/> Overflow <input type="checkbox"/> Telemetry: <input type="checkbox"/> Last Cleaned: Coating condition:	
	GENERAL INFORMATION	NI	j) Master meter <input type="checkbox"/>	Last Calibrated: Recorder: <input type="checkbox"/>
		S1	k) Flushing Schedule	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No/ Frequency: as needed
		S1	l) Chlorine Test Kit <input checked="" type="checkbox"/>	Type: HACH Last calibrated annually
		S1	m) DPD reagent up-to-date	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
S1		n) Blow-off / Hydrants on dead	<input type="checkbox"/> Yes <input type="checkbox"/> No	
S1		o) Monthly operating reports	<input checked="" type="checkbox"/> Daily Record Sheet <input type="checkbox"/> Agreement: <input type="checkbox"/>	
BOOSTER PUMPS	S1	q) <input type="checkbox"/> Booster pumps <input checked="" type="checkbox"/> Disinfection	Capacity Disinfection Type: NA hypochlorite	
	NA	r) <input type="checkbox"/> Booster pumps <input type="checkbox"/> Disinfection	Capacity Disinfection Type:	
	NA	s) <input type="checkbox"/> Booster pumps <input type="checkbox"/> Disinfection	Capacity Disinfection Type:	
ON SITE OBSERVATIONS	S1	t) Site Data: South - near tank	Cl. Free: Total: pH:	
	S1	u) Site Data: East - 6th st.	Cl. Free: Total: pH:	
	S1	v) Site Data: West - Marathon	Cl. Free: Total: pH:	
	S1	w) Site Data: North - Oak Ave.	Cl. Free: Total: pH:	

OTHER INFORMATION	S1	x) Cross connection program	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	S1	y) Water meter replacement	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	S1	z) Valve exercise program	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	S1	aa) Is unaccounted for water	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes what is % loss?
	S1	bb) Up to date distribution map	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Comments: No issues observed during the inspection. All components inspected were clean and well maintained. The older water storage tank on the opposite end of town was in the beginning stages of being renovated with intent to return to service.

V. Compliance Status - No violations observed

VI. Discharge/Emission Compliance

Comments: Not applicable.

VI. Compliance Status - Not Applicable

VII. Monitoring/Analyses Evaluation

Comments: Not evaluated.

VII. Compliance Status - Not Evaluated

VIII. Environmental /Health Impact

Work Site Hazard Assessment: ATTACHED REVIEWED

Comments: No major concerns were noted at the time of the inspection.

VIII. Compliance Status – No violations observed

IX. Documentation

- Samples taken by DEP
- Samples taken by outside source
- Instrument readings taken by DEP regional office
- Photographs obtained by DEP
- Copies of records obtained by DEP
- Other documentation

Inspector: Jarod Jones	Title: Environmental Inspector III	Date: 06/21/23
-------------------------------	---	-----------------------

6/27/2023

X 

Signature: Signed by: Jarod Jones

Overall Compliance Status

- No violations observed**
- No violations observed, but impending violation trends observed**
- Out of Compliance- No action taken**
- Out of Compliance- LOW Non-recurrent administrative or O & M**
- Out of Compliance – NOV**

Comments: No significant compliance issues noted during the inspection.

Delivery Method: [E-mail](#)

Cert. Mail #:

Inspection Report

GenTrack Item # 225

Section	Field Name	Response
Facility		
	Region:	Northern
	PWS ID:	0340250A
	Category:	Plants
	Facility Name:	KENTUCKY AMERICAN WATER CO. A
	Status:	Active
	GPS Location:	
	Physical Address:	6300 Cedar Creek Lane (plant)
	Mailing Address:	2300 Richmond Road (mail)
	City:	LEXINGTON
	State:	KY
	Zip Code:	40515
	Phone:	859-268-6317
	Plant Email:	bob.money@amwater.com
	County:	Fayette
	Fluoridation:	Yes
	Contact First Name:	Bob
	Contact Last Name:	Money
	Contact Address 1:	
	Contact Address 2:	
	Contact Phone Number:	859-268-6317
	Contact Email:	

GenTrack Item # 225 - 8

Section	Field Name	Response
General		
	Inspection Date:	06/16/2023
	Inspector:	Lucas Bentley
	Inspector Information:	275 east Main Street Frankfort KY 40621 Office Phone: 502-564-3246 Home Phone: Lucas.Bentley@ky.gov Active
	Operator On Duty First Name:	Bob

Operator On Duty Last Name:	Money
Contact Address 1:	
Contact Address 2:	
Contact Phone:	859-268-6317
Certification Number:	25173
Water Plant Operator Certification Level:	IVA
Facility Classification Level:	IVA
[BLANK]	If the Water Plant Operator on Duty is not certified or does not have a certification equal to
	or higher than the Facility Classification, include the name and certification number of the
	operator responsible for the facility instead.
Water Source:	Surface Water
Fluoridation Type:	Acid
Service Connections:	116000
Populations Served:	312040.00
AVG Production:	30 MGD
Flow Rate (Influent)(GPM):	20,833 GPM
Master Meter (Raw):	Satisfactory
Design Capacity:	54 MGPD
PWSI Number:	0340250a
GPS Coordinates:	37.903847, -84.378059
Comments:	
Chemical Treatment	
Activated Carbon (Activated Charcoal):	No
Aluminum Chloride:	No
Aluminum Chlorohydrate:	No
Aluminum Potassium:	No
Aluminum Sulfate (Alum):	No
Amonia:	Yes
Calcium Hydroxide (Hydrated Lime):	No
Calcium Oxide (Quick Lime):	No
Carbon Dioxide:	No
Charcoal:	No
Chlorine (gas):	Yes

	Chlorine (liquid):	No
	Chlorine Dioxide:	No
	Copper Sulfate:	No
	Ferric Chloride:	Yes
	Ferric Sulfate:	No
	Hydrofluorosilicic Acid (HFS):	Yes
	Hydrochloric Acid:	No
	Hydrochlorites:	No
	Hydrogen Peroxide:	No
	Hydroxide Ammonium:	No
	Phosphate:	No
	Polyaluminum Chloride (PAC):	No
	Polyelectrolytes:	No
	Polyphosphates:	No
	Potassium Hydroxide (Caustic Potash):	No
	Potassium Permanganate:	Yes
	Silica:	No
	Sodium Aluminate:	No
	Sodium Bicarbonate (Baking Soda):	No
	Sodium Carbonate (Soda Ash):	No
	Sodium Chloride (Salt):	Yes
	Sodium Fluoride:	No
	Sodium Fluorosilicate:	No
	Sodium Hydroxide (Caustic Soda):	No
	Sodium Hypochlorite:	No
	Sodium Permanganate:	No
	Sodium Thiosulfite:	No
	Sulfur Dioxide:	No
	Sulfuric Acid:	No
	Ultraviolet:	No
	Others:	POLYMER, ORTHOPHOSPHATE,
Fluoride System		
	Saturator System:	Not Applicable

	Saturator Cleanout Date (recommended annually or as needed):	
	Saturator Feed Line Flow Meter	N/A
	Saturator Flow Rate	n/a
	Feed Water Hardness (ppm as calcium carbonate)"	n/a
	[BLANK]	
	Saturator Instructions:	..
	Comments:	
	Dry System:	Not Applicable
	Dry Hopper Scale Mounted	N/A
	Comments:	
	Tablet System:	Not Applicable
	Tablet System Flow Rate:	n/a
	Comments:	
	Hydrofluorosilicic Acid (HFS) System:	Satisfactory
	Hydrofluorosilicic Acid (HFS) Bulk Tank Size (gallons):	8200
	HFS Day Tank Size (dimensions in inches):	.
	HFS Day Tank Size (gallons):	300
	HFS Day Tank Limitations:	.
	HFS Day Tank Loss of Suction Point (lbs if scale used and inches if volumetric loss used):	.
	HFS Day/Bulk Tank Vented to the Outside Atmosphere:	Satisfactory
	Transfer Pump:	Yes
	Liquid Level Limit Switch:	Satisfactory
	HFS Usage Table:	Yes
	Comments:	
	[BLANK]	
		Ensure only a maximum 30-hour supply of (HFS) is kept in the day tank to prevent exceeding the MCL

Plant Safety Equipment

Syphon Breakers Rating:	Satisfactory
Comments:	
Ventilation Rating:	Satisfactory
Forced Ventilation Switch Location:	
Comments:	
Chemical Storage Rating:	Satisfactory
Comments:	
Method Of Measurement:	Scales
Method of Measurement Rating:	Satisfactory
Comments:	ULTRA SONIC
Secondary Containment:	Satisfactory
Comments:	

Operator Safety Equipment

Respirator Available:	Yes
Comments:	
Face Shield/Safety Glasses Available:	Yes
Comments:	
Gloves Available:	Yes
Comments:	
Apron/Coat Available:	Yes
Comments:	
Eye Wash Station/Deluge Shower:	Satisfactory
Eye Wash Station/Deluge Shower Maintenance Check (recommended monthly):	Satisfactory
Comments:	
Safety Data Sheets (SDS) On-Hand	Yes

Laboratory and Records

Tester Brands:	CH EZ-CHECK
Fluoride Tester Instruction Manual On-Hand	Yes
Fluoride Tester Calibration Frequency	daily
Tester Brand Rating:	Satisfactory

	Comments:	
	Adequate Reagent Supply:	Satisfactory
	Comments:	
	Reagent Up-To-Date (Include either the expiration date or the Lot number in the comments):	Satisfactory
	Comments:	
	Monthly Operating Reports:	Satisfactory
	Last Month AVG-Daily Usage in Pounds:	983.1
	Last Month AVG Daily Pre-Population Results:	4.1
	Last Month AVG Tap Reading:	0.99
	Last Month AVG Raw Reading:	0.09
	Comments:	
	505 Reporting:	Satisfactory
	505 Sample Locations (First Plant/Second Distribution):	Satisfactory
	505 Dates:	Satisfactory
	[BLANK]	The first sample shall be collected from the plant tap during the first week of the month.
		The second sample collected at a point of maximum retention, during the third week of the month
	In Compliance Year to Date:	Yes
	CDC Quality Award Received Two Years Previously	Yes
	Housekeeping:	Satisfactory
	Comments:	
Distribution		
	Point Of Injection:	Satisfactory
	Injection Site:	prior to clearwell
	Comments:	
	Chemical Feeder:	Satisfactory
	Comments:	Day Tank - 280g max Bulk Tank - 8200 max
	Feeder's Brand:	Jesco
	Peristaltic Pump Tube Size	.

	Feeder Model #:	.
	Feeder Size:	.
	Setting:	.
	Speed:	0
	Stroke:	0
On-Site Observation		
	Fluoride Rating:	Satisfactory
	Comments:	PLANT IN COMPLIANCE ALL YEAR. SAMPLES SENT IN ON TIME. WELL RUN PLANT. VERY PROFESSIONAL PLANT.
	Private Labs:	State Lab
	Other Water Treatment Systems Directly Connected:	.
	Other Water Treatment Systems Water Sold To:	.
	Other Water Treatment Systems Water Purchased From:	.
	[BLANK]	
	Facility Entrance:	Yes
	Laboratory:	Yes
	Fluoride Tester:	Yes
	Fluoride Room:	Yes
	Ventilation:	Yes
	Fluoride Metering Pump Tag:	Yes
	Overall Fluoride System (Saturator, Bulk/Day Tank, Dry Hopper, Tablet):	Yes
	Injection Site:	Yes
	Scales (if applicable):	Yes
	Anti-Syphon Device (if applicable):	Yes
	Eye Wash/Deluge Shower Station (if applicable):	Yes
	[BLANK]	
	Split Rating:	Satisfactory
	Raw:	
	Saturator Sample:	.
	Insp:	1.12

	Plant:	0.97
	LAB:	0.86
	Comments:	Need to call Bob Money to schedule inspection
	[BLANK]	We appreciate all the work and effort this year in staying in compliance with the fluoride program.
		If any issues arise, please contact your water fluoridation specialist.

FLUORIDE ANALYSIS REPORT

A

PWS ID 0340250		Trans Code 03		Local Analysis: Collected by: <u>Jess Bastley 112</u>		097	
1-7 Contain. ID 1025		14-16 Analysis Method 107		17-20 Analysis Results 086		21 Dec. 2	
10-13 Location Code 001		17-16 Mo. Sample Date 061623		17-20 Yr. Type P		21 Sample Time (ACT) 1030	
17-16 Lab ID 001		22-27 Mo. Day 0622		22-27 Day 22		23-27 Yr. 23	
Name of Supply: KY American Water		County: Fayette		Sample Type Key: C - Check D - Distribution P - Plant R - Raw S - Special			
Address: 9300 Cedar Creek Lane Lexington KY 40515		Phone: 40515		Date Received: 6/16/23		Lab No.: 23622272	
Analyst: HJ		Collected for Health and Family Services LAB 505 (Rev. 8/97)					

Inspection Report

GenTrack Item # 226		
Section	Field Name	Response
Facility		
	Region:	Northern
	PWS ID:	0340250B
	Category:	Plants
	Facility Name:	KENTUCKY AMERICAN WATER CO. B
	Status:	Active
	GPS Location:	
	Physical Address:	2300 RICHMOND RD
	Mailing Address:	
	City:	LEXINGTON
	State:	KY
	Zip Code:	40505
	Phone:	859 268-6317
	Plant Email:	bob.money@amwater.com
	County:	Fayette
	Fluoridation:	Yes
	Contact First Name:	Bob
	Contact Last Name:	Money
	Contact Address 1:	
	Contact Address 2:	Op on Duty Cell
	Contact Phone Number:	859-537-0743
	Contact Email:	
GenTrack Item # 226 - 9		
Section	Field Name	Response
General		
	Inspection Date:	06/16/2023
	Inspector:	Lucas Bentley
	Inspector Information:	275 east Main Street Frankfort KY 40621 Office Phone: 502-564-3246 Home Phone: Lucas.Bentley@ky.gov Active
	Operator On Duty First Name:	Bob

Operator On Duty Last Name:	Money
Contact Address 1:	
Contact Address 2:	
Contact Phone:	859 268-6348
Certification Number:	.
Water Plant Operator Certification Level:	IVA
Facility Classification Level:	IVA
[BLANK]	If the Water Plant Operator on Duty is not certified or does not have a certification equal to
	or higher than the Facility Classification, include the name and certification number of the
	operator responsible for the facility instead.
Water Source:	Surface Water
Fluoridation Type:	Acid
Service Connections:	130000
Populations Served:	349700.00
AVG Production:	12 MGPD
Flow Rate (Influent)(GPM):	8333 GPM
Master Meter (Raw):	Satisfactory
Design Capacity:	40 MGPD
PWSI Number:	0340250b
GPS Coordinates:	37.904274 -84.377505
Comments:	25 MGD is what we had, Switched to match DOW ASK
Chemical Treatment	
Activated Carbon (Activated Charcoal):	Yes
Aluminum Chloride:	No
Aluminum Chlorohydrate:	No
Aluminum Potassium:	No
Aluminum Sulfate (Alum):	No
Amonia:	Yes
Calcium Hydroxide (Hydrated Lime):	No
Calcium Oxide (Quick Lime):	No
Carbon Dioxide:	No
Charcoal:	No
Chlorine (gas):	Yes

	Chlorine (liquid):	No
	Chlorine Dioxide:	No
	Copper Sulfate:	Yes
	Ferric Chloride:	No
	Ferric Sulfate:	No
	Hydrofluorosilicic Acid (HFS):	Yes
	Hydrochloric Acid:	No
	Hydrochlorites:	No
	Hydrogen Peroxide:	No
	Hydroxide Ammonium:	No
	Phosphate:	No
	Polyaluminum Chloride (PAC):	No
	Polyelectrolytes:	No
	Polyphosphates:	No
	Potassium Hydroxide (Caustic Potash):	No
	Potassium Permanganate:	Yes
	Silica:	No
	Sodium Aluminate:	No
	Sodium Bicarbonate (Baking Soda):	No
	Sodium Carbonate (Soda Ash):	No
	Sodium Chloride (Salt):	Yes
	Sodium Fluoride:	No
	Sodium Fluorosilicate:	No
	Sodium Hydroxide (Caustic Soda):	No
	Sodium Hypochlorite:	No
	Sodium Permanganate:	No
	Sodium Thiosulfite:	No
	Sulfur Dioxide:	No
	Sulfuric Acid:	No
	Ultraviolet:	No
	Others:	POLYMER, ORTHOPHOSHATE.
Fluoride System		
	Saturator System:	Not Applicable

	Saturator Cleanout Date (recommended annually or as needed):	
	Saturator Feed Line Flow Meter	N/A
	Saturator Flow Rate	n/a
	Feed Water Hardness (ppm as calcium carbonate)"	n/a
	[BLANK]	
	Saturator Instructions:	<p>*If issues arise with the saturator, please contact your water fluoridation specialist and check the following:</p> <ul style="list-style-type: none"> • Saturated solution of the chemical should be approximately 18,000 ppm and can be verified through either your private lab or the state lab. Be sure to let the lab know that this is a saturated sample by writing the information on the Lab 505 form in red ink and putting "Saturator Sample" at the top of the form. If the results are below 18,000 ppm, saturation of the chemical is not occurring, and the following items need to be checked. <p>If the saturator has not been cleaned out within the last year, a thorough breakdown and cleanout of the saturator and all parts is recommended. Special attention should be given to the complete cleanout of the spider and all connections in the saturator. The flow rate of the feed water flowing through the saturator should not exceed 2 GPM.</p> <p>The hardness of the feed water of the saturator should not exceed 75 ppm as calcium carbonate. If it does, installation of a water softener is recommended.</p> <ul style="list-style-type: none"> • If the results are approximately 18,000 ppm, a drawdown of the metering pump should be conducted to verify proper operation. Contact your water fluoridation specialist to identify the proper dose rate of the metering pump.
	Comments:	
	Dry System:	Not Applicable
	Dry Hopper Scale Mounted	N/A
	Comments:	
	Tablet System:	Not Applicable
	Tablet System Flow Rate:	n/a
	Comments:	
	Hydrofluorosilicic Acid (HFS) System:	Satisfactory
	Hydrofluorosilicic Acid (HFS) Bulk Tank Size (gallons):	.
	HFS Day Tank Size (dimensions in inches):	.
	HFS Day Tank Size (gallons):	.
	HFS Day Tank Limitations:	.

	HFS Day Tank Loss of Suction Point (lbs if scale used and inches if volumetric loss used):	.
	HFS Day/Bulk Tank Vented to the Outside Atmosphere:	Satisfactory
	Transfer Pump:	Yes
	Liquid Level Limit Switch:	Satisfactory
	HFS Usage Table:	Yes
	Comments:	
	[BLANK]	
		Ensure only a maximum 30-hour supply of (HFS) is kept in the day tank to prevent exceeding the MCL
Plant Safety Equipment		
	Syphon Breakers Rating:	Satisfactory
	Comments:	
	Ventilation Rating:	Satisfactory
	Forced Ventilation Switch Location:	
	Comments:	
	Chemical Storage Rating:	Satisfactory
	Comments:	
	Method Of Measurement:	Scales
	Method of Measurement Rating:	Satisfactory
	Comments:	ULTRA SONIC
	Secondary Containment:	Satisfactory
	Comments:	
Operator Safety Equipment		
	Respirator Available:	Yes
	Comments:	
	Face Shield/Safety Glasses Available:	Yes
	Comments:	
	Gloves Available:	Yes
	Comments:	
	Apron/Coat Available:	Yes
	Comments:	
	Eye Wash Station/Deluge Shower:	Satisfactory

	Eye Wash Station/Deluge Shower Maintenance Check (recommended monthly):	Satisfactory
	Comments:	
	Safety Data Sheets (SDS) On-Hand	Yes
Laboratory and Records		
	Tester Brands:	CH EZ-CHECK
	Fluoride Tester Instruction Manual On-Hand	Yes
	Fluoride Tester Calibration Frequency	daily
	Tester Brand Rating:	Satisfactory
	Comments:	
	Adequate Reagent Supply:	Satisfactory
	Comments:	
	Reagent Up-To-Date (Include either the expiration date or the Lot number in the comments):	Satisfactory
	Comments:	
	Monthly Operating Reports:	Satisfactory
	Last Month AVG-Daily Usage in Pounds:	294.6
	Last Month AVG Daily Pre-Population Results:	4.1
	Last Month AVG Tap Reading:	0.94
	Last Month AVG Raw Reading:	0.22
	Comments:	
	505 Reporting:	Satisfactory
	505 Sample Locations (First Plant/Second Distribution):	Satisfactory
	505 Dates:	Satisfactory
	[BLANK]	The first sample shall be collected from the plant tap during the first week of the month.
		The second sample collected at a point of maximum retention, during the third week of the month
	In Compliance Year to Date:	Yes

	CDC Quality Award Received Two Years Previously	Yes
	Housekeeping:	Satisfactory
	Comments:	
Distribution		
	Point Of Injection:	Satisfactory
	Injection Site:	post-filtration
	Comments:	
	Chemical Feeder:	Satisfactory
	Comments:	Setting: 1.03 GPH
	Feeder's Brand:	Vacon
	Peristaltic Pump Tube Size	.
	Feeder Model #:	.
	Feeder Size:	6.1 GPH
	Setting:	.
	Speed:	0
	Stroke:	0
On-Site Observation		
	Fluoride Rating:	Satisfactory
	Comments:	PLANT IN COMPLIANCE ALL YEAR. SAMPLES SENT IN ON TIME. WELL RUN PLANT. VERY PROFESSIONAL PLANT.
	Private Labs:	Kentucky America
	Other Water Treatment Systems Directly Connected:	.
	Other Water Treatment Systems Water Sold To:	.
	Other Water Treatment Systems Water Purchased From:	.
	[BLANK]	
	Facility Entrance:	No
	Laboratory:	No
	Fluoride Tester:	No
	Fluoride Room:	No
	Ventilation:	No
	Fluoride Metering Pump Tag:	No

	Overall Fluoride System (Saturator, Bulk/Day Tank, Dry Hopper, Tablet):	No
	Injection Site:	No
	Scales (if applicable):	No
	Anti-Syphon Device (if applicable):	No
	Eye Wash/Deluge Shower Station (if applicable):	No
	[BLANK]	
	Split Rating:	Satisfactory
	Raw:	
	Saturator Sample:	.
	Insp:	1.10
	Plant:	1.15
	LAB:	0.94
	Comments:	Serve as their own certified lab Need to call Bob Money to schedule inspection
	[BLANK]	We appreciate all the work and effort this year in staying in compliance with the fluoride program.
		If any issues arise, please contact your water fluoridation specialist.

FLUORIDE ANALYSIS REPORT

PWVS ID 0340250		Trans Code 03		Local Analysis: 115	
1-7 Contam ID 1025		8-9 Analysis Method 107		Collected by: Lucas Bentley 110	
10-13 Location Code 001		14-16 Sample Date 10/23		17-20 Analysis Results 094	
20-30		31-36		37-41	
42-46		47-51		52-56	
Name of Supply: K Y American Water		City: Leavenworth		State: KS	
Address: 2900 Richmond Rd		City: Leavenworth		State: KS	
Date Received: 11/23		Lab No: 2306222261		Analyst: WJ	
Sample Type Key: C - Check D - Distribution P - Plant R - Raw S - Special		County: Pawnee		Collector for Health and Family Services LAB. 505 (Rev. 8/97)	

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: William A. Lewis

30. Refer to the Lewis Testimony at 26.
- a. Provide an update on the April 24, 2023 short-term contract with a third-party vendor to perform locating services for 6 months. Consider this a continuing request during the pendency of the case.
 - b. If Kentucky American reassigned internal staff that had been performing locating services, explain in detail whether the short-term contract provides any savings to the customers.

Response:

- a. To date, the short-term contract is working as expected. As anticipated, there was a reasonable learning curve for the vendor as they adopted KAWC mapping and service order technologies and data, but the vendor is currently meeting KAWC performance expectations. As noted on page 26 of Mr. Lewis' Direct Testimony, KAWC will evaluate the effectiveness of using the third-party vendor to perform locate services once the contract has been in place for a period of 6 months.
- b. KAWC did reassign internal staff to perform other duties during this trial. KAWC does not presently have enough data to assess potential cost savings at this time. While cost savings related to reduced overtime pay are expected, utilizing a third-party vendor has allowed KAWC to redeploy existing employee resources to focus on unaccounted-for water, customer service, meter reading, and other work activities that do have a direct future impact to improving customer service levels and reducing operational costs.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: William A. Lewis

31. Refer to the Lewis Testimony at 34 – 35. Explain in detail whether Kentucky American has investigated whether the water meter could be moved to the connection of the private main for any of its 270 Special Connections. If not, explain why not.

Response:

For clarification, special connection properties do have multiple meters serving distinct units downstream of the actual tie-in to the KAWC system. These are typically domestic size meters serving smaller separate units. Examples would include a shopping center with multiple store fronts, a business campus with multiple buildings or an apartment complex, to name a few. It is technically feasible to install a new and larger meter to the connection with KAWC's system, however the following issues would have to be resolved:

- a. The existing special connection agreements with property owners would have to be amended to general metered water service agreements inclusive of all applicable charges;
- b. The individual metered units, now served from the private main through a KAWC owned meter, are KAWC customers with active customer accounts. There would need to be an approved process by which these accounts are terminated by KAWC and an arrangement made between property owner and tenant for cost of water service. In this scenario, KAWC would only have a revised or new metered water service agreement with the actual property owner;
- c. Larger special connections may have dedicated fire service lines and fire hydrants on the private mains. KAWC would have to identify a metering solution that would not restrict flow to fire equipment or this could require property owners to make onsite improvements to their existing water system including, but not limited to, dedicated fire connections to the KAWC system, upsized piping, dedicated fire suppression water storage and pumping;
- d. Larger connections have multiple points of connection with the KAWC system. Meters would need to be installed at each point of connection. Again, KAWC would have to identify metering solutions that are capable of bidirectional metering to account for water flow that may flow through the special connection and back into the KAWC system.

There are benefits to this approach and KAWC is open to further discussion on this matter. The above response is intended only to illustrate some of the challenges involved with modifying the metering location of special connections.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: William A. Lewis

32. Refer to the Lewis Testimony at 36 – 39.
- a. Explain in detail why Kentucky American's unaccounted-for water loss has been increasing since 2016.
 - b. Provide the unaccounted-for water loss percentage for each month of 2023 to the present date.
 - c. Provide a citation to all Orders, if any, in which the Commission has granted a utility's request for deviation from the 15% unaccounted-for water loss requirement pursuant to 807 KAR 5:066, Section 6(3).

Response:

- a. The request presents a simple question covering a complex and changing situation. As discussed in witness Lewis' testimony at pages 36-39, special connections are a portion of the system over which KAWC has little control. Within KAWC's system and those connected to it, there are many sources of unaccounted-for water including:
 1. Leaking KAWC-owned underground infrastructure: As infrastructure ages, the occurrence of pipe breaks, hydrant leakage and service line leakage is more likely. The currently approved and programed rate of below-grade infrastructure replacement through the QIP is on a 200-year cycle and therefore the risk of higher rates of failure increases as a result of increasing age.
 2. Leaking privately owned underground infrastructure: As with number 1 above, the age of privately owned below-grade infrastructure, referred to here as special connections, continues to age and suffer from deferred maintenance. In fact, there is no requirement for the owner of privately owned infrastructure to implement an asset management program. This infrastructure will continue to pose an increasing risk of failure and leakage that will result in unmetered water loss.
 3. Unmetered water loss/usage on privately owned fire lines: Similar to the aging infrastructure conditions noted in both number 1 and 2 above, aging fire lines and fire suppression systems owned by others will continue to be a source of water loss. Fire lines servicing fire systems are not metered save for a small detector check meter to verify continuous usage in accordance with KAWC's tariff. These meters are not designed or intended to meter all flow through the larger fire main servicing the property. Aging privately owned infrastructure leakage and unauthorized domestic/industrial use of the fire line for a convenient source of public water continues to be a source of water loss.

4. Metered usage: Slow or stuck water meters at or nearing end of useful life are a source of unaccounted for water. KAWC's meter stock is not evenly spread out by age and larger numbers of meters are coming due for replacement. Some portion of unaccounted-for water is likely attributable to this.
5. Water theft: Unapproved and unreported use remain a source of unaccounted-for water.

b.

2023 Water Loss by Month	
January	20.10%
February	16.55%
March	21.90%
April	31.78%
May	27.50%
June	14.69%
July	Data not available until EOM

- c. KAWC does not maintain records of all PSC orders, all of which are publicly available, and as such is unable to respond to this request. The regulation, however, states that a water utility can file an application or motion that requests an alternative level of reasonable unaccounted-for water loss to be established by the Commission, which is the request KAWC has made in this case.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Kathryn Nash

33. Refer to the Direct Testimony of Kathryn Nash (“Nash Testimony”), at 11.
- a. Provide the monetary amount that customers contributed to the Help to Others (“H2O”) program versus the monetary amount that Kentucky American’s shareholders contributed for the years 2018 – 2023.
 - b. Explain why the maximum grant amount was increased from \$125 to \$250 though the end of 2023.

Response:

- a. Customer contributions to the H2O Help to Others Program forwarded by Kentucky American Water to the program administrator, Dollar Energy Fund, from 2018-2023 were:

2018: \$88

2019: \$304

2020: \$440

2021: \$320

2022: \$320

2023: TBD; customer funds collected are transferred to Dollar Energy Fund annually in October

Kentucky American Water shareholder contributions to Dollar Energy Fund for the H2O Help to Others program from 2018 – 2013 were:

2018: \$67,500

2019: \$74,264

2020: \$74,264

2021: \$74,264

2022: \$74,264

2023: Payment scheduled for October 2023 and will be \$74,264

- b. The Company extended the maximum grant amount from \$125 to \$250 through the end of December 2023 in an effort to further assist income-eligible customers who are still facing financial challenges post-pandemic, and because the H2O Help to Others program has sustained an unusually high balance of funds for the past two years. The latter is likely due to the establishment of other temporary, government-funded programs, such as the Low-Income Home Water Assistance Program, that became available during the

pandemic. In compliance with PSC order the Company must fund the program annually with a minimum donation of \$74,264 regardless of the customer demand for funds, so a build-up of funds has been experienced.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Jeffrey Newcomb

34. Refer to the Direct Testimony of Jeffrey Newcomb (“Newcomb Testimony”), at 10 – 11. Explain whether the request to utilize Backflow Solutions, Inc. (“BSI”) to serve as a third-party administrator of the cross-connection control annual certification process in the pending rate case differs from the request made by the Company in Case No 2022-00425.⁴ If the request is the same, explain why it is being made in the pending case when the Commission denied the requested changes in Case No. 2022-00425, and opened up an investigation into the same.

Response:

The request is the same with the exception of the addition of testimony that details the challenges, or opportunities for improvement, that are addressed by the Company’s proposed language clarifying cross-connection backflow certifications. The Commission’s Final Order in Case No. 2022-00425 does not preclude Kentucky-American from making the request in this case. The Company believes this proceeding is an appropriate forum for the request that offers the Commission and interested parties the opportunity to further consider Kentucky-American’s proposed revisions to its cross-connections policy. The Company also still believes the request is in the interest of customers and the protection of the public water system, and my testimony describes how BSI helps address the challenges and opportunities for improvement of the current certification process.

⁴ Case No. 2022-00425, *Electronic Tariff Filing of Kentucky-American Water Company to Revise its Cross-Connection Policy* (Ky. PSC Dec. 22, 2022).

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Jeffrey Newcomb

35. Refer to the Newcomb Testimony at 13 – 14.
- a. Provide the monetary amount that Kentucky American included in the revenue requirement for payment processing fees, with a breakdown between each payment type.
 - b. Provide the fee that is currently passed to the customer to pay the water bill with a credit card.
 - c. Based upon its proposal, explain why Kentucky American believes it to be fair, just, and reasonable for customers who pay the water bill with cash or check to subsidize and pay for the fees associated with customers paying the bill with a credit card.
 - d. Provide all forms of payment that Kentucky American currently accepts from member customers to pay the utility bill, as well as the corresponding fees that the Company pays for each payment type, as well as all fees assessed to the member customers for each payment type.
 - e. Provide a list of all investor-owned utilities in Kentucky that do not charge a fee to customers who pay the bill using a credit card, and citations to the Commission Order(s) approving of the inclusion of the fees in the revenue requirement.

Response:

- a. Kentucky-American included \$349,284 in the revenue requirement for payment processing credit card fees.
- b. The current credit card fee paid directly by customers is \$1.95.
- c. Kentucky-American believes it is in customers' best interest to offer no fee electronic payments to all of our customers. Regardless of the customer's payment method, with the exception of the credit card and e-check option, there is a cost to process the customer's payment. These costs are currently spread across the customer base and collected as part of base rates. Kentucky-American believes that credit card and e-check transaction fees should be treated no differently than costs of other payment methods offered to our customers.

- d. Kentucky-American accepts cash, check, and credit card payments from a customer to pay their utility bill through various processing methods and vendors. Customers can make in person payments of cash or check at third party locations, which Kentucky-American has agreements. If a customer utilizes a third-party agent, there is no fee charged to the customer, however, Kentucky-American is charged an agent fee, along with a per transaction fee ranging from .25 - .50 cents for cash or check payments depending on the location and agreement. Customers can mail payments via check directly to a lock box for processing or make payment via a direct debit from their checking account (ACH), and there is no fee charged directly to the customer to process lock box payments. Kentucky-American pays a fee of roughly .08 cents per transaction for each payment processed via the lock box. The customer processing fee for credit cards is 1.95. The processing fee incurred by customers for e-checks is also \$1.95 per transaction, unless the customer has a MyWater account. If the customer has a MyWater account, the customer is not charged an e-check fee. Currently, Kentucky-American does not incur a fee if the customer opts to pay via credit card or e-check. If the credit card and e-check fees are no longer charged directly to customers, Kentucky-American will pay 1.95 for American Express payments, 1.50 for all other credit card types, and .45 for every e-check transaction.
- e. Kentucky-American is not aware of investor-owned utilities in Kentucky that do not charge a fee to customers who pay their bill using a credit card.

**KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION**

Witness: Charles Rea

36. Refer to the Direct Testimony of Charles Rea (“Rea Testimony”), at 16.
- a. Provide the names of the two customers on contract rates, which are not subject to the pending rate increase.
 - b. Explain in detail why the contract customers should not be required to absorb a portion of the pending requested rate increase.

Response:

- a. The customers under contract rates are Harrison County Water Association and Nicholas County Water District.
- b. The rates for the two contract customers are based on the signed agreements for those customers.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Charles Rea

37. Refer to the Rea Testimony at 18 – 33, which discusses the proposed Universal Affordability tariff.
- a. Explain how the proposed low-income rate does not violate KRS 278.170.
 - b. Discuss whether Kentucky American is aware of the Commission Order in Case No. 2020-00160,⁵ in which the Commission denied Water Service Corporation of Kentucky's request for a low-income rate as a matter of law.
 - c. If Kentucky American is aware of the Commission's decision in Case No. 2020-00160, why did the Company propose a low-income rate in the pending case?
 - d. Identify any and all utilities in the state of Kentucky that have a Commission approved low-income rate.
 - e. If the low-income customers receive a discounted rate, then do the rest of the Kentucky American customers have to make up the difference, or will the shareholders of the Company be contributing to the loss of revenue? Explain the response in detail.

Response:

- a. Please see the response to Item No. 69 of Commission Staff's Second Request for Information.
- b. KAW is aware of the referenced order. As explained in its response to Item No. 69 of the Commission Staff's Second Request for Information, KAW believes that the Universal Affordability Tariff is consistent with KRS 278.170 and would benefit its low-income customers.
- c. See the response to subpart b.
- d. KAW is unaware of utilities in Kentucky that have a Commission-approved low-income rate.
- e. Please see the response to Item No. 69 of Commission Staff's Second Request for Information.

⁵ Case No. 2020-00160, *Electronic Application of Water Service Corporation of Kentucky for a General Adjustment in Existing Rates* (Ky. PSC Dec. 8, 2020) at 36 – 38.

KENTUCKY-AMERICAN WATER COMPANY
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ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Charles Rea

38. Refer to the Rea Testimony at 21 – 22.

- a. The Company estimates that there are approximately 11,000 water customers with household incomes at or below 100% of the federal poverty level that would qualify for service under the Company's proposed Universal Affordability tariff. Kentucky American further asserts that for a one person household, a customer could qualify for a 20% discount low-income rate if the customer made up to \$14,580 annually. Explain in detail how it would be fair, just, or reasonable to require a one person household that makes \$14,581 to pay a higher water rate in order to subsidize a low-income rate for those who make \$14,580.
- b. Explain who would conduct the income verification for the proposed Universal Affordability Tariff, and who will cover the costs of the same.

Response:

- a. It is common practice to use multiples of Federal Poverty Level to qualify people for assistance programs of various types, including assistance programs for utility services including the type of program proposed by the Company.
- b. The Company plans to utilize a third party vendor to conduct income verification for the proposed Universal Affordability program and manage the program. There are no costs currently included in revenue requirements for management of this program. In the long run, administrative costs will be included in revenue requirements and recovered from customers.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL’S FIRST REQUEST FOR INFORMATION

Witness: Melissa Schwarzell

39. Refer to the Application generally and to the Direct Testimony of Melissa Schwarzell (“Schwarzell Testimony”) generally.
- a. Provide the number and type of all meters that Kentucky American currently has in its system (e.g. Automated Meter Reading (“AMR”), Advanced Metering Infrastructure (“AMI”), manual read meters, etc.).
 - b. Confirm or deny that Kentucky American’s current meters are providing reliable service to its customers.
 - c. Provide the total estimated monetary amount for the proposed AMI project, and provide a breakdown of the same.
 - d. Explain in detail all alternatives to the proposed AMI that were reviewed by Kentucky American, if any.
 - e. Explain whether any cost savings associated with the proposed AMI were included in the pending case. If so, explain the cost savings in detail. If not, explain why not.

Response:

a.

Row Labels	Count of Equipment
AMI	276
Badger - LTE-M Cellular - AMI	275
Badger - LTE-MS Cellular - AMI	1
AMR	141524
Mueller - RF - AMR	33300
Neptune - RF - AMR	108224
Manual	222
(blank)	222
Grand Total	142022

b) Kentucky American has approximately 142 thousand individual meters and endpoints in service, and there are likely, at any point in time, a certain number of those assets that may be experiencing issues. Meter and endpoint performance are monitored through the company’s exception management and customer service processes, with work orders

created to investigate concerns with meters as they arise, and to replace broken, damaged, or problematic equipment as needed.

In addition to performing this type of break / fix work, the Company also follows a proactive program of regularly scheduled meter replacement. As described in Figure 3 of Exhibit A to the Application, the company follows various schedules for testing and replacing meters, depending on the size and cost of the meter as well as the frequency of required testing.

c. Please see KAW_R_AGDR1_NUM039__081823_Attachment.

d. Please refer to Exhibit A of the application, page 13 through 15 for the "Alternative Metering Technology Considered" and the "Scenarios Modeled for Cost and Benefit" sections.

e. There are some field service representative labor benefits and associated vehicle benefits that are captured in the Cost Benefit Analysis in 2024 and 2025. These were considered when the company contemplated the number of field service representative positions required for providing service during the test year. The expectation is that benefits created by AMI during the test year can reduce certain demands on FSR resources and thus free up bandwidth to support a greater percentages of service order completion.

Cost Benefit Analysis- Length of Service Basis AMI Cellular Program

Technology Type

AMI
Cellular
Selected
Technology

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043

Incremental Capital

Capex (inclusive of both removal and installation costs)	\$ 14,643,525	\$ 6,423,787	\$ 6,681,174	\$ 2,817,387	\$ 6,104,211	\$ 4,968,958	\$ 671,942	\$ 3,045,058	\$ 2,656,289	\$ 4,778,089	\$ 16,978,785	\$ 7,449,469	\$ 7,748,287	\$ 3,266,835	\$ 7,077,886	\$ 5,764,818	\$ 779,143	\$ 3,532,361	\$ 3,083,765	\$ 5,539,851
Retirements	\$ (9,422,621)	\$ (4,134,069)	\$ (4,299,862)	\$ (1,933,122)	\$ (4,188,286)	\$ (3,410,961)	\$ (461,049)	\$ (2,090,085)	\$ (1,824,416)	\$ (3,278,187)	\$ (13,134,722)	\$ (5,762,880)	\$ (5,994,044)	\$ (2,527,211)	\$ (5,475,425)	\$ (4,459,641)	\$ (602,742)	\$ (2,732,621)	\$ (2,385,589)	\$ (4,285,607)

Incremental Annual Cost Net of Benefits (Capital Shown from Customer Perspective: Depreciation & Pre-Tax Return)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
Maintenance, Subscription Fees, and Lease Fees, if applicable	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Depreciation	\$ 261,045	\$ 636,576	\$ 870,128	\$ 1,033,407	\$ 1,173,416	\$ 1,347,112	\$ 1,435,557	\$ 1,493,850	\$ 1,583,192	\$ 1,699,781	\$ 1,966,979	\$ 2,243,512	\$ 2,415,553	\$ 2,540,247	\$ 2,657,351	\$ 2,802,733	\$ 2,876,812	\$ 2,925,619	\$ 3,000,515	\$ 3,098,136
Property Tax	\$ 73,715	\$ 205,547	\$ 277,602	\$ 277,393	\$ 271,046	\$ 277,516	\$ 244,274	\$ 196,591	\$ 161,717	\$ 137,494	\$ 210,478	\$ 298,300	\$ 318,620	\$ 307,702	\$ 290,422	\$ 288,733	\$ 241,586	\$ 178,013	\$ 129,649	\$ 94,082
Pre Tax Rate of Return	\$ 563,156	\$ 1,583,251	\$ 2,190,234	\$ 2,295,336	\$ 2,359,769	\$ 2,516,021	\$ 2,396,783	\$ 2,177,745	\$ 2,049,259	\$ 1,996,666	\$ 2,530,105	\$ 3,129,130	\$ 3,311,989	\$ 3,302,397	\$ 3,253,913	\$ 3,302,152	\$ 3,069,994	\$ 2,736,587	\$ 2,497,324	\$ 2,337,383
Incremental Costs	\$ 897,917	\$ 2,425,374	\$ 3,337,963	\$ 3,606,136	\$ 3,804,232	\$ 4,140,650	\$ 4,076,614	\$ 3,868,187	\$ 3,794,169	\$ 3,833,941	\$ 4,707,562	\$ 5,670,942	\$ 6,046,162	\$ 6,150,346	\$ 6,201,686	\$ 6,393,618	\$ 6,188,392	\$ 5,840,219	\$ 5,627,488	\$ 5,529,602
Efficiency- Meter Reading Labor	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (429,488)	\$ (880,394)	\$ (902,347)	\$ (924,848)	\$ (947,909)	\$ (971,546)	\$ (995,772)	\$ (1,020,602)	\$ (1,046,051)	\$ (1,072,135)	\$ (1,098,869)
Efficiency - Service Order Labor	\$ (113,317)	\$ (281,951)	\$ (391,467)	\$ (475,795)	\$ (556,922)	\$ (657,260)	\$ (718,005)	\$ (764,538)	\$ (827,892)	\$ (905,973)	\$ (966,054)	\$ (990,143)	\$ (1,014,833)	\$ (1,040,138)	\$ (1,066,074)	\$ (1,092,657)	\$ (1,119,903)	\$ (1,147,828)	\$ (1,176,450)	\$ (1,205,785)
Efficiency - Vehicle fleet cost, fuel, maintenance	\$ (10,989)	\$ (26,923)	\$ (37,013)	\$ (44,581)	\$ (51,707)	\$ (60,415)	\$ (65,645)	\$ (69,693)	\$ (74,789)	\$ (129,637)	\$ (184,273)	\$ (186,915)	\$ (189,822)	\$ (192,762)	\$ (196,082)	\$ (198,825)	\$ (202,150)	\$ (205,470)	\$ (208,560)	\$ (212,329)
Incremental Benefits	\$ (124,305)	\$ (308,873)	\$ (428,480)	\$ (520,376)	\$ (608,628)	\$ (717,675)	\$ (783,650)	\$ (834,231)	\$ (902,681)	\$ (1,465,098)	\$ (2,030,721)	\$ (2,079,406)	\$ (2,129,503)	\$ (2,180,809)	\$ (2,233,702)	\$ (2,287,254)	\$ (2,342,655)	\$ (2,399,349)	\$ (2,457,144)	\$ (2,516,983)
Costs Net of (Benefits)	\$ 773,611	\$ 2,116,501	\$ 2,909,483	\$ 3,085,760	\$ 3,195,603	\$ 3,422,975	\$ 3,292,964	\$ 3,033,956	\$ 2,891,488	\$ 2,368,843	\$ 2,676,841	\$ 3,591,536	\$ 3,916,660	\$ 3,969,536	\$ 3,967,984	\$ 4,106,364	\$ 3,845,737	\$ 3,440,870	\$ 3,170,343	\$ 3,012,619
Uncollectibles and Utility Reg Assessment Fee	\$ 5,828	\$ 15,944	\$ 21,917	\$ 23,245	\$ 24,072	\$ 25,785	\$ 24,806	\$ 22,855	\$ 21,782	\$ 17,844	\$ 20,165	\$ 27,055	\$ 29,504	\$ 29,903	\$ 29,891	\$ 30,933	\$ 28,970	\$ 25,920	\$ 23,882	\$ 22,694
Total Costs Net of (Benefits)	\$ 779,439	\$ 2,132,445	\$ 2,931,401	\$ 3,109,005	\$ 3,219,676	\$ 3,448,760	\$ 3,317,770	\$ 3,056,811	\$ 2,913,269	\$ 2,386,688	\$ 2,697,006	\$ 3,618,591	\$ 3,946,164	\$ 3,999,439	\$ 3,997,875	\$ 4,137,297	\$ 3,874,707	\$ 3,466,790	\$ 3,194,226	\$ 3,035,313

Rate
0.007533

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Larry Kennedy

40. Refer to the Application generally.
- a. Provide the remaining useful life of the existing meter infrastructure. If the existing meter system has not been fully depreciated, explain: (i) how Kentucky American proposes to recover those stranded costs; and (ii) whether the stranded costs were taken into consideration in any cost-benefit analysis the Company may have conducted.
 - b. If the existing meter system has not been fully depreciated, provide the plant in service, accumulated depreciation, and net book value of the meter system as of December 31, 2022, the most current month with actual information, and projected as of December 31, 2023.

Response:

a. The composite remaining life of the assets in Accounts 334.100, 334.110, 334.120, 334.130, and 334.131 is provided in the Concentric report on Table 1, Column 12. The overall composite remaining life of the five accounts is approximately four years. As these assets were installed over a variety of vintages, a composite remaining life of four years is reasonable. The net book value as indicated in Part B of this response will be recovered over the remaining life of the assets, in the same manner as all other plant accounts.

b. As indicated in Table 1 of the depreciation study, at December 31, 2022, the net book value of Accounts 334.100, 334.110, 334.120, 334.130, and 334.131 is \$30,826,926. This amount is inclusive of the recovery of net salvage amount of negative 15 percent. The net book value is calculated as follows:

Account Number	Account Name	Original Cost	Accumulated Depreciation	Net Book Value	Future Accrual Requirement *
334.10	Meters	\$27,125,504	\$3,506,116	\$23,619,388	\$27,688,214
334.110	Meters Bronze Case	\$2,428,792	\$955,952	\$1,472,840	\$1,837,159
334.120	Meters Plastic Case	\$476,069	-\$365,031	\$841,100	\$912,511
334.130	Meters Other	\$6,675,822	\$2,298,558	\$4,377,264	\$5,378,638
334.131	Meter Reading Units	\$727,628	\$211,295	\$516,333	\$625,477
	TOTAL	\$37,433,816	\$6,606,890	\$30,826,926	\$36,441,998

* Future Accrual Requirement is calculated as (Original Cost * 1.15)-
Accumulated Depreciation

Date	Accounts	Original Cost	Accumulated Depreciation	Net Book Value
July 31, 2023	same as above	\$39,261,228	\$4,946,706	\$34,314,522
December 31, 2023	same as above	\$42,874,809	\$7,252,335	\$35,622,473

KENTUCKY-AMERICAN WATER COMPANY
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ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Melissa Schwarzell

41. Refer to the Application generally. Explain whether Kentucky American conducted any cost-benefit analyses regarding the proposed AMI system, or any component parts thereof, which is the subject of the Company's Certificate of Public Convenience and Necessity ("CPCN") application in the instant docket. If so:
- a. Provide a copy of all such analyses;
 - b. Ensure that the analyses indicate the source of all cost savings that the AMI deployment will provide; and,
 - c. Explain whether the analyses included potential savings derived from enhanced leak detection capability of an AMI system.

Response:

- a. Please see KAW's Confidential response to PSC 2-12, Attachment 1 – CBA and Exhibit A to KAW's Application.
- b. & c. Please see Application Exhibit A, pages 17 and 18, for a description of the financial benefits measured in the CBA. These are all included in the file provided as Attachment 1 to PSC 2-12. Please also see direct testimony of Melissa Schwarzell, page 11, lines 3-18, the for a description of which potential benefits would be in addition to those quantified in the CBA, including those related to enhanced leak detection.

**KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION**

Witness: David Hill

42. Refer to the Application generally.
- a. Provide all technical specifications of the AMI meters that Kentucky American proposes to procure.
 - a. Provide all technical specifications of all component parts of the proposed AMI system, including back-haul equipment and communication modules.

Response:

Reference Appendix B within Exhibit A of Application for technical Specs (Meters and Communication Modules). There is no associated back haul equipment proposed.

KENTUCKY-AMERICAN WATER COMPANY
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ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Melissa Schwarzell and David Hill

43. Refer to the Application generally. Provide the expected lifespan of the AMI meters that Kentucky American proposes to procure.

Response:

Kentucky American intends to replace 5/8" and 1" meters after 10 years, as part of normal periodic proactive replacement (with the option to extend life up to 15 years depending on future performance, given the deviation granted in Case No. 2009-00253.)

Please see Figure 3 of Application Exhibit A for the Company's planned testing and replacement practices for 1.5"-2" and 3" and larger meters.

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ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Melissa Schwarzell and David Hill

44. Refer to the Application generally. Explain whether the communications modules for the proposed AMI meters are built-into the meter, or are a separate component.
- a. If a separate component, provide the expected lifespan of the module.
 - b. If the battery for the communications module is a separate component, provide the projected lifespan of the battery for the communications module.

Response:

- a. The AMI endpoints that the Company proposes to purchase are detachable from the meters by connecting a “plug-in” type cable and have a 10 year expected lifespan. At this time, the Company intends to replace the endpoints on the same cycle as the meters but anticipates having the option to extend the service life of either the meter or the endpoint in the future, if this were desirable, given the connectors that could facilitate replacement of just one component or the other.
- b. The battery component for the communications module is embedded, not separable.

**KENTUCKY-AMERICAN WATER COMPANY
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ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION**

Witness: John Watkins

45. Refer to the Application generally. Identify the utility(ies) that provides electric service to Kentucky American's service territory.

Response:

The Company receives electric service from Jackson Energy Cooperative, KU – Kentucky Utilities Company, and Owen Electric Cooperative.

KENTUCKY-AMERICAN WATER COMPANY
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ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Melissa Schwarzell

46. Refer to the Application generally. Explain the measures Kentucky American took to determine whether any existing communications networks in the Company's service territory have the capabilities of transmitting data between the AMI meters (once deployed) and the Company's offices. In addition, provide the results of any due diligence conducted in this regard.

Response:

By using cellular endpoints, KAWC is proposing to leverage existing communications networks. Please see the "Cellular AMI as the Preferred AMI Technology" section on page 5 of Exhibit A to the Application, for a description of this advantage. Please also see the "Metering Technology Selected" section on page 14 of Exhibit A for further discussion of the advantages of the selected brand. To determine the cellular AMI endpoints to purchase and install that are supported by existing cellular networks (i.e., AT&T and Verizon), the Company and the selected vendor performed a Cellular Coverage Analysis ("CCA"). Copies of these analyses are provided as:

KAW_AGDR1_NUM046_081823_Attachment 1 CONFIDENTIAL
KAW_AGDR1_NUM046_081823_Attachment 2 CONFIDENTIAL
KAW_AGDR1_NUM046_081823_Attachment 3 CONFIDENTIAL
KAW_AGDR1_NUM046_081823_Attachment 4 CONFIDENTIAL

KAW_R_AGDR1_NUM046_081823_ATTACHMENT 1_CONFIDENTIAL
KAW_R_AGDR1_NUM046_081823_ATTACHMENT 2_CONFIDENTIAL
KAW_R_AGDR1_NUM046_081823_ATTACHMENT 3_CONFIDENTIAL
KAW_R_AGDR1_NUM046_081823_ATTACHMENT 4_CONFIDENTIAL

**FILED UNDER SEAL PURSUANT TO THE PETITION FOR
CONFIDENTIAL TREATMENT FILED ON AUGUST 18, 2023**

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Melissa Schwarzell

47. Refer to the Application generally. Explain whether Kentucky American conducted any due diligence as to utilizing a new all-AMR meter reading system, together with attendant costs. If not, why not?
- a. If Kentucky American conducted any such due diligence, provide all such results.
 - b. Provide a discussion regarding all other alternatives Kentucky American considered.

Response:

Please see Exhibit A to the application, especially pages 13-20, for a discussion of the alternative paths considered, including a new AMR system, as well as the results and conclusions. Please also see the direct testimony of Melissa Schwarzell. Please also see the Company's response to PSC 2-12.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Melissa Schwarzell and David Hill

48. Refer to the Application generally. Provide a discussion regarding the degree to which the proposed new AMI infrastructure will be compatible with Kentucky American's current billing, customer service, and other systems. Include in your discussion the extent to which Kentucky American considered interoperability between its existing systems and the proposed AMI infrastructure, together with the potential for obsolescence.

Response:

The proposed AMI infrastructure has been integrated into the American Water Billing, Customer Information Systems (CIS) and customer service work management since June of 2022, and Kentucky American will be utilizing the same system of other American Water affiliates. The proposed new AMI meters and communication modules will be utilizing an LTE-M cellular strategy. LTE-M stands for "Long Term Evolution for Machines" and it is based on a low power and low bandwidth needs of the AMI communications module. This technology avoids the traditional maintenance costs, interoperability and obsolescence concerns of a fixed based asset driven systems. This approach uses existing cellular networks and the long-term strategy of cellular providers to provide a stable reliable network for the continued use and evolution of IOT (Internet of Things) devices.

KENTUCKY-AMERICAN WATER COMPANY
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ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: David Hill

49. Explain whether any of Kentucky American's meters are located in underground vaults. If so, provide a discussion on the difficulties involved with creating an RF network capable of receiving all transmissions from underground meters.

Response:

Approximately 3,340 meters are currently in vaults, requiring at least 2 people for entry. According to manufacturer guidance, the pit endpoint (which transmits the rf signal) has been designed to give consistent range as long as the antenna is above the lid. Mounting below the lid will dramatically decrease range. The wall endpoint is not potted and should not be mounted in a pit setting where possible submersion could occur. Both water and metal affect range of rf transmission and cause difficulties when reading said installed devices.

More than 99% of Kentucky American meters are located outside in meter pits. Meter pits are below grade by 24 to 36 inches. These pits have lids which can be easily removed by field technicians. Meter vendors provide solutions and lid recommendations to allow for reliable signal strength between the communications module and the closest cellular tower. Kentucky American plans to utilize recommended composite lid material which is transparent for the cellular signal or a "through the lid" antennae solution which has been designed by the manufacturer for reliable signal propagation.

Underground Vaults can be best described as a larger structure that a field technician can fit inside and are typically used for much larger meters and other equipment. They typically have locked metal doors. If an AMI meter is located within one of these structures, we would use a "vault kit" to mount the communications module outside of that structure so a signal can be reliably sent to the tower.

KENTUCKY-AMERICAN WATER COMPANY
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ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Melissa Schwarzell

50. Refer to the Application generally. In the event the Commission grants the CPCN for AMI, explain what Kentucky American will do with its current meter reading personnel. Also, provide the monetary savings in meter reading expense Kentucky American expects to achieve through the deployment of the AMI metering infrastructure, and explain whether any of those savings will be related in any manner to the current meter reading personnel. Finally, detail any projected meter reading expense savings included in the Company's filing.

Response:

For a discussion of meter reading labor redeployment plans, please see the Company's response to PSC 2-9. Likewise, please also see the Company's response to PSC 2-15 for a discussion on how costs will shift away from the function of meter reading once the entire service territory has been converted to AMI, sometime between 2033 and 2023.

Regarding the financial benefit of reduced demands on meter reading labor, please see the Company's response to AG 1-39 part c, which shows the anticipated financial benefits.

Finally, given the plan to redeploy resources and the timing of meter reading benefits (which are not expected to begin until 2033 and 2034) no meter reading expense savings are included in the February 2024-January 2025 forecasted test year.

KENTUCKY-AMERICAN WATER COMPANY
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ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: David Hill

51. Refer to the Application generally. Explain whether Kentucky American anticipates utilizing any remote shut-off valves after the AMI infrastructure is installed.

Response:

While remote “partial shut” shut off technology is available as an option in the selected vendor’s products, Kentucky American has no current plans to use this technology as part of their deployment. If there is a business case to evaluate this technology, it remains an option subject to appropriate testing and approvals.

**KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION**

Witness: John Watkins

52. Refer to the Lewis Testimony and the Direct Testimony of Robert Mustich (“Mustich Testimony”) generally. Provide copies of Kentucky American’s short term variable compensation plan, also called the Annual Performance Plan (“APP”).

Response:

Please see the confidential attachments labeled as follows:

KAW_R_PSCDR1_NUM033_071823_Confidential_Attachment1 and

KAW_R_PSCDR1_NUM033_071823_Confidential_Attachment2.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: John Watkins

53. Refer to the Lewis Testimony and the Mustich Testimony generally. Provide copies of Kentucky American's long-term compensation plan, also called the Long-Term Performance Plan ("LTPP").

Response:

Please see the confidential attachment labeled as follows:
KAW_R_PSCDR1_NUM033_071823_Confidential_Attachment3.

**KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION**

Witness: John Watkins

54. Refer to the Lewis Testimony and the Mustich Testimony generally. Provide the average tenure for Kentucky American employees eligible for the LTPP.

Response:

The current average tenure for Kentucky-American employees eligible for LTPP is 9.6 years.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Robert Mustich and John M. Watkins

55. Refer to the Mustich Testimony generally. List and describe all benefits that are given/paid to employees that would be included in the "benefit portion" for the Target Total Remuneration calculation. Also, indicate how many employees qualify for each benefit.

Response:

With the exception of Long-term disability benefits not being available to union employees, the benefits that are made available to all KAWC employees in the benefits portion of total remuneration include:

- Active medical/pharmacy/vision benefits
- Active dental benefits
- Life/accidental death and dismemberment (AD&D) insurance
- Sick leave/short-term disability benefits
- Long-term disability benefits
- Retirement savings plan
- Stock purchase plan
- Vacation

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: John Watkins

56. Refer to the Direct Testimony of Patrick Baryenbruch (“Baryenbruch Testimony”), Exhibit PLB-2, page 7. Provide the Service Company charges that were assigned to Kentucky American for the years 2018 – 2022 in the same format as the tables included in the above-referenced exhibit.

Response:

Please see the table below for the Service Company charges allocated to Kentucky-American for the years 2018-2022.

	2018	2019	2020	2021	2022
Support Services - O&M	\$ 9,805,103	\$ 10,397,139	\$ 11,999,497	\$ 12,533,560	\$ 12,020,271
Support Services - Capital	3,771,834	4,207,060	3,633,198	3,318,757	4,487,819
Total Service Company Charges	\$ 13,576,936	\$ 14,604,199	\$ 15,632,695	\$ 15,852,317	\$ 16,508,090

KENTUCKY-AMERICAN WATER COMPANY
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ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: John Watkins

57. Refer to the Baryenbruch Testimony generally. Provide all detail for the assignment of Service Company charges to Kentucky American. In your response, begin with American Water Total Service Company charges and show how those costs were assigned to each affiliate of American Water. Indicate whether the costs were direct assigned or allocated for each affiliate of American Water. For those costs that were allocated, provide a detailed spreadsheet that shows the allocation of those costs to each affiliate of American Water and a detailed breakdown of the allocation factor by American Water affiliate. The response should show the breakdown of the allocation factors for each affiliate of American Water. For example if customers are the allocation factor, the response should show the different customer levels for each affiliate of American Water. Provide this information separately for the years 2018-2022.

Response:

The Company objects to this question to the extent it seeks charges to affiliates other than Kentucky-American Water. Without waiving the objection, please see the attachments listed below for the requested Kentucky American Water information.

2018	KAW_R_AGDR1_NUM057_081823_Attachment 1
2019	KAW_R_AGDR1_NUM057_081823_Attachment 2
2020	KAW_R_AGDR1_NUM057_081823_Attachment 3
2021	KAW_R_AGDR1_NUM057_081823_Attachment 4
2022	KAW_R_AGDR1_NUM057_081823_Attachment 5

KENTUCKY-AMERICAN WATER COMPANY
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ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: John Watkins

58. Refer to the Baryenbruch Testimony generally. Explain in detail whether American Water provides service company functions to any unregulated operations or private entities. If yes, list all unregulated operations or private entities that the service company provides services.

Response:

American Water Works Service Company, Inc. ("AWWSC") is a wholly owned subsidiary of American Water Works Company, Inc. ("American Water"), that provides services to American Water's operating subsidiaries, which include market-based businesses not subject to economic regulation by state Public Utility Commissions and other supporting entities. Additionally, AWWSC provides lab services to private entities not affiliated with American Water.

Please see [KAW_R_AGDR1_NUM058_081823_Attachment](#) for a list of entities.

KAW_R_AGDR1_NUM058_081823_Attachment
Case No. 2023-00191
<u>American Water Subsidiaries:</u>
Military Services Group
Contract Services Group
One Water Street LLC
Liberty Water Company
E'town Services LLC
American Water Capital Corp.
Laurel Oak Properties Inc.

Private Entities not Affiliated with American Water
NJ Research Aclarity
Village of Addison - IL
Adrian Water Plant - MI
Albany Water Gas and Light Commission - GA
Alto Pass Water District - IL
City of Alvin - TX
Ambler Boro Water Dept - PA
American Water Engineering - NJ
Appalachian States Analytical - KY
Arizona American Water - AZ
Arkansas Dept of Health
Research Arvia - NJ
City of Ashland - OH
Auburn Hills
AWE - Fairless Hills - MSG - PA
Fort Rucker - MSG - AL
AWE - US Steel - PA
Aw Research Lt2 Proj. # Wrf-06-003 - NJ
Village Of Beckemeyer - IL
Bedford Regional Water Authority - VA
Belmont Labs - OH
Benton Sewer And Water Authority - PA
City of Bethany - OK
Boone County Consolidated Public Water Supply District #1
Booz Allen Hamilton - TX
Camden - NJ
Canoe Brook Algae Control SC-0118-8C002301
Carbondale Central Laboratory
Village of Caseyville - IL

Cass County - MO
City of Casselberry - FL
Central Water System - LA
Auth. of Boro of Charleroi - PA
City of Chesapeake - VA
Chester Water Dept - IL
Chesterfield TWP DPW - MI
Children of Promise - IL
City of Troy - MI
Clarksburg Water Board - WV
Clinton Township - MI
Cobb County Water System - GA
Concordia Water Cooperative - IL
Concord Water and Sewer Division - MA
Corona Environmental Consulting
Cranberry Township
Daigre Residential Testing - LA
Davenport City Hall - IA
Davidson Water Inc - NC
City of Daytona Beach - FL
City of Decatur - IL
Del-Co Water Company Inc - OH
CAWC Descanso Division - CA
City of Dodge City - KS
Eastern Analytical Inc - NH
East Alabama Water Sewer Fire Protection District - AL
East Cullman Water System Inc - AL
East Hanover TWP Water Dept
City of East Lansing - MI
AWS East Palo Alto - CA
Edgartown Water Department - MA
Edgecombe Water & Sewer Co
City of Edwardsville - IL
EJ Water Co-Op - IL
Emergency
Environ International Corp.- IL
Envirotech Laboratories Inc - MA
EPCOR - AZ & NM
EQ Lab Dominican Republic
Environmental Quality Labs - PR
Eurofins Eaton Analytical
Evansville Water & Sewer Utilities - IN
Eyes On The Future - IL

Fair Lawn Water Department - NJ
Falls Water Company Inc - ID
Fayetteville Public Utilities
City of Ferndale - MI
Fitzgerald Utilities - GA
AWE Fort AP Hill - MSG - VA
Fort Belvoir - MSG - VA
AWE - US Army South Fort Hood - MSG - TX
Fort Meade - MSG - MD
Fort Polk - MSG - LA
Fort Riley Main Post System - MSG - KS
AWE - Fort Sill - MSG - OK
Fosterburg Water District - IL
Fouser Environmental Services - KY
AWE - Fort Leavenworth - MSG - KS
Fort Leonard Wood - MSG - MO
Galena - IL
City of Gardner - KS
Global Enviromental Testing LLC - NJ
Grace Village - IN
Grand Haven Township - MI
City of East Grand Rapids
Grand Haven - MI
City of Grand Prairie - TX
City of Greensboro Water Supply Division - NC
Grosse Ile - MI
Halfway Carrol Water System - LA
City of Hamilton - MO
Hanover Municipal Water Works
City of Haysville - KS
Henderson Municipal Water & Sewer
Hawaii American Water
City of Highland
Hill AFB - MSG - UT
Hillsville Utility District
Hoyleton - IL
Hoyleton-New Minden - IL
ComWell - IL
Illinois Environmental Protection Agency - IL
Inima USA Aquaria Water LLC - MA
Innovation and Environmental Stewardship SeaBoard Foods - NJ
Indiana American Water - WasteWater
Joint Base Lewis McChord - MSG - WA

Joint Base San Antonio - MSG - TX
JW Marriott - IL
Kent Water Department - WA
Keramida Inc - IN
Killion Construction Co - IL
Kingston Water Dept - MA
Kinkaid Area Water System - IL
Knox Chapman Utility District - TN
Lafayette Water Works
Lafourche Parish Water District 1
City of Las Vegas - NM
City Of Lebanon - IL
Lee County Utilities Authority - GA
LEIDOS Corporation - TX
Lewisburg Water - TN
Lincoln County Water Treatment Plant - NC
City of Lincolnton - NC
Macomb Township Water & Sewer - MI
City of Madison Heights - MI
City of Manassas Park - VA
Manchester Water Dept - TN
Marion Municipal Water Dept - IA
Village Of Maryville - IL
Meadville Area Water Authority - PA
Meridian Township - MI
Village of Midlothian - IL
City of Minot - ND
Minot Air Force Base - ND
OTOE - Missouri Tribe WTP - OK
Mitchell Public Water Dept - IL
Missouri Air National Guard - MO
City of Moline Water Division - IL
City of Monroe - GA
Monroeville Municipal Authority - PA
City of Morris - IL
Missouri American Water - WasteWater
Mt Vernon - IL
Murdale Water District - IL
City of Muskegon - MI
North Morgan Water Coop - IL
City Of Nashville - IL
Village Of New Berlin - IL
New Minden - IL

New Jersey Research - WRF 4461
New Jersey American - Research Biostability - NJ
Innovation and Environmental Stewardship - Tank DBP - NJ
New Jersey Research Projects
North Canton Drinking Water Plant - OH
Village of Northbrook - IL
Norton Shores - MI
NYAW Plant 1 Recycle Study - NJ
Oak Bluffs Water District - MA
O Fallon Water Dept. - IL
Orville Water District - IL
Owensboro Municipal Utilities
Pennsylvania Research Projects
Pace Analytical - FL
Pace Analytical - NY
City of Papillion - NE
PDC Laboratories Inc - IL
PDC Laboratories Inc - MO
Penn State University - PA
People Service Inc - MO
City of Peru - IL
Picatinny Arsenal - MSG - NJ
City of Pigeon Forge - TN
Pinehill Water System - LA
City of Plano - TX
Plum Borough Municipal Authority - PA
Plymouth Water Department - MA
Pompton Lakes Borough Municipal Utilities Authority - NJ
Pontiac Christian School - IL
Pontoon Beach Water Dept - IL
Precision Analytical Services - NJ
Prairie State Generating Company - IL
North Coast Superaqueduct Project - PR
Village of Radom
Reamer Hill Water Assoc - WV
Rend Lake Intercity Water - IL
Residential Well Testing - IL
City of Rio Rancho - NM
City of Rochester Water Treatment Facility - NH
Rochester Hills - MI
South Granville Water & Sewer Authority - NC
South Orange Village - CSG - NJ
Scott AFB - MSG - IL

Sanders Environmental - IL
Village Of Sandoval - IL
Village of Schaumburg - IL
Scott Air Force Base - IL
Charter TWP of Shelby DPW - MI
Shippensburg Boro Water Authority - PA
Signal Mountain Utility District - TN
Town of Silver City - NM
City of Smithville - MO
Town of Somerset Water Department - MA
Spring Hill Water Dept - TN
St Mary Parish Water And Sewer - LA
State Hygienic Laboratory - IA
City of Sterling Heights - MI
St Louis Testing Laboratories Inc - MO
Suburban Laboratories - IL
City of Taylorville Water Dept - IL
Teklab Inc - IL
Trinity Lutheran School - IL
City of Troy - IL
Tulahoma Board of Utilities
Belcourt Turtle Mountain Public Utilities Rural Water - ND
Vandalia Water Plant - IL
Vandenberg AFB - MSG - CA
City of Villa Rica - GA
West Bloomfield Water Dept - MI
West Chicago School - IL
Washington County Water Co - IL
Washoe County Community Services Department - NV
Charter Township of Waterford - MI
City of Waterloo
City of Wentzville - MO
West Point - MSG - NY
CAWC Wild Wings - CA
Wilkinsburg Penn Joint Water Authority - PA
City of Williamsburg - VA
City of Williston
Village of Wilmette - IL
City of Winchester - VA
Village Of Woodlawn Water Dept - IL
Village of Woodridge - IL
Village Of Worden Water Dept - IL

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: John Watkins and Jeffrey Newcomb

59. Refer to the Application, Exhibit 37, C-1. Provide the breakdown of the Operating and Maintenance costs in the same format as those costs are presented in Kentucky American's Annual Report that is submitted to the Kentucky Public Service Commission.

Response:

Kentucky-American does not prepare the forecast of Operating and Maintenance costs ("O&M") for the Exhibit 37, C-1 in the same format by NARUC account as required in the Annual Report that is submitted to the Kentucky Public Service Commission.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Kathryn Nash

60. Refer to the Nash Testimony at 8, lines 9-10. Confirm that the 3800 gallon usage figure was intended to indicate a monthly volume and not a daily volume.

Response:

The 3,800 gallon usage figure referenced in Ms. Nash's testimony is the monthly average residential usage, not daily usage.

KENTUCKY-AMERICAN WATER COMPANY
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ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Charles Rea

61. Refer to the Rea Testimony generally. Provide the average number of household members for Kentucky American's customer base for each year 2018 – 2022. Provide the information separately by year.

Response:

The Company estimates that the average number of household members per for Kentucky American's customer base is 2.44 for 2021 and 2.40 for 2022. The Company does not have estimates prior to 2021.

KENTUCKY-AMERICAN WATER COMPANY
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ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Charles Rea

62. Refer to the Rea Testimony, Charts 6 – 10. Explain whether these Charts correctly reflect the estimated daily consumption of water, or if it they are actually reflecting the estimated monthly consumption of water.

Response:

Charts 6 through 10 reflect estimated daily consumption of water, with the leftmost point on each chart representing January 1 and the rightmost point on each chart representing December 31.

KENTUCKY-AMERICAN WATER COMPANY
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ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Charles Rea

63. Refer to the Rea Testimony generally. Provide the monthly Cooling Degree Days (“CDD”), Heating Degree Days (“HDD”), and Rainfall (“RAINn”) that Mr. Rea relied on to annualize residential and commercial revenues. Also, provide the normalized totals for each variable that Mr. Rea used.

Response:

Please refer to the “Weather” tab in the attached file labeled “KAW_R_AGDR1_NUM_063_081823_Attachment” for the information requested. This is the excel version of KAW_DT_Rea_Exhibit CBR-3.

**KENTUCKY-AMERICAN WATER COMPANY
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ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION**

Witness: Charles Rea

64. Refer to the Rea Testimony at 38 and 44.
- a. Confirm that Mr. Rea decreased residential usage for the impacts of COVID-19.
 - b. Provide the reduced usage that Mr. Rea proposed for COVID-19 for the months of April 2020 through December 2021.
 - c. What was the gallon effect from Mr. Rea's analysis of COVID-19 on his projected usage-per-customer?

Response:

- a. Confirmed. The Company's modeling takes into account changes in usage resulting from the COVID pandemic from April 2020 through December 2021. Normalized (for COVID) usage for residential customers is decreased in that period and normalized usage for commercial customers is increased for the same period.
- b. See below:

COVID-Normalized Use per Customer

Year	Month	Residential	Commercial
2020	1	4.28	31.77
2020	2	2.92	27.35
2020	3	3.76	29.84
2020	4	3.76	29.25
2020	5	3.74	27.14
2020	6	4.28	30.96
2020	7	5.32	44.10
2020	8	4.88	42.44
2020	9	4.68	43.04
2020	10	4.17	38.57
2020	11	3.45	33.76
2020	12	3.20	29.41
2021	1	3.97	33.29
2021	2	3.23	29.54
2021	3	3.40	30.10
2021	4	3.55	33.43

2021	5	3.78	34.68
2021	6	4.11	35.70
2021	7	4.50	41.81
2021	8	4.42	40.21
2021	9	4.37	42.57
2021	10	3.76	38.33
2021	11	3.54	36.23
2021	12	3.32	33.45
2022	1	4.08	32.99
2022	2	3.45	30.87
2022	3	3.31	29.36
2022	4	3.40	32.22
2022	5	3.89	34.77
2022	6	4.13	34.70
2022	7	4.69	42.43
2022	8	5.03	41.51
2022	9	3.91	39.47
2022	10	5.21	45.61
2022	11	3.51	35.51
2022	12	3.65	32.39

- c. The gallons effect estimated from Mr. Rea's modeling is 146.4 gallons per residential customer and 1580.5 gallons per commercial customers as indicated in Table 12 and 13 of his Direct Testimony.

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Witness: Charles Rea

65. Refer to the Rea Testimony, at 50, Chart 11. Explain in detail whether Chart 11 indicates that usage per customer in 2022 for the effects of normalized weather and COVID-19 would indicate an increase in usage per customer from previous years excluding 2020.

Response:

It would not. Chart 11 shows a persistent general declining trend in use per customer over the 2013 through 2022 period, with normalized use per customer for 2022 being the second lowest normalized value for the entire ten-year period with 2021 being the lowest.

**KENTUCKY-AMERICAN WATER COMPANY
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ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION**

Witness: Charles Rea

66. Refer to the Rea Testimony at 50, Chart 11. Provide a similar chart with the effects of normal weather and COVID-19 separately identified.

Response:

Please see attached excel file KAW_R_AGDR1_NUM066_081823_Attachment.

KENTUCKY-AMERICAN WATER COMPANY
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ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Charles Rea

67. Refer to the Rea Testimony at 50 – 51. Provide the annual sales revenues, gallons sold, and customer levels for the 12 months ending March 2023.

Response:

Please see table below for the annual sales revenue, water sales in hundred gallons and average customer count for the 12 months ended March 2023.

12 Months Ended March 2023	Base Revenue	QIP Revenue	Water Sales (100 Gallons)	Average Customer Count
Residential	\$57,839,301	\$2,245,246	60,455,760	124,241
Commercial	27,070,174	1,050,837	41,139,108	9,421
Industrial	2,595,883	98,639	5,663,234	26
Municipal	6,852,717	261,668	12,124,465	769
SFR	1,466,814	55,858	3,356,987	17
Miscellaneous	127,477	4,953	172,682	59
Fire Services	7,531,366	308,410	90,222	2,526
Total	\$103,483,731	\$4,025,610	123,002,457	137,058

KENTUCKY-AMERICAN WATER COMPANY
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ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Shelley Porter

68. Refer to the Direct Testimony of Shelley Porter ("Porter Testimony"), Porter Exhibit 1. Explain in detail whether this exhibit includes the increased capital projects for the requested expansion of the QIP infrastructure. If yes, provide the Capital Spend Forecast without the QIP Infrastructure expansion request.

Response:

Porter Exhibit 1 includes the increased capital project costs related to expansion of the QIP infrastructure in the amount of \$21,069,495 for Year 2025, under Line R12-***B1. Please see KAW_R_AGDR1_NUM068_081823_Attachment for the Capital Spend Forecast without the QIP Infrastructure expansion request.

Kentucky American Water
Capital Project Spend Forecast w/o proposed QIP expansion
2023-2025

Business Unit	Project #	Project Title	2019	2020	2021	2022	2023	2024	2025
		RECURRING PROJECTS							
Kentucky	R12-**A1	Mains - New					749,886	765,000	748,549
Kentucky	R12-**B1	Mains - Replaced / Restored					24,179,084	21,585,200	21,408,975
Kentucky	R12-**C1	Mains - Unscheduled					1,566,342	1,659,999	1,660,000
Kentucky	R12-**D1	Mains - Relocated					2,325,200	700,000	1,416,000
Kentucky	R12-**E1	Hydrants, Valves, and Manholes - New					325,518	419,500	419,500
Kentucky	R12-**F1	Hydrants, Valves, and Manholes - Replaced					2,278,540	2,266,799	2,320,000
Kentucky	R12-**G1	Services and Laterals - New					1,676,432	3,247,500	3,344,500
Kentucky	R12-**H1	Services and Laterals - Replaced					515,001	1,205,000	1,205,000
Kentucky	R12-**I1	Meters - New					534,288	45,500	45,500
Kentucky	R12-**J1	Meters - Replaced					5,190,900	13,352,672	7,754,482
Kentucky	R12-**K1	ITS Equipment and Systems (Local)					450,443	401,589	789,604
Kentucky	R12-**L1	SCADA Equipment and Systems					228,024	899,000	683,000
Kentucky	R12-**M1	Security Equipment and Systems					405,953	625,000	625,000
Kentucky	R12-**N1	Offices and Operations Centers					1,414,540	793,000	550,000
Kentucky	R12-**O1	Vehicles					885,000	1,400,000	1,000,000
Kentucky	R12-**P1	Tools and Equipment					719,524	2,041,100	484,955
Kentucky	R12-**Q1	Process Plant Facilities and Equipment					3,027,729	3,209,499	2,866,000
Kentucky	R12-**S1	Engineering Studies					158,411	75,000	75,000
Kentucky	R12-**T12	ITS Equipment and Systems - Enterprise Solutions					3,343,170	2,996,000	2,996,000
		TOTAL RPs					49,973,985	57,687,358	50,392,066
		INVESTMENT PROJECTS							
Kentucky	I12-020059	KRS2 Transfer Switch							211,348
Kentucky	I12-020082	KRS1 UV Facility						1,045,351	7,674,348
Kentucky	I12-020083	RRS - UV Facility					953,352	2,056,314	
Kentucky	I12-020094	Cox Street Booster Station					872,894	200,000	
Kentucky	I12-020095	Mercer Rd Booster Station					251,806	1,127,063	
Kentucky	I12-020102	KRS1 Low Service Pump Improvements						2,000,000	202,228
Kentucky	I12-020107	KRS1 Gravity Thickener					1,079,821	7,000,000	
Kentucky	I12-020108	Meter Shop Upgrade					443,109		
Kentucky	I12-020109	Ford Hampton Booster Station					335,397	1,416,814	
Kentucky	I12-020113	Millersburg Transmission Main					736,000	12,100,000	
Kentucky	I12-02xxx2	KRS 1 Screw Press							2,895,386
Kentucky	I12-02xxx3	Winchester Road Hydraulic Improvements					574,586		

Kentucky	I12-02xxx5	Low Service Pumps for RRS							2,257,393
Kentucky	I12-02xxx9	KRS1 Hydrotreater Drive Replacement 1 & 2					400,000		
Kentucky	I12-02xx15	KRS1 Low Service Pump Replacement					99,000		
Kentucky	I12-300010	KRS2 - UV Facility					3,389,182	164,000	
Kentucky	I12-300013	Owenton Booster Station					600,000	800,000	
		Total Investment Projects					9,735,148	27,909,543	13,240,703
		Total RP and IPs					59,709,133	85,596,901	63,632,768

KENTUCKY-AMERICAN WATER COMPANY
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ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Shelley Porter

69. Refer to the Porter Testimony at 23, wherein she discusses Project 112-020107 Kentucky River Station Gravity Thickeners (\$8,000,000). Ms. Porter alludes to the fact that sludge dredging of the lagoons will decrease. Has Kentucky American factored this decreased sludge dredging into the rate case? If so, provide detailed work papers showing how this investment savings was included in the rate case. If not, explain in detail why not.

Response:

Kentucky-American has not factored a decrease in sludge dredging costs in this rate case, as a reduction in costs associated with dredging will not be realized until full implementation of the sludge master plan, which requires construction of the sludge dewatering facilities.

KENTUCKY-AMERICAN WATER COMPANY
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ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Shelley Porter

70. Refer to the Porter Testimony at 24 – 25, wherein she discusses Project 112-020113 Millersburg Transmission Main (\$12,800,000). Will this new main reduce the amount of purchased water to supply the Millersburg system? If yes, were the savings from not purchasing water included in the rate case? If so, provide detailed work papers showing how this investment savings was included in the rate case. If not, explain why not in detail.

Response:

Once the distribution main is constructed to Millersburg, Kentucky-American will no longer purchase water from other entities to supply the Millersburg system. KAWC anticipates this will reduce operating costs, as KAWC's variable incremental cost to produce water is less than the cost of purchasing water from Paris Water Works. In 2022, KAWC purchased approximately 76.3 million gallons (MG) from Paris Water Works to service Millersburg at a total cost of approximately \$187,000. Based on a variable incremental production cost of approximately \$0.60 per 1,000 gallons for KAWC to supply the same volume of water, KAWC's cost would be approximately \$46,000.

The main is not anticipated to be placed into service until December 2024 and is dependent upon timing and outcomes of required approvals. Based on the anticipated in-service date for the project, material operational savings associated with the project are not expected to be realized until after the rate case test year.

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ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Shelley Porter

71. Refer to the Porter Testimony at 25, wherein she discussed Project 112-300013 Owenton Booster Station (\$1,560,000). Will this new booster station reduce the amount of purchased water to supply the Owen County system? If yes, were the savings from not purchasing water included in the rate case? If so, provide detailed work papers showing how this investment savings was included in the rate case. If not, explain in detail why not.

Response:

Once completed, tested, and placed into service, the new Owenton booster station and associated tank will allow Kentucky-American to reduce purchased water costs from Carroll County Water, eliminating the need to purchase water for the Wheatley area which is served wholly by purchased water. This project is anticipated to go into service December 2024.

The differential savings between purchased water costs and the incremental cost of producing water, additional power, communications, and operational costs for the new booster, are not included but if the project is finished in December 2024 as planned, the reduction in purchased water in the last month of the test period (January 2025) is estimated at \$3,160.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Harold Walker

72. Refer to the Direct Testimony of Harold Walker III (“Walker Testimony”), Schedule HW-1, page 2 of 6. Provide a citation in the Kentucky American service agreement with American Water that requires prepayments of service company charges. Also, provide all work papers showing the expense lag for these charges and all support why these charges should be treated as a prepayment.

Response:

The Service Company exists to provide services to American Water affiliates at cost. The Service Company makes no profit from the provision of these services. Service Company’s billing terms are meant to match expenses with the receipt of payments from affiliates which are the beneficiaries of the services. Attached as KAW_R_AGDR1_NUM072_081823_Attachment A is a copy of the Company’s service agreement with the Service Company which discusses the billing terms for services provided.

Attached as KAW_R_AGDR1_NUM072_081823_Attachment B is a copy of the “work papers showing the expense lag for these charges and all support why these charges should be treated as a prepayment.”

AGREEMENT

Agreement dated January 1, 1989, between AMERICAN WATER WORKS SERVICE COMPANY, INC., a Delaware corporation (hereinafter "Service Company"), and KENTUCKY-AMERICAN WATER COMPANY, a Kentucky corporation (hereinafter "Water Company").

The background of this Agreement is that:

1. Both Service Company and Water Company are subsidiaries of American Water Works Company, Inc., a Delaware corporation (hereinafter "American").
2. Water Company has been organized for and is presently engaged in the business of providing potable water as a public utility in the State of Kentucky.
3. Service Company maintains an organization whose officers and employees are familiar with all facets of the water utility business, including the development, business and property of Water Company, and are experienced in the efficient management, financing, accounting and operation of water utility properties and the extension and improvement thereof. The officers and employees of Service Company are qualified to aid, assist and advise Water Company in its business operations through the services to be performed under this Agreement.
4. Service Company has provided administrative and operating services to Water Company for many years, the past 17 years pursuant to an agreement dated January 1,

1971. Because Water Company is of the opinion that it cannot obtain the same quality and diversification of services on a comparable economic basis elsewhere, it proposes to enter into a new agreement with Service Company more specifically defining the types of services available to it.

5. Service Company has entered or proposes to enter into agreements similar to this agreement with other affiliated water companies (hereinafter collectively "Water Companies").
6. The services to be rendered under this agreement are to be rendered by Service Company to Water Companies at their cost to Service Company, as hereinafter provided.

NOW, THEREFORE, in consideration of the premises and mutual agreements herein contained, the Water Company and Service Company agree that:

ARTICLE 1. PERSONNEL AND SERVICES TO BE PROVIDED

1.1 During the term of this agreement and upon the terms and conditions hereinafter set forth, Service Company shall provide corporate guidance for Water Company. In addition to the guidance provided by the officers and employees of Service Company through the coordination of functional activities for all subsidiaries of American, the officers and employees of Service Company shall furnish and Water Company shall purchase from Service Company, the following services: Accounting, Administration, Communication, Corporate Secretarial, Engineering, Financial, Human Resources,

Information Systems, Operation, Rates and Revenue, Risk Management and Water Quality, together with such other services as Water Company and Service Company may agree; provided, however, that Water Company may perform the service with its own personnel or engage another company or person to provide those services on its behalf. Service Company by mutual consent may engage another Company or person to provide such services on its behalf.

1.2 Service Company shall employ qualified officers and employees and those persons shall be available for election by Water Company to serve as officers of Water Company.

1.3 Without limitation, services to be provided by the Service Company shall be rendered as follows:

A. **Accounting:** Service Company shall assist in the preparation and implementation of accounting methods and procedures to determine that they conform fully to the requirements, rules and regulations of governmental authorities having jurisdiction and review Water Company's monthly financial reports, annual reports and other reports to stockholders and to any governmental authorities. It shall advise and assist in the establishment and maintenance of current record keeping techniques; review accounting procedures, methods and forms; and evaluate systems of internal control for receipt and disbursement of funds, materials and supplies, and other assets. Service Company shall maintain accounting records as required by Water Company. When appropriate, Service Company shall cooperate and consult with Water Company's independent certified public accountants.

Service Company shall assist in the preparation of operating and construction budgets and monitor the control over such budgets by comparing experienced costs to the projections.

Service Company shall prepare or assist in the preparation of federal, state and local tax returns for and to the extent required by Water Company.

B. Administration: Service Company shall make qualified employees available to perform or assist in the performance of Water Company's corporate activities. Those employees shall keep themselves informed on all aspects of Water Company's operations and shall regularly visit Water Company's facilities. They shall make recommendations to Water Company for operating expenditures and for additions to and improvements of property, plant and equipment. They shall keep abreast of economic, regulatory, governmental and operational developments and conditions that may affect Water Company; and advise Water Company of any such developments and conditions to the extent that they may be important to Water Company. Service Company shall provide an internal audit staff for periodic audits of accounts, records, policies and procedures of Water Company and submit reports thereon.

C. Communications: Service Company shall recommend procedures to promote satisfactory relations with employees, customers, communities and the general public and assist in the preparation of communication materials, (including press releases, brochures, audio visual presentations and speeches) plant tours, public exhibits and displays and other related services to inform the public.

D. Corporate Secretarial: Service Company shall maintain, in such places and manner as may be required by applicable law, documents of Water Company, such as minute books, charters, by-laws, contracts, deeds and other corporate records, and shall administer an orderly program of records retention. It shall maintain, or arrange for the maintenance of, records of stockholders of Water Company, prepare or arrange for the preparation of stock certificates, perform duties relating to the transfer of stock and perform other corporate secretarial functions as required including preparation of notices of stockholder and director meetings and the minutes thereof.

Service Company shall review and may assist in the preparation of documents and reports required by Water Company such as deeds, easements, contracts, charters, franchises, trust indentures and regulatory reports and filings.

E. Engineering: Service Company shall advise, and provide engineering services to assist Water Company in planning for, operating, maintaining and constructing its facilities.

It shall conduct distribution system surveys and hydraulic analyses and prepare or review maps, charts, operating statistics, reports and other pertinent data.

It shall assist Water Company in the proper maintenance and protection of Water Company properties by periodic inspection of its structures, tanks, reservoirs, dams, wells and electrical and mechanical equipment.

The engineering services provided by Service Company shall also include the conduct of field investigations as necessary to

obtain engineering information and, when required, the preparation of studies, reports, designs, drawings, cost estimates, specifications, and contracts for the construction of additions to or improvements of Water Company's source of supply, treatment plant, pumping stations, distribution system, and such other facilities as Water Company may request. Service Company shall provide a Materials Management Program to arrange for the purchase of equipment, materials, and supplies in volume on a basis advantageous to Water Company and assist in the evaluation of new and existing products and application procedures.

F. Financial: Service Company shall assist in the development and implementation of financing programs for Water Company, including the furnishing of advice from time to time on securities market conditions and the form and timing of financing; advise concerning arrangements for the sale of its securities; and assist in the preparation of necessary papers, documents, registration statements, prospectuses, petitions, applications and declarations. It shall prepare reports to be filed with, and reply to inquiries made by, security holders and bond and mortgage trustees.

Service Company shall assist Water Company in cash management including arrangements for bank credit lines, establishment of collection policies, and development of temporary investment programs.

Service Company shall provide assistance to Water Company in the preparation of all financial reports.

G. Human Resources: Service Company shall assist in obtaining qualified personnel for Water Company; in establishing appropriate rates of pay for those employees; and in negotiating with bargaining units representing Water Company employees. It shall carry out training programs for the development of personnel and advise and assist Water Company regarding personnel. It shall also advise and assist Water Company in regard to group employee insurance, pension and benefit plans and in the drafting or revising of those plans when required. It will keep Water Company apprised of all employment laws and develop procedures and controls to assure compliance.

H. Information Systems: Service Company shall make available to Water Company electronic data processing services. Those services shall include customer billing and accounting, preparation of financial statements and other reports including those required by Federal and State agencies.

I. Operation: Service Company shall develop and assist in the implementation of operating procedures to promote the efficient and economic operation of Water Company. Periodic operational reviews will be performed by Service Company personnel and any deviations from adopted procedures will be reported to Water Company.

J. Rates and Revenue: Service Company personnel shall make recommendations for changes in rates, rules and regulations and shall assist Water Company in the conduct of proceedings before, and in its compliance with the rulings of, regulatory bodies having jurisdiction over its operation. These personnel

shall keep abreast of economic and regulatory developments and conditions that may affect Water Company; and advise Water Company of any such developments and conditions to the extent that they may be important to Water Company. Rates and Revenue personnel shall assist in the preparation of rate filings or applications and the supporting documents and exhibits requested or required by the Water Company and their respective regulatory commissions. Service Company shall also provide qualified personnel to testify on Water Company's behalf as required during any regulatory proceedings.

K. Risk Management: Service Company shall provide a Risk Management Program to review the exposures to accidental loss of the Water Company, recommend efficient methods of protection either through the purchase of insurance, self-insurance or other risk management techniques and arrange for the purchase of insurance coverage. It shall also supervise investigation procedures; review claims; and negotiate and assist in, and evaluate proposals for, settlement at the request of Water Company. It shall assist in the establishment of safety and security programs to avoid or minimize risk and loss.

L. Water Quality: Service Company shall assist Water Company to comply with standards of governmental agencies and establish and attain water quality objectives of the Water Company. It shall assist in providing design criteria for processes, coordinating with public agencies, developing approaches and solutions to water quality problems, and providing

technical assistance and general direction for Water Company personnel.

It shall also provide laboratory services for programmed analyses as required by drinking water regulations, and special analyses as required by Water Company.

ARTICLE II. PAYMENT FOR SERVICES

2.1 In consideration for the services to be rendered by Service Company as hereinabove provided, Water Company agrees to pay to Service Company the cost thereof determined as provided in this Article II and in Article III.

2.2 All costs of service rendered by Service Company personnel for Water Company or in common with other Water Companies shall be charged to Water Company based on actual time spent by those personnel as reflected in their daily time sheets or other mutually acceptable means of determination.

2.3 All costs of Service Company incurred in connection with services rendered by Service Company which can be identified and related exclusively to Water Company, shall be charged directly to Water Company.

2.4 All costs incurred in rendering services to Water Company in common with similar services to other Water Companies which cannot be identified and related exclusively to services rendered to a particular Water Company, shall be allocated among all Water Companies so served, or, in the case of costs incurred with respect to services rendered to a particular group of Water

Companies, among the members of such group, based on the number of customers served at the immediately preceding calendar year end.

2.5 Cost for support personnel (secretaries, clerical personnel, clerks, messengers, telephone operators, mail clerks, and other incidental support personnel of the Service Company) as well as the cost of lease payments, depreciation, utilities and other costs associated with leasing office space and equipment by Service Company shall be allocated among the Water Companies on the basis of the proportion of the aggregate cost allocated under Sections 2.3 and 2.4.

ARTICLE III. ALLOWANCE FOR OVERHEAD

3.1 In determining the cost to be assessed by Service Company for the rendering of services to Water Company as herein provided, there shall be added to the salaries of all officers and employees for whose services charges are to be made, a percentage sufficient to cover the general overhead of Service Company, as defined below, properly allocable thereto. Such percentage shall be calculated each month and shall be the ratio of the total general overhead of the Service Company for the month to the total salaries of the employees for whose service charges are to be made to the Water Companies. No general overhead of Service Company shall be added to costs incurred for services of non-affiliated consultants employed by Service Company.

3.2 The term "general overhead" shall include:

- (a) pension and insurance premiums paid for the benefit of Service Company employees,

- (b) legal and other fees for services rendered to the Service Company,
- (c) taxes,
- (d) other general office supplies and other similar expenses, and
- (e) interest on working capital.

ARTICLE IV. BILLING PROCEDURES AND BOOKS AND RECORDS

4.1 As soon as practicable after the last day of each month, Service Company shall render a bill to Water Company for all amounts due from Water Company for services and expenses for such month plus an amount equal to the estimated cost of such services and expenses for the current month, all computed pursuant to Articles II and III. Such bill shall be in sufficient detail to show separately the charge for each class of service rendered. All amounts so billed shall reflect the credit for payments made on the estimated portion of the prior bill and shall be paid by Water Company within a reasonable time after receipt of the bill therefore.

4.2 Service Company agrees to keep its books and records available at all times for inspection by representatives of Water Company or by regulatory bodies having jurisdiction over Water Company.

4.3 Service Company shall at any time, upon request of Water Company, furnish any and all information required by Water Company with respect to the services rendered by Service Company

hereunder, the costs thereof, and the allocation of such costs among Water Companies.

ARTICLE V. OTHER AGREEMENTS

5.1 It is understood by Water Company that Service Company has entered or may enter into similar agreements with other Water Companies that are affiliated with American to which similar services are to be furnished. Service Company will not enter into agreements to perform similar services for other companies on terms more favorable than those provided herein.

5.2 It is understood by Water Company that Service Company has entered or may enter into an agreement or agreements with American and certain other companies not engaged in the water or sewer service business to which limited services are to be furnished; Water Company consents to such additional agreements, provided, however, that no part of the cost of furnishing such services will be charged to Water Company.

ARTICLE VI. TERM OF AGREEMENT

This agreement shall become effective as of the later of (a) the date first mentioned above or (b) the date the parties receive the last of any necessary approvals of governmental regulatory agencies having jurisdiction in the premises. Upon becoming effective, this agreement shall be the sole agreement between the parties concerning the subject matter hereof and shall supersede all prior agreements, written or oral, including the agreement dated January 1, 1971, which shall terminate on the date this


agreement becomes effective. This agreement shall continue in full force and effect until terminated by either of the parties hereto giving the other party hereto ninety day's notice in writing; provided, however, that this agreement shall terminate as of the date Water Company or Service Company ceases to be an affiliate of American.

IN WITNESS WHEREOF, Service Company and Water Company have caused this agreement to be signed in their respective corporate names by their respective Presidents or Vice Presidents, and impressed with their respective corporate seals attested by their respective Secretaries or Assistant Secretaries, all as of the day and year first above written.

ATTEST:

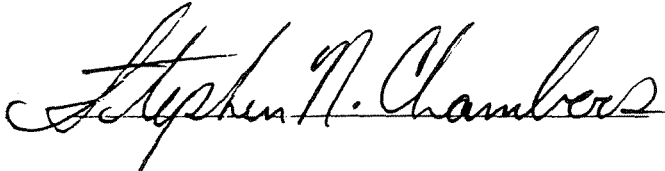
AMERICAN WATER WORKS SERVICE COMPANY, INC.



By 
President

ATTEST:

KENTUCKY-AMERICAN WATER COMPANY



By 
President

Kentucky American Water
 Lead Lag for Service Company Expenses
 12 Months Ended 12/31/2022

Line No	Account	Date	Current Amount	O&M Amount	Total Due	Service Period		paid month	amt	avg service pd	pay date	Lead	wtdamt
						From	To						
1	23520000	1/11/2022	\$1,742,788.05	\$1,220,764.68	\$2,271,332.27	1/1/2022	1/31/2022	01/31/22	\$1,220,764.68	1/16/2022	1/11/2022	(5.0)	(6,103,823.40)
2	23520000	2/11/2022	1,200,406.31	969,026.03	658,004.57	2/1/2022	2/28/2022	02/28/22	\$969,026.03	2/14/2022	2/11/2022	(3.5)	(3,391,591.11)
3	23520000	3/9/2022	1,407,441.88	1,134,658.14	1,614,477.45	3/1/2022	3/31/2022	03/31/22	\$1,134,658.14	3/16/2022	3/9/2022	(7.0)	(7,942,606.98)
4	23520000	4/7/2022	1,662,269.87	1,309,990.19	1,917,097.86	4/1/2022	4/30/2022	04/30/22	\$1,309,990.19	4/15/2022	4/7/2022	(8.5)	(11,134,916.62)
5	23520000	5/11/2022	1,117,640.01	684,150.74	573,010.15	5/1/2022	5/31/2022	05/31/22	\$684,150.74	5/16/2022	5/11/2022	(5.0)	(3,420,753.70)
6	23520000	6/13/2022	1,417,320.29	996,266.20	1,717,000.57	6/1/2022	6/30/2022	06/30/22	\$996,266.20	6/15/2022	6/13/2022	(2.5)	(2,490,665.50)
7	23520000	7/11/2022	1,509,229.59	1,189,304.03	1,601,138.89	7/1/2022	7/31/2022	07/31/22	\$1,189,304.03	7/16/2022	7/11/2022	(5.0)	(5,946,520.15)
8	23520000	8/11/2022	1,362,781.53	899,573.88	1,216,333.47	8/1/2022	8/31/2022	08/31/22	\$899,573.88	8/16/2022	8/11/2022	(5.0)	(4,497,869.40)
9	23520000	9/12/2022	1,229,383.25	882,646.64	1,095,984.97	9/1/2022	9/30/2022	09/30/22	\$882,646.64	9/15/2022	9/12/2022	(3.5)	(3,089,263.24)
10	23520000	10/11/2022	1,308,794.03	985,250.17	1,388,204.81	10/1/2022	10/31/2022	10/31/22	\$985,250.17	10/16/2022	10/11/2022	(5.0)	(4,926,250.85)
11	23520000	11/11/2022	1,310,471.24	924,856.22	1,312,148.45	11/1/2022	11/30/2022	11/30/22	\$924,856.22	11/15/2022	11/11/2022	(4.5)	(4,161,852.99)
12	23520000	12/8/2022	1,417,424.97	954,647.24	1,524,378.70	12/1/2022	12/31/2022	12/31/22	\$954,647.24	12/16/2022	12/8/2022	(8.0)	(7,637,177.92)

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Harold Walker

73. Refer to the Walker Testimony, Schedule HW-1, page 2 of 6. Reconcile and explain in detail how requiring service company charges to be prepaid does not reflect a profit return on those charges.

Response:

The Service Company exists to provide services to American Water affiliates at cost. The Service Company makes no profit from the provision of these services. The Service Company's billing terms are meant to match expenses with the receipt of payments from affiliates which are the beneficiaries of the services. Prepayment of services does not produce a profit on services. However, prepayment of charges reduces the cost of the services provided.

**KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION**

Witness: Harold Walker

74. Refer to the Walker Testimony at 12. Provide all work papers that support the expense lead for OPEB, Insurance Other than Group, and Utility Tax.

Response:

The work papers that support the expense lead for OPEB, Insurance Other than Group, and Utility Tax are attached as KAW_R_AGDR1_NUM074_081823_Attachment.

Kentucky American Water
 Lead Lag for OPEB Expenses
 12 months ended 12/31/2022

Line No	Account	Document #	Paid	Amount	Service Period		Vendor	paid month date	amt amt	avg service pd service pd	pay date paydate	Lead Lead	wtdamt wtdamt
					From	To							
2	26221000	5000110166	3/17/2022	\$92.58	1/1/2022	12/31/2022	Wells Fargo - Pension & VEBA	03/31/22	\$92.58	7/2/2022	3/17/2022	(107.0)	(9,906.06)
3	26221000	5000110167	3/17/2022	103,592.69	1/1/2022	12/31/2022	Wells Fargo - Pension & VEBA	03/31/22	\$103,592.69	7/2/2022	3/17/2022	(107.0)	(11,084,417.83)
4	26221000	5000110168	3/17/2022	136,836.94	1/1/2022	12/31/2022	Wells Fargo - Pension & VEBA	03/31/22	\$136,836.94	7/2/2022	3/17/2022	(107.0)	(14,641,552.58)
5	26221000	5000114236	6/15/2022	28,500.00	1/1/2022	12/31/2022	Wells Fargo - Pension & VEBA	06/30/22	\$28,500.00	7/2/2022	6/15/2022	(17.0)	(484,500.00)

Kentucky American Water
 Lead Lag for Insurance Other than Group Expenses
 12 Months ended 12/31/2022

Line No	Profit Ctr	Account	Document #	Paid	Amount	Service Period		Vendor	paid	avg	pay	Lead	wtdamt	
						month	amt		service pd	date				
1						From	To							
2	1201	16520000	5000108123	1/25/2022	8,993.75	1/1/2022	1/1/2023	Bowring Marsh	01/31/22	\$ 8,993.75	7/2/2022	1/25/2022	(158.5)	(1,425,509.38)
3	1201	16520000	5000108134	1/25/2022	31,789.08	1/1/2022	1/1/2023	Bowring Marsh (Bermuda) Limited	01/31/22	\$ 31,789.08	7/2/2022	1/25/2022	(158.5)	(5,038,569.18)
4	1201	16520000	5000108190	1/25/2022	21,433.13	1/1/2022	1/1/2023	Willis Towers Watson	01/31/22	\$ 21,433.13	7/2/2022	1/25/2022	(158.5)	(3,397,151.11)
5	1201	16520000	5000108242	1/27/2022	148,752.27	1/1/2022	1/1/2023	Marsh USA Inc	01/31/22	\$ 148,752.27	7/2/2022	1/27/2022	(156.5)	(23,279,730.26)
6	1201	16520000	5000108260	1/27/2022	3,754.19	1/1/2022	1/1/2023	AWI Insurance LLC - Series A	01/31/22	\$ 3,754.19	7/2/2022	1/27/2022	(156.5)	(587,530.74)
7	1201	16520000	5000108263	1/27/2022	12,673.71	1/1/2022	12/31/2022	AWI Insurance LLC - Series B	01/31/22	\$ 12,673.71	7/2/2022	1/27/2022	(156.0)	(1,977,098.76)
8	1201	16520000	5000108266	1/27/2022	115,897.57	1/1/2022	3/31/2022	AWI Insurance LLC - Series A	01/31/22	\$ 115,897.57	2/14/2022	1/27/2022	(18.5)	(2,144,105.05)
9	1201	16520000	5000108350	1/31/2022	6,628.70	1/1/2022	1/1/2023	Bowring Marsh	01/31/22	\$ 6,628.70	7/2/2022	1/31/2022	(152.5)	(1,010,876.75)
10	1201	16520000	5000108441	2/1/2022	6,571.09	1/1/2022	3/31/2022	Constitution State Services	02/28/22	\$ 6,571.09	2/14/2022	2/1/2022	(13.5)	(88,709.72)
11	1201	16520000	5000108697	2/9/2022	10,205.48	1/1/2022	3/31/2022	Marsh USA Inc	02/28/22	\$ 10,205.48	2/14/2022	2/9/2022	(5.5)	(56,130.14)
12	1201	16520000	5000109167	2/23/2022	485,486.58	12/31/2021	12/31/2022	Marsh USA Inc	02/28/22	\$ 485,486.58	7/1/2022	2/23/2022	(128.5)	(62,385,025.53)
13	1201	16520000	5000110828	4/5/2022	10,187.64	4/1/2022	6/30/2022	Marsh USA Inc	04/30/22	\$ 10,187.64	5/16/2022	4/5/2022	(41.0)	(417,693.24)
14	1201	16520000	5000110839	4/5/2022	7,749.89	4/1/2022	6/30/2022	Constitution State Services	04/30/22	\$ 7,749.89	5/16/2022	4/5/2022	(41.0)	(317,745.49)
15	1201	16520000	5000111318	4/15/2022	115,947.77	4/1/2022	6/30/2022	AWI Insurance LLC - Series A	04/30/22	\$ 115,947.77	5/16/2022	4/15/2022	(31.0)	(3,594,380.87)
16	1201	16520000	5000112609	5/13/2022	6,600.85	4/22/2022	4/22/2023	Willis Towers Watson	05/31/22	\$ 6,600.85	10/21/2022	5/13/2022	(161.5)	(1,066,037.28)
17	1201	16520000	5000112610	5/13/2022	3,911.98	4/22/2022	4/22/2023	Willis Towers Watson	05/31/22	\$ 3,911.98	10/21/2022	5/13/2022	(161.5)	(631,784.77)
18	1201	16520000	5000113508	6/2/2022	12,124.94	5/6/2022	5/6/2023	Willis Towers Watson	06/30/22	\$ 12,124.94	11/4/2022	6/2/2022	(155.5)	(1,885,428.17)
19	1201	16520000	5000115183	7/12/2022	7,749.89	7/1/2022	9/30/2022	Constitution State Services	07/31/22	\$ 7,749.89	8/15/2022	7/12/2022	(34.5)	(267,371.21)
20	1201	16520000	5000115228	7/12/2022	10,187.64	7/1/2022	9/30/2022	Marsh USA Inc	07/31/22	\$ 10,187.64	8/15/2022	7/12/2022	(34.5)	(351,473.58)
21	1201	16520000	5000115931	7/26/2022	115,947.77	7/1/2022	9/30/2022	AWI Insurance LLC - Series A	07/31/22	\$ 115,947.77	8/15/2022	7/26/2022	(20.5)	(2,376,929.29)
22	1201	16520000	5000118738	9/13/2022	4,773.78	9/29/2022	9/29/2023	Marsh USA Inc	09/30/22	\$ 4,773.78	3/30/2023	9/13/2022	(198.5)	(947,595.33)
23	1201	16520000	5000119891	10/5/2022	10,187.64	10/1/2022	12/31/2022	Marsh USA Inc	10/31/22	\$ 10,187.64	11/15/2022	10/5/2022	(41.5)	(422,787.06)
24	1201	16520000	5000119892	10/5/2022	7,749.89	10/1/2022	12/31/2022	Constitution State Services	10/31/22	\$ 7,749.89	11/15/2022	10/5/2022	(41.5)	(321,620.44)
25	1201	16520000	5000120316	10/17/2022	5,484.23	5/27/2022	12/31/2022	Marsh USA Inc	10/31/22	\$ 5,484.23	9/13/2022	10/17/2022	34.0	186,463.82
26	1201	16520000	5000120596	10/21/2022	115,947.75	10/1/2022	12/31/2022	AWI Insurance LLC - Series A	10/31/22	\$ 115,947.75	11/15/2022	10/21/2022	(25.5)	(2,956,667.63)

Kentucky American Water
 Lead Lag for Utility Reg Assessment Expenses
 12 months ended 12/31/2022

Line No	Account	Document #	Paid	Amount	Service Period		Vendor	paid month date	amt	avg service pd service pd	pay date paydate	Lead Lead	wtdamt wtdamt
					From	To							
2	16530000	5000119212	7/31/2022	153,973.10	7/1/2022	6/30/2023	Anybill Financial Services Inc	07/31/22	\$ 153,973.10	12/30/2022	7/31/2022	(152.0)	(23,403,911.20)

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Harold Walker

75. Refer to the Walker Testimony at 5.
- a. Describe in detail the necessity to have a four day billing lag.
 - b. Will this billing lag continue if Kentucky American proceeds with its AMI meter replacement program?

Response:

- a. A four day billing lag is not an unusual billing lag. The billing lag is based on a mathematical determination of the billing lag experienced by the Company during the study period. As with any lead day or lag day measured in the course of a lead-lag study, using different study periods may produce different results.
- b. The Company's billing lag may change if Kentucky American proceeds with its AMI meter replacement program. As with any lead day or lag day measured in the course of a lead-lag study, using different study periods may produce different results. Please note that KAWC's transition to AMI is expected to take 10 years.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Harold Walker

76. Refer to the Walker Testimony, Schedule HW-1, page 3 of 6. Does Kentucky American sell its accounts receivables to an affiliate or any other entity? If so, provide all documentation that describes the process.

Response:

No. Kentucky American does not sell its accounts receivables to an affiliate or any other entity.

**KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION**

Witness: John Watkins

77. Refer to the John Watkins Testimony (“Watkins Testimony”), at 2 – 3. Provide the inflation factor applied to each O&M expense that Kentucky American used to project the forecasted test year expenses. List each inflation factor separately and the expense it is applied to.

Response:

Please refer to the response to KAW_R_PSCDR2_NUM025_081823 for the list of the expense categories that used an inflation factor to forecast expenses and refer to the table below for the inflation factor used for those expenses.

	Monthly Inflation Factor	Annual Inflation Factor
Building Maintenance and Services	0.49%	6.05%
Contract Services	0.21%	2.50%
Customer Accounting	0.21%	2.50%
Employee Related	0.49%	6.05%
Fuel and Power	0.60%	7.47%
Maintenance and Supplies	0.63%	7.84%
Miscellaneous Expense	0.49%	6.05%
Office Supplies	0.56%	6.98%
Rents	0.42%	5.11%
Support Services	0.21%	2.50%

**KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION**

Witness: John Watkins

78. Refer to the Watkins Testimony at 3, in which he states that Kentucky American has three classifications of employees: union hourly, non-union hourly, and exempt.
- a. Compare and contrast the three classifications of employees.
 - b. Provide a copy of the most recent union contract.
 - c. Discuss whether the union hourly and non-union hourly employees are non-salaried employees. If not, explain in detail.
 - d. Discuss whether the exempt employees are salaried employees. If not, explain in detail.

Response:

- a. Please refer to the Watkins testimony starting on page 3 line 14 through page 4, line 4.
- b. Please refer to the Company's response to KAW_R_PSCDR1_NUM043_071823 and the confidential attachment to that response.
- c. Union hourly and non-union hourly employees are non-salaried employees.
- d. Exempt employees are salaried employees.

**KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION**

Witness: John Watkins

79. Refer to the Watkins Testimony at 5 – 6.
- a. Provide the average wage increase given to union hourly employees for each year from 2015 – 2022.
 - b. Provide the average wage increase given to non-union hourly employees for each year from 2015 – 2022.
 - c. Provide the average wage increase given to the exempt employees for each year from 2015 – 2022.

Response:

- a) Please see the below table for the average wage increase given to union hourly employees for the years 2015-2022.

Wage Increase	11/1/2015	11/1/2016	11/1/2017	11/1/2018	11/1/2019	11/1/2020	3/2/2022	11/1/2022
Union	2.25%	2.00%	2.60%	2.65%	2.75%	2.75%	5.00%	3.00%

- b) Please see the below table for the average wage increase given to non-union hourly employees for the years 2015-2022.

Wage Increase	3/16/2015	3/14/2016	3/13/2017	3/12/2018	3/11/2019	3/9/2020	3/8/2021	3/7/2022
Non-Union Hourly	2.62%	2.41%	2.81%	2.60%	2.67%	2.73%	2.91%	3.10%

- c) Please see the below table for the average wage increase given to exempt employees for the years 2015-2022.

Wage Increase	3/16/2015	3/14/2016	3/13/2017	3/12/2018	3/11/2019	3/9/2020	3/8/2021	3/7/2022
Salaried (Exempt)	2.90%	2.70%	2.73%	2.86%	3.29%	2.85%	3.13%	3.18%

**KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION**

Witness: John Watkins

80. Refer to the Watkins Testimony at 6.
- a. Provide the Water percentage and O&M percentage allocators for each year from 2015 – 2022.
 - b. Also, provide the Water percentage and O&M percentage included in Kentucky-American's forecasted test year.

Response:

- a. The Labor Water and O&M percentage allocators from 2015-2022 are as follows:

	2015	2016	2017	2018	2019	2020	2021	2022
Labor Water %	97.9%	98.0%	97.8%	97.6%	97.4%	97.6%	97.6%	97.8%
Water O&M %	81%	75%	72%	71%	69%	67%	65%	64%
- b. The average water percentage for the forecasted test year is 97.7% and the average labor O&M percentage is 65.1%.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: John Watkins

81. Refer to the Watkins Testimony at 11 – 12. Provide the annual level of production expenses separately by function (fuel and power, chemicals, waste disposal, and purchased water) for the calendar years 2015 – 2022, and the twelve months ended March 2023. Also, provide the level of expenses included in the Kentucky American forecasted test year.

Response:

Please find the requested production expense levels below:

Category	2015	2016	2017	2018	2019
Chemicals	\$1,590,100	\$1,640,758	\$1,697,725	\$1,837,798	\$1,889,036
Fuel and Power	3,936,453	4,168,978	4,038,972	3,896,724	4,126,493
Waste Disposal	165,586	417,334	445,235	450,890	366,634
Purchased Water	223,057	215,659	244,379	320,892	344,687
Total Production Expense	\$5,915,196	\$6,442,729	\$6,426,312	\$6,506,304	\$6,726,850
				12 Months Ended	Forecasted
Category	2020	2021	2022	Mar. 2023	Test Year
Chemicals	\$1,860,390	\$2,203,330	\$3,237,719	\$3,582,007	\$5,624,592
Fuel and Power	4,069,902	4,271,633	5,165,490	5,295,315	5,664,614
Waste Disposal	435,075	479,454	449,452	450,278	679,404
Purchased Water	350,140	366,184	377,352	378,507	368,973
Total Production Expense	\$6,715,508	\$7,320,602	\$9,230,012	\$9,706,108	\$12,337,583

**KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION**

Witness: John Watkins

82. Refer to the Watkins Testimony at 15 – 16. Provide a breakdown of the Insurance Other than Group by type of coverage for the years 2015 – 2022, and the twelve months ended March 2023. Also, include the level of individual insurance expense included in the forecasted test year.

Response:

Please see KAW_R_AGDR1_NUM082_081823 Attachment 1.

Kentucky-American Water Company
Case No. 2023-00191
KAW_R_AGDR1_NUM082_081823

Insurance Other than Group by type of coverage

Account No.	Account Name	Forecast Year		2022	2021	2020	2019	2018	2017	2016	2015
		(12 Months Ending January 31, 2025)	12 Months Ending March 31, 2023								
55110000	Insurance Vehicle	\$35,014	\$26,850	\$24,589	\$25,388	\$29,593	\$29,190	\$28,228	\$20,248	\$36,379	\$33,050
55710000	Insurance General Liability	873,181	697,184	656,046	565,930	491,019	502,724	476,474	459,154	461,284	657,075
55711000	Insurance Casualty Reserve	0	9,401	9,401	(113,465)	(77,331)	(47,410)	2,626	(114,340)	(40,906)	0
55720000	Insurance Workers Compensation	109,059	93,565	88,614	94,637	109,170	105,700	75,300	61,786	116,658	139,009
55720100	Insurance WC Capitalized Credits	(39,220)	(35,100)	(35,025)	(35,779)	(40,638)	(30,664)	(54,690)	(16,741)	(31,084)	(36,088)
55730000	Insurance Other	20,201	12,442	11,761	11,473	9,138	9,321	9,814	8,531	120,843	141,723
55740000	Insurance Property	655,069	500,752	490,971	456,356	371,429	261,475	114,966	112,734	0	0
		<u>\$1,653,304</u>	<u>\$1,305,094</u>	<u>\$1,246,357</u>	<u>\$1,004,539</u>	<u>\$892,382</u>	<u>\$830,337</u>	<u>\$652,718</u>	<u>\$531,372</u>	<u>\$663,174</u>	<u>\$934,769</u>

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: John Watkins

83. Refer to the Watkins Testimony at 18. Provide a schedule that shows the historic painting and rehabilitation of intakes, storage tanks, and hydrotreaters, and list by specific location. Provide the unamortized balance for these projects that have not been collected in customer rates. Also, indicate the level of expense for this activity that was included in Kentucky-American's last rate case.

Response:

For historic project by location and unamortized balance for these projects, see KAW_R_AGDR1_NUM083_081823 Attachment 1.

For the Base Year of Kentucky-American's last rate case, 12 months ended February 28, 2019, \$1,199,480 of expense was included for the amortization of deferred maintenance.

Kentucky-American Water Company
 Case No. 2023-00191
 KAW_R_AGDR1_NUM083_081823

Schedule of Historic Deferred Maintenance Projects with Location and Unamortized Balance

Project Name	Paint Hydrotreater # 9	Paint Cox Street Tank (elevated)	Paint Hydrotreater # 5	Paint Hydrotreater # 6	Hall Tank Rehab	KRS Hydrotreater #2 Rehab	Tates Creek Tank Rehab	Rehab Hydrotreater #4	Paint York St. Tank	Mercer Road painting	Paint Hydrotreater #1	Paint Hydrotreater #3	Paint Hume Road Tank Interior	Paint Parkers Mill Tank
Location Code	1202	1202	1202	1202	1202	1202	1202	1202	1202	1202	1202	1202	1202	1202
Location	KY - Central (Lexington)	KY - Central (Lexington)	KY - Central (Lexington)	KY - Central (Lexington)	KY - Central (Lexington)	KY - Central (Lexington)	KY - Central (Lexington)	KY - Central (Lexington)	KY - Central (Lexington)	KY - Central (Lexington)	KY - Central (Lexington)	KY - Central (Lexington)	KY - Central (Lexington)	KY - Central (Lexington)
Starting Date	10/01/10	10/01/10	04/01/12	10/31/11	08/01/13	08/01/13	01/01/14	09/01/16	09/01/16	09/01/16	09/01/16	09/01/16	09/01/16	05/01/17
Ending Date	09/01/25	09/01/25	03/01/27	10/01/26	07/01/28	07/01/28	12/31/28	08/31/31	08/31/31	08/31/31	08/31/31	08/31/31	08/31/31	04/30/32
Amortization Period	180	180	180	180	180	180	180	180	180	180	180	180	180	180
Total Cost	\$543,594	\$946,864	\$746,140	\$648,462	\$418,158	\$910,358	\$507,112	\$809,382	\$357,127	\$1,392,335	\$838,808	\$858,267	\$401,277	\$1,048,327
Monthly Amortization Amount	\$3,020	\$5,260	\$4,145	\$3,603	\$2,323	\$5,058	\$2,817	\$4,497	\$1,984	\$7,735	\$4,660	\$4,768	\$2,229	\$5,824
Unamortized Balance as of 3/31/2023	\$87,579	\$152,550	\$194,825	\$151,308	\$146,355	\$318,625	\$191,576	\$449,657	\$198,404	\$773,520	\$466,004	\$476,815	\$222,932	\$628,996

Project Name	KRS1 Hydrotreater #7	KRS1 Hydrotreater #8	York St Ground Storage Tank	Muddy Ford Tank	KRS1 Hydrotreater #9 Rehab & Painting	KRS1 Hydrotreater #10 Rehab & Painting	KRS Hydrotreater Elevation AS	2016 Tank Anniversary Inspections	Rehab Eastland Tank & Hydrotreaters #7 & 8	KRS1 Intake Structure	East Rockcastle Tank	Owenton Tank Painting AS	Fairgrounds painting
Location Code	1202	1202	1202	1202	1202	1202	1202	1202	1202	1202	1203	1230	1230
Location	KY - Central (Lexington)	KY - Central (Lexington)	KY - Central (Lexington)	KY - Central (Lexington)	KY - Central (Lexington)	KY - Central (Lexington)	KY - Central (Lexington)	KY - Central (Lexington)	KY - Central (Lexington)	KY - Central (Lexington)	KY - Eastern Rockcastle Water	KY - North (Tri Vill-Elk Lake-Owenton)	KY - North (Tri Vill-Elk Lake-Owenton)
Starting Date	10/01/18	10/01/18	06/30/19	07/01/19	07/01/19	07/01/19	07/01/19	07/01/19	05/01/20	12/31/20	09/30/20	09/01/16	09/01/16
Ending Date	09/30/33	09/30/33	06/30/34	06/30/34	06/30/34	06/30/34	06/30/34	06/30/34	04/30/35	01/31/36	10/31/35	08/31/31	08/31/31
Amortization Period	180	180	180	180	180	180	180	180	180	180	180	180	180
Total Cost	\$794,254	\$797,067	\$84,265	\$1,316,100	\$765,520	\$775,725	\$4,439	\$12,316	\$370,818	\$1,438,770	\$393,010	\$45,044	\$412,525
Monthly Amortization Amount	\$4,413	\$4,428	\$468	\$7,312	\$4,253	\$4,310	\$25	\$68	\$2,060	\$7,993	\$2,183	\$250	\$2,292
Unamortized Balance as of 3/31/2023	\$551,565	\$553,519	\$62,730	\$979,763	\$569,887	\$577,484	\$3,305	\$9,169	\$296,654	\$1,222,955	\$327,508	\$25,025	\$229,181

**KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION**

Witness: John Watkins

84. Refer to the Direct Testimony of Wesley Selinger (“Selinger Testimony”), at 5. Confirm that Kentucky American is not seeking rate base recovery of any prepayments except for the inclusion in the Kentucky American proposed cash working capital allowance. If not confirmed, explain in detail.

Response:

Confirmed.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: John Watkins

85. Refer to the Selinger Testimony at 4. Describe in detail why it is appropriate to include Construction Work in Progress ("CWIP") in rate base when using a future test year.

Response:

CWIP is appropriate to include in rate base because the Company is including \$1,672,091 of AFUDC in its calculation of present rate revenues. By including this amount in present rate revenues, the Company is offsetting the inclusion of CWIP in rate base for projects that are accruing AFUDC until the project is placed into service. Refer to Exhibit 37, Schedule C-1 and the response provided in KAW_PSCDR2_NUM023_081823.

The capital structure includes short-term debt. Kentucky-American Water utilizes short-term debt to primarily finance CWIP until permanent financing is obtained. The inclusion of short-term debt in the capital structure indicates that CWIP should also be in rate base. CWIP in rate base ensures that the financing included in the capital structure aligns directly with the rate base to be financed.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: John Watkins

86. Refer to the Selinger Testimony at 7. Provide the date of the acquisition of the North Middleton Water system. If the system was acquired prior to the base year in this rate case, did Kentucky American request deferral of the acquisition premium? Explain the response in detail.

Response:

North Middletown Water acquisition closed April 8, 2019. In Case No. 2018-00358, the 10-year amortization of the acquisition premium was approved.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: John Watkins

87. Refer to the Selinger Testimony at 11. Provide a schedule showing all amortizations that Kentucky American is seeking recovery in this rate case. Include for each amortization the case number in which the Commission authorized each amortization. Also, provide the amortization period and the expiration date for the unamortized expense.

Response:

	Rate Case No.	Amortization Period		Cost	Monthly Amortization	Base Period Amount	Forecasted Amount
		From	To				
N. Middletown Water	2018-00358	07/01/19	06/30/29	\$147,229	\$1,226.91	\$14,723	\$14,723
Bluegrass Water Project Source of Supply	2000-00120	01/01/01	12/31/40	2,283,202	4,756.67	57,080	57,080
			Total	\$2,430,431	\$5,983.58	\$71,803	\$71,803

Base period and Forecasted amounts above are reflected in Exhibit 37, Schedule C-1.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Thomas O'Drain

88. Refer to the Direct Testimony of Thomas O'Drain ("O'Drain Testimony"), at 15. Confirm that Table TGO-2 contains the escalation of Chemical expenses included in the forecasted test year in this rate case and are not subject to an additional inflationary factor. If the response is anything but an affirmative, explain the response in detail.

Response:

Confirmed, Table TGO-2 contains the sole basis of the escalation of Chemical expenses included in the forecasted test year in this rate case, and no additional inflationary factors are applied.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Melissa Schwarzell and Larry Kennedy

89. Refer to the Schwarzell Testimony generally. Estimate the stranded investment that would be associated with the replacement of AMR meters or older vintages with new AMI meters. Confirm that Kentucky American seeks to recover the remaining stranded investment over the life of the new AMI meters and will earn a return on and of the stranded investment from the replaced meters.

Response:

There is no stranded investment that is specific to the transition to AMI.

The position of the current meter depreciation reserve is related to a number of factors, including depreciation rates established in prior proceedings using a single average service life and Iowa curve dispersion. This position would exist regardless of what technology was deployed moving forward.

Additionally, as discussed on page 3 of Exhibit A of the Application, “[u]nlike some other proposed AMI deployments in the state, KAWC is not planning to accelerate the replacement of its entire meter reading system regardless of age or condition. Rather KAWC will transition to an updated technology for meter reading equipment as it completes meter and endpoint replacements in the normal course of business.” This process is expected to take ten years. Thus, Kentucky American is not proposing to retire metering equipment in advance of its normal, scheduled, periodic replacement.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: William A. Lewis

90. Refer to the Lewis Testimony at 34. Describe the intervals for when the 270 Special connections are inspected. Provide a schedule that shows the frequency of inspections at the 270 locations.

Response:

Special connections do not have exposed piping that can be used to install permanent or temporary metering points for continuous or periodic flow testing. Due to this, and the fact that KAW does not own the private pipelines, inspections of special connections are very difficult. Where special connection owners have worked with us to perform reviews, KAW has used those opportunities to proactively investigate their system for water loss. KAW performed a review of a few very large special connections in coordination with property owners to investigate their systems. Two examples include the University of Kentucky and the Kentucky Horse Park. In both examples, KAW is working with the property owners to identify leaking pipes, leaking fire lines, leaking fire hydrants, and possible unmetered connections.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: William A. Lewis

91. Refer to the Lewis Testimony generally. Provide the Company's best estimate for the cost of a lost 100 gallons of water, broken down by category.

Response:

The estimated chemical expense for 100 gallons of water for the future test year ending January 2025 is \$.0373 (\$5,624,592 chemical expense per 15,089,470,000 gallons system delivery.)

The estimated fuel and power expense for 100 gallons of water for the future test year ending January 2025 is \$.0375 (\$5,664,614 fuel and power expense per 15,089,470,000 gallons system delivery.)

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Jeffrey Newcomb

92. Refer to the Newcomb Testimony at 11. Provide the actual contracted expenses for the years 2015 – 2022 broken out by snow removal, lawn mowing and landscaping, lab testing, accounting, audit, and legal fees. Also, include expense breakdowns for line locates, leak detection services.

Response:

Please refer to the below table for the actual contracted services for the years 2015-2022.

Type	2015	2016	2017	2018	2019	2020	2021	2022	Total
Snow Removal	-	-	18,238	52,942	58,832	19,753	13,924	-	163,688
Lawn Mowing	-	13,500	-	5,136	2,724	2,889	2,783	3,247	30,278
Landscaping	19,139	15,681	105,720	100,607	101,901	193,377	113,997	54,609	705,031
Lab Testing	80,336	57,216	69,383	56,941	62,634	71,610	66,605	68,850	533,575
Accounting	343,760	81,655	24,440	4,707	(4,509)	6,251	(6,266)	15,000	465,038
Audit Fees	95,263	117,337	136,929	151,973	210,092	153,817	167,125	165,979	1,198,515
Legal Fees	115,870	129,974	281,984	416,169	301,072	364,284	301,237	314,902	2,225,492
Line Locates	-	-	79,829	99,159	89,886	79,984	127,456	476,314	952,628
Leak Detection	-	-	-	-	27,030	-	986	28,016	56,032
	654,368	415,363	716,523	887,633	849,661	891,964	787,847	1,126,918	6,330,277

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Jeffrey Newcomb

93. Refer to the Newcomb Testimony generally. Provide the filing date and effective rate date for each of Kentucky American's last five rate cases.

Response:

Please refer to the table below for the listing of Kentucky American's last five rate cases.

<u>Kentucky-American Case No.</u>	<u>Filing Date</u>	<u>Effective Date</u>
Case No. 2018-00358	11/28/2018	6/28/2019
Case No. 2015-00418	1/29/2016	8/28/2016
Case No. 2012-00520	12/28/2012	7/27/2013
Case No. 2010-00036	2/26/2010	9/29/2010
Case No. 2008-00427	10/31/2008	6/1/2009

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Jeffrey Newcomb

94. Refer to the Newcomb Testimony at 14 – 15. Provide the state statutory valuation dates for establishing property taxes payable. For example, property in service on XXXX date is assessed value and property taxes are payable on XXXX date. Describe the whole process for paying property taxes.

Response:

A Notice of Assessment is delivered by the Kentucky Department of Revenue for state tax liability on a Notice Date subsequent to the end of the defined Tax Year (December 31st of the Tax Year). The Notice of Assessment becomes final 60 days after the Notice Date, unless the assessment is formally protested with the Kentucky Department of Revenue. Property taxes are payable when Notice of Assessment becomes final.

For process for paying property taxes see Kentucky Department of Revenue collection cycle table below:

(<https://revenue.ky.gov/Property/Pages/TheCollectionProcessforPropertyTaxBills.aspx>)

KENTUCKY PROPERTY TAX CALENDAR - THE COLLECTION CYCLE

ACTION	DATE
Tax Bills Delivered to Sheriff	By September 15
Taxes are Due and Payable with 2% Discount	September 15 – November 1
Taxes are Payable at Face Value	November 2 – December 31
Unpaid Tax Bills Become Delinquent. Pay with a 5% Penalty	January 1 – January 31
Pay with 10% Penalty and 10% Sheriff's add on fee	After January 31
Tax Bills Transferred to County Clerks from Sheriffs at close of business	April 15
County Clerk's Sale of Certificates of Delinquency	July 14 through August 28

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Jeffrey Newcomb

95. Refer to the Newcomb Testimony at 15. Provide any documentation that the Kentucky Public Service Commission provides Kentucky American for the payment of its assessment.

Response:

Please see KAW_R_AGDR1_NUM095_081823_Attachment 1 for all pages of the most recent Annual Public Service Commission Assessment for the period July 1, 2023, to June 30, 2024. Please see KAW_R_AGDR1_NUM095_081823_Attachment 2 for page 1 of the Annual Public Service Commission Assessment for the period July 1, 2022, to June 30, 2023, which was used to calculate the millage rate used to forecast the Annual Public Service Commission Assessment for the forecasted test year. Kentucky-American had to rely on the Annual Public Service Commission Assessment for the period July 1, 2022, to June 30, 2023, to calculate the millage rate used to forecast the Annual Public Service Commission Assessment for the forecasted test year in order to finalize and timely submit the Customer Notice to Kentucky Press Services Inc., who coordinated the publishing.

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF REVENUE
FRANKFORT, KY 40619

NOTICE DATE 06/13/2023	PERIOD 07/01/2023-06/30/2024	CASE 00000015800033	TAX PUBLIC SERVICE COMMISSION ASSESSMENT
NOTICE # 111749094	RETURN DUE 07/31/2023	TAXPAYER-ID 000015800	TAXPAYER NAME AMERICAN WATER- GENERAL TAX

EXPLANATION OF NOTICE

ANNUAL PUBLIC SERVICE COMMISSION ASSESSMENT FOR THE ABOVE PERIOD.

MESSAGES: PENALTIES PROVIDED PER KRS 278.990(3) INCLUDE \$1,000, PLUS \$25 PER DAY FOR EACH DAY THE ASSESSMENT REMAINS UNPAID. KRS 131.440(1)(A) IMPOSES A COST OF COLLECTION FEE FOR TWENTY-FIVE PERCENT (25%) ON ALL ASSESSMENTS WHICH ARE OR BECOME DUE AND OWING TO THE DEPARTMENT. IF THE AMOUNT DUE IS NOT PAID BY THE DUE DATE, THESE PENALTIES AND FEES MAY BE ADDED TO THIS ASSESSMENT AND REFERRED FOR ENFORCED COLLECTION ACTION.

QUESTIONS CONCERNING THIS ASSESSMENT MAY BE DIRECTED TO THE PUBLIC SERVICE COMMISSION, 211 SOWER BOULEVARD, PO BOX 615, FRANKFORT, KENTUCKY 40602, TELEPHONE NUMBER (502) 564-3940. KRS 278.130 PROVIDES FOR THE ANNUAL ASSESSMENT OF PUBLIC SERVICE COMPANIES.

GROSS INTRASTATE RECEIPTS

110,109,333.00

TAX LIABILITY

TAX LIABILITY
143,362.35

TOTAL LIABILITY

TOTAL LIABILITY
143,362.35

<<<< EXPLANATION OF NOTICE CONTINUED ON NEXT PAGE >>>>

DETACH VOUCHER AND RETURN WITH PAYMENT. MAKE CHECK PAYABLE TO KENTUCKY STATE TREASURER.

NOTICE OF TAX DUE

CASE NUMBER

00014336235

00000015800033

#BWNCSLW
#236EJ 3033 245203 6#

* TOTAL DUE AS OF: *
* 06/29/2023 * \$143,362.35

* AMERICAN WATER- GENERAL TAX
ATTN TRICIA SINOPOLE
2300 RICHMOND ROAD
LEXINGTON KY 40502

ENTER AMOUNT PAID:

10A5009911

KENTUCKY DEPARTMENT OF REVENUE
FRANKFORT, KY 40619

99999 000015800 6 033 111749094 4 00014336235 20240630 3

The following is a summary of your rights and the DOR's responsibilities to you as a Kentucky taxpayer

RIGHTS OF TAXPAYER

Privacy—You have the right to privacy of information provided to the DOR.

Assistance—You have the right to advice and assistance from the DOR in complying with state tax laws.

Explanation—You have the right to a clear and concise explanation of:

- basis of assessment of additional taxes, interest and penalties, or the denial or reduction of any refund;
- procedure for protest and appeal of a Notice of Tax Due, a reduction or denial of a refund, or a denial of a request for additional time to file a supporting statement; and
- tax laws and changes in the tax laws so that you can comply with the law.

Protest and Appeal—You have the right to file a protest with the DOR if you disagree with a Notice of Tax Due, a reduction or denial of a refund, or a denial of a request for additional time to file a supporting statement. If you file a timely protest, you have a right to a conference to discuss the matter. If you are not satisfied with the Department's final ruling following your protest, you may appeal the final ruling to the Kentucky Claims Commission, Tax Appeals pursuant to KRS 131.110(5) and KRS 49.220 et. seq.

Representation—You have the right to representation by your authorized agent (attorney, accountant, or other person) in any hearing or conference with the DOR. You have the right to be informed of this right prior to the conference or hearing. If you intend for your representative to attend the conference or hearing in your place, you will be required to give your representative a power of attorney before the DOR can discuss tax matters with your authorized agent. See Form 20A100.

Recordings—You have the right to make an audio recording of any meeting, conference, or hearing with the DOR. The DOR has the right to make an audio recording, if you are notified in writing in advance or if you make a recording. You have the right to receive a copy of the recording.

Consideration—You have the right to consideration of:

- waiver of penalties or collection fees if "reasonable cause" for reduction or waiver is given ("reasonable cause" is defined in KRS 131.010(9) as: "an event, happening, or circumstance entirely beyond the knowledge or control of the taxpayer who has exercised due care and prudence in the filing of a return or report or the payment of monies due the department pursuant to law or administrative regulation");
- installment payments of delinquent taxes, interest and penalties;
- waiver of interest and penalties, but not taxes, resulting from incorrect written advice from the DOR if all facts were given and the law did not change or the courts did not issue a ruling to the contrary;
- extension of time for filing reports or returns; and
- payment of charges incurred resulting from an erroneous filing of a lien or levy by the DOR.

Guarantee—You have the right to a guarantee that DOR employees are not paid, evaluated, or promoted based on taxes assessed or collected, or a tax assessment or collection quota or goal imposed or suggested.

Damages—You have the right to file a claim for actual and direct monetary damages with the Kentucky Claims Commission if a DOR employee willfully, recklessly and intentionally disregards your rights as a Kentucky taxpayer.

Interest—You may have the right to receive interest on an overpayment of tax.

REVENUE DEPARTMENT RESPONSIBILITIES

The DOR has the responsibility to:

- perform audits, conduct conferences and hearings with you at reasonable times and places;
- authorize, require or conduct an investigation or surveillance of you only if it relates to a tax matter;
- make a written request for payment of delinquent taxes which are due and payable at least 30 days prior to seizure and sale of your assets;
- conduct educational and informational programs to help you understand and comply with the laws;
- publish clear and simple statements to explain tax procedures, remedies, your rights and obligations, and the rights and obligations of the DOR;
- notify you in writing when an erroneously filed lien or levy is released and, if requested notify major credit reporting companies in counties where lien was filed;
- advise you of procedures, remedies and your rights and obligations with an original notice of audit, or when an original notice of tax due is issued, a refund or credit is denied or reduced, or a license or permit is denied, revoked or canceled;
- notify you in writing prior to termination or modification of a payment agreement;
- furnish copies of the agent's audit workpapers and a written narrative explaining the reason(s) for the assessment;
- resolve tax controversies on a fair and equitable basis at the administrative level whenever possible; and
- notify you in writing at your last known address at least 60 days prior to publishing your name on a list of delinquent taxpayers for which a tax or judgment lien has been filed.

This information merely summarizes your rights as a Kentucky taxpayer and the responsibilities of the Department of Revenue. The Kentucky Taxpayers' Bill of Rights may be found in the Kentucky Revised Statutes (KRS) at Chapter 131.041—131.063. Additional rights and responsibilities are provided for in KRS 131.020, 131.110, 131.170, 131.181, 131.183, 131.190, 131.500, 131.654, 133.120, 133.130, 134.580, and 134.590.

WHERE TO GET ASSISTANCE

QUESTIONS regarding this notice should be directed to the telephone number or address shown in the "REPLY TO" area of this notice. General taxpayer assistance can be obtained by contacting the DOR, Frankfort, Kentucky 40620, (502) 564-4531.

The DOR also has a Taxpayer Ombudsman whose job is to serve as an advocate for taxpayers' rights. One of the main functions of the office is to ensure that your rights as a Kentucky taxpayer are protected. An important function of the Taxpayer Ombudsman's Office is to confer with DOR employees when you have a problem or conflict that you have been unable to resolve. However, it is not the role of the Ombudsman's Office to intercede in an audit, handle a protest, waive taxes, penalty or interest, or answer technical tax questions. To file a protest see PROTEST AND APPEAL PROCEDURES. Please do not mail your protest to the Ombudsman.

- Office of Taxpayer Ombudsman, P. O. Box 930, Frankfort, KY 40602, (502) 564-7822. Telecommunication Device for the Deaf (TDD), call (502) 564-3058.

PROTEST AND APPEAL PROCEDURE

(Does not apply to all types of property tax)

PROTEST

You have the right to protest an original notice of tax due and/or a reduction or denial of tax refund or denial of a request for additional time to file a supporting statement. To do so:

- submit a written protest within 60 days from the original notice date (or 45 days if the original notice date is prior to 07/01/2018);
- identify the type of tax involved and give the account number, Social Security number or other identification number;
- explain why you disagree;
- attach any proof or documentation available or request additional time to support your protest;
- sign your statement, include your daytime telephone number and mailing address; and
- mail to the Kentucky Department of Revenue at the address shown in the "REPLY TO" area of the notice.

CONFERENCE

You have the right to a conference to discuss a tax matter.

FINAL RULING

If you do not want to have a conference or if the conference did not resolve your protest, you have the right to request a final ruling of the DOR so that you can appeal your case further.

APPEAL

If you do not agree with the Department of Revenue's final ruling, you can file a written appeal with the Kentucky Claims Commission. If you do not agree with the decision of the Kentucky Claims Commission, you have the right to appeal the ruling to the Kentucky courts (first to the circuit court in your home county or in Franklin County, then to the Kentucky Court of Appeals, and finally to the Kentucky Supreme Court).

The procedure for protest and appeal of an original notice of tax due does not apply for assessments of all types of property tax.

EXPLANATION OF NOTICE, CONTINUED
TAXPAYER ID: 000015800
NOTICE NUMBER: 111749094

TOTAL DUE AS OF: 06/29/2023	TOTAL AMOUNT OF	BALANCE DUE
	TAX 143,362.35 TOT	143,362.35

PLEASE RETURN THE NOTICE OF TAX DUE STUB WITH PAYMENT TO:
DEPARTMENT OF REVENUE, FRANKFORT, KENTUCKY 40619.

ONLINE PAYMENT OPTIONS ARE AVAILABLE. THE DEPARTMENT OF REVENUE ACCEPTS PAYMENTS BY CREDIT CARD OR ELECTRONIC CHECK. PAYMENT RULES VARY BY TAX TYPE. YOU MAY GET MORE DETAILS AND MAKE PAYMENTS AT [HTTPS://EPAYMENT.KY.GOV/EPAY](https://epayment.ky.gov/epay).

TO PAY BY PHONE, PLEASE CALL (502) 564-4921, EXT. 5357. CARDS ACCEPTED ARE VISA, MASTERCARD, DISCOVER OR AMEX. 2.75% CONVENIENCE FEE FOR CREDIT CARD PAYMENT OR 1.5% CONVENIENCE FEE FOR DEBIT CARD PAYMENT. NO CHARGE FOR ELECTRONIC CHECKS.

IMPORTANT REMINDER: INCLUDE YOUR TAXPAYER IDENTIFICATION NUMBER, TYPE OF TAX, AND TAX PERIOD ON ANY PAYMENT OR LETTER SENT TO THE DEPARTMENT OF REVENUE. THIS ENABLES THE DEPARTMENT OF REVENUE TO CORRECTLY CREDIT YOUR ACCOUNT FOR THE TAX PERIOD AND TYPE TAX FOR WHICH YOU INTENDED.

REPLY TO: MICHAEL Y110
DEPARTMENT OF REVENUE
STATION NUMBER 62
501 HIGH STREET
FRANKFORT KY 40602-0181

TEL: (502) 564-9701
FAX: (502) 564-3393
OFFICE HOURS: 8:00 A.M. TO 5:00 P.M. EASTERN TIME

NOTICE REQUIREMENT FOR INTERNET POSTING

IF YOUR TAX LIABILITY REMAINS UNPAID FOR MORE THAN 90 DAYS AFTER THE DATE OF THIS ORIGINAL NOTICE, THE DEPARTMENT OF REVENUE MAY POST YOUR NAME AND THIS LIABILITY FOR PUBLIC INSPECTION, INCLUDING POSTINGS IN YOUR LOCAL NEWSPAPER AND/OR ON THE INTERNET. HOWEVER, IF YOU NOTIFY THE DEPARTMENT IN WRITING DURING THIS PERIOD OF ANY OF THE FOLLOWING, THE DEPARTMENT MUST EXCLUDE YOUR NAME FROM ANY PUBLIC POSTING:

1. YOU HAVE AN APPEAL PENDING OR INTEND TO FILE AN APPEAL PURSUANT TO KRS 131.110 ET SEQ. WITH RESPECT TO THIS LIABILITY;
2. YOU ARE CURRENTLY PAYING THIS TAX LIABILITY THROUGH A VALID PAY AGREEMENT;
3. THE DEPARTMENT IS REVIEWING OR ADJUSTING THIS TAX LIABILITY;
4. YOU ARE IN BANKRUPTCY AND THE AUTOMATIC STAY IS STILL IN EFFECT.

ADDITIONALLY, A TAXPAYER'S NAME WILL BE EXCLUDED OR REMOVED FROM ANY PUBLIC POSTING IN THE EVENT THE DEPARTMENT IS NOTIFIED IN WRITING THAT THE TAXPAYER IS DECEASED.

PLEASE PROVIDE WRITTEN BASIS FOR EXCLUSION TO THE **DIVISION OF COLLECTIONS, P.O. BOX 491, FRANKFORT, KY 40602**, OR E-MAIL IT TO KRC.WEBRESPONSENOTICEOFTAXDUE@KY.GOV.

EXPLANATION OF NOTICE, CONTINUED
TAXPAYER ID: 000015800
NOTICE NUMBER: 111749094

Page 5 of 6
PAGE 3

NOTICE OF INTENT TO OFFSET

IF ANY PORTION OF YOUR LIABILITY REMAINS UNPAID AFTER 60 DAYS FROM THE DATE OF THIS NOTICE, THE DEPARTMENT MAY SUBMIT YOUR DEBT TO THE TREASURY OFFSET PROGRAM (TOP). ONCE YOUR DEBT IS SUBMITTED TO TOP FOR OFFSET, THE UNITED STATES DEPARTMENT OF TREASURY MAY REDUCE OR WITHHOLD ANY OF YOUR ELIGIBLE FEDERAL TAX REFUNDS OR VENDOR PAYMENTS BY THE AMOUNT OF YOUR DEBT. THESE OFFSET PROCESSES ARE AUTHORIZED BY 31 U.S.C. 3716, 26 U.S.C. 6402, KRS 44.065 AND KRS 44.030.

NOTICE FOR LICENSE AND MOTOR VEHICLE REGISTRATION REVOCATION

KENTUCKY STATUTES ENABLE THE DEPARTMENT OF REVENUE TO REQUEST THE REVOCATION OR SUSPENSION OF ANY PROFESSIONAL LICENSE, LICENSE TO PRACTICE LAW, OR DRIVER'S LICENSE ISSUED BY ANY LICENSING AGENCY OF THE COMMONWEALTH OR THE KENTUCKY SUPREME COURT TO ANY PERSON THAT IS DETERMINED BY THE DEPARTMENT TO BE A "DELINQUENT TAXPAYER" AS DEFINED IN KRS 131.1817. ADDITIONALLY, THE DEPARTMENT MAY NOTIFY THE KENTUCKY TRANSPORTATION CABINET THAT AN OWNER OF A MOTOR VEHICLE IS A "DELINQUENT TAXPAYER," REQUIRING THE TRANSPORTATION CABINET TO PROHIBIT THE DELINQUENT TAXPAYER FROM REGISTERING OR RENEWING THE REGISTRATION OF THE MOTOR VEHICLE.

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF REVENUE
FRANKFORT, KY 40619

NOTICE DATE 06/16/2022	PERIOD 07/01/2022-06/30/2023	CASE 000000015800033	TAX PUBLIC SERVICE COMMISSION ASSESSMENT
NOTICE # 111045897	RETURN DUE 07/31/2022	TAXPAYER-ID 000015800	TAXPAYER NAME AMERICAN WATER- GENERAL TAX

EXPLANATION OF NOTICE

ANNUAL PUBLIC SERVICE COMMISSION ASSESSMENT FOR THE ABOVE PERIOD.

MESSAGES: PENALTIES PROVIDED PER KRS 278.990(3) INCLUDE \$1,000, PLUS \$25 PER DAY FOR EACH DAY THE ASSESSMENT REMAINS UNPAID. KRS 131.440(1)(A) IMPOSES A COST OF COLLECTION FEE FOR TWENTY-FIVE PERCENT (25%) ON ALL ASSESSMENTS WHICH ARE OR BECOME DUE AND OWING TO THE DEPARTMENT. IF THE AMOUNT DUE IS NOT PAID BY THE DUE DATE, THESE PENALTIES AND FEES MAY BE ADDED TO THIS ASSESSMENT AND REFERRED FOR ENFORCED COLLECTION ACTION.

QUESTIONS CONCERNING THIS ASSESSMENT MAY BE DIRECTED TO THE PUBLIC SERVICE COMMISSION, 211 SDWER BOULEVARD, PD BOX 615, FRANKFDRT, KENTUCKY 40602, TELEPHONE NUMBER (502) 564-3940. KRS 278.130 PROVIDES FOR THE ANNUAL ASSESSMENT OF PUBLIC SERVICE COMPANIES.

GROSS INTRASTATE RECEIPTS

103,130,004.00

TAX LIABILITY

TAX LIABILITY
153,973.10

TOTAL LIABILITY

TOTAL LIABILITY
153,973.10

<<<< EXPLANATION OF NOTICE CONTINUED ON NEXT PAGE >>>>

DETACH VOUCHER AND RETURN WITH PAYMENT. MAKE CHECK PAYABLE TO KENTUCKY STATE TREASURER.

NOTICE OF TAX DUE

CASE NUMBER

00015397310

000000015800033

#BWNCSLW
#226FJ 3139 002830 4#

* TOTAL DUE AS OF: *
* 06/30/2022 * \$153,973.10

* AMERICAN WATER- GENERAL TAX
ATTN TRICIA SINOPOLE
2300 RICHMOND ROAD
LEXINGTON KY 40502

ENTER AMOUNT PAID:

10A5009911

KENTUCKY DEPARTMENT OF REVENUE
FRANKFORT, KY 40619

99999 000015800 6 033 111045897 1 00015397310 20230630 9

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Jeffrey Newcomb and Krista Citron

96. Refer to the Newcomb Testimony at 15 – 24. Provide by year since the QIP was approved the level of investment placed in service and charged initially through the QIP.

Response:

The level of investment placed in service for each completed QIP year is shown below. Case No. 2023-00030 is still pending with the Commission, but the most recent response to Commission Staff's Second Request for Information (PSC DR2 NUM001 and attachments) includes updated actual in-service costs for QIP Year 3 projects through the end of the Year 3 time period, June 30, 2023. This also includes post-in-service spend for QIP Year 1 and 2 projects that occurred between July 1, 2022 to June 30, 2023.

QIP Year	Case No. 2021-00376 Reconciliation	Case No. 2022-00328 Reconciliation	Case No. 2023-00030 <i>(proposed)</i>	Total Investment
1	\$9,328,645	\$1,445,475 post-in-service	\$29,154 post-in-service	\$10,803,275
2	--	\$18,485,984	\$7,959,202 post-in-service	\$26,445,186
3	--	--	\$19,512,110	\$19,512,110
Total	\$9,328,645	\$19,931,459	\$27,500,466	\$56,760,571

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Jeffrey Newcomb

97. Refer to the Newcomb Testimony at 21. Explain in detail how an uncollectible resulting from the QIP special regulatory mechanism is not currently being captured in the uncollectible calculation.

Response:

The QIP regulatory mechanism is a surcharge on top of revenues from base rates. The test year uncollectible calculation in this case only captures uncollectible expense based on proposed based rates and does not include uncollectible expense the Company would expect to experience related to any future post-test year QIP surcharge that would be on top of revenue from those proposed base rates.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Jeffrey Newcomb

98. Refer to the Newcomb Testimony at 24. Kentucky American requests deferral treatment for (1) production expenses, (2) pension and OPEB expenses, (3) taxes other than income (excluding sales tax) and income taxes. Explain in detail how these requests do not engage in single issue ratemaking during the deferral period.

Response:

No ratemaking is occurring during the deferral period as it relates to Kentucky-American's requests for deferral treatment for (1) production expenses, (2) pension and OPEB expenses, (3) taxes other than income (excluding sales tax) and income taxes. The amounts deferred under the request will not be part of the ratemaking process until Kentucky-American's next general rate case, and at that time, all components of the revenue requirement and cost of service, inclusive of amounts deferred under the Company's request for deferral treatment in this proceeding, would be examined when determining rates in that future proceeding.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL’S FIRST REQUEST FOR INFORMATION

Witness: Ann Bulkley

99. Refer to the Direct Testimony of Anne Bulkley (“Bulkley Testimony”) generally. Provide copies of all articles, regulatory commission orders, rating agency reports, and other supporting documentation cited and relied upon by Ms. Bulkley in her direct testimony and exhibits. Include copies of all articles, reports, and other documents cited in the footnotes.

Response:

The requested cited sources for Ms. Bulkley’s Direct Testimony are provided in KAW_R_AGDR1_NUM099_081823_Attachment 1 through KAW_R_AGDR1_NUM099_081823_Attachment 40_CONFIDENTIAL. The attachments are numbered in the order that they appear in the testimony. An index is provided below. Certain attachments are confidential as indicated below and are provided pursuant to a Petition for Confidential Protection.

FN #	Footnote	KAW_R_AGDR1_ NUM099_081823 Attachment #
2	Federal Power Commission v. Hope Natural Gas Co., 320 U.S. 591 (1944) (“Hope”); Bluefield Waterworks & Improvement Co., v. Public Service Commission of West Virginia, 262 U.S. 679 (1923) (“Bluefield”).	1,2
3	Bluefield, 262 U.S. at 692-93; Hope, 320 U.S. at 603.	1,2
4	Bluefield, 262 U.S. at 693.	1
5	Hope, 320 U.S. at 603.	2
6	Kentucky Revised Statute (“KRS”) 278.030 part (1).	3
7	Public Service Commission. “PSC Responds to Criticism of Ky. Power.” The Mountain Eagle, 2014, www.themountaineagle.com/articles/psc-responds-to-criticism-of-ky-power/ .	4
9	Federal Reserve, Transcript of Chair Powell’s Press Conference, June 14, 2023, p 1.	5
10	Federal Reserve, Transcript of Chair Powell’s Press Conference, June 14, 2023, p. 4.	5
11	Federal Reserve, Press Releases, March 16, 2022, May 4, 2022, June 15, 2022, September 22, 2022, November 2, 2022, February 1, 2023, March 22, 2023, and May 3, 2023.	6,7,8,9,10,11,12,13
12	Federal Reserve, Summary of Economic Projections, June 14, 2023, https://www.federalreserve.gov/monetarypolicy/files/fomcprojtabl20230614.pdf .	14
14	Blue Chip Financial Forecasts, Vol. 42, No. 5, May 1, 2023.	15

FN #	Footnote	KAW_R_AGDR1_NUM099_081823 Attachment #
15	Lee, Justina. "Wall Street Is Rethinking the Treasury Threat to Big Tech Stocks." Bloomberg.com, 11 Mar. 2021, www.bloomberg.com/news/articles/2021-03-11/wall-street-is-rethinking-the-treasury-threat-to-big-tech-stocks.	16
16	Fidelity. "Second Quarter 2023 Investment Research Update." April 21, 2023.	17
17	Market Insider. "After A 'Good Run' For Utilities In 2022, Analyst Says 'Trade Is Over – For Now,' But Retains Bullish Bias On These Stocks", January 17, 2023. (emphasis added)	18
18	Sonenshine, Jacob, "Utilities Stocks Have Fallen off a Cliff. They Just Got Downgraded, Too," Barron's, October 17, 2022.	19
19	<i>Id.</i>	19
23	S&P Global Ratings, American Water Works Co. Inc., February 6, 2023.	20 (Confidential)
24	Moody's Investors Service, accessed March 21, 2023. Moody's last rating change for American Water Works Company, Inc. was as of April 1, 2019. (https://www.moody.com/research/Moodys-downgrades-American-Water-and-American-Water-Capital-Corp-to--PR_397640)	21
25	Chediak, Mark, et al. "Utility M&A Is So Hot Not Even Berkshire's Billions Won a Bid." Bloomberg.com, Bloomberg, 3 Jan. 2018, www.bloomberg.com/news/articles/2018-01-03/utility-m-a-is-so-hot-not-evenberkshire-s-billions-won-a-bid.	22
26	Case No. 2018-00358, In the matter of: Electronic Application of Kentucky-American Water Company for an Adjustment of Rates, Order, June 27, 2019, at 66.	23
27	<i>Id.</i> , at 55-56.	23
28	Massachusetts Department of Public Utilities, Docket No. 17-90, Petition of Aquarion Water Company of Massachusetts, Inc., pursuant to G.L. c. 164, § 94, and G.L. c. 165, § 2, for Approval of a General Rate Increase as set forth in M.D.P.U. No. 3., October 31, 2018, p. 286-287.	24
29	Docket No. 20180006-WS, In re. Water and wastewater industry annual reestablishment of authorized range of return on common equity for water and wastewater utilities pursuant to Section 367.081(4)(f),F.S., Order No. PSC-2018-0327-PAA-WS, at 7.	25
30	Docket No. 170006-WS, In re. Water and wastewater industry annual reestablishment of authorized range of return on common equity for water and wastewater utilities pursuant to Section 367.081(4)(f),F.S., Order No. PSC-17-0249-PAA-WS, at 2.	26
31	Docket No. 20180006-WS, In re. Water and wastewater industry annual reestablishment of authorized range of return on common equity for water and wastewater utilities pursuant to Section 367.081(4)(f),F.S., Order No. PSC-2018-0327-PAA-WS, at 8.	25
32	Illinois Commerce Commission, Illinois-American Water Company Proposed Rate increases for Water and Sewer Service (tariffs filed February 10, 2022), Docket No. 22-0210, Order, December 15, 2022, at 102.	27

FN #	Footnote	KAW_R_AGDR1_NUM099_081823 Attachment #
33	Tom Copeland, Tim Koller and Jack Murrin, <i>Valuation: Measuring and Managing the Value of Companies</i> , 3 rd Ed. (New York: McKinsey & Company, Inc., 2000), at 214.	28
34	Eugene Brigham, Louis Gapenski, <i>Financial Management: Theory and Practice</i> , 7th Ed. (Orlando: Dryden Press, 1994), at 341.	29
35	Case No. 2018-00358, In the matter of: Electronic Application of Kentucky-American Water Company for an Adjustment of Rates, Order, June 27, 2019, at 65.	23
36	<i>Id.</i> , at 66.	23
38	Blue Chip Financial Forecasts, Vol. 42, No. 5, May 1, 2023, at 2.	15
39	Blue Chip Financial Forecasts, Vol. 41, No. 12, December 2, 2022, at 14.	30
41	See, e.g., Roger A. Morin, <i>New Regulatory Finance</i> , Public Utilities Reports, Inc., 2006, at 189.	31
42	<i>Id.</i> , at 191.	31
43	Shannon P. Pratt, <i>Cost of Capital Estimation and Applications</i> , Second Edition, at 220-221.	32
45	S&P, Ratings Direct, “U.S. Regulated Electric Utilities’ Annual Capital Spending is Poised to Eclipse \$100 Billion,” July 2014.	33 (Confidential)
46	S&P Global Ratings, “Assessing U.S. Investor-Owned Utility Regulatory Environments,” August 10, 2016, at 7.	34 (Confidential)
47	Moody’s Investors Service, Rating Methodology: Regulated Water Utilities, June 8, 2018, at 4.	35
48	Moody’s Investors Service, Rating Methodology: Regulated Water Utilities, June 8, 2018, at 7.	35
49	RRA, Commission Profile of the Kentucky Public Service Commission, accessed June 1, 2023.	36 (Confidential)
51	Moody’s Investors Service, Outlook. “2023 outlook negative due to higher natural gas prices, inflation and rising interest rates.” November 10, 2022; Moody’s Investors Service. Outlook, Sector In-Depth. “Inflation, high natural gas prices complicate prospects for supportive rate increases.” November 11, 2022.	37 (Confidential), 38 (Confidential)
52	Fitch Ratings. “North American Utilities, Power & Gas Outlook 2023.” December 7, 2022, at 1-2.	39 (Confidential)
53	S&P Global Ratings. Industry Top Trends, “North American Regulated Utilities: The industries outlook remains negative.” January 23, 2023.	40 (Confidential)
54	<i>Id.</i>	40 (Confidential)
55	<i>Id.</i>	40 (Confidential)
56	<i>Id.</i>	40 (Confidential)

**KAW_R_AGDR1_NUM099_081823_ATTACHMENT 20_CONFIDENTIAL
KAW_R_AGDR1_NUM099_081823_ATTACHMENT 33_CONFIDENTIAL
KAW_R_AGDR1_NUM099_081823_ATTACHMENT 34_CONFIDENTIAL
KAW_R_AGDR1_NUM099_081823_ATTACHMENT 36_CONFIDENTIAL
KAW_R_AGDR1_NUM099_081823_ATTACHMENT 37_CONFIDENTIAL
KAW_R_AGDR1_NUM099_081823_ATTACHMENT 38_CONFIDENTIAL
KAW_R_AGDR1_NUM099_081823_ATTACHMENT 39_CONFIDENTIAL
KAW_R_AGDR1_NUM099_081823_ATTACHMENT 40_CONFIDENTIAL
FILED UNDER SEAL PURSUANT TO THE PETITION FOR
CONFIDENTIAL TREATMENT FILED ON AUGUST 18, 2023**

**KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION**

Witness: Ann Bulkley

100. Refer to the Bulkley Testimony generally. Provide working spreadsheet copies of Ms. Bulkley's attachments and exhibits with cell formulas intact. Include the tables and figures in Ms. Bulkley's testimony.

Response:

Please see the response and attachments to PSC 2-30.

**KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION**

Witness: Ann Bulkley

101. Refer to the Bulkley Testimony generally. Provide all work papers and supporting documentation and data relied upon by Ms. Bulkley in the preparation of her direct testimony and attachments and exhibits.

Response:

Please see the responses and attachments to PSC 2-30 and AG 1-99.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Ann Bulkley

102. Refer to the Bulkley Testimony generally. Provide the latest issue of the Blue Chip Financial Forecast available to Ms. Bulkley and/or Kentucky American.

Response:

Please see KAW_R_AGDR1_NUM102_081823_Attachment 1.

Blue Chip Financial Forecasts®

**Top Analysts' Forecasts Of U.S. And Foreign Interest Rates, Currency Values
And The Factors That Influence Them**

Vol. 42, No. 8, August 1, 2023

Wolters Kluwer

BLUE CHIP FINANCIAL FORECASTS®

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Fed Funds Rate Path at a Crossroads

The Fed's July 25-26 decision to raise the federal funds rate by 25bps, bringing the policy target to a range of 5.25% to 5.5%, was widely expected in markets. However, the path forward from here is much less clear, especially since there have been mixed signals from the economy and the Fed has already tightened more aggressively in the past year and a half than at any other time in the past four decades. On the one hand, the labor market remains tight and core inflation continues to run well above target, suggesting a need for even more restraint. In his press conference, Fed Chair Powell stated that "the process of getting inflation down to 2% has a long way to go." On the other hand, there have been leading signals that the economy may be headed for a downturn in coming quarters. Against this backdrop, Fed officials have left their policy options open.

Near-term rate expectations. Since the Fed's rate decision and press conference, markets give low odds for further rate hikes this year. Fed funds futures prices imply there is less than 30% probability of another rate hike at each of the next three FOMC meetings. Likewise, the Blue Chip Financial Forecasts (BCFF) consensus also indicates no change in the funds rate. However, these summary measures are averages and obscure the fact that there is considerable uncertainty surrounding the near-term policy path.

We can look under the surface at the individual BCFF policy projections to obtain insights into market thinking. More than half of the panelists look for no further changes in the funds rate this year. However, a significant group of panelists, 38%, are focused on the robust labor market and elevated inflation, and they expect the Fed to raise rates again this year. Conversely, three forecasters worry that the economy may be headed for a hard landing, and they look for rate cuts by the end of this year.

Labor market and inflation. Nonfarm payrolls have increased by 316,000 per month on average over the past year, the unemployment rate is hovering near 70-year lows, and the participation rate is rising. Importantly, wage gains have remained high, with average hourly earnings up 4.4% over the past year. Likewise, the employment cost index has increased by 4.5% in that time. Tight labor market conditions imply further second-round pressures on inflation.

Any further Fed tightening will depend on the path of inflation. Thus far, the progress in lowering inflation has been frustratingly slow. Headline PCE inflation has subsided notably, from a peak of 7.0% a year ago to the latest reading of 3.0%, but the declines have been centered in the volatile food and energy sectors. In contrast, core PCE inflation has declined much more gradually, from a peak of 5.4% in February 2022 to 4.1% currently. The latest core reading is more than double the Fed's 2% target. The Fed continues to believe that a period of below-trend growth is needed to bring down core inflation.

Economic downturn? The economy has continued to expand at a healthy pace, with real GDP growing at a 2.4% annualized pace in the second quarter. The gains were led by a solid contribution from nonresidential investment and resilient consumer spending. Despite these gains, leading indicators of eco-

nomie activity point to a period of below-trend growth or a mild recession going forward. The Conference Board's index of leading indicators has fallen sharply for more than a year. The yield curve, which is one of the individual leading indicators with an exceptional track record predicting downturns, has been sharply negative. In fact, the yield curve remains near the lowest levels in the past 40 years, signaling a strong possibility of a slump. Based on the yield curve, the Federal Reserve Bank of New York's recession gauge gives a 67% probability that the economy will experience a downturn in the next year, and the Federal Reserve Bank of Cleveland's measure gives the odds at 75%.

The BCFF consensus agrees with this assessment. Over the next four quarters, GDP growth is expected to be just 0.5%, which is well below trend. In fact, 51% of the respondents are projecting two consecutive quarterly declines in GDP in the coming year. In addition, all BCFF respondents who answered the special questions anticipate some rise in the unemployment rate. The median expected increase in the jobless rate is 0.9 percentage point. Historically, increases of that magnitude have been associated with declines in economic activity. This weakness would be expected to help alleviate underlying price pressures. Indeed, BCFF panelists projected in another special question that core inflation would subside to 3.5% by yearend 2023 and 2.4% by the end of 2024.

First rate cut. Even though there is much uncertainty about the near-term path of policy, with an outlook for below-trend growth and subsiding inflation, every BCFF panelist expects the Fed to cut rates by the end of 2024. In fact, based on panelists' quarterly forecasts, 81% expect the first cut to occur by midyear 2024. The BCFF consensus expects the Fed to cut by more than is penciled into the Fed's June Statement of Economic Projections. BCFF respondents expect the fed funds rate to be 4.0% at the end of 2024 versus the FOMC rate projection of 4.6%.

Market rates. BCFF consensus projections for Treasury yields indicate that the yield curve will remain inverted over the forecast horizon, consistent with their forecast of below-trend economic growth. Interestingly, the consensus looks for real interest rates to rise over the next six quarters. For example, the 10-year yield is expected to fall 0.4 percentage point to 3.5%, while core inflation is expected to decline by 1.7 percentage points to 2.4%.

Despite the belief that the economy will experience a mild recession, BCFF panelists do not anticipate an accompanying increase in credit spreads. In fact, the consensus suggests a period of only mild risk for corporations. One factor behind this benign outlook for credit spreads is that the banking sector now appears to be on a more solid footing. The Fed mentioned in its FOMC statement that "the US banking system is sound and resilient." In fact, measures of financial market stress, such as the OFR financial stress index, have remained near historical norms.

Peter D'Antonio (Haver Analytics, New York, NY)

2 ■ BLUE CHIP FINANCIAL FORECASTS ■ AUGUST 1, 2023

Consensus Forecasts of U.S. Interest Rates and Key Assumptions

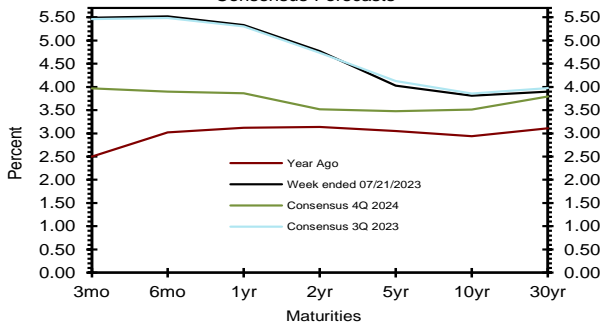
Interest Rates	History								Consensus Forecasts-Quarterly Avg.					
	Average For Week Ending				Average For Month				Latest Qtr	3Q 2023	4Q 2023	1Q 2024	2Q 2024	3Q 2024
	Jul 21	Jul 14	Jul 7	Jun 30	Jun	May	Apr	2Q 2023	2023	2023	2024	2024	2024	2024
Federal Funds Rate	5.08	5.08	5.08	5.07	5.08	5.06	4.83	4.99	5.4	5.4	5.2	4.9	4.4	4.0
Prime Rate	8.25	8.25	8.25	8.25	8.25	8.23	8.00	8.16	8.5	8.5	8.4	8.0	7.5	7.1
SOFR	5.06	5.06	5.06	5.06	5.06	5.02	4.81	4.96	5.3	5.4	5.2	4.9	4.4	4.0
Commercial Paper, 1-mo.	5.16	5.14	5.11	5.12	5.10	5.06	4.82	4.99	5.4	5.4	5.3	4.9	4.4	4.1
Treasury bill, 3-mo.	5.49	5.48	5.45	5.45	5.42	5.31	5.07	5.27	5.5	5.4	5.2	4.7	4.3	4.0
Treasury bill, 6-mo.	5.52	5.53	5.53	5.47	5.42	5.27	4.99	5.23	5.5	5.4	5.0	4.7	4.2	3.9
Treasury bill, 1 yr.	5.33	5.36	5.42	5.35	5.24	4.91	4.68	4.94	5.3	5.1	4.8	4.5	4.2	3.9
Treasury note, 2 yr.	4.77	4.76	4.95	4.77	4.64	4.13	4.02	4.26	4.7	4.5	4.2	4.0	3.8	3.5
Treasury note, 5 yr.	4.03	4.11	4.29	4.04	3.95	3.59	3.54	3.69	4.1	4.0	3.8	3.7	3.6	3.5
Treasury note, 10 yr.	3.81	3.89	3.98	3.77	3.75	3.57	3.46	3.59	3.9	3.8	3.7	3.6	3.6	3.5
Treasury note, 30 yr.	3.90	3.97	3.97	3.85	3.87	3.86	3.68	3.80	4.0	3.9	4.0	3.9	3.9	3.8
Corporate Aaa bond	4.91	5.00	5.02	4.92	4.95	4.95	4.76	4.88	4.9	4.9	4.9	4.9	4.8	4.7
Corporate Baa bond	5.58	5.67	5.69	5.60	5.64	5.66	5.44	5.58	6.0	6.0	6.0	6.0	5.9	5.7
State & Local bonds	4.16	4.24	4.24	4.20	4.23	4.21	4.07	4.17	4.2	4.2	4.2	4.1	4.0	4.0
Home mortgage rate	6.78	6.96	6.81	6.71	6.71	6.43	6.34	6.49	6.7	6.6	6.4	6.2	6.1	5.9

Key Assumptions	History								Consensus Forecasts-Quarterly					
	3Q 2021	4Q 2021	1Q 2022	2Q 2022	3Q 2022	4Q 2022	1Q 2023	2Q 2023	3Q 2023	4Q 2023	1Q 2024	2Q 2024	3Q 2024	4Q 2024
Fed's AFE \$ Index	104.9	106.9	108.3	113.5	118.8	119.8	115.5	114.6	114.4	114.1	113.6	113.1	112.7	112.4
Real GDP	2.7	7.0	-1.6	-0.6	3.2	2.6	2.0	2.4	0.8	0.0	0.2	0.8	1.6	1.8
GDP Price Index	6.2	6.8	8.3	9.0	4.4	3.9	4.1	2.2	2.7	2.6	2.5	2.3	2.3	2.3
Consumer Price Index	6.6	8.8	9.2	9.7	5.5	4.2	3.8	2.7	2.9	2.8	2.6	2.4	2.4	2.3
PCE Price Index	5.6	6.2	7.5	7.3	4.3	3.7	4.1	2.6	2.7	2.7	2.4	2.3	2.2	2.2

Forecasts for interest rates and the Federal Reserve's Advanced Foreign Economics Index represent averages for the quarter. Forecasts for Real GDP, GDP Price Index, CPI and PCE Price Index are seasonally-adjusted annual rates of change (saar). Individual panel members' forecasts are on pages 4 through 9. Historical data: Treasury rates from the Federal Reserve Board's H.15; AAA-AA and A-BBB corporate bond yields from Bank of America-Merrill Lynch, A-rated, yield to maturity; State and local bond yields from Bank of America-Merrill Lynch, A-rated, yield to maturity; Mortgage rates from Freddie Mac, 30-year, fixed; SOFR from the New York Fed. All interest rate data are sourced from Haver Analytics. Historical data for Fed's Major Currency Index are from FRSR H.10. Historical data for Real GDP, GDP Price Index and PCE Price Index are from the Bureau of Economic Analysis (BEA). Consumer Price Index history is from the Department of Labor's Bureau of Labor Statistics (BLS).

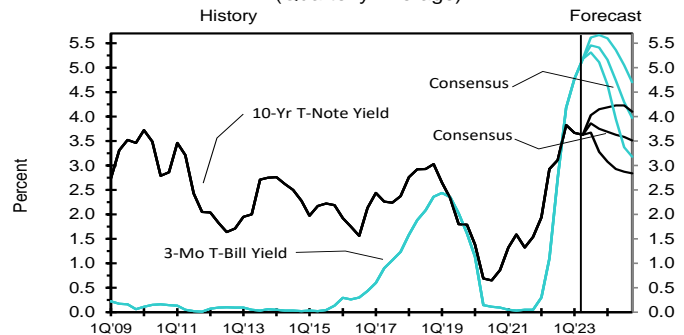
US Treasury Yield Curve

Week ended Jul 21, 2023 & Year Ago vs. 3Q 2023 & 4Q 2024 Consensus Forecasts



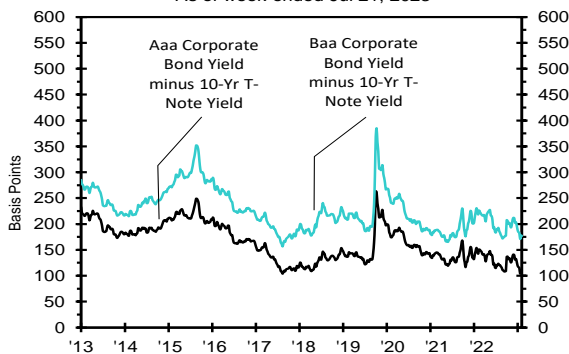
US 3-Mo T-Bills & 10-Yr T-Note Yield

(Quarterly Average)



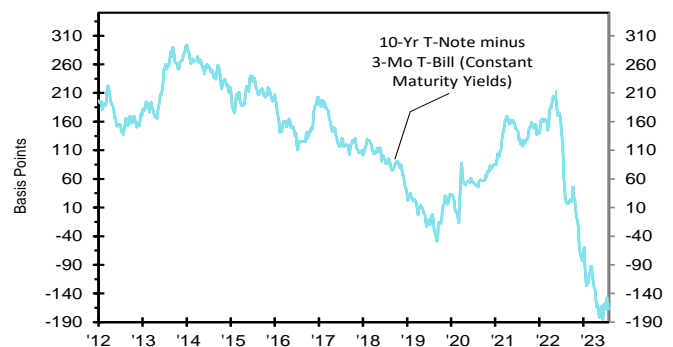
Corporate Bond Spreads

As of week ended Jul 21, 2023



US Treasury Yield Curve

As of week ended Jul 21, 2023



-----Policy Rates¹-----

	History			Consensus Forecasts		
	Month	Year	Months From Now:			
Latest:	Ago:	Ago:	3	6	12	
U.S.	5.13	5.13	1.63	5.42	5.44	4.92
Japan	-0.10	-0.10	-0.10	-0.08	-0.08	-0.06
U.K.	5.00	5.00	1.25	5.59	5.69	5.41
Switzerland	1.75	1.75	-0.25	1.96	2.04	1.94
Canada	5.00	4.75	2.50	4.98	5.00	4.64
Australia	4.10	4.10	1.35	4.36	4.35	4.10
Euro area	4.00	4.00	0.00	4.27	4.34	4.12

-----10-Yr. Government Bond Yields²-----

	History			Consensus Forecasts		
	Month	Year	Months From Now:			
Latest:	Ago:	Ago:	3	6	12	
U.S.	3.84	3.74	2.77	3.82	3.68	3.47
Germany	2.44	2.37	1.04	2.44	2.40	2.27
Japan	0.48	0.39	0.22	0.48	0.58	0.61
U.K.	4.30	4.37	2.07	4.30	4.23	4.03
France	2.99	2.88	1.62	2.95	2.89	2.74
Italy	4.07	4.00	3.46	4.21	4.10	3.89
Switzerland	0.92	0.93	0.72	1.29	1.41	1.37
Canada	3.41	3.36	2.84	3.46	3.41	3.32
Australia	4.00	4.00	3.45	4.03	3.96	3.77
Spain	3.41	3.42	2.40	3.51	3.46	3.32

-----Foreign Exchange Rates³-----

	History			Consensus Forecasts		
	Month	Year	Months From Now:			
Latest:	Ago:	Ago:	3	6	12	
U.S.	112.96	114.54	116.89	112.8	112.4	110.2
Japan	141.75	143.78	136.12	138.3	135.8	129.9
U.K.	1.29	1.27	1.20	1.30	1.30	1.34
Switzerland	0.87	0.90	0.96	0.89	0.89	0.87
Canada	1.32	1.32	1.29	1.32	1.32	1.29
Australia	0.67	0.67	0.69	0.68	0.68	0.71
Euro	1.11	1.09	1.02	1.10	1.11	1.14

Consensus
Policy Rates
vs. US Rate

	Now	In 12 Mo.
Japan	-5.23	-4.98
U.K.	-0.13	0.49
Switzerland	-3.38	-2.98
Canada	-0.13	-0.28
Australia	-1.03	-0.82
Euro area	-1.13	-0.79

Consensus
10-Year Gov't
Yields vs. U.S. Yield

	Now	In 12 Mo.
Germany	-1.40	-1.19
Japan	-3.36	-2.86
U.K.	0.46	0.56
France	-0.85	-0.73
Italy	0.23	0.43
Switzerland	-2.92	-2.10
Canada	-0.43	-0.14
Australia	0.16	0.31
Spain	-0.43	-0.15

International. The mood in the world's financial markets has been more upbeat over the past few weeks partly thanks to some stronger-than-expected US corporate earnings reports. Investors have also become more optimistic that central banks either already have completed, or are now close to completing, their monetary policy tightening campaigns. Further downside inflation surprises in many major economies coupled with tentative evidence suggesting that labor markets are cooling off have been pivotal for that view. But, more ominously, so too have data suggesting that economic growth is cooling more rapidly than expected in Europe and China.

That loss of growth momentum was evidenced by July's flash PMI surveys showing a broadly based slowdown at the start of Q3. Country-specific data revealed that US business activity growth slipped to a five-month low, that Japan's activity slowed to a four-month low, that the UK slowed to near-stagnation and that the euro area fell into a much steeper decline. The latter also chimes with more backward-looking data suggesting that activity has been slipping in the euro area's industrial and retail sectors. It chimes too with GDP data suggesting that the German economy has recently entered a recession.

The news from China has been equally downbeat. GDP growth in Q2, 0.8% compared with the previous quarter, was well shy of expectations with accompanying detail from June's retail sales data suggesting that flagging consumption is an important reason for this. Property sector investment, in the meantime, is also still sinking, a symptom of excess capacity that's engulfing the housing market. Sub-par levels of CPI inflation in July coupled with negative rates of PPI inflation speak to excess capacity issues lurking in the broader economy as well.

But while those sub-par inflation rates have given cover to China's authorities to announce a package of fiscal policy support in recent days, above-par core inflation levels elsewhere leave limited scope for policy support. And this may be one reason, notwithstanding a raft of inflation-friendly data, why the decisions and communications from central banks, as well as the views of our BCFF panelists, are not fully synchronized with the views of financial market participants.

Indeed, most major central banks appear willing, at least in their communications, to calibrate monetary policy at a more restrictive level than financial market participants are (or had been) anticipating. The ECB, for example, enacted a further 25bps of policy rate hikes at their latest meeting. While that was in line with expectations, the subsequent post-meeting commentary from President Lagarde appeared to be inconsistent with the idea that the ECB's inflation battle is now over. In the meantime, both the RBA and the BoC have wrong-footed financial markets by lifting their policy rates by 25bps in recent weeks, having previously communicated that they would pause their tightening cycles. As a result, there is now much uncertainty about both central banks' intentions at their upcoming meetings in August. In the meantime, large positive surprises on inflation and pay growth forced the BoE to respond with a 50bps rate hike in June and have raised the possibility that it will keep hiking until it sees clear evidence that services inflation is cooling.

Not for the first time the BoJ is an outlier in this narrative. However, while monetary policy was ostensibly left unchanged at its July 28 meeting, as expected, greater flexibility was announced in its yield curve control policy. That might be seen as a prelude to an eventual shift away from its ultra-loose monetary policy.

Against this backdrop, our latest survey reveals persistent concerns about the global economic outlook. The BCFF consensus estimates a 52% probability of a recession in the euro area and 58% of one in the UK over the next 12 months. As for monetary policy, our panelists have marked up their near- and medium-term projections for policy rates in Canada, Australia, the euro area, and the UK this month. Notwithstanding those recession concerns, hardly any easing is anticipated from the ECB or the BoE over the next 12 months. Finally, expectations for Japan's policy rates in 12 months have been lifted slightly.

Forecasts of panel members are on pages 10 and 11. Definitions of variables are as follows: ¹Monetary policy rates. ²Government bonds are yields to maturity. ³Foreign exchange rate forecasts for U.K., Australia and the Euro are U.S. dollars per currency unit. For the U.S. dollar, forecasts are of the U.S. Federal Reserve Board's AFE Dollar Index.

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Third Quarter 2023

Interest Rate Forecasts

Key Assumptions

Blue Chip Financial Forecasts Panel Members	-----Percent Per Annum -- Average For Quarter-----															Avg. For --Qtr.-- Fed's Adv Fgn Econ \$ Index	----- (Q-Q % Change) -----																							
	-----Short-Term-----					-----Intermediate-Term-----					-----Long-Term-----						A. Fed's Adv Fgn Econ \$ Index	B. Real GDP	C. GDP Price Index	D. Cons. Price Index	E. PCE Price Index																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15																									
	Federal Funds Rate	Prime Bank Rate	SOFR Rate	Com. Paper 1-Mo.	Treas. Bills 3-Mo.	Treas. Bills 6-Mo.	Treas. Bills 1-Yr.	Treas. Notes 2-Yr.	Treas. Notes 5-Yr.	Treas. Notes 10-Yr.	Treas. Bonds 30-Yr.	Aaa Corp. Bond	Baa Corp. Bond	State & Local Bonds	Home Mtg. Rate																									
Chan Economics	5.7	H	8.7	H	5.6	H	5.7	H	5.8	H	5.8	H	5.6	5.0	H	4.4	H	4.1	H	4.2	H	5.2	6.2	4.7	H	6.6	112.9	1.5	2.7	2.9	2.4									
Bank of America	5.6	na	na	na	na	na	na	na	na	na	na	na	na	4.5	4.0	3.6	3.8	na	na	na	na	na	na	na	na	na	na	1.0	3.3	2.7	2.4									
Barclays	5.6	na	na	na	na	na	na	na	na	na	na	na	na	4.8	4.0	3.9	3.9	na	na	na	na	na	na	na	na	na	na	1.0	2.8	2.9	2.6									
Naroff Economic Advisors	5.6	8.6	5.6	H	5.7	H	5.6	5.7	5.2	4.8	4.3	3.9	4.0	na	na	na	na	na	na	4.1	6.7	114.0	-0.3	3.9	H	3.6	3.5													
Bank of the West	5.5	8.6	5.4	5.4	5.5	5.6	5.4	4.9	4.2	4.0	4.1	4.9	6.0	4.5	6.9	na	na	na	na	na	na	na	na	na	na	na	113.9	1.8	2.5	2.6	2.5									
Fannie Mae	5.5	8.6	na	na	5.5	5.5	5.3	4.8	4.1	3.9	3.9	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	1.0	2.7	2.7	2.8									
Scotiabank Group	5.5	na	5.3	na	5.3	na	na	4.6	4.0	3.7	3.9	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	-0.7	1.1	3.8	1.7									
Action Economics	5.4	8.6	5.5	5.5	5.6	5.5	5.4	4.7	4.1	3.9	4.0	4.7	5.8	3.9	7.3	H	114.6	1.5	1.9	2.4	2.2	na	na	na	na	na	1.5	1.9	2.4	2.2										
BMO Capital Markets	5.4	8.5	5.2	na	5.6	5.6	5.4	4.8	4.1	3.9	3.9	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	113.1	2.0	2.4	2.8	2.7									
Economist Intelligence Unit	5.4	8.4	na	5.3	5.5	5.6	5.3	4.8	4.3	3.9	4.0	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	-1.4	na	2.1	na									
Georgia State University	5.4	8.5	na	na	5.4	5.4	5.0	4.4	4.3	3.8	3.9	4.6	5.6	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.5	3.5	4.0	H	3.6								
Goldman Sachs & Co.	5.4	na	na	na	5.1	L	na	na	4.4	3.9	3.9	4.0	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	1.0	3.4	2.9	2.8									
ING	5.4	na	na	na	na	na	na	5.0	H	4.3	4.0	4.0	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	1.3	na	na	na									
Nomura Securities, Inc.	5.4	8.5	na	na	na	na	na	4.7	4.0	3.5	L	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	1.4	2.8	3.1	2.8									
RDQ Economics	5.4	8.5	5.4	5.4	5.6	5.7	5.2	4.6	4.2	3.9	4.0	5.2	6.0	4.4	6.6	114.5	1.6	3.7	4.0	H	3.3	na	na	na	na	na	1.6	3.7	4.0	H	3.3									
The Lonski Group	5.4	8.5	5.3	5.6	5.4	5.5	5.3	4.8	4.1	3.8	3.9	5.0	5.7	4.3	6.8	113.1	0.8	2.7	2.7	3.4	na	na	na	na	na	na	0.8	2.7	2.7	3.4										
Wells Fargo	5.4	8.5	5.3	5.4	5.4	5.4	5.3	4.6	4.0	3.8	3.9	5.0	6.0	4.4	6.7	na	1.7	2.4	2.3	2.4	na	na	na	na	na	na	1.7	2.4	2.3	2.4										
Chmura Economics & Analytics	5.3	8.4	5.3	5.3	5.6	5.6	5.4	4.9	4.3	4.0	4.1	4.9	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	-1.9	3.9	H	3.9	3.9	H							
Daiwa Capital Markets America	5.3	8.5	na	na	5.4	na	na	4.8	4.0	3.9	4.0	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	115.0	1.3	2.7	2.9	3.0									
DePrince & Assoc.	5.3	8.4	5.2	5.3	5.6	5.6	5.4	4.9	4.2	3.9	4.0	4.7	5.8	4.0	6.8	114.2	0.0	3.3	3.4	3.3	na	na	na	na	na	na	0.0	3.3	3.4	3.3										
EY-Parthenon	5.3	na	na	na	5.4	na	na	na	na	na	3.8	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.0	1.1	2.9	2.5									
GLC Financial Economics	5.3	8.5	5.2	5.3	5.4	5.4	5.1	4.6	4.2	4.0	4.2	H	4.8	5.9	4.2	6.5	115.2	0.7	2.9	2.9	2.9	na	na	na	na	na	0.7	2.9	2.9	2.9										
J.P. Morgan Chase	5.3	na	na	na	na	na	na	4.4	3.9	3.7	3.9	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.5	3.5	3.3	3.4									
KPMG	5.3	8.4	5.3	5.3	5.5	5.6	5.6	5.0	H	4.3	4.1	H	4.1	5.0	6.1	na	na	na	na	na	na	na	na	na	na	na	na	1.0	2.6	2.9	2.8									
Loomis, Sayles & Company	5.3	8.4	5.3	5.5	5.7	5.8	H	5.4	4.7	3.9	3.8	3.9	4.7	5.7	4.4	6.8	113.1	0.7	2.8	2.5	2.6	na	na	na	na	na	0.7	2.8	2.5	2.6										
MacroFin Analytics & Rutgers Bus School	5.3	8.5	5.3	5.4	5.4	5.5	5.4	5.0	H	4.3	4.1	H	4.2	H	5.2	6.2	4.4	7.1	113.5	1.0	2.7	2.8	3.0	na	na	na	1.0	2.7	2.8	3.0										
MacroPolicy Perspectives	5.3	8.5	5.3	5.1	L	5.5	5.5	5.4	4.8	4.1	3.9	4.0	4.7	5.6	4.2	6.8	112.3	L	1.4	2.4	1.9	2.0	na	na	na	na	0.7	2.7	2.9	2.5										
Moody's Analytics	5.3	8.4	5.2	5.4	5.3	5.4	5.4	5.0	H	4.3	3.8	4.2	H	5.2	6.2	4.2	6.6	na	na	na	na	na	na	na	na	na	na	0.7	2.7	2.9	2.5									
Oxford Economics	5.3	8.4	5.3	na	5.4	5.4	5.3	4.9	4.1	3.8	3.9	4.3	L	na	na	na	na	na	na	na	na	na	na	na	na	na	115.0	1.4	1.0	L	3.0	2.6								
PNC Financial Services Corp.	5.3	8.4	5.2	na	5.3	5.4	5.3	4.8	4.3	4.0	4.0	na	6.1	3.9	7.0	115.0	0.5	2.9	3.2	2.6	na	na	na	na	na	na	0.5	2.9	3.2	2.6										
Regions Financial Corporation	5.3	8.4	5.3	5.4	5.4	5.5	5.3	4.8	4.2	3.9	4.0	5.4	6.3	4.5	6.8	113.2	0.9	2.7	2.8	2.8	na	na	na	na	na	na	0.9	2.7	2.8	2.8										
S&P Global Market Intelligence	5.3	8.4	5.2	na	5.4	5.4	5.7	H	5.0	H	4.4	H	4.0	4.0	na	na	na	na	na	na	na	na	na	na	na	na	na	1.3	2.7	2.8	2.9									
Santander Capital Markets	5.3	8.4	5.2	5.3	5.5	5.5	5.4	4.9	4.2	4.0	4.1	4.8	5.9	3.9	6.9	113.5	2.5	H	3.3	3.2	2.9	na	na	na	na	na	2.5	H	3.3	3.2	2.9									
Societe Generale	5.3	8.4	5.3	na	5.5	5.4	5.2	4.6	4.0	3.8	3.8	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	1.4	2.3	2.5	2.2									
The Northern Trust Company	5.3	8.5	5.3	5.4	5.4	5.3	5.2	4.7	4.0	3.8	4.0	4.9	6.0	4.3	6.2	114.0	0.8	2.4	2.8	2.4	na	na	na	na	na	na	0.8	2.4	2.8	2.4										
Via Nova Investment Mgt.	5.2	8.4	5.2	5.2	5.6	5.7	5.5	4.5	3.8	3.5	L	3.7	4.7	5.5	L	4.0	6.2	113.3	1.5	3.0	2.9	2.5	na	na	na	na	1.5	3.0	2.9	2.5										
ACIMA Private Wealth	5.0	L	8.0	L	5.0	L	5.1	L	5.1	L	4.3	L	4.1	L	4.0	L	3.7	L	3.5	L	3.6	L	5.8	H	7.0	H	3.0	L	6.0	L	125.0	H	-2.0	L	1.0	L	0.8	L	1.0	L
August Consensus	5.4	8.5	5.3	5.4	5.5	5.5	5.3	4.7	4.1	3.9	4.0	4.9	6.0	4.2	6.7	114.4	0.8	2.7	2.9	2.7	na	na	na	na	na	na	0.8	2.7	2.9	2.7										
Top 10 Avg.	5.5	8.6	5.4	5.5	5.6	5.7	5.5	5.0	4.3	4.0	4.1	5.2	6.2	4.4	7.0	115.7	1.7	3.5	3.6	3.3	na	na	na	na	na	na	1.7	3.5	3.6	3.3										
Bottom 10 Avg.	5.3	8.4	5.2	5.3	5.3	5.3	5.1	4.5	3.9	3.7	3.8	4.7	5.8	3.9	6.5	113.2	-0.5	1.8	2.3	2.1	na	na	na	na	na	na	-0.5	1.8	2.3	2.1										
July Consensus	5.3	8.4	5.2	5.2	5.3	5.3	5.1	4.4	3.9	3.7	3.9	4.8	5.9	4.2	6.6	114.7	0.0	2.9	3.0	2.9	na	na	na	na	na	na	0.0	2.9	3.0	2.9										
Number of Forecasts Changed From A Month Ago:																																								
Down	3	1	0	2	1	0	0	0	2	1	1	3	7	3	2	13	3	20	17	16	na	na	na	na	na	na	na	3	20	17	16									
Same	18	12	12	5	10	7	3	8	7	11	14	5	4	6	4	4	12	8	6	8	na	na	na	na	na	na	na	12	8	6	8									
Up	16	17	13	14	21	21	25	28	27	25	20	13	9	10	22	3	22	7	13	11	na	na	na	na	na	na	na	22	7	13	11									
Diffusion Index	68%	77%	76%	79%	81%	88%	95%	89%	85%	82%	77%	74%	55%	68%	86%	25%	76%	31%	44%	43%	na	na	na	na	na	na	na	76%	31%	44%	43%									

Fourth Quarter 2023

Interest Rate Forecasts

Key Assumptions

Blue Chip Financial Forecasts Panel Members	Percent Per Annum -- Average For Quarter--															Avg. For --Qtr-- A.	(Q-Q % Change)																				
	Short-Term					--Intermediate-Term--					Long-Term						Fed's Adv Fgn Econ \$ Index	(SAAR)																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15			B.	C.	D.	E.																
	Federal Funds Rate	Prime Bank Rate	SOFR Rate	Com. Paper 1-Mo.	Treas. Bills 3-Mo.	Treas. Bills 6-Mo.	Treas. Bills 1-Yr.	Treas. Notes 2-Yr.	Treas. Notes 5-Yr.	Treas. Notes 10-Yr.	Treas. Bonds 30-Yr.	Aaa Corp. Bond	Baa Corp. Bond	State & Local Bonds	Home Mtg. Rate			Real GDP	Price Index	Cons. Price Index	PCE Price Index																
Chan Economics	5.7	H	8.7	5.6	5.7	H	5.8	H	5.8	H	5.6	5.0	4.4	4.4	4.5	H	5.5	6.5	5.0	H	6.9	112.7	1.0	2.6	2.8	2.3											
Action Economics	5.6		8.8	H	5.9	H	5.6		5.6		5.5	5.3	4.5	4.1	4.0		4.8	5.9	3.9		7.3	H	113.2	1.2	2.4	2.5	2.2										
Bank of America	5.6		na		na		na		na		na	na	4.3	3.9	3.5		3.8	na	na		na		na	0.5	3.5	3.0	2.7										
Bank of the West	5.6		8.8	H	5.5		5.6		5.7		5.5	4.9	4.3	4.1	4.2		5.0	6.1	4.6		7.0		112.8	0.4	2.6	2.5	2.4										
Barclays	5.6		na		na		na		na		na	na	4.5	3.9	3.9		3.9	na	na		na		na	0.0	2.4	1.7	2.2										
Chmura Economics & Analytics	5.6		8.7		5.6		5.7	H	5.8	H	5.8	H	5.7	H	5.1	H	4.7	H	4.5	H	4.4		5.4	na	na	na	7.0	na	-1.8	3.5	3.6	3.8	H				
Daiwa Capital Markets America	5.6		8.8	H	na		na		5.6		na	na	4.7	3.9	3.8		4.1	na	na		na		6.9	115.0	-0.7	3.0	3.0	3.1									
Fannie Mae	5.6		8.8	H	na		na		5.4		5.3	5.1	4.5	4.0	3.8		3.9	na	na		na		6.6	na	-0.4	2.9	2.7	2.8									
Naroff Economic Advisors	5.6		8.6		5.6		5.7	H	5.6		5.7	5.1	4.7	4.2	3.8		4.0	na	na		4.1		6.6	114.2	-3.5	L	3.6	3.5	3.4								
The Northern Trust Company	5.6		8.8	H	5.6		5.7	H	5.6		5.5	5.3	4.8	3.8	3.7		3.9	4.9	6.1		4.4		5.9	116.0	0.7	2.3	2.5	2.3									
KPMG	5.5		8.7		5.5		5.5		5.7		5.5	5.5	4.9	4.2	4.0		4.1	4.9	6.0		na		6.8	na	0.5	3.0	3.4	3.2									
S&P Global Market Intelligence	5.5		8.6		5.5		na		5.5		5.3	5.5	4.9	4.3	4.0		4.0	na	na		na		6.6	na	0.9	3.0	3.5	3.2									
Santander Capital Markets	5.5		8.7		5.5		5.6		5.6		5.6	5.3	5.1	H	4.4		4.2	4.3	5.1		6.2		4.1	7.0	114.0	1.9	H	3.2	3.7	3.3							
Scotiabank Group	5.5		na		5.3		na		5.3		na	na	4.4	3.9	3.6		3.9	na	na		na		na	na	-0.3	1.4	3.9	3.7									
BMO Capital Markets	5.4		8.5		5.3		na		5.7		5.7	5.3	4.5	4.0	3.7		3.8	na	na		na		6.7	112.1	1.0	2.9	3.3	3.1									
DePrince & Assoc.	5.4		8.5		5.4		5.4		5.6		5.6	5.5	5.0	4.4	4.0		4.0	5.0	5.9		4.2		6.7	115.7	0.1	3.0	3.0	2.9									
Economist Intelligence Unit	5.4		8.4		na		5.3		5.4		5.5	5.0	4.8	4.0	3.8		3.9	na	na		na		6.8	na	0.2	na	1.8	na									
Goldman Sachs & Co.	5.4		na		na		na		5.1		na	na	4.5	4.0	3.9		4.0	na	na		na		na	na	1.0	4.1	H	4.4	H	3.3							
ING	5.4		na		na		na		na		na	na	4.3	3.8	3.5		3.7	na	na		na		na	na	-0.7	na	na	na									
J.P. Morgan Chase	5.4		na		na		na		na		na	na	4.4	3.7	3.7		3.9	na	na		na		na	na	-0.5	3.2	2.9	3.0									
Loomis, Sayles & Company	5.4		8.5		5.4		5.4		5.6		5.6	5.1	3.9	3.7	3.1		3.7	4.1	L		5.1	L	3.7	6.0	112.3	-2.1	2.3	1.9	1.9								
MacroPolicy Perspectives	5.4		8.5		5.3		na		na		na	5.4	4.7	4.3	4.1		4.2	4.9	5.8		na		6.9	na	1.1	2.1	1.6	1.7									
Nomura Securities, Inc.	5.4		8.5		na		na		na		na	na	3.9	3.3	2.9		na	na	na		na		na	na	na	-1.6	2.3	2.5	2.2								
Oxford Economics	5.4		8.5		5.4		na		5.3		5.2	5.1	4.6	3.8	3.6		3.7	4.2	na		na		6.3	114.9	-1.6	-0.6	3.2	2.7									
RDQ Economics	5.4		8.5		5.4		5.5		5.4		5.4	4.8	4.2	4.1	4.0		4.0	5.6	H		6.4		4.4	6.6	112.7	0.8	3.6	3.6	3.5								
The Lonski Group	5.4		8.5		5.3		5.7	H	5.4		5.4	5.0	4.6	3.9	3.7		3.8	4.9	5.7		4.2		6.6	114.8	0.2	2.5	2.9	3.1									
Wells Fargo	5.4		8.5		5.4		5.4		5.3		5.3	4.8	4.2	3.7	3.6		3.8	4.8	5.8		4.2		6.5	na	0.2	2.6	3.0	2.6									
EY-Parthenon	5.3		na		na		na		5.2		na	na	na	na	3.3		na	na	na		na		na	na	na	-0.6	1.8	2.6	2.2								
MacroFin Analytics & Rutgers Bus School	5.3		8.5		5.3		5.4		5.4		5.4	5.4	5.0	4.3	4.1		4.2	5.2	6.2		4.4		7.1	113.4	1.2	2.6	2.8	2.8									
Moody's Analytics	5.3		8.5		5.3		5.5		5.2		5.1	4.9	4.6	4.2	3.9		4.3	5.4	6.4		4.4		6.7	na	0.4	2.9	3.3	3.1									
PNC Financial Services Corp.	5.3		8.5		5.3		na		5.3		5.3	4.8	4.5	4.1	3.9		4.0	na	6.9	H		4.9	6.7	116.3	0.2	2.5	2.5	2.2									
Regions Financial Corporation	5.3		8.5		5.3		5.4		5.4		5.5	5.3	4.4	4.0	3.7		3.9	5.2	6.1		4.4		6.6	113.3	0.6	2.7	3.0	2.8									
Societe Generale	5.3		8.5		5.3		na		5.3		5.1	4.7	3.9	3.6	3.5		3.7	na	na		na		na	na	na	1.0	2.7	3.1	2.8								
Via Nova Investment Mgt.	5.3		8.5		5.3		5.3		5.6		5.7	5.5	4.3	3.6	3.3		3.6	4.5	5.3		3.8		6.0	112.0	L	1.5	2.5	2.4	2.3								
GLC Financial Economics	5.2		8.3		5.1		5.2		5.2		5.2	5.0	4.6	4.3	4.1		4.4	5.1	6.1		4.2		6.5	115.2	0.4	2.9	2.9	2.8									
Georgia State University	5.0		8.2		na		na		5.0		4.8	4.7	4.0	3.8	3.6		3.7	4.4	5.5		na		6.1	na	0.1	3.4	2.4	2.8									
ACIMA Private Wealth	4.1	L	7.1	L	4.1	L	4.2	L	4.2	L	3.3	L	3.0	L	2.7	L	2.5	L	2.5	L	2.8	L	4.8	6.8	2.2	L	5.0	L	118.0	H	-2.0	-1.5	L	-1.0	L	-1.1	L
August Consensus	5.4		8.5		5.4		5.4		5.4		5.4	5.1	4.5	4.0	3.8		3.9	4.9	6.0		4.2		6.6	114.1	0.0	2.6	2.8	2.7									
Top 10 Avg.	5.6		8.7		5.6		5.6		5.7		5.7	5.5	5.0	4.4	4.2		4.3	5.3	6.4		4.5		7.0	115.4	1.2	3.4	3.6	3.4									
Bottom 10 Avg.	5.1		8.3		5.2		5.3		5.1		5.0	4.7	4.0	3.6	3.3		3.6	4.6	5.7		3.9		6.2	112.9	-1.5	1.5	1.8	1.8									
July Consensus	5.2		8.4		5.2		5.2		5.2		5.1	4.9	4.3	3.8	3.6		3.9	4.9	5.9		4.2		6.4	115.1	-0.2	2.8	2.8	2.7									
Number of Forecasts Changed From A Month Ago:																																					
Down	2		2		0		0		0		0	0	0	2	1		3	3	5		1		1	11	10	15	12	11									
Same	16		12		9		6		10		6	4	8	12	15		16	6	4		6		5	6	14	12	13	11									
Up	19		16		16		14		21		21	23	28	21	21		15	11	10		11		22	2	13	8	11	13									
Diffusion Index	73%		73%		82%		85%		84%		89%	93%	89%	77%	77%		68%	70%	63%		78%		88%	26%	54%	40%	49%	53%									

Second Quarter 2024

Interest Rate Forecasts

Key Assumptions

Blue Chip Financial Forecasts Panel Members	Percent Per Annum -- Average For Quarter															Avg. For --Qtr.-- A. Fed's Adv Fgn Econ \$ Index	(Q-Q % Change)															
	Short-Term					Intermediate-Term					Long-Term						B. Real GDP	C. Price Index	D. Cons. Price Index	E. PCE Price Index												
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15																	
	Federal Funds Rate	Prime Bank Rate	SOFR Rate	Com. Paper 1-Mo.	Treas. Bills 3-Mo.	Treas. Bills 6-Mo.	Treas. Bills 1-Yr.	Treas. Notes 2-Yr.	Treas. Notes 5-Yr.	Treas. Notes 10-Yr.	Treas. Bonds 30-Yr.	Aaa Corp. Bond	Baa Corp. Bond	State & Local Bonds	Home Mtg. Rate																	
Barclays	5.6	H	na	na	na	na	na	4.0	3.7	3.8	3.9	na	na	na	na	na	na	-1.0	2.4	2.0	2.2											
Santander Capital Markets	5.6	H	8.8	H	5.6	5.7	H	5.5	5.4	5.1	4.8	4.3	4.2	4.4	5.3	6.5	4.1	6.9	112.5	1.0	2.9	2.9	2.6									
The Northern Trust Company	5.6	H	8.8	H	5.6	5.7	H	5.4	5.1	4.9	4.4	4.3	3.5	3.3	3.6	4.5	5.7	4.1	5.1	112.0	1.1	2.1	2.2	2.1								
Chmura Economics & Analytics	5.5	8.6	5.4	5.5	5.6	H	5.7	H	5.7	H	5.5	H	5.5	H	5.6	H	6.0	H	na	na	6.7	na	2.1	3.4	3.5	3.6	H					
Chan Economics	5.4	8.4	5.3	5.4	5.5	5.5	5.3	4.7	4.1	4.1	4.2	5.2	6.2	4.7	6.6	112.0	-0.2	2.3	2.5	2.0												
Daiwa Capital Markets America	5.4	8.5	na	na	4.9	na	na	4.2	3.8	3.7	4.2	na	na	na	6.5	114.0	1.2	2.7	2.6	2.5												
Economist Intelligence Unit	5.4	8.4	na	5.3	5.2	5.0	4.7	4.5	3.8	3.5	3.7	na	na	na	6.0	na	1.4	na	2.4	na												
J.P. Morgan Chase	5.4	na	na	na	na	na	na	4.0	3.4	3.4	3.7	na	na	na	na	na	0.5	2.4	2.4	2.2												
S&P Global Market Intelligence	5.4	8.5	5.4	na	5.2	4.7	4.8	4.2	3.8	3.8	3.9	na	na	na	6.1	na	1.2	2.8	3.0	2.6												
Action Economics	5.3	8.4	5.8	H	5.3	5.2	5.0	4.8	4.2	3.9	3.9	4.0	4.7	5.8	3.8	7.3	H	113.6	1.6	1.7	2.3	2.0										
BMO Capital Markets	5.3	8.4	5.3	na	5.6	H	5.6	5.0	3.9	3.7	3.4	3.5	na	na	na	6.4	110.8	1.0	2.2	2.4	2.2											
Moody's Analytics	5.3	8.5	5.3	5.3	5.0	4.9	4.8	4.5	4.2	4.0	4.4	5.4	6.4	4.4	6.4	na	1.6	2.1	2.4	2.4												
Regions Financial Corporation	5.3	8.5	5.3	5.3	5.2	5.3	5.2	3.8	3.7	3.6	3.8	5.1	6.0	4.2	6.3	113.0	1.2	2.1	2.1	2.1												
Scotiabank Group	5.3	na	5.2	na	4.8	na	na	3.8	3.8	3.8	3.9	na	na	na	na	na	0.6	4.0	H	1.0	1.8											
KPMG	5.2	8.3	5.2	4.9	5.1	5.0	5.0	4.5	3.8	3.6	3.9	4.5	5.7	na	6.1	na	1.1	2.7	3.0	2.6												
MacroPolicy Perspectives	5.2	8.4	5.1	na	na	na	4.9	4.5	4.3	4.1	4.3	4.9	5.8	na	6.9	na	1.5	1.7	1.4	1.3												
Bank of America	5.1	na	na	na	na	na	na	3.5	3.5	3.4	3.7	na	na	na	na	na	-0.5	3.1	2.2	1.9												
Bank of the West	5.1	8.3	5.0	5.1	5.1	5.1	5.0	4.5	4.2	4.0	4.1	5.1	6.2	4.7	6.9	112.2	1.0	2.3	2.3	2.2												
DePrince & Assoc.	5.1	8.2	5.0	5.1	5.2	5.2	5.2	4.9	4.4	4.1	4.1	5.3	6.2	4.5	6.5	116.5	1.5	2.7	2.8	2.6												
Goldman Sachs & Co.	5.1	na	na	na	4.8	na	na	4.2	3.9	3.8	3.9	na	na	na	na	na	1.9	2.7	2.6	2.4												
Fannie Mae	5.0	8.1	na	na	4.8	4.7	4.4	4.1	3.8	3.7	3.8	na	na	na	6.2	na	-0.7	2.5	2.5	2.3												
Naroff Economic Advisors	5.0	8.0	5.0	5.1	5.2	5.3	4.5	4.5	4.1	3.9	4.1	na	na	4.0	6.2	114.0	2.1	3.0	3.0	3.0												
Oxford Economics	5.0	7.8	5.0	na	4.5	4.5	4.3	3.8	3.2	3.2	3.4	3.5	L	na	na	5.4	113.6	1.2	1.5	2.4	2.1											
Via Nova Investment Mgt.	4.8	8.0	4.8	4.9	4.8	4.9	4.9	4.9	4.5	4.4	4.7	5.6	6.4	4.8	H	7.1	110.0	2.5	2.1	2.1	2.1											
EY-Parthenon	4.7	na	na	na	4.2	na	na	na	na	2.8	na	na	na	na	na	na	na	1.4	1.2	1.8	1.6											
PNC Financial Services Corp.	4.7	7.8	4.7	na	4.2	4.2	3.8	3.8	3.7	3.7	4.0	na	6.5	4.8	H	6.1	118.2	H	-1.2	1.1	L	0.9	L	0.8	L							
RDQ Economics	4.7	7.8	4.8	4.8	4.6	4.5	4.1	3.7	3.8	3.9	3.9	5.8	6.9	H	4.3	6.3	109.4	L	-1.8	L	3.2	3.2	3.2									
The Lonski Group	4.7	7.8	4.7	5.0	4.6	4.7	4.4	4.2	3.7	3.5	3.7	4.8	5.6	4.1	6.5	116.8	0.2	2.2	2.4	2.3												
Nomura Securities, Inc.	4.6	7.8	na	na	na	na	na	2.8	2.8	2.8	na	na	na	na	na	na	na	0.3	1.5	1.9	1.8											
Societe Generale	4.6	7.8	4.6	na	4.4	4.1	3.6	3.1	3.2	3.2	3.5	na	na	na	na	na	na	-1.5	1.8	2.2	2.2											
GLC Financial Economics	4.5	7.7	4.6	4.5	4.6	4.5	4.5	4.0	4.0	3.9	4.2	4.8	5.8	4.0	5.8	114.4	1.1	2.4	2.7	2.6												
Loomis, Sayles & Company	4.4	7.5	4.4	4.4	4.5	4.5	3.7	2.1	2.4	2.7	2.9	3.7	4.7	L	3.3	5.4	112.1	1.5	2.6	3.9	H	2.9										
MacroFin Analytics & Rutgers Bus School	4.4	7.8	4.3	4.4	4.7	4.9	5.0	4.8	3.9	4.0	4.0	5.0	6.0	4.1	6.8	113.0	1.5	2.5	2.6	2.6												
Wells Fargo	4.4	7.5	4.4	4.4	4.0	3.8	3.2	3.2	3.1	3.2	3.6	4.4	5.4	3.8	5.9	na	-1.8	L	1.4	1.5	1.4											
ING	3.9	na	na	na	na	na	na	3.2	3.1	3.0	3.4	na	na	na	na	na	na	-0.6	na	na	na											
Georgia State University	3.6	6.7	na	na	3.4	3.1	4.0	3.6	3.4	3.6	3.9	4.6	5.7	na	5.9	na	0.8	2.9	2.1	2.4												
ACIMA Private Wealth	1.0	L	4.0	L	1.0	L	1.1	L	1.0	L	0.8	L	0.7	L	0.7	L	1.7	L	2.5	L	4.3	5.7	1.7	L	3.7	L	110.0	4.0	H	1.8	2.0	2.2
August Consensus	4.9	8.0	4.9	4.9	4.7	4.7	4.5	4.0	3.7	3.6	3.9	4.9	6.0	4.1	6.2	113.1	0.8	2.3	2.4	2.3												
Top 10 Avg.	5.5	8.5	5.4	5.4	5.4	5.3	5.1	4.8	4.4	4.2	4.4	5.4	6.3	4.5	6.8	114.7	2.0	3.1	3.1	2.8												
Bottom 10 Avg.	4.0	7.2	4.2	4.4	4.0	3.9	3.6	3.0	2.9	2.9	3.4	4.4	5.6	3.7	5.5	111.4	-0.9	1.6	1.7	1.7												
July Consensus	4.6	7.7	4.7	4.6	4.6	4.5	4.3	3.8	3.6	3.5	3.8	4.6	5.6	4.0	6.1	114.7	1.1	2.4	2.3	2.2												
Number of Forecasts Changed From A Month Ago:																																
Down	1	1	2	2	2	1	0	0	1	4	5	3	3	2	1	11	18	15	9	9												
Same	15	12	6	7	12	7	8	14	15	16	15	7	6	8	7	6	16	14	17	20												
Up	21	17	17	11	17	19	19	22	19	17	14	10	10	8	20	2	3	6	10	6												
Diffusion Index	77%	77%	80%	73%	74%	83%	85%	81%	76%	68%	63%	68%	68%	67%	84%	26%	30%	37%	51%	46%												

Third Quarter 2024

Interest Rate Forecasts

Key Assumptions

Blue Chip Financial Forecasts Panel Members	Percent Per Annum -- Average For Quarter															Avg. For --Qtr.-- A.	------(Q-Q % Change)----- ------(SAAR)-----																					
	-----Short-Term-----					--Intermediate-Term--					-----Long-Term-----						Fed's Adv Fgn Econ \$ Index	B. Real GDP	C. GDP Price Index	D. Cons. Price Index	E. PCE Price Index																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15																							
	Federal Funds Rate	Prime Bank Rate	SOFR Rate	Com. Paper 1-Mo.	Treas. Bills 3-Mo.	Treas. Bills 6-Mo.	Treas. Bills 1-Yr.	Treas. Notes 2-Yr.	Treas. Notes 5-Yr.	Treas. Notes 10-Yr.	Treas. Bond 30-Yr.	Aaa Corp. Bond	Baa Corp. Bond	State & Local Bonds	Home Mtg. Rate																							
Santander Capital Markets	5.4	H	8.6	H	5.4	5.4	H	5.3	H	5.2	5.0	4.6	4.2	4.0	4.2	5.1	6.3	4.0	6.7	112.0	0.9	2.7	2.7	2.3														
Chan Economics	5.2		8.2		5.1	5.2		5.3	H	5.3	H	5.1	4.5	3.9	3.9	4.0	5.0	6.0	4.5	6.4	112.2	0.8	2.3	2.5	2.0													
Barclays	5.1		na		na	na		na		na		na	na	na	na	na	na	na	na	na	na	0.0	2.7	2.6	2.6													
Economist Intelligence Unit	5.1		8.1		na	5.0		4.9		4.9		4.5	4.4	3.5	3.3	3.5	na	na	na	5.5	na	2.1	na	2.4	na													
Regions Financial Corporation	5.1		8.3		5.0	5.2		4.9		5.0		5.0	3.5	3.6	3.5	3.7	5.0	5.9	4.1	6.2	112.9	1.4	1.9	2.0	1.9													
The Northern Trust Company	5.1		8.3		5.1	5.2		4.9		4.5	4.3	3.8	3.4	3.3	3.6	4.5	5.7	4.1	5.1	111.0	1.4	2.0	2.1	2.0														
Action Economics	5.0		8.2		5.5	H	5.1		5.0		4.8	4.5	4.0	3.9	3.9	3.9	4.7	5.8	3.8	7.2	113.7	1.9	1.4	2.3	1.9													
BMO Capital Markets	5.0		8.2		5.0		na		5.3	H	5.3	H	4.7	3.7	3.5	3.4	3.5	na	na	6.3	110.2	1.5	2.0	2.2	2.0													
Chmura Economics & Analytics	5.0		8.2		5.0		5.1		5.3	H	5.3	H	5.4	H	5.5	H	5.6	H	6.0	H	na	na	6.7	na	3.0	3.2	3.4	3.4	H									
J.P. Morgan Chase	5.0		na		na		na		na		na		na	na	na	na	na	na	na	na	na	na	2.3	2.3	2.3	2.1												
Daiwa Capital Markets America	4.9		8.0		na		na		4.7		na		na	3.9	3.7	3.6	4.3	na	na	na	6.3	113.5	1.3	2.5	2.5	2.4												
Goldman Sachs & Co.	4.9		na		na		na		4.6		na		4.1	3.8	3.8	3.9	na	na	na	na	na	na	1.9	2.3	2.1	2.1												
Moody's Analytics	4.9		8.0		4.8		4.8		4.6		4.5		4.5	4.3	4.1	3.9	4.4	5.4	6.3	4.3	6.1	na	1.9	1.9	2.2	2.2												
S&P Global Market Intelligence	4.9		8.0		4.8		na		4.6		4.3		4.3	3.9	3.6	3.7	3.9	na	na	na	5.9	na	1.3	2.4	2.7	2.4												
Bank of the West	4.8		7.9		4.7		4.7		4.8		4.8		4.6	4.2	4.1	3.9	4.0	5.0	6.1	4.7	6.7	112.4	1.2	2.2	2.2	2.2												
Scotiabank Group	4.8		na		4.6		na		4.1		na		na	3.6	3.7	3.8	3.9	na	na	na	na	na	1.1	0.0	L	3.5	H	1.4										
DePrince & Assoc.	4.7		7.8		4.7		4.7		4.8		4.9		4.9	4.7	4.3	4.1	4.1	5.3	6.2	4.5	6.3	115.8	2.1	2.5	2.5	2.4												
Fannie Mae	4.7		7.8		na		na		4.5		4.3		4.2	3.9	3.7	3.6	3.8	na	na	na	6.1	na	0.3	2.4	2.8	2.4												
MacroPolicy Perspectives	4.7		7.8		4.6		na		na		na		4.8	4.0	4.2	4.1	4.3	4.9	5.8	na	6.9	na	1.8	2.4	2.4	2.0												
Bank of America	4.6		na		na		na		na		na		3.3	3.3	3.3	3.7	na	na	na	na	na	na	0.5	3.2	2.2	2.2												
Oxford Economics	4.6		7.1		4.6		na		4.2		4.3		3.8	3.3	3.0	3.0	3.2	3.5	L	na	5.0	112.6	1.6	3.5	H	2.2	2.1											
Naroff Economic Advisors	4.5		7.5		4.5		4.6		4.5		4.5		4.5	4.5	4.0	4.0	4.2	na	na	4.0	6.0	113.5	3.6	H	2.6	2.8	2.9											
Via Nova Investment Mgt.	4.5		7.8		4.6		4.6		4.5		4.6		4.7	4.8	4.8	4.8	4.8	6.0	H	6.8	H	5.3	H	7.5	H	110.0	2.5	2.1	2.1	2.1								
KPMG	4.4		7.5		4.4		4.1		4.3		4.3		4.3	4.0	3.6	3.5	3.9	4.5	5.7	na	5.8	na	1.5	2.4	2.7	2.4												
GLC Financial Economics	4.3		7.4		4.3		4.2		4.3		4.2		4.2	3.9	3.9	4.0	4.2	4.8	5.8	4.0	5.7	114.3	1.7	2.2	2.8	2.6												
EY-Parthenon	4.2		na		na		na		3.9		na		na	na	na	2.9	na	na	na	na	na	na	1.9	2.5	2.2	2.0												
RDQ Economics	4.2		7.3		4.2		4.3		4.1		4.0		3.8	3.6	3.7	3.8	3.7	5.6	6.4	4.1	6.1	109.1	1.0	3.0	3.0	3.1												
The Lonski Group	4.2		7.3		4.2		4.4		4.1		4.2		4.1	4.0	3.5	3.4	3.6	4.6	5.5	4.0	6.3	117.0	1.2	2.0	2.2	2.1												
Nomura Securities, Inc.	4.1		7.3		na		na		na		na		2.5	2.7	2.8	na	na	na	na	na	na	na	1.3	1.5	2.5	2.2												
Societe Generale	4.1		7.3		4.1		na		3.9		3.6		3.2	2.9	3.1	3.1	3.4	na	na	na	na	na	2.3	1.8	2.2	2.0												
MacroFin Analytics & Rutgers Bus School	3.9		7.3		3.8		3.9		4.1		4.3		4.7	4.7	3.9	3.9	4.0	4.9	5.9	4.0	6.7	112.8	1.6	2.5	2.3	2.4												
PNC Financial Services Corp.	3.8		6.9		3.8		na		3.5		3.6		3.3	3.4	3.6	3.7	3.9	na	6.1	4.6	5.9	118.8	H	-1.0	L	1.1	0.9	L	0.7	L								
Loomis, Sayles & Company	3.5		6.6		3.4		3.4		3.5		3.5		3.0	2.0	2.4	2.7	2.9	3.7	4.7	L	3.3	5.3	112.0	2.2	2.2	2.8	2.3											
ING	3.4		na		na		na		na		na		3.0	3.0	3.0	3.4	na	na	na	na	na	na	1.3	na	na	na												
Wells Fargo	3.4		6.5		3.4		3.4		3.0		3.0		3.0	3.1	3.1	3.1	3.5	4.3	5.3	3.7	5.8	na	2.1	2.4	2.8	2.4												
Georgia State University	3.3		6.4		na		na		3.0		2.9		3.6	3.3	3.2	3.5	3.9	4.6	5.7	na	5.8	na	1.4	2.4	2.5	2.3												
ACIMA Private Wealth	0.5	L	3.5	L	0.5	L	0.6	L	0.6	L	0.6	L	0.6	L	0.7	L	0.7	L	1.5	L	2.3	L	4.0	5.0	1.5	L	3.3	L	108.0	L	3.3	2.7	2.2	2.2				
August Consensus	4.4		7.5		4.4		4.4		4.3		4.2		4.2	3.8	3.6	3.6	3.9	4.8	5.9	4.0	6.1	112.7	1.6	2.3	2.4	2.2												
Top 10 Avg.	5.1		8.2		5.0		5.0		5.1		5.0		4.9	4.6	4.3	4.2	4.4	5.3	6.2	4.4	6.7	114.5	2.6	2.9	2.9	2.7												
Bottom 10 Avg.	3.4		6.6		3.6		3.8		3.4		3.4		3.3	2.8	2.8	2.9	3.3	4.3	5.5	3.6	5.3	111.0	0.6	1.6	2.0	1.8												
July Consensus	4.3		7.3		4.3		4.2		4.2		4.1		4.0	3.6	3.5	3.5	3.8	4.6	5.6	4.0	6.0	114.7	1.7	2.2	2.4	2.2												
Number of Forecasts Changed From A Month Ago:																																						
Down	4		3		2		4		4		1		1	2		3		6		4		3		3		2		3		10		14		6		8		9
Same	14		11		8		6		11		8		8	14		16		17		17		9		7		9		7		7		14		23		20		20
Up	19		16		15		10		16		18		18	18		14		12		11		8		9		7		18		2		9		6		8		6
Diffusion Index	70%		72%		76%		65%		69%		81%		81%	74%		67%		59%		61%		63%		66%		64%		77%		29%		43%		50%		50%		46%

Fourth Quarter 2024

Interest Rate Forecasts

Key Assumptions

Blue Chip Financial Forecasts Panel Members	-----Percent Per Annum -- Average For Quarter-----															Avg. For --Qtr.-- A.	----- (Q-Q % Change) -----															
	-----Short-Term-----					-----Intermediate-Term-----					-----Long-Term-----						B.	C.	D.	E.												
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15																	
	Federal Funds Rate	Prime Bank Rate	SOFR Rate	Com. Paper 1-Mo.	Treas. Bills 3-Mo.	Treas. Bills 6-Mo.	Treas. Bills 1-Yr.	Treas. Notes 2-Yr.	Treas. Notes 5-Yr.	Treas. Notes 10-Yr.	Treas. Bonds 30-Yr.	Aaa Corp. Bond	Baa Corp. Bond	State & Local Bonds	Home Mtg. Rate																	
Chan Economics	4.9	H	7.9	4.8	4.9	H	5.0	H	5.0	4.8	4.2	3.6	3.6	3.7	4.7	5.7	4.2	6.1	112.5	1.5	2.2	2.4	1.9									
Santander Capital Markets	4.9	H	8.1	H	4.9	H	4.8	4.7	4.6	4.2	4.0	3.8	4.1	5.0	6.2	3.8	6.4	111.5	1.1	2.5	2.5	2.1										
Action Economics	4.8		7.9	5.3	H	4.8	4.7	4.5	4.3	4.0	3.8	3.8	3.9	4.6	5.7	3.7	7.2	113.9	na	na	na	na										
BMO Capital Markets	4.8		7.9	4.8	na	5.0	H	5.0	4.4	3.5	3.4	3.3	3.4	na	na	na	6.3	109.6	2.0	1.9	2.1	1.9										
Chmura Economics & Analytics	4.7		7.8	4.7	4.8	5.0	H	5.1	H	5.1	H	5.2	H	5.3	H	5.7	na	6.6	na	2.5	3.0	3.2	3.2	H								
Economist Intelligence Unit	4.7		7.7	na	4.8	4.7	4.4	4.3	4.3	3.3	3.2	3.3	na	na	na	5.3	na	na	na	2.5	na	2.1	na									
Barclays	4.6		na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	1.0	2.7	2.5	2.5									
Goldman Sachs & Co.	4.6		na	na	na	4.4	na	na	3.9	3.8	3.8	3.9	na	na	na	na	na	na	na	1.9	3.0	3.3	2.6									
Regions Financial Corporation	4.6		7.8	4.5	4.7	4.5	4.6	4.7	3.4	3.4	3.4	3.6	4.9	5.8	4.0	6.0	112.7	1.5	1.9	2.0	1.8											
The Northern Trust Company	4.6		7.8	4.6	4.7	4.4	3.8	3.6	3.5	3.3	3.3	3.6	4.5	5.7	4.1	5.1	110.0	1.6	2.0	2.0	1.9											
Bank of the West	4.5		7.7	4.4	4.5	4.5	4.4	4.0	4.0	3.8	3.9	5.0	6.1	4.7	6.5	112.6	1.5	2.2	2.2	2.1												
J.P. Morgan Chase	4.5		na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	1.8	2.3	2.3	2.1									
Daiwa Capital Markets America	4.4		7.5	na	na	4.3	na	na	3.6	3.5	3.6	4.3	na	na	na	6.2	113.5	1.5	2.3	2.4	2.3											
S&P Global Market Intelligence	4.4		7.5	4.3	na	4.1	3.9	3.9	3.6	3.4	3.6	3.9	na	na	na	5.7	na	na	1.5	2.3	1.7	1.9										
DePrince & Assoc.	4.3		7.5	4.3	4.3	4.4	4.6	4.6	4.4	4.2	4.1	4.1	5.3	6.2	4.5	6.2	115.0	2.2	2.4	2.5	2.4											
Via Nova Investment Mgt.	4.3		7.5	4.3	4.4	4.3	4.4	4.5	4.6	4.6	4.6	4.6	5.8	H	6.6	H	5.0	H	7.3	H	2.5	2.1	2.1	2.1								
Fannie Mae	4.2		7.4	na	na	4.2	4.1	4.0	3.8	3.7	3.6	3.8	na	na	na	5.9	na	na	1.5	2.3	3.0	2.4										
MacroPolicy Perspectives	4.2		7.4	4.2	na	na	na	4.7	3.5	4.0	3.9	4.1	4.7	5.6	na	6.7	na	na	2.0	2.6	2.7	2.2										
Bank of America	4.1		na	na	na	na	na	na	3.0	3.2	3.3	3.7	na	na	na	na	na	na	1.0	3.1	1.8	2.0										
Oxford Economics	4.1		6.5	4.1	na	3.8	3.8	3.5	3.0	2.9	2.9	3.1	3.4	L	na	4.7	111.7	1.8	3.5	H	2.2	2.0										
EY-Parthenon	4.0		na	na	na	3.7	na	na	na	na	2.9	na	na	na	na	na	na	na	1.9	2.3	2.1	1.9										
Naroff Economic Advisors	4.0		7.0	4.0	4.1	3.9	3.9	3.9	3.9	3.9	3.9	4.2	na	na	4.1	5.8	113.0	2.2	2.5	2.5	2.2											
Scotiabank Group	4.0		na	3.9	na	3.7	na	na	3.5	3.7	3.9	3.9	na	na	na	na	na	na	1.6	0.4	L	3.3	3.1									
GLC Financial Economics	3.9		7.1	3.9	4.0	4.0	3.9	4.0	3.8	3.9	3.9	4.2	4.8	5.8	3.9	5.3	114.1	2.0	2.2	2.2	2.2											
KPMG	3.9		7.1	3.9	3.5	3.8	3.8	3.7	3.5	3.2	3.4	3.8	4.3	5.5	na	5.5	na	na	1.5	2.2	1.8	1.9										
RDQ Economics	3.9		7.0	3.9	4.0	3.8	3.8	3.7	3.5	3.7	3.8	3.7	5.4	6.1	4.1	6.0	108.5	1.2	2.9	3.0	3.0											
Moody's Analytics	3.8		6.9	3.7	3.9	3.7	3.7	3.8	3.8	3.8	3.9	4.3	5.3	6.3	4.3	5.8	na	na	2.1	2.0	2.0	2.1										
The Lonski Group	3.7		6.8	3.6	3.9	3.7	3.8	3.6	3.5	3.3	3.2	3.4	4.5	5.3	3.8	6.0	116.3	1.7	2.1	2.1	2.0											
Nomura Securities, Inc.	3.6		6.8	na	na	na	na	na	2.3	2.7	2.7	na	na	na	na	na	na	na	1.9	1.3	2.6	2.2										
Societe Generale	3.6		6.8	3.6	na	3.4	3.1	2.9	2.7	3.0	3.1	3.4	na	na	na	na	na	na	4.3	H	1.8	2.2	1.9									
PNC Financial Services Corp.	3.5		6.6	3.5	na	3.2	3.3	3.1	3.2	3.4	3.7	3.9	na	5.7	4.4	5.6	118.7	H	0.8	L	0.8	0.9	L	0.7	L							
MacroFin Analytics & Rutgers Bus School	3.4		6.8	3.3	3.4	3.6	4.0	4.3	4.5	3.8	3.8	4.0	4.8	5.8	3.9	6.6	112.6	1.8	2.2	2.1	2.2											
Georgia State University	3.3		6.4	na	na	2.9	2.9	3.4	3.2	3.2	3.5	3.9	4.6	5.7	na	5.6	na	na	2.1	2.3	2.5	2.2										
Loomis, Sayles & Company	3.1		6.2	3.1	3.0	3.1	3.1	2.7	2.0	2.5	2.8	3.0	3.8	4.8	L	3.4	5.2	111.9	2.2	2.0	2.0	1.8										
ING	2.9		na	na	na	na	na	na	3.0	3.1	3.0	3.4	na	na	na	na	na	na	2.2	na	na	na										
Wells Fargo	2.9		6.0	2.9	2.9	2.9	2.9	3.0	3.0	3.1	3.1	3.5	4.3	5.3	3.7	5.6	na	na	2.6	3.0	3.6	H	3.0									
ACIMA Private Wealth	1.5	L	4.5	L	1.5	L	1.6	L	1.6	L	0.6	L	0.7	L	0.7	L	1.5	L	2.3	L	4.0	5.0	1.5	L	3.3	L	108.0	L	1.3	2.6	2.0	2.0
August Consensus	4.0		7.1	4.0	4.1	4.0	3.9	3.9	3.5	3.5	3.5	3.8	4.7	5.7	4.0	5.9	112.4		1.8	2.3	2.3	2.2										
Top 10 Avg.	4.7		7.8	4.7	4.7	4.7	4.7	4.6	4.3	4.1	4.1	4.3	5.2	6.1	4.3	6.6	114.2		2.5	2.9	3.0	2.7										
Bottom 10 Avg.	3.2		6.3	3.3	3.4	3.2	3.1	3.0	2.6	2.8	2.8	3.2	4.3	5.4	3.6	5.1	110.6		1.2	1.6	1.8	1.8										
July Consensus	3.9		7.0	3.9	3.9	3.9	3.8	3.8	3.5	3.5	3.5	3.8	4.6	5.5	4.0	5.9	114.1		2.0	2.2	2.4	2.2										
<u>Number of Forecasts Changed From A Month Ago:</u>																																
Down	4		1	1	2	2	1	2	2	2	3	3	2	2	2	2	9		13	4	6	7										
Same	11		11	7	7	11	7	9	16	17	15	15	8	7	8	9	6		13	21	21	20										
Up	22		18	17	11	18	19	16	16	14	17	14	10	10	8	17	4		10	9	8	7										
Diffusion Index	74%		78%	82%	73%	76%	83%	76%	71%	68%	70%	67%	70%	71%	67%	77%	37%		46%	57%	53%	50%										

International Interest Rate And Foreign Exchange Rate Forecasts

Blue Chip Forecasters	Fed Fund Target Rate		
	In 3 Mo.	In 6 Mo.	In 12 Mo.
Barclays	5.63	5.63	5.38
BMO Capital Markets	5.38	5.38	5.38
ING Financial Markets	5.38	5.38	3.88
Moody's Analytics	5.30	5.37	5.34
Northern Trust	5.63	5.63	4.88
Oxford Economics	5.31	5.38	4.96
S&P Global Market Intelligence	--	--	--
Scotiabank	5.38	5.38	5.13
Wells Fargo	5.38	5.38	4.38
August Consensus	5.42	5.44	4.92
High	5.63	5.63	5.38
Low	5.30	5.37	3.88
Last Months Avg.	5.20	5.06	4.50

Blue Chip Forecasters	Policy-Rate Balance Rate		
	In 3 Mo.	In 6 Mo.	In 12 Mo.
Barclays	0.00	0.00	0.00
BMO Capital Markets	-0.10	-0.10	-0.10
ING Financial Markets	-0.10	-0.10	0.00
Moody's Analytics	-0.10	-0.10	-0.10
Nomura Securities	--	--	--
Northern Trust	-0.10	-0.10	-0.10
Oxford Economics	-0.03	-0.04	-0.04
S&P Global Market Intelligence	--	--	--
Scotiabank	--	--	--
Wells Fargo	-0.10	-0.10	-0.10
August Consensus	-0.08	-0.08	-0.06
High	0.00	0.00	0.00
Low	-0.10	-0.10	-0.10
Last Months Avg.	-0.07	-0.07	-0.05

Blue Chip Forecasters	Official Bank Rate		
	In 3 Mo.	In 6 Mo.	In 12 Mo.
Barclays	5.75	5.75	5.75
BMO Capital Markets	5.75	5.75	5.75
ING Financial Markets	5.50	5.50	5.00
Moody's Analytics	5.35	5.75	5.75
Nomura Securities	--	--	--
Northern Trust	5.75	5.75	5.50
Oxford Economics	5.35	5.75	5.75
S&P Global Market Intelligence	--	--	--
Scotiabank	5.50	5.50	5.00
Wells Fargo	5.75	5.75	4.75
August Consensus	5.59	5.69	5.41
High	5.75	5.75	5.75
Low	5.35	5.50	4.75
Last Months Avg.	5.12	5.20	4.89

Blue Chip Forecasters	SNB Policy Rate		
	In 3 Mo.	In 6 Mo.	In 12 Mo.
Barclays	2.00	2.25	2.25
ING Financial Markets	2.00	2.00	2.00
Moody's Analytics	2.00	2.00	2.00
Nomura Securities	--	--	--
Northern Trust	2.00	2.00	1.75
Oxford Economics	1.77	2.00	1.88
S&P Global Market Intelligence	--	--	--
Scotiabank	--	--	--
Wells Fargo	2.00	2.00	1.75
August Consensus	1.96	2.04	1.94
High	2.00	2.25	2.25
Low	1.77	2.00	1.75
Last Months Avg.	1.86	1.91	1.79

Blue Chip Forecasters	O/N MMkt Financing Rate		
	In 3 Mo.	In 6 Mo.	In 12 Mo.
Barclays	5.00	5.00	4.75
BMO Capital Markets	5.00	5.00	4.75
ING Financial Markets	5.00	5.00	4.25
Moody's Analytics	4.94	5.00	4.71
Nomura Securities	--	--	--
Northern Trust	5.00	5.00	4.50
Oxford Economics	4.88	5.00	4.88
S&P Global Market Intelligence	--	--	--
Scotiabank	5.00	5.00	4.75
Wells Fargo	5.00	5.00	4.50
August Consensus	4.98	5.00	4.64
High	5.00	5.00	4.88
Low	4.88	5.00	4.25
Last Months Avg.	4.80	4.69	4.26

United States			
10 Yr. Gov't Bond Yield %			
In 3 Mo.	In 6 Mo.	In 12 Mo.	
3.90	3.80	3.75	
3.77	3.63	3.48	
4.00	3.50	3.00	
3.84	3.94	3.96	
3.65	3.50	3.25	
3.80	3.64	3.16	
4.00	3.88	3.69	
3.65	3.60	3.75	
3.75	3.60	3.15	
3.82	3.68	3.47	
4.00	3.94	3.96	
3.65	3.50	3.00	
3.67	3.57	3.57	

Japan			
10 Yr. Gov't Bond Yield %			
In 3 Mo.	In 6 Mo.	In 12 Mo.	
0.35	0.30	0.25	
0.67	0.80	0.80	
0.50	0.75	1.00	
0.45	0.48	0.53	
--	--	--	
0.45	0.50	0.50	
0.45	0.46	0.48	
--	--	--	
--	--	--	
0.50	0.75	0.70	
0.48	0.58	0.61	
0.67	0.80	1.00	
0.35	0.30	0.25	
0.43	0.46	0.50	

United Kingdom			
10 Yr. Gilt Yields %			
In 3 Mo.	In 6 Mo.	In 12 Mo.	
4.50	4.50	4.40	
3.96	3.71	3.51	
4.40	3.80	3.25	
4.33	4.99	5.11	
--	--	--	
4.30	4.20	4.00	
4.33	4.28	4.18	
--	--	--	
--	--	--	
4.25	4.10	3.75	
4.30	4.23	4.03	
4.50	4.99	5.11	
3.96	3.71	3.25	
4.16	4.00	3.78	

Switzerland			
10 Yr. Gov't Bond Yield %			
In 3 Mo.	In 6 Mo.	In 12 Mo.	
--	--	--	
1.15	1.15	1.10	
1.90	2.11	2.22	
--	--	--	
1.00	1.00	0.80	
1.09	1.37	1.34	
--	--	--	
--	--	--	
1.29	1.41	1.37	
1.90	2.11	2.22	
1.00	1.00	0.80	
1.25	1.22	1.22	

Canada			
10 Yr. Gov't Bond Yield %			
In 3 Mo.	In 6 Mo.	In 12 Mo.	
--	--	--	
3.33	3.21	3.08	
3.50	3.40	3.00	
3.82	4.02	4.21	
--	--	--	
3.40	3.30	3.10	
3.44	3.48	3.42	
--	--	--	
3.25	3.20	3.40	
3.45	3.25	3.05	
3.46	3.41	3.32	
3.82	4.02	4.21	
3.25	3.20	3.00	
3.36	3.22	3.14	

Fed's AFE \$ Index			
In 3 Mo.	In 6 Mo.	In 12 Mo.	
--	--	--	
112.4	111.6	111.0	
109.9	107.2	104.0	
--	--	--	
114.0	116.0	112.0	
115.0	114.9	113.6	
--	--	--	
--	--	--	
112.8	112.4	110.2	
115.0	116.0	113.6	
109.9	107.2	104.0	
113.6	113.6	111.9	

Yen per US\$			
In 3 Mo.	In 6 Mo.	In 12 Mo.	
137.0	135.0	128.0	
138.0	137.0	136.0	
135.0	130.0	120.0	
133.5	130.3	124.8	
138.0	130.0	122.5	
140.0	137.0	132.0	
144.6	144.9	139.6	
143.9	143.3	135.8	
135.0	135.0	130.0	
--	--	--	
138.3	135.8	129.9	
144.6	144.9	139.6	
133.5	130.0	120.0	
135.9	134.0	129.7	

US\$ per Pound Sterling			
In 3 Mo.	In 6 Mo.	In 12 Mo.	
1.29	1.29	1.29	
1.28	1.27	1.28	
1.29	1.31	1.34	
1.42	1.46	1.55	
1.26	1.27	1.33	
1.25	1.23	1.28	
1.27	1.27	1.28	
1.29	1.28	1.29	
1.35	1.35	1.38	
--	--	--	
1.30	1.30	1.34	
1.42	1.46	1.55	
1.25	1.23	1.28	
1.26	1.28	1.30	

CHF per US\$			
In 3 Mo.	In 6 Mo.	In 12 Mo.	
0.90	0.88	0.87	
0.86	0.84	0.85	
0.88	0.86	0.82	
0.88	0.89	0.89	
0.91	0.93	0.88	
0.90	0.91	0.90	
0.91	0.90	0.89	
0.88	0.88	0.87	
--	--	--	
0.89	0.89	0.87	
0.91	0.93	0.90	
0.86	0.84	0.82	
0.90	0.89	0.89	

C\$ per US\$			
In 3 Mo.	In 6 Mo.	In 12 Mo.	
1.33	1.32	1.30	
1.31	1.30	1.29	
1.29	1.27	1.25	
1.33	1.29	1.24	
1.36	1.35	1.33	
1.33	1.35	1.28	
1.32	1.32	1.31	
1.32	1.34	1.31	
1.30	1.30	1.27	
--	--	--	
1.32	1.32	1.29	
1.36	1.35	1.33	
1.29	1.27	1.24	
1.34	1.33	1.30	

International Interest Rate And Foreign Exchange Rate Forecasts

Blue Chip Forecasters	Official Cash Rate		
	In 3 Mo.	In 6 Mo.	In 12 Mo.
Barclays	4.35	3.85	3.60
ING Financial Markets	4.35	4.35	4.10
Moody's Analytics	4.18	4.35	4.10
Nomura Securities	--	--	--
Northern Trust	4.60	4.60	4.10
Oxford Economics	4.35	4.60	4.60
S&P Global Market Intelligence	--	--	--
Scotiabank	--	--	--
Wells Fargo	4.35	4.35	4.10
August Consensus	4.36	4.35	4.10
High	4.60	4.60	4.60
Low	4.18	3.85	3.60
Last Months Avg.	4.16	4.10	3.64

Australia		
10 Yr. Gov't Bond Yield %		
In 3 Mo.	In 6 Mo.	In 12 Mo.
--	--	--
3.75	3.30	3.20
4.49	4.66	4.41
--	--	--
4.00	4.00	3.80
3.88	3.89	3.68
--	--	--
--	--	--
--	--	--
4.03	3.96	3.77
4.49	4.66	4.41
3.75	3.30	3.20
3.68	3.52	3.35

US\$ per A\$		
In 3 Mo.	In 6 Mo.	In 12 Mo.
0.67	0.68	0.70
0.68	0.70	0.74
0.68	0.69	0.72
0.68	0.69	0.70
0.66	0.64	0.68
0.66	0.67	0.68
0.68	0.70	0.72
0.69	0.69	0.70
--	--	--
0.68	0.68	0.71
0.69	0.70	0.74
0.66	0.64	0.68
0.67	0.68	0.70

Blue Chip Forecasters	Main Refinancing Rate		
	In 3 Mo.	In 6 Mo.	In 12 Mo.
Barclays	4.25	4.25	4.25
BMO Capital Markets	4.25	4.25	4.25
ING Financial Markets	4.50	4.50	4.25
Moody's Analytics	4.19	4.50	4.45
Nomura Securities	--	--	--
Northern Trust	4.50	4.50	4.25
Oxford Economics	4.22	4.50	4.04
S&P Global Market Intelligence	--	--	--
Scotiabank	4.50	4.50	4.25
Wells Fargo	3.75	3.75	3.25
August Consensus	4.27	4.34	4.12
High	4.50	4.50	4.45
Low	3.75	3.75	3.25
Last Months Avg.	4.07	4.20	3.94

Euro area

US\$ per Euro		
In 3 Mo.	In 6 Mo.	In 12 Mo.
1.08	1.10	1.12
1.11	1.12	1.13
1.12	1.15	1.18
1.09	1.11	1.16
1.12	1.12	1.14
1.07	1.05	1.12
1.09	1.09	1.10
1.08	1.09	1.12
1.12	1.12	1.15
--	--	--
1.10	1.11	1.14
1.12	1.15	1.18
1.07	1.05	1.10
1.09	1.10	1.13

Blue Chip Forecasters	10 Yr. Gov't Bond Yields %											
	Germany			France			Italy			Spain		
	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.
Barclays	2.55	2.50	2.30	--	--	--	--	--	--	--	--	--
BMO Capital Markets	2.38	2.32	2.19	--	--	--	--	--	--	--	--	--
ING Financial Markets	2.30	2.20	2.10	2.90	2.75	2.65	4.30	4.10	3.90	3.40	3.25	3.10
Moody's Analytics	2.62	2.75	2.78	3.01	3.08	3.05	4.34	4.24	3.96	3.49	3.57	3.54
Northern Trust	2.40	2.40	2.20	2.90	2.90	2.70	4.00	4.00	3.80	3.70	3.70	3.50
Oxford Economics	2.42	2.30	2.08	2.97	2.82	2.54	4.18	4.07	3.91	3.44	3.32	3.13
Wells Fargo	2.40	2.35	2.25	--	--	--	--	--	--	--	--	--
August Consensus	2.44	2.40	2.27	2.95	2.89	2.74	4.21	4.10	3.89	3.51	3.46	3.32
High	2.62	2.75	2.78	3.01	3.08	3.05	4.34	4.24	3.96	3.70	3.70	3.54
Low	2.30	2.20	2.08	2.90	2.75	2.54	4.00	4.00	3.80	3.40	3.25	3.10
Last Months Avg.	2.38	2.35	2.35	2.86	2.82	2.87	4.09	4.06	4.05	3.40	3.35	3.42

	Consensus Forecasts			
	10-year Bond Yields vs U.S. Yield			
	Current	In 3 Mo.	In 6 Mo.	In 12 Mo.
Japan	-3.36	-3.34	-3.10	-2.86
United Kingdom	0.46	0.48	0.55	0.56
Switzerland	-2.92	-2.53	-2.27	-2.10
Canada	-0.43	-0.36	-0.27	-0.14
Australia	0.16	0.21	0.29	0.31
Germany	-1.40	-1.38	-1.27	-1.19
France	-0.85	-0.87	-0.79	-0.73
Italy	0.23	0.39	0.43	0.43
Spain	-0.43	-0.31	-0.22	-0.15

	Consensus Forecasts			
	Policy Rates vs U.S. Target Rate			
	Current	In 3 Mo.	In 6 Mo.	In 12 Mo.
Japan	-5.23	-5.50	-5.36	-4.98
United Kingdom	-0.13	0.16	0.25	0.49
Switzerland	-3.38	-3.46	-3.40	-2.98
Canada	-0.13	-0.45	-0.44	-0.28
Australia	-1.03	-1.06	-1.09	-0.82
Euro area	-1.13	-1.15	-1.10	-0.79

Viewpoints:

**A Sampling of Views on the Economy, Financial Markets and Government Policy
Excerpted from Recent Reports Issued by our Blue Chip Panel Members and Others**

A “patient and resolute” Fed

The goal is to defeat, not just cool, inflation.

The Federal Open Market Committee (FOMC) – the policy arm of the Federal Reserve voted to raise rates again in July after a brief reprieve in June. That increased the fed funds rate to a 5.25% - 5.5% range, the highest rate for short-term rates since 2001, before it cut rates to mop up in the wake of the dot.com bust. The vote to raise rates was once again unanimous, which underscored Chairman Powell’s finesse in corralling the cats in a key vote.

At least two meeting participants, Austan Goolsbee of Chicago and Raphael Bostic of Atlanta, had voiced their preferences to pause on rate hikes in July before this meeting. Powell hinted that they may have pushed back against this hike. He said that will be reflected in the minutes to this meeting, which will be released in three weeks. Debate is expected to intensify within the ranks of the Fed leadership about how far they should go on rate hikes given the cooling in inflation we have seen and the uncertainty about the path of inflation going forward.

The statement following the meeting was little changed. It left the door open to additional rate hikes, much to the chagrin of market participants eager for an end to rate hikes. Chairman Jay Powell emphasized the Fed’s commitment to hold rates higher for longer at the press conference following the meeting; that will raise real rates as inflation cools. A cut in rates by year-end or at the start of next year is unlikely, barring a full-blown recession.

The Fed worries that financial markets will front-run it on rate cuts and undo some of the progress made on inflation. The ground is fertile. The excess savings triggered by the pandemic are still significant, a GenAI bubble is taking root and earlier fiscal stimulus is boosting infrastructure investment. The construction of chip and EV plants is accelerating, while funds allocated to upgrade schools and roads during the pandemic are being deployed.

Chairman Jay Powell underscored that the Fed needs to see core inflation come down in a more “durable” way. The “historic record” is clear on the fact that the worst error would be to fail to fully derail inflation now. “Policy has not been restrictive enough for long enough” to ensure that inflation will come down and stay there.

Much of the cooling in goods inflation reflects a reversal of the supply chain problems triggered by an uneven reopening of the global economy. That is good news as it has alleviated inflation in the goods sector. However, supply chains remain fragile.

Concern is high that we could see a bump in inflation this Fall when a quirk in how medical insurance is measured plays out. The consumer price index (CPI) measure of medical insurance plummeted nearly 25% from a year ago in June; that measure reverses course and rises on both a month-on-month and year-over-year basis in October. That could prevent inflation from cooling as much as needed in the service sector. Nearly all other insurance costs are already rising rapidly, with extreme weather risks prompting insurers to pull out of some markets entirely.

Separately, recent improvements in inflation have likely emboldened the Fed to reach its 2% inflation target. There was an unspoken sense that the Fed would stop short of its actual target to avoid the pain – a rise in unemployment – necessary to get inflation back to its target. The resilience of the economy has helped alleviate those concerns, while simultaneously upping the risk of an overshoot on rate hikes by the Fed. Powell said, “We are determined to bring inflation down to 2% over time and no one should doubt that.”

The bulk of the drag associated with earlier rate hikes is still ahead of us. Business loans that were taken out when rates were much lower are about to reset, while rejections for credit card, mortgage and vehicle loans have surged since the turmoil we saw in financial markets in the Spring. Powell acknowledged that bank lending conditions continued to tighten since the last report; bank lending standards were in recession territory in the first quarter. That data is due to be released on Monday, July 31.

Powell was careful to point out that the Fed would not need to reach the 2% level before cutting rates. The Fed is expecting to cut rates well before inflation reaches 2%; it only needs to be moving toward 2% over a sustained period. Note: The Fed does not expect inflation to fall to 2% until 2025. Real or inflation-adjusted interest rates will rise as inflation decelerates. Those shifts coupled with the lags in monetary policy mean the Fed should cut rates before it hits the 2% target, or it will most definitely overshoot and trigger a much harder landing. He said that the Fed could keep reducing its balance sheet or what is known as quantitative tightening, even after starting to cut short-term rates.

Powell noted that the staff has a significant slowdown in the economy at the end of the year but no longer has a full-blown recession in their forecast. That is only one forecast. He cautioned that the historical record suggests some softening in labor market conditions, aka increases in unemployment, are likely before inflation is defeated.

Powell said that the short-term social costs of unemployment were less than the long-term social costs of inflation. He thinks some increase in unemployment will occur – the issue is how much.

Bottom Line

The Fed will stand its ground and hold rates high well into 2024, barring a more pronounced slowdown in the economy and rise in unemployment. The goal is to defeat, not just cool, inflation. Another rate hike is possible. Our current forecast has it in November, given the time needed to assess how rapidly the economy is actually cooling and the risk of noise due to strikes. The writers’ and actors’ strikes could hit payrolls in August in the movie and production sector, while the UAW is weighing a strike in September. The Fed is scheduled to release its next forecast in September, which would enable it to signal its intent to hold rates elevated or hike again. The goal is to keep real rates elevated.

Diane Swonk (KPMG)

Tight Job Market Limits Growth and Lifts Inflation Risk

A historically low unemployment rate and industry specific shortages of qualified workers are the biggest threat to continued declines by price inflation. A tight job market traps the economy. An ultra-low jobless rate limits the upside for noninflationary economic growth. Today's reality of a high rate of labor market utilization implies the economy can grow slowly at best. Little more than a near depletion of the available supply of qualified labor warns of slower growth rates for jobs and spending. As spending ebbs, more businesses may find that their sales fall short of what justifies current staffing levels. In turn, layoffs will mount. And it is a slackening of the labor market that will curb the growth of both consumer spending and prices. Not until wage growth subsides from June's 4.4% year-on-year increase to a pace no greater than 3% might the demise of rapid inflation be declared with confidence. The latest upturn by actual and potential strikes, as well as the growing number of announced pay hikes of 5% to 10% annually, warn of a possible upturn by the year-on-year growth of the average hourly wage from June's 4.4%. As long as the labor market remains tight, the risk of a wage driven upturn by price inflation persists. Faster wage growth will do more than just boost operating costs. In addition, faster wage growth will enliven consumer spending and enhance the ability of workers to absorb higher prices. Once a wage price spiral becomes entrenched, only a significantly higher unemployment rate might succeed at taming wage driven price inflation.

Slower jobs growth will decelerate business sales. Retail sales, which serve as a proxy for consumer spending, ultimately depend on personal income growth, which is closely tied to jobs growth. An unfolding deceleration by private sector jobs growth will curb consumer spending. The drop by monthly jobs growth from May's 306,000 to June's 209,000 would have been deeper were it not for an increase by the monthly change in public sector payrolls from 47,000 to 60,000. Far different was the drop by the monthly addition to private-sector payrolls from May's 259,000 to June's 149,000. June's results reflect a continuation of 2023's distribution of payrolls growth between the private and public sectors. Seasonally adjusted data show the average monthly increase for private-sector jobs fell from the 317,000 of 2022's second half to the 215,000 of 2023's first half. According to the same serial comparison, the average monthly addition to public-sector payrolls rose from H2-2022's 37,000 to H1-2023's 63,000.

The faster growth of government employment brings attention to how government spending now contradicts Fed efforts to slow expenditures via higher interest rates. By not raising any objections, the Fed is effectively complicit with the Biden Administration's aim to expand the role of government in the US economy. The current expansion of government in the economy warns of slower economic growth and faster price inflation than otherwise.

Yearly growth for core retail sales slumps from Q1-2023's 6.0% to Q2-2023's 3.9%. Ordinarily, the change in corporate revenues is expressed in terms of year-over-year growth rates

using data that is not adjusted for seasonality. When comparing second-quarter data with results from prior second quarters, it makes little sense to employ seasonal adjustment. Before seasonal adjustment, retail sales year-over-year growth rate decelerated from first quarter 2023's 5.1% to the second quarter's 1.6%. After excluding the downward bias imparted to total retail sales by gasoline's second quarter yearly price plunge of -19.8%, the yearly increase for retail sales excluding gas station sales, or core retail sales, fell from Q1-2023's 6.0% to 3.9% for the second quarter.

Strong retail sales confined to e-commerce and restaurants. However, Q2-2023's 3.9% year-over-year increase by core retail sales masked considerable variation across categories of core retail sales. For example, the second quarter's 9.0% yearly advance by restaurant and bar sales led all broad categories of retail sales. However, almost all of the 9.0% advance consisted of price increases as inferred from Q2-2023's 8.2% yearly increase by the CPI's "food away from home" component.

Restaurant sales now top food store sales. Americans are more inclined to either dine out or order takeout than to prepare food at home. According to the retail sales report, the \$1,065 billion of restaurant and bar sales from the 12-months-ended June 2023 topped the accompanying \$971 billion of food and beverage store sales. In fact, 2022 was the first calendar year, wherein restaurant and bar sales surpassed food and beverage store sales. Things were far different as recently as the five years ended 2015, or when the span's annual averages of \$647 billion for food and beverage store sales exceeded the \$553 billion of restaurant and bar sales by 17%. Nevertheless, a significant amount of grocery sales has moved from the food and beverage store category to the general merchandise store excluding department stores category. Still, restaurants and bars share of core retail sales has climbed up from 2019's 13.7% to the record high 14.2% of the year-ended June 2023.

Core retail sales growth drops from 3.9% to 3.1% excluding restaurants. Absent restaurants and bars, remaining core retail sales grew by a modest 3.1% yearly, which was faster than Q1-2023's 2.5% yearly increase but slower than yearlong 2022's 6.8% annual growth rate. Second-quarter's year-to-year growth rate for remaining core retail sales was led by the 8.2% increase for non-store sales that is heavily weighted towards e-commerce. The second quarter's yearly gain by non-store sales outran Q1-2023's 7.8%, but lagged calendar year 2022's 12.8% annual advance. The 3.4% yearly increase by Q2-2023's sales of motor vehicle and parts dealerships was up from both Q1-2023's 2.1% and yearlong 2022's 2.8%. The second-quarter's price index for new and used autos barely rose by 0.7% from a year earlier. By contrast, the CPI's price index for motor vehicle parts and equipment rose by a faster 4.6% yearly in the second quarter.

In addition, second-quarter 2023's seasonally-adjusted, annualized sales pace of 15.6 million units for new cars and light trucks was up by 17.4% year-over-year, but was -8.9% less than 2017-2019's 17.1-million units average.

John Lonski (The Lonski Group)

Special Questions:

1. What do you think will be the peak federal funds rate target (midpoint of range) in the current tightening cycle? 5.47%
2. What do you think the fed funds rate target (midpoint of range) will be at the end of: 2023 5.40% 2024 3.82%
3. a. When will the first fed funds rate cut occur?
- | <u>Q3 2023</u> | <u>Q4 2023</u> | <u>Q1 2024</u> | <u>Q2 2024</u> | <u>Later</u> |
|----------------|----------------|----------------|----------------|--------------|
| 6% | 6% | 47% | 28% | 13% |
- b. What will likely be the primary factor behind the first fed funds rate cut?
- | | |
|---|-----|
| <u>A sharp slowdown in the economy</u> | 26% |
| <u>A meaningful and persistent slowing in inflation</u> | 74% |
| <u>Global financial market stress</u> | 0% |
4. What probability do you attach to a recession beginning over the next 12 months in the:
- | | |
|------------------|-----|
| <u>US</u> | 48% |
| <u>euro area</u> | 52% |
| <u>UK</u> | 58% |
5. a. Repayments of U.S. student loan debt will resume in October. Will this lower your outlook for the US economy in:
- | | <u>Yes</u> | <u>No</u> |
|------|------------|-----------|
| 2023 | 37% | 63% |
| 2024 | 63% | 37% |
- b. Have your forecasts for global growth been adversely impacted by recent sluggish data releases, notably in Asia and Europe?
- | | | | |
|------------|-----|-----------|-----|
| <u>Yes</u> | 81% | <u>No</u> | 19% |
|------------|-----|-----------|-----|
- c. Does China's recent disappointing data threaten to weaken the global outlook for economic growth in 2023?
- | | | | |
|------------|-----|-----------|-----|
| <u>Yes</u> | 89% | <u>No</u> | 11% |
|------------|-----|-----------|-----|
6. While the headline US PCE price index has slowed markedly, core inflation, which excludes food and energy prices, has slowed much less. What do you expect the core inflation rate to be for:
- | | | | |
|---------------------|------|---------------------|------|
| <u>Dec/Dec 2023</u> | 3.5% | <u>Dec/Dec 2024</u> | 2.4% |
|---------------------|------|---------------------|------|
7. What is your US unemployment rate forecast for:
- | | |
|---------------|------|
| December 2023 | 3.9% |
| June 2024 | 4.4% |
| December 2024 | 4.5% |

2023 Historical Data

Monthly Indicator	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Retail and Food Service Sales (a)	2.8	-0.7	-0.9	0.4	0.5	0.2	....	....	....	....	....	....
Auto & Light Truck Sales (b)	15.95	14.92	14.92	16.09	15.08	15.68	....	....	....	....	....	....
Personal Income (a, current \$)	0.7	0.4	0.4	0.3	0.5	0.3	....	....	....	....	....	....
Personal Consumption (a, current \$)	1.9	0.3	0.1	0.6	0.2	0.5	....	....	....	....	....	....
Consumer Credit (e)	5.3	2.9	4.8	5.0	1.8	....	....	....	....	....	....	....
Consumer Sentiment (U. of Mich.)	64.9	67.0	62.0	63.5	59.2	64.4	71.6	....	....	....	....	....
Household Employment (c)	894	177	577	139	-310	273	....	....	....	....	....	....
Nonfarm Payroll Employment (c)	472	248	217	217	306	209	....	....	....	....	....	....
Unemployment Rate (%)	3.4	3.6	3.5	3.4	3.7	3.6	....	....	....	....	....	....
Average Hourly Earnings (All, cur. \$)	33.02	33.11	33.20	33.34	33.46	33.58	....	....	....	....	....	....
Average Workweek (All, hrs.)	34.6	34.5	34.4	34.4	34.3	34.4	....	....	....	....	....	....
Industrial Production (d)	1.5	0.9	0.2	0.5	0.0	-0.4	....	....	....	....	....	....
Capacity Utilization (%)	79.6	79.6	79.5	79.9	79.4	78.9	....	....	....	....	....	....
ISM Manufacturing Index (g)	47.4	47.7	46.3	47.1	46.9	46.0	....	....	....	....	....	....
ISM Nonmanufacturing Index (g)	55.2	55.1	51.2	51.9	50.3	53.9	....	....	....	....	....	....
Housing Starts (b)	1.340	1.436	1.380	1.348	1.559	1.434	....	....	....	....	....	....
Housing Permits (b)	1.354	1.482	1.437	1.417	1.496	1.441	....	....	....	....	....	....
New Home Sales (1-family, c)	649	625	640	671	715	697	....	....	....	....	....	....
Construction Expenditures (a)	2.2	0.4	0.6	0.4	0.9	....	....	....	....	....	....	....
Consumer Price Index (nsa, d)	6.4	6.0	5.0	4.9	4.0	3.0	....	....	....	....	....	....
CPI ex. Food and Energy (nsa, d)	5.6	5.5	5.6	5.5	5.3	4.8	....	....	....	....	....	....
PCE Chain Price Index (d)	5.4	5.0	4.2	4.3	3.8	3.0	....	....	....	....	....	....
Core PCE Chain Price Index (d)	4.7	4.7	4.6	4.6	4.6	4.1	....	....	....	....	....	....
Producer Price Index (nsa, d)	5.7	4.7	2.7	2.1	0.9	0.1	....	....	....	....	....	....
Durable Goods Orders (a)	-1.3	-2.7	3.3	1.2	2.0	4.7	....	....	....	....	....	....
Leading Economic Indicators (a)	-0.5	-0.5	-1.2	-0.7	-0.6	-0.7	....	....	....	....	....	....
Balance of Trade & Services (f)	-70.2	-70.2	-60.6	-74.4	-69.0	....	....	....	....	....	....	....
Federal Funds Rate (%)	4.33	4.57	4.65	4.83	5.06	5.08	....	....	....	....	....	....
3-Mo. Treasury Bill Rate (%)	4.69	4.79	4.86	5.07	5.31	5.42	....	....	....	....	....	....
10-Year Treasury Note Yield (%)	3.53	3.75	3.66	3.46	3.57	3.75	....	....	....	....	....	....

2022 Historical Data

Monthly Indicator	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Retail and Food Service Sales (a)	1.4	1.4	2.1	1.3	-0.1	0.7	-0.5	0.7	0.0	1.0	-1.3	-0.7
Auto & Light Truck Sales (b)	15.11	13.71	13.56	14.28	12.58	13.05	13.31	13.23	13.64	15.28	14.34	13.37
Personal Income (a, current \$)	-0.1	0.5	0.5	0.2	0.5	0.5	0.8	0.6	0.5	0.6	0.2	0.2
Personal Consumption (a, current \$)	1.2	0.7	1.2	0.4	0.7	1.2	-0.1	0.7	0.6	0.7	-0.2	0.0
Consumer Credit (e)	5.0	8.6	11.0	7.8	7.4	9.2	7.3	7.4	7.2	8.9	8.3	4.9
Consumer Sentiment (U. of Mich.)	67.2	62.8	59.4	65.2	58.4	50.0	51.5	58.2	58.6	59.9	56.8	59.7
Household Employment (c)	1041	468	738	-346	317	-242	215	422	156	-257	-66	717
Nonfarm Payroll Employment (c)	364	904	414	254	364	370	568	352	350	324	290	239
Unemployment Rate (%)	4.0	3.8	3.6	3.6	3.6	3.6	3.5	3.7	3.5	3.7	3.6	3.5
Average Hourly Earnings (All, cur. \$)	31.63	31.63	31.83	31.94	32.06	32.18	32.33	32.43	32.53	32.66	32.80	32.92
Average Workweek (All, hrs.)	34.6	34.7	34.7	34.6	34.6	34.6	34.6	34.5	34.6	34.6	34.5	34.4
Industrial Production (d)	2.3	6.6	4.4	4.6	3.7	3.2	3.0	3.1	4.5	3.1	1.9	0.6
Capacity Utilization (%)	79.4	79.9	80.5	80.7	80.6	80.5	80.7	80.7	80.8	80.6	80.3	78.9
ISM Manufacturing Index (g)	57.6	58.4	57.0	55.9	56.1	53.1	52.7	52.9	51.0	50.0	49.0	48.4
ISM Nonmanufacturing Index (g)	60.4	57.2	58.4	57.5	56.4	56.0	56.4	56.1	55.9	54.5	55.5	49.2
Housing Starts (b)	1.669	1.771	1.713	1.803	1.543	1.561	1.371	1.505	1.463	1.432	1.427	1.357
Housing Permits (b)	1.898	1.817	1.877	1.795	1.708	1.701	1.658	1.586	1.588	1.555	1.402	1.409
New Home Sales (1-family, c)	810	773	707	611	636	563	543	638	567	577	582	636
Construction Expenditures (a)	2.4	1.5	1.4	1.8	-0.1	-0.4	-0.2	-1.2	-0.6	-0.4	0.6	-0.1
Consumer Price Index (nsa, d)	7.5	7.9	8.5	8.3	8.6	9.1	8.5	8.3	8.2	7.7	7.1	6.5
CPI ex. Food and Energy (nsa, d)	6.0	6.4	6.5	6.2	6.0	5.9	5.9	6.3	6.6	6.3	6.0	5.7
PCE Chain Price Index (d)	6.1	6.4	6.8	6.4	6.5	7.0	6.4	6.3	6.3	6.1	5.7	5.3
Core PCE Chain Price Index (d)	5.2	5.4	5.4	5.0	4.9	5.0	4.7	4.9	5.2	5.1	4.8	4.6
Producer Price Index (nsa, d)	10.1	10.4	11.7	11.2	11.1	11.2	9.7	8.7	8.5	8.2	7.4	6.4
Durable Goods Orders (a)	2.0	-1.4	-0.1	1.0	0.7	1.6	-0.8	-0.1	0.3	1.0	-3.1	4.5
Leading Economic Indicators (a)	-0.5	0.3	0.0	-0.6	-0.9	-0.7	-0.6	-0.3	-0.5	-0.9	-0.9	-0.7
Balance of Trade & Services (f)	-86.5	-87.0	-102.5	-86.0	-84.1	-80.9	-71.7	-67.3	-71.7	-78.3	-63.8	-71.4
Federal Funds Rate (%)	0.08	0.08	0.20	0.33	0.77	1.21	1.68	2.33	2.56	3.08	3.78	4.10
3-Mo. Treasury Bill Rate (%)	0.15	0.31	0.45	0.76	0.99	1.54	2.30	2.72	3.22	3.87	4.32	4.36
10-Year Treasury Note Yield (%)	1.76	1.93	2.13	2.75	2.90	3.14	2.90	2.90	3.52	3.98	3.89	3.62

(a) month-over-month % change; (b) millions, saar; (c) month-over-month change, thousands; (d) year-over-year % change; (e) annualized % change; (f) \$ billions; (g) level. Most series are subject to frequent government revisions. Use with care.

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Calendar of Upcoming Economic Data Releases

Monday	Tuesday	Wednesday	Thursday	Friday
	August 1 Construction (Jun & Revisions) JOLTS (Jun) ISM Manufacturing (Jul) S&P Global Mfg PMI (Jul) Texas Service Sector Outlook Survey (Jul)	2 ADP Employment Report (Jul) BEA Auto and Truck Sales (Jul) Housing Vacancies (Q2) EIA Crude Oil Stocks Mortgage Application	3 Productivity & Costs (Q2) Manufacturers' Shipments, Inventories & Orders (Jun) ISM Services PMI (Jul) S&P Global Services PMI (Jul) Challenger Employment Report (Jul) CEO Confidence Survey (Q3) Weekly Jobless Claims	4 Employment Situation (Jul) Public Debt (Jul) Interest Expense on the Public Debt (Jul)
7 Consumer Credit (Jun) Treasury Auction Allotments (Jul)	8 International Trade (Jun) Wholesale Trade (Jun) NFIB (Jul) Kansas City Fed Labor Market Conditions Indicators (Jul)	9 Transportation Services Index (Jun) Kansas City Financial Stress Index (Jul) EIA Crude Oil Stocks Mortgage Application	10 CPI & Real Earnings (Jul) Cleveland Fed Median CPI (Jul) First Time Housing Affordability (Q2) Housing Affordability (Jun) NAHB-Wells Fargo Housing Opportunity Index (Q2) Monthly Treasury (Jul) Weekly Jobless Claims	11 Producer Prices (Jul) Consumer Sentiment (Aug, Preliminary) Survey of Professional Forecasters (Q3)
14	15 Advance Retail Sales (Jul) Import & Export Prices (Jul) MTIS (Jun) Empire State Mfg Survey (Aug) Home Builders (Aug) TIC Data (Jun)	16 New Residential Construction (Jul) IP & Capacity Utilization (Jul) Business Leaders Survey (Aug) EIA Crude Oil Stocks Mortgage Application	17 Retail E-Commerce Sales (Q2) Philadelphia Fed Mfg Business Outlook Survey (Aug) Composite Indexes (Jul) Weekly Jobless Claims	18 Advance Quarterly Services(Q2)
21 Dallas Fed Banking Conditions Survey (Jul)	22 Existing Home Sales (Jul) H.6 Money Stock (Jul) Treas Auction Allotments (Aug) Philadelphia Fed Nonmfg Business Outlook Survey (Aug) Richmond Fed Mfg & Service Sector Surveys (Aug)	23 New Residential Sales (Jul) CEW (Q1) S&P Global Flash PMIs (Aug) FRB Philadelphia Coincident Economic Activity Index (Jul) Final Building Permits (Jul) EIA Crude Oil Stocks Mortgage Application	24 Advance Durable Goods (Jul) Chicago Fed National Activity Index (Jul) Kansas City Fed Manufacturing Survey (Aug) Weekly Jobless Claims	25 Consumer Sentiment (Aug, Final) Strike Report (Aug) Steel Imports for Consumption (Jul, Preliminary)
28 Texas Manufacturing Outlook Survey (Aug)	29 Case-Shiller HPI (Jun) FHFA HPI (Jun & Q2) Consumer Confidence (Aug) JOLTS (Jul) Texas Service Sector Outlook Survey (Aug)	30 ADP Employment Report (Aug) GDP (Q2, 2nd Estimate) Adv Trade & Inventories (Jul) Pending Home Sales (Jul) EIA Crude Oil Stocks Mortgage Application	31 Dallas Fed Trimmed Mean PCE (Jul) Personal Income (Jul) Agricultural Prices (Jul) Underlying NIPA Tables (Q2, 2 nd Estimate) Challenger Employment Report (Aug) Chicago PMI (Aug) Weekly Jobless Claims	September 1 Employment Situation (Aug) ISM Manufacturing (Aug) S&P Global Mfg PMI (Aug) Construction (Jul)
4 LABOR DAY ALL MARKETS CLOSED	5 Manufacturers' Shipments, Inventories & Orders (Jul) BEA Auto & Truck Sales (Aug)	6 International Trade (Jul) ISM Services PMI (Aug) S&P Global Services PMI (Aug) QFR (Q2) Kansas City Fed Labor Market Conditions Indicators (Aug) Mortgage Application	7 Productivity & Costs (Q2) QSS (Q2) Weekly Jobless Claims EIA Crude Oil Stocks	8 Wholesale Trade (Jul) Treasury Auction Allotments (Aug) Consumer Credit (Jul) Public Debt (Aug) Interest Expense on the Public Debt (Aug)

BLUE CHIP FORECASTERS**CONTRIBUTORS TO DOMESTIC SURVEY**

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Moody's Analytics, West Chester, PA

Nomura Securities International, Inc., New York, NY

Northern Trust Company, Chicago, IL

Oxford Economics, Wayne, PA

Scotiabank Group, Toronto, Canada

S&P Global Market Intelligence, St. Louis, MO

TS Lombard, London, UK

Wells Fargo, Charlotte, NC

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Ann Bulkley

103. Refer to the Bulkley Testimony generally. Provide the current authorized returns on equity for the companies in Ms. Bulkley's proxy groups as well as the effective dates of those authorized returns.

Response:

Ms. Bulkley's analysis relies on the publicly traded market data for the proxy group to estimate the cost of equity for Kentucky-American Water Company. The requested information has not been relied upon in the development of her direct testimony. Therefore, Ms. Bulkley has not conducted the requested research.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Ann Bulkley

104. Refer to the Application generally. Provide all bond rating agency reports (S&P, Moody's, Fitch) from 2021 through 2023 for American Water Works Co. ("AWK"), and American Water Capital Corp. ("AWCC").

Response:

Please refer to KAW_R_AGDR1_NUM104_081823_Attachment_CONFIDENTIAL. The attachment is confidential and provided pursuant to a Petition for Confidential Protection.

**KAW_R_AGDR1_NUM0104_081823_ATTACHMENT_CONFIDENTIAL
FILED UNDER SEAL PURSUANT TO THE PETITION FOR
CONFIDENTIAL TREATMENT FILED ON AUGUST 18, 2023**

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Nicholas Furia

105. Refer to the Application generally. Provide Kentucky American's 13-month average capital structure, including common equity, preferred stock, long-term and short-term debt for 2017 – 2022. Provide all supporting documentation analyses, work papers, and spreadsheets with cell formulas intact.

Response:

Please refer to KAW_R_AGDR1_NUM105_081823 _ Attachment.

**KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION**

Witness: Nicholas Furia

106. Refer to the Application generally. Provide Kentucky American's monthly cost and amounts of short-term debt from 2021 through 2023. Provide all supporting documentation analyses, work papers, and spreadsheets with cell formulas intact.

Response:

Please refer to KAW_R_AGDR1_NUM106_081823_Attachment for the monthly cost of short-term debt and the associated average short-term debt balance for 2021 through 2023.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Nicholas Furia and Ann Bulkley

107. Refer to the Application generally, Bulkley Testimony generally, and the Direct Testimony of Nicholas Furia (“Furia Testimony”), generally. Provide all supporting work papers and documentation for Kentucky American’s requested cost of debt, including the proposed new issuances of debt described in the Furia Testimony at page 6. Provide all spreadsheets with cell formulas intact. Provide the supporting documentation for the forecasted cost of the two new debt issuances.

Response:

For supporting documentation related to existing cost of long-term debt, please refer to KAW_R_AGDR1_NUM107_081823_Attachments 1 through 11.

For supporting documentation related to proposed cost of long-term debt on the two new debt issuances, please refer to KAW_R_AGDR1_NUM107_081823_Attachment 12.



1555 North RiverCenter Drive, Suite 302
Milwaukee, WI 53212

January 31, 2023

American Water
Attn: Veronika Menusova
1 Water Street
Camden, NJ 08102

To Whom It May Concern:

Re: Kentucky-American Water Company

Certificate No. PR-1

\$7,500,000

Registered in the Name of Allstate Life Insurance Company of New York

The enclosed security is being submitted for transfer. Please re-register as follows:

Band & Co
C/O U.S. Bank NA
1555 North Rivercenter Drive, Suite 302
Milwaukee, WI 53212

1012/2
Ⓝ

Tax ID #: [REDACTED]

Please update the wire instructions to reflect the following:

U.S. Bank, NA

[REDACTED]

Attn: Trust Dept Income Unit

REF: 49199APZ2

FFC: SEI A/C [REDACTED] WILTON RE LC NY-GENERAL(PA)

Please update physical delivery address and return the security as indicated below:

U.S. Bank NA – Physical Processing Dept.
Attn: Sarah Kramer / SPQR ID 902533
1555 N. RiverCenter Drive, Suite 302
Milwaukee, WI 53212

If additional information is needed, please contact Sarah Kramer before rejecting or returning this request:

E-mail: [REDACTED]

Thank you,

Sarah L. Kramer
Sarah L. Kramer
Custody Operations Specialist
U.S. Bank, National Association

Approved:

Jill E. Kaczecka
Jill E. Kaczecka
Officer
U.S. Bank, National Association

SIGNATURE GUARANTEE
MEDALLION GUARANTEE
U.S. BANK NATIONAL ASSOCIATION
Shenlynn Liantonio
AUTHORIZED SIGNATURE
Z9008251
SECURITIES TRANSFER AGENTS MEDALLION PROGRAM™
[Barcode]



U.S. BANK NATIONAL ASSOCIATION
ASST. SECRETARY'S CERTIFICATE

I, Linda E. Bidon, an Asst. Secretary of U.S. Bank National Association hereby certify that the following is a true and exact extract from the Bylaws of U.S. Bank National Association, a national banking association organized under the laws of the United States (the "Association").

ARTICLE VI.
CONVEYANCES, CONTRACTS, ETC.

All transfers and conveyances of real estate, mortgages, and transfers, endorsements or assignments of stock, bonds, notes, debentures or other negotiable instruments, securities or personal property shall be signed by any elected or appointed officer.

All checks, drafts, certificates of deposit and all funds of the Association held in its own or in a fiduciary capacity may be paid out by an order, draft or check bearing the manual or facsimile signature of any elected or appointed officer of the Association.

All mortgage satisfactions, releases, all types of loan agreements, all routine transactional documents of the Association, and all other instruments not specifically provided for, whether to be executed in a fiduciary capacity or otherwise, may be signed on behalf of the Association by any elected or appointed officer thereof.

The Secretary or any Asst. Secretary of the Association or other proper officer may execute and certify that required action or authority has been given or has taken place by resolution of the Board under this Bylaw without the necessity of further action by the Board.

I further certify that the following individuals are duly appointed and qualified officers of the Association authorized to act under Article VI of the Bylaws of the Association and that such authority is in full force and effect as of the date hereof and has not been modified, amended or revoked.

Table listing names and titles of officers: Darren S. Hodges (Senior Vice President), Kimberly D. Reyes (Asst. Vice President), Shannon M. Parks (Officer), etc.

IN WITNESS WHEREOF, I have set my hand this 10th day of January, 2023.

(No corporate seal)

Signature Guarantee Medallion Program logo with text: SIGNATURE GUARANTEE, MEDALLION GUARANTEE, U.S. BANK NATIONAL ASSOCIATION, AUTHORIZED SIGNATURE 29008251, SECURITY TRANSFER AGENTS MEDALLION PROGRAM

Linda E. Bidon (handwritten signature)

Linda E. Bidon, Assistant Secretary

49199AP22

THIS BOND HAS NOT BEEN REGISTERED OR QUALIFIED FOR SALE UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR ANY STATE SECURITIES LAWS, AND MAY NOT BE SOLD OR TRANSFERRED IN THE ABSENCE OF SUCH REGISTRATION OR AN EXEMPTION THEREFROM UNDER SAID ACT AND LAWS.

No.PR-1

KENTUCKY-AMERICAN WATER COMPANY

\$7,500,000

GENERAL MORTGAGE BOND, 7.15% SERIES, DUE FEBRUARY 1, 2027

KENTUCKY-AMERICAN WATER COMPANY, a corporation organized and existing under the laws of the Commonwealth of Kentucky (hereinafter called the "Company", which term shall include any successor corporation as defined in the Indenture hereinafter referred to), for value received, hereby promises to pay to

--- ALLSTATE LIFE INSURANCE COMPANY OF NEW YORK ---

or registered assigns, on the first day of February, 2027, at the office of the Trustee, hereinafter named, in the City of Philadelphia, Pennsylvania (or, if there be a successor trustee, at its principal office), the sum of

--- SEVEN MILLION FIVE HUNDRED THOUSAND ---

Dollars (\$7,500,000) in coin or currency of the United States of America which at the time of payment is legal tender for public and private debts, and to pay interest thereon to the registered owner hereof, at said office, from the interest payment date next preceding the date of this Bond (or, if this Bond be dated prior to August 1, 1997, from the date hereof) until the principal hereof is paid or duly provided for, at the rate of seven and fifteen hundredths percent (7.15%) per annum, in like coin or currency, semiannually on the first day of February and the first day of August in each year, commencing on the first day of August, 1997; provided that the principal of and the premium, if any, and interest on this Bond may be paid by agreement of the Company with the registered owner of this Bond, by check mailed or bank wire transfer of Federal or other immediately available funds to the person entitled thereto at his banking address last appearing upon the transfer register or registers of the Company, subject, in the case of the payment in full of the principal of this Bond, to the presentation and surrender of the Bond as provided in the Indenture.

This Bond is one of an authorized issue of bonds of the Company known as its General Mortgage Bonds, not limited in aggregate principal amount except as provided in the Indenture hereinafter mentioned, all issued and to be issued in one or more series under and equally secured by an indenture of mortgage (hereinafter called the "Original Indenture"), executed by the Company to First Union National Bank (formerly First Fidelity Bank, National

E81094130644865
E81094130644865

Association, formerly First Fidelity Bank, N.A., Pennsylvania, formerly Fidelity Bank, National Association, and formerly The Fidelity Bank), as Trustee, dated as of May 1, 1968 as heretofore amended and supplemented by fifteen supplemental indentures, the Original Indenture as so amended and supplemented being hereinafter called the "Indenture", to which Original Indenture and all indentures supplemental thereto reference is hereby made for a description of the property mortgaged and pledged, the nature and extent of the security, the terms and conditions upon which the bonds are, and are to be, secured, and the rights of the registered owners thereof and of the Trustee in respect of such security. As provided in the Indenture, said bonds may be issued in series for various principal sums, may bear different dates and mature at different times, may bear interest at different rates, and may otherwise vary as in the Indenture provided or permitted. This Bond is one of the bonds described in the Fifteenth Supplemental Indenture dated as of February 1, 1997, between the Company and the Trustee ("Fifteenth Supplemental Indenture") and designated therein as "General Mortgage Bonds, 7.15% Series, due February 1, 2027" (hereinafter referred to as the "Bonds of the 7.15% Series").

The lien of the Indenture on the property of the Company is subject to the Permitted Encumbrances as defined in the Indenture.

The Bonds of the 7.15% Series are not subject to redemption pursuant to Section 6.03 or Section 6.04 of the Original Indenture or otherwise under the Indenture at the option of the Company, except as hereinafter in the following four paragraphs of this bond expressly provided.

The Bonds of the 7.15% Series are subject to redemption, in whole at any time or in part on any interest payment date, at the option of the Company at the redemption price equal to the principal amount of the Bonds of the 7.15% Series, or portions thereof to be redeemed, together with interest accrued on such Bonds to the date fixed for their redemption plus a premium equal to the "Make-Whole Premium" (defined below) determined three (3) business days prior to the date fixed for their redemption. The Company will furnish notice to the Trustee and each holder of the Bonds of the 7.15% Series (by telecopy or other same-day written communication confirmed by the recipient, on a date at least two (2) business days prior to the date fixed for redemption of the Bonds of the 7.15% Series) of the premium, if any, applicable to such redemption and the calculations, in reasonable detail, used to determine the amount of any such premium.

"Make-Whole Premium" shall mean, in connection with any redemption, the excess, if any, of (i) the aggregate present value as of the date of such redemption of each dollar of principal being redeemed and the amount of interest (exclusive of interest accrued to the date of redemption) that would have been payable in respect of such dollar if such redemption had not been made, determined by discounting such amounts at the Reinvestment Rate from the respective dates on which they would have been payable, over (ii) 100% of the principal amount of the outstanding Bonds of the 7.15% Series being redeemed. If the Reinvestment Rate is equal to or higher than 7.15%, the Make-Whole Premium shall be zero.

"Reinvestment Rate" shall mean the sum of (i) 0.50% plus (ii) the yield on actively traded United States Treasury securities having a maturity (rounded to the nearest month)

corresponding to the remaining term of the Bonds of the 7.15% Series (a) as reported on page "USD" of the Bloomberg Financial Markets Services Screen or, if not available, (b) any other nationally recognized trading screen reporting on-line intraday trading in United States Treasury securities, in either case at 11:00 a.m. (New York time) on the fifth business day prior to the date fixed for redemption (the "Determination Date"), or in the event that no such nationally recognized trading screen reporting on-line intraday trading in United States Treasury securities is available, (c) as determined by reference to such other publicly available source of similar market data (published on the date most recently preceding the Determination Date) which shall be designated by the holders of 66-2/3% in aggregate principal amount of the outstanding Bonds of the 7.15% Series. If no maturity exactly corresponds to such remaining term of the Bonds of the 7.15% Series, yields for the two maturities most closely corresponding to such remaining term of the Bonds of the 7.15% Series shall be determined pursuant to clause (ii) of the immediately preceding sentence and the Reinvestment Rate shall be interpolated or extrapolated from such yields on a straight-line basis, rounding in each of such relevant periods to the nearest month.

The Bonds of the 7.15% Series shall be subject to mandatory redemption at any time in the event that all or substantially all of the property of the Company at the time subject to the lien of the Indenture, or all or substantially all of the property of the Company at the time so subject to such lien which is used or useful in connection with its utility business as defined in the Indenture, shall be released from the lien of the Indenture under the provisions of Section 5.03 or Section 5.06 thereof. The award or consideration received by the Trustee for such property (together with any other moneys held by the Trustee under the Indenture) shall be applied by the Trustee to the redemption in full of all bonds then outstanding under the Indenture, any moneys held for the account of any particular bonds being applied to the redemption (or payment, if matured) of such bonds. In any such event, the redemption price of the Bonds of the 7.15% Series shall be 100% of the principal amount thereof, plus all interest accrued and unpaid thereon to the date fixed for redemption. If the moneys then in the hands of the Trustee available for such purpose shall not be sufficient for such redemption in full, the Company shall deposit with the Trustee on or before the date fixed for redemption an amount sufficient to enable the Trustee to pay the full redemption prices of the bonds at the rate or rates applicable, together with interest accrued to such date and all expenses in connection with such redemption. If the Company shall default in its obligation to deposit any such amount with the Trustee, the moneys in the hands of the Trustee available for such purpose (together with any moneys thereafter received) shall be applied by the Trustee to the partial payment of all bonds then outstanding under the Indenture, pro rata in proportion to the respective amounts then due and owing thereon for principal, premium, if any, and interest but, until the full amount then due and owing on the bonds shall have been paid, no such partial payment shall discharge the obligation of the Company on any bond except to the extent of such partial payment. Notice of any such partial pro rata payment shall be given once by the Trustee to the registered owners of the bonds within one week after the date for which the bonds were called for redemption, and from and after a date to be specified in such notice (to be not earlier than the date upon which such notice is given nor later than ten days after such redemption date) interest shall cease to accrue on the obligation of the Company on the bonds so called for redemption to the extent of the partial payment so provided. Subsequently, if any additional moneys applicable to an additional partial payment or to the payment of the entire balance then due on the bonds

shall be received by the Trustee, the Trustee shall, with reasonable promptness, give like notice of any such payment (specifying a date within ten days after the date of such notice) with like effect.

If the Bonds of the 7.15% Series, or any portion thereof, are called for redemption, and payment thereof is duly provided for as specified in the Original Indenture, interest shall cease to accrue thereon or on such portion being redeemed, as the case may be, from and after the date fixed for redemption.

In all cases of redemption, notice shall be given by registered mail to the owners thereof at least twenty-five (25) days before the date fixed for redemption, all on the conditions and in the manner provided in the Indenture.

The principal of this Bond may be declared or may become due prior to its maturity date, in the manner and with the effect and subject to the conditions provided in the Indenture, upon the happening of an event of default as in the Indenture provided; subject, however, to the right, under certain circumstances, of the registered owners of a majority in principal amount of the bonds then outstanding (or, if such event of default be a default in the payment of any principal of, premium, if any, or interest on the bonds of any particular series, the registered owners of a majority in principal amount of the bonds of such series then outstanding) to annul such declaration.

In case the Company shall be consolidated with or merged into any other corporation, or all or substantially all of the mortgaged property as an entirety or substantially as an entirety shall be conveyed or transferred, subject to the lien of the Indenture, the corporation resulting from such consolidation, or into which the Company shall have been merged, or which shall have received such conveyance or transfer, may elect to exchange its bonds for bonds outstanding under the Indenture, including the Bonds of the 7.15% Series, subject to the conditions and in the manner provided in the Indenture.

To the extent permitted by, and as provided in, the Indenture, amendments or modifications of the Original Indenture, or of any indenture supplemental thereto, and of the rights and obligations of the Company and of the owners of the bonds issued and to be issued thereunder, may be made with the consent of the Company by the written consent of the registered owners of not less than sixty-six and two-thirds percent (66-2/3%) in principal amount of the bonds then outstanding under the Indenture; provided that any amendment or modification which will affect the rights under the Original Indenture or any indenture supplemental thereto of the owners of one or more, but less than all, of the series of bonds outstanding under the Indenture or which will amend or modify any Exclusive Benefit Covenant (as defined in the Indenture) may be made only with the consent of the Company and the written consent of the registered owners of not less than sixty-six and two-thirds percent (66-2/3%) in principal amount of the bonds of the series so affected or the bonds of the series for the protection or benefit of which such Exclusive Benefit Covenant is made, as the case may be, then outstanding under the Indenture (unless in the case of any Exclusive Benefit Covenant some other percentage of bonds is provided in the supplemental indenture establishing the Exclusive Benefit Covenant), and may be made with the written consent of the registered owners of said principal amount of the bonds of such series without any requirement for the consent of

owners of bonds outstanding under the Indenture which are not affected by such amendment or modification; provided, however, that except with the written consent of the registered owner of this Bond no amendment or modification shall be made which will permit the extension of the time or times of payment of the principal of or the interest on this Bond, or a reduction in the principal amount hereof, the premium, if any, or the rate of interest hereon, or otherwise affect the terms of payment of the principal of, premium, if any, or interest on this Bond, or reduce the percentage of principal amount of bonds the consent of the registered owners of which is required for the modification or alteration of the Indenture, or of any indenture supplemental thereto.

This Bond is transferable by the registered owner hereof, in person or by duly authorized attorney, on books of the Company to be kept for that purpose at the office of the Trustee in the City of Philadelphia, Pennsylvania (or, if there be a successor trustee, at its principal office), upon surrender hereof at such office for cancellation and upon presentation of a written instrument of transfer duly executed, and thereupon the Company shall issue in the name of the transferee or transferees, and the Trustee shall authenticate and deliver, a new registered Bond or Bonds of the 7.15% Series, in authorized denominations, of a like aggregate principal amount; and the registered owner of any Bond or Bonds of the 7.15% Series may surrender the same as aforesaid at said office in exchange for a like aggregate principal amount of Bonds of like form, in authorized denominations; all upon payment of the charges and subject to the terms and conditions specified in the Indenture.

The Company and the Trustee may treat the registered owner of this Bond as the absolute owner hereof for the purpose of receiving payment hereof, or on account hereof, and for all other purposes.

No recourse under or upon any obligation, covenant or agreement contained in the Indenture or in any indenture supplemental thereto, or in any bond thereby secured, or because of any indebtedness thereby secured, shall be had against any incorporator, or against any past, present or future stockholder, officer or director, as such, of the Company or of any successor corporation, either directly or through the Company or any successor corporation, under any constitution, statute, or rule of law or equity, or by the enforcement of any assessment or by any legal or equitable proceeding or otherwise; it being expressly agreed and understood that the Indenture, any indenture supplemental thereto and obligations thereby secured are solely corporate obligations, and that no personal liability whatever shall attach to, or be incurred by, such incorporators, stockholders, officers or directors, as such, of the Company, or of any successor corporation, or any of them, because of the incurring of the indebtedness thereby authorized, or under or by reason of any of the obligations, covenants or agreements contained in the Indenture or in any indenture supplemental thereto or in any of the bonds or coupons thereby secured, or implied therefrom.

This Bond shall not be entitled to any benefit under the Indenture, or any indenture supplemental thereto, and shall not become valid or obligatory for any purpose, until First Union National Bank, as the Trustee under the Indenture, or a successor trustee

thereunder, shall have signed the form of authentication certificate endorsed hereon.

IN WITNESS WHEREOF, KENTUCKY-AMERICAN WATER COMPANY has caused this Bond to be signed in its name by its President or a Vice President and its corporate seal to be hereto affixed and attested by its Secretary or an Assistant Secretary, and this Bond to be dated this 20th day of February, 1997.

KENTUCKY-AMERICAN WATER COMPANY

By:

Vice President and Treasurer

Attest:

Secretary

Trustee's Authentication Certificate

This Bond is one of the bonds, of the series designated therein, described in the within-mentioned Fifteenth Supplemental Indenture.

FIRST UNION NATIONAL BANK,
as Trustee

By:

Authorized Officer

IRREVOCABLE STOCK OR BOND POWER

FOR VALUE RECEIVED, the undersigned does (do) hereby sell, assign and transfer to

Transfer only as directed

by the attached instructions

of U.S. Bank, N.A.

Milwaukee, WI

**IF STOCK, COMPLETE
THIS PORTION**


_____ share of the _____ of _____ represented by Certificate(s)
_____ inclusive, standing in the name of the undersigned on the
books of said Company

**IF BOND, COMPLETE
THIS PORTION**

1 bond of Kentucky-American Water Company General
Mortgage Bond, 7.15% Series, Due February 1, 2027 in the
principal amount of \$7,500,000.00, No.(s) PR-1 inclusive, standing
in the name of the undersigned on the books of said Company.

The undersigned does (do) hereby irrevocably constitute and appoint _____ attorney to
transfer the said stock or bond(s), as the case may be, on the books of said Company, with full
power of substitution in the premises.

SIGNATURE GUARANTEE



Perry Braun, SVP & Chief Investment Officer





Form **W-9**
(Rev. October 2018)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

Give Form to the
requester. Do not
send to the IRS.

▶ Go to www.irs.gov/FormW9 for instructions and the latest information.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.
Band & Co.

2 Business name/disregarded entity name, if different from above
c/o U.S. Bank NA

3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only **one** of the following seven boxes.

Individual/sole proprietor or single-member LLC

C Corporation

S Corporation

Partnership

Trust/estate

Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ▶ _____

Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is **not** disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.

Other (see instructions) ▶ _____

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any) **12**

Exemption from FATCA reporting code (if any) _____

(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.) See instructions.
1555 N Rivercenter Dr Suite 302

6 City, state, and ZIP code
Milwaukee, WI 53212

7 List account number(s) here (optional)

Requester's name and address (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Social security number

--	--	--	--	--	--	--	--	--	--

or

Employer identification number

Note: If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Part II Certification

- Under penalties of perjury, I certify that:
- The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
 - I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
 - I am a U.S. citizen or other U.S. person (defined below); and
 - The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here Signature of U.S. person ▶ 

Date ▶ **1/30/2023**

General Instructions

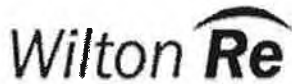
Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to www.irs.gov/FormW9.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-DIV (dividends, including those from stocks or mutual funds)
 - Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
 - Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
 - Form 1099-S (proceeds from real estate transactions)
 - Form 1099-K (merchant card and third party network transactions)
 - Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
 - Form 1099-C (canceled debt)
 - Form 1099-A (acquisition or abandonment of secured property)
- Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.
- If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, later.*



20 Glover Avenue 4th Floor Norwalk, CT 06850

RE: Registration of Privately Placed Physical Securities
owned by Wilton Reassurance Life Company of New York,
formerly Allstate Life Insurance Company of New York

Dear Sir/Madam,

Effective October 1, 2021, Wilton Reassurance Company ("Wilton Re") has completed its 100% stock acquisition of Allstate Life Insurance Company of New York ("ALICNY") from the Allstate Group, ("Allstate"). Effective November 1, 2021, ALICNY was subsequently merged into Wilton Reassurance Life Company of New York ("WRNY"), which is the surviving entity.

This was a legal entity acquisition of ALICNY, but as a result of the subsequent merger into WRNY, the company has a change to the Federal Employer Identification Number (FEIN). A W9 is attached.

Guggenheim Partners Investment Management, LLC ("Guggenheim") is an Investment Advisor for Wilton Reassurance Life Company of New York ("WRNY").

Please consider Guggenheim personnel as authorized to request and receive security specific data and documentation related to investments held by WRNY. Information/documentation may include, but is not limited to, the following:

- Covenant compliance materials
- Financial reports
- Investor communications (e.g. management presentations, investor days, etc.)
- Legal communications (e.g. amendments, corporate actions, waivers, etc.)

In addition, Guggenheim is actively working with Wilton Re's custodian, US Bank, N.A., to update the registration information and payment instructions for these certificates. Wilton Re requests that all trustees and transfer agents work with Guggenheim and US Bank to accomplish this in an expeditious manner.

Thank you in advance for your assistance. If you have any questions, contacts at Wilton Re are:

Perry Braun, SVP & Chief Investment Officer, [REDACTED]

Sharif Soussi, VP of Investments, [REDACTED]

Anne Klein, AVP - Finance, [REDACTED]

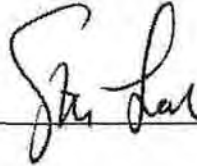
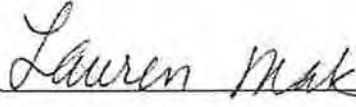
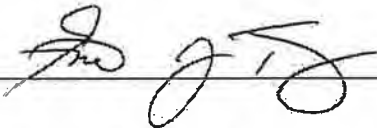
A handwritten signature in black ink, appearing to read "Perry Braun", written over a horizontal line.

Perry Braun, Senior Vice President and Chief Investment Officer

WILTON REASSURANCE LIFE COMPANY OF NEW YORK

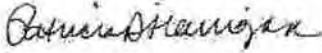
INCUMBENCY CERTIFICATE

I, Patricia D. Harrigan, Secretary of **Wilton Reassurance Life Company of New York**, a New York domestic life insurance company (the "Company"), do hereby certify that the officers named hereon are qualified and authorized to act on behalf of the Company, that the signatures opposite the names and titles of said officers are genuine, and the resolutions electing these officers are in full force and effect. You are further authorized to recognize these signatures until you receive our written instructions to the contrary. I further certify that any of the persons listed below are authorized individually to sign agreements and give instructions with regard to any matters pertaining to banking and related arrangements as the Company.

Name	Title	Signature
Scott Sheefel	President and Chief Executive Officer [REDACTED]	 _____
Steven Lash	Senior Vice President and Group Chief Financial Officer [REDACTED]	 _____
Lauren Mak	Senior Vice President and Chief Financial Officer [REDACTED]	 _____
Enrico Treglia	Senior Vice President and Group Chief Operating Officer [REDACTED]	 _____
Perry Braun	Senior Vice President and Chief Investment Officer [REDACTED]	 _____

IN WITNESS WHEREOF, I have signed this Certificate this 14th day of October 2022.

By: _____


Patricia D. Harrigan, Secretary



Department of Financial Services

KATHY HOCHUL
Governor

ADRIENNE A. HARRIS
Acting Superintendent

December 3, 2021

Parimah Hassouri, Esq.
Kirkland & Ellis LLP
601 Lexington Avenue
New York, NY 10022

Re: Merger of Allstate Life Insurance Company of New York and Intramerica Life Insurance Company with and into Wilton Reassurance Life Insurance Company of New York

Dear Ms. Hassouri:

The original executed Agreement and Plan of Merger of Allstate Life Insurance Company of New York and Intramerica Life Insurance Company with and into Wilton Reassurance Life Insurance Company of New York has been approved and placed on file with this Department as of November 26, 2021.

I am transmitting herewith a certification that reflects the original Agreement and Plan of Merger has been approved and filed with this Department and a true copy has been attached to the certification. At the present time we are unable to produce certifications with an original signature as we are currently not allowed in our offices due to the pandemic.

A certified copy of the Agreement and Plan of Merger is to be placed on file in the offices of the Suffolk County Clerk. *Proof of filing must be returned to this office.*

Very truly yours,

/s/ Bradley F. Rice

Bradley F. Rice
Associate Counsel
Office of General Counsel

cc: Mr. Bodinger; File Copy

SHORT CERTIFICATE**STATE OF NEW YORK****DEPARTMENT OF FINANCIAL SERVICES**

It is hereby certified that the attached copy of the Agreement and Plan of Merger of Allstate Life Insurance Company of New York and Intramerica Life Insurance Company, of Hauppauge, New York, for the purpose of merging with and into Wilton Reassurance Life Insurance Company of New York, has been approved and placed on file with this Department, November 26, 2021, pursuant to Section 7105 of the New York Insurance Law,

has been compared with the original on file in this Department and that it is a correct transcript therefrom and of the whole of said original.



In Witness Whereof, I have hereunto set my hand and affixed the official seal of this Department at the City of Albany, this 3rd day of December 2021.

Colleen M. Draper
Special Deputy Superintendent

AGREEMENT AND PLAN OF MERGER

THIS AGREEMENT AND PLAN OF MERGER (this "Agreement"), dated as of the 1st day of November, 2021, is by and between Allstate Life Insurance Company of New York, a stock life insurance company organized under the laws of the State of New York ("ALNY"), Intramerica Life Insurance Company, a stock life insurance company organized under the laws of the State of New York ("Intramerica"), and Wilton Reassurance Life Company of New York, a stock life insurance company organized under the laws of the State of New York ("WRNY").

WITNESSETH:

WHEREAS, ALNY, Intramerica and WRNY have determined that it would be in their respective best interests and the best interests of their respective shareholders for ALNY and Intramerica to merge with and into WRNY, with WRNY being the surviving entity, in a transaction structured to qualify as a tax free reorganization under Section 368(a)(1)(A) of the Internal Revenue Code of 1986, as amended, and to effect the transactions contemplated by this Agreement; and

WHEREAS, in furtherance thereof, the respective Boards of Directors and the sole shareholders of each of ALNY, Intramerica and WRNY have duly approved the merger of ALNY and Intramerica with and into WRNY upon the terms and subject to the conditions of this Agreement (the "Merger");

NOW, THEREFORE, in order to effect the transactions contemplated by this Agreement and in consideration of the premises and the mutual covenants and agreements herein contained, the parties agree as follows:

Section 1. The Merger.

(a) Upon the terms and subject to the conditions of this Agreement, at the Effective Time (as defined in Section 1(b)) and in accordance with the provisions of this Agreement and the New York Insurance Law ("NYIL"), ALNY and Intramerica shall be merged with and into WRNY in accordance with Article 71 of the NYIL, and the separate existence of ALNY and Intramerica shall thereupon cease, and WRNY, which shall be and which is hereinafter sometimes referred to as the "Surviving Company," shall continue its corporate existence under the laws of the State of New York under the name "Wilton Reassurance Life Company of New York" with its statutory home office located at 800 Westchester Avenue, Suite 641 North, Rye Brook, NY 10573, and its main administrative office located at 20 Glover Avenue, 4th Floor, Norwalk, CT 06850. WRNY is licensed to transact insurance business in the State of New York.

(b) As soon as is practicable after the satisfaction or, if permitted, waiver of the conditions set forth in Section 3 hereof, but no later than 30 days after the issuance of approval by the Superintendent of the State of New York (the "Superintendent"), the parties hereto shall cause the Merger to be consummated by delivering to the office of the clerk of each county in the State of New York in which ALNY, Intramerica and WRNY maintain their principal offices a certified copy of this Agreement with the approval of the Superintendent endorsed thereon and such other

documents in such form as required by, and executed and acknowledged in accordance with Section 7108 and the relevant provisions of the NYIL. The Merger shall become effective on November 1, 2021 (the "Effective Time").

(c) From and after the Effective Time, the Merger shall have all of the effects set forth in the NYIL. Without limiting the generality of the foregoing, and subject thereto, by virtue of the Merger and in accordance with the NYIL, all of the properties, rights, privileges, powers, and franchises of ALNY, Intramerica and WRNY shall vest in the Surviving Company and all of the debts, liabilities and duties of ALNY, Intramerica and WRNY shall become the debts, liabilities, and duties of the Surviving Company. All policies of insurance issued by ALNY, Intramerica or WRNY shall, as of the Effective Time, become policies of insurance of the Surviving Company.

(d) The charter of WRNY with no amendments attached as Exhibit A shall be the charter of the Surviving Company from and after the Effective Time until thereafter amended in accordance with the provisions thereof and the NYIL.

(e) The by-laws of WRNY with no amendments shall be the by-laws of the Surviving Company from and after the Effective Time until altered, amended or repealed as provided therein or in the articles of incorporation of the Surviving Company and the NYIL.

(f) As of the Effective Time, the Board of Directors and the officers of the Surviving Company shall be the then serving directors and officers of WRNY, to serve until the earlier of resignation or removal of any such individual or until their respective successors are duly elected and qualified, as the case may be.

Section 2. Treatment of Shares.

(a) ALNY's authorized capital stock consists of the following:

187,936 voting shares authorized, issued and outstanding, par value \$25 per share, all of which are of the same class.

(b) Intramerica's authorized capital stock consists of the following:

300,000 voting shares authorized, issued and outstanding, par value \$7 per share, all of which are of the same class.

(c) WRNY's authorized capital stock consists of the following:

1,100,000 common shares authorized, with 550,000 shares issued and outstanding, par value \$4.55 per share, all of which are of the same class.

(d) Each authorized and outstanding share of WRNY shall not be affected by the Merger and shall continue to be outstanding at and after the Effective Time without any change and shall continue as a share of the Surviving Corporation.

(e) At the Effective Time, all outstanding shares of the capital stock of ALNY and Intramerica shall be cancelled without consideration and retired and shall cease to exist.

Section 3. Conditions Precedent to Merger. The respective obligations of ALNY, Intramerica and WRNY to effect the Merger shall be subject to the satisfaction of the following conditions:

(a) This Agreement shall have been approved and adopted by the affirmative vote of the shareholders representing at least two-thirds of all the outstanding shares of ALNY, Intramerica and WRNY.

(b) All consents, authorizations, orders and approvals of (or filings or registrations with) any governmental authority including, but not limited to, the Superintendent, required in connection with the execution, delivery and performance of this Agreement shall have been obtained.

Section 4. Further Assurances. From time to time, as and when requested by WRNY, ALNY and Intramerica shall execute and deliver or cause to be executed and delivered all such other instruments, and shall take or cause to be taken all such further or other actions, as WRNY may deem necessary or desirable in order to vest in and confirm to the Surviving Company and its successors and assigns, title to and possession of all the properties, rights, privileges, powers and franchises referred to in Section 1(c) hereof and otherwise to carry out the intent and purposes of this Agreement. From time to time, as and when necessary, the Surviving Company shall execute and deliver or cause to be executed and delivered all such other instruments, and shall take or cause to be taken all such further or other actions as are necessary or desirable in order to assume or otherwise comply with the outstanding debts, liabilities, duties or other obligations of ALNY and Intramerica.

Section 5. Governing Law. This Agreement shall be governed and enforced by, interpreted, and construed in accordance with the laws of the State of New York without regard to its rules regarding conflicts of law.

Section 6. Binding Agreement; No Third Party Beneficiaries. This Agreement shall be binding upon and shall inure to the benefit of the parties hereto and their respective successors and assigns. This Agreement is not intended to confer upon any person other than the parties hereto any rights or remedies hereunder.

Section 7. Amendments. At any time before or after the approval and adoption of this Agreement by the respective shareholders of ALNY, Intramerica and WRNY, but prior to the Effective Time, this Agreement may be amended in matters of form or substance, or supplemented by additional agreements, articles or certificates, to the extent permitted by the NYIL and any other applicable governmental authority, as may be determined in the judgment of the Boards of Directors of ALNY, Intramerica and WRNY to be necessary, desirable or expedient to clarify the intention of the parties hereto or to effect or facilitate the filing, recording or official approval of this Agreement and the consummation hereof and the Merger provided for herein, in accordance with the purpose and intent of this Agreement.

Section 8. Termination and Abandonment. At any time prior to the Effective Time, the Boards of Directors of ALNY, Intramerica and WRNY may cause the Merger and the transactions contemplated by this Agreement to be abandoned or delayed if such Boards determine that such abandonment or delay would be in the best interests of ALNY, Intramerica and WRNY and their respective shareholders. In the event of the termination and abandonment of this Agreement and the Merger pursuant to the preceding sentence, this Agreement shall become void and have no effect, without any liability on the part of ALNY, Intramerica or WRNY or their shareholders, directors or officers in respect thereof.

Section 9. No Compensation In Connection With Merger. No director or officer of ALNY, Intramerica or WRNY or any parent corporation or subsidiary corporation shall receive any fee, commission, compensation or other valuable consideration (other than regular salary or other compensation earned in carrying out his or her normal duties) directly or indirectly for aiding, promoting or assisting in the Merger.

Section 10. Interpretation: Descriptive Headings.

(a) For purposes of this Agreement, the words "hereof," "herein," "hereby," and other words of similar import refer to this Agreement as a whole unless otherwise indicated. Whenever the singular is used herein, the same shall include the plural, and whenever the plural is used herein, the same shall include the singular, where appropriate.


(b) The descriptive headings herein are inserted for convenience of reference only and are not intended to be part of or affect the meaning or interpretation of this Agreement.

Section 11. Counterparts. This Agreement may be executed by the parties thereto in separate counterparts, each of which when so executed and delivered shall be an original, but all such counterparts shall together constitute one and the same instrument.


Section 12. Expenses. In the event that the Merger is not effectuated, each of ALNY, Intramerica and WRNY shall be responsible for all expenses in respect of this Agreement incurred by or attributable to it.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their respective duly authorized officers as of the date first above written.

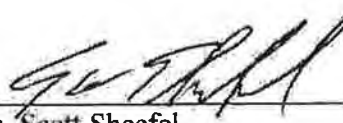
**ALLSTATE LIFE INSURANCE COMPANY
OF NEW YORK**

By: 
Name: Mike Fleitz
Title: Chairman and Chief Executive Officer

**INTRAMERICA LIFE INSURANCE
COMPANY**

By: 
Name: Enrico Treglia
Title: Senior Vice President, Chief Operating Officer

**WILTON REASSURANCE LIFE COMPANY
OF NEW YORK**

By: 
Name: Scott Sheefel
Title: President

[Signature Page to ALNY - Intramerica - WRNY Agreement and Plan of Merger]

Strandt, Michael J

From: Fucci, Joanna M
Sent: Wednesday, December 21, 2022 5:53 PM
To: Strandt, Michael J
Subject: Re: Kentucky - American Water Cert

Categories: Yellow Category

Should Go with SPQR 102533

Yes it should be with the Wilton Allstate rereg items. We are awaiting a bond power back from the client and a good contact for Guggenheim to reach out for this.

From: Strandt, Michael J [REDACTED]
Sent: Wednesday, December 21, 2022 4:49:57 PM
To: Fucci, Joanna M [REDACTED]
Subject: Kentucky - American Water Cert

Hi Joanna,

We received the Kentucky-American Water Company Cert from BNYM. I had our mail team check it in under SPQR 978144. Can you confirm it should be included in the Allstate Re-Reg project associated with WiltonRe? I don't see it on the spreadsheet that Guggenheim is using to email out for transfer agent addresses.

Kind regards,

Michael J Strandt
Custody Operations Specialist

p. [REDACTED]

U.S. Bank
RiverCenter
1555 N Rivercenter Dr Ste 302, Milwaukee, WI 53212 | MK-WI-S302 | usbank.com

KENTUCKY-AMERICAN WATER COMPANY
2300 Richmond Road
Lexington, Kentucky 40502

BOND PURCHASE AGREEMENT

Re: \$9,000,000 General Mortgage Bonds,
6.99% Series, Due June 1, 2028

Dated as of June 1, 1998

AMERICAN UNITED LIFE INSURANCE COMPANY
One American Square
PO Box 368
Indianapolis, Indiana 46206-0368

Attention: Christopher Pahlke
Vice President, Private Placements

KENTUCKY-AMERICAN WATER COMPANY, a Kentucky corporation (the "Company"), agrees with you as follows:

1. Description and Sale of Bonds. The Company agrees to sell to you, and you agree to purchase from the Company, subject to the terms and conditions hereinafter set forth, \$9,000,000 aggregate principal amount of General Mortgage Bonds, 6.99% Series, due June 1, 2028 (the "Bonds"), of the Company, at a price equal to 100% of the principal amount thereof. The Bonds purchased by you shall be dated the date of their delivery to you, shall bear interest from such date at the rate of 6.99% per annum, shall mature June 1, 2028, and shall be issued under the Indenture of Mortgage dated as of May 1, 1968 (the "Original Indenture") between Lexington Water Company (predecessor to the Company) and The Fidelity Bank (now First Union National Bank), as trustee (the "Trustee"), as heretofore supplemented and as to be supplemented by a Sixteenth Supplemental Indenture between the Company and the Trustee to be dated as of June 1, 1998, which shall be substantially in the form attached hereto and marked Exhibit "A" with such changes therein as may be agreed upon by you and the Company (said Original Indenture, as so supplemented, being hereinafter referred to as the "Indenture").

2. Closing. Delivery of and payment for the Bonds (the "Closing") shall be made at the offices of American Water Works Service Company, 1025 Laurel Oak Road, Voorhees, New Jersey 08043 at 9:00 A.M. local time on _____, June __, 1998, or at such other date and time or such other place as shall be mutually agreed to. Payment shall be made to the order of the Company in

immediately available funds to Account No. _____. Delivery shall be made to you in the form of one (1) fully registered Bond, in the principal amount of the Bonds to be purchased by you, registered in your name or in the name of your nominee, if any, specified in Schedule 1 attached hereto.

3. Redemption of Bonds. The Bonds are subject to mandatory redemption at such time or times, and from time to time, and on such terms as provided in the Bonds and the Indenture. The Bonds are subject to redemption at the option of the Company, in accordance with the terms and at the price set forth in the form of the Bond which is attached to the Sixteenth Supplemental Indenture as Exhibit A.

4. Representations.

4.1. Representations of the Company. The Company represents that the matters set forth in paragraphs 1 through 18 of the form of certificate annexed hereto as Exhibit "B" are true and correct at the time of Closing and are hereby incorporated herein by reference with the same force and effect as though herein set forth in full.

4.2. Company's Use of Proceeds. The Company represents that the net proceeds from the sale of the Bonds and the Additional Stock (as hereinafter defined) will be used to (i) repay short-term bank debt at the date of Closing, (which debt was in the amount of \$3,247,873 as of December 31, 1997) and which was, or will be incurred to fund construction, (ii) satisfy remaining 1998 sinking fund obligations of outstanding securities in the amount of \$48,000, (iii) fund the payment of principal and accrued interest at maturity of the 9.71% Series Bonds due September 1, 1998, and (iv) fund ongoing construction projects. The Company will not use any part of the proceeds from the sale of the Bonds, directly or indirectly, for the purpose of purchasing or carrying any margin stock within the meaning of Regulation G (12 CFR Part 207) promulgated by the Board of Governors of the Federal Reserve System, as now amended, nor for the purpose of purchasing or carrying any other securities.

4.3. Representations of the Purchaser. You represent (i) that your purchase of the Bonds under this Agreement is for your own account, for investment and not with a view toward distribution or resale thereof, provided, however, that you reserve the right to dispose of all or any part of the Bonds by sale or other distribution not in violation of the Securities Act of 1933, as amended (the "Act"), or the rules and regulations thereunder, if at some future time in your sole discretion you deem it advisable

to do so; and (ii) that you are not a registered investment company or a company controlled by a registered investment company as defined in the Investment Company Act of 1940. You understand that the Bonds are not being registered under the Act and agree that you will not resell or otherwise dispose of the Bonds or any interest therein except upon effective registration under, or an exemption from, the Act. You hereby agree that the following legend will appear on the Bonds: THIS BOND HAS NOT BEEN REGISTERED OR QUALIFIED FOR SALE UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR ANY STATE SECURITIES LAWS, AND MAY NOT BE SOLD OR TRANSFERRED IN THE ABSENCE OF SUCH REGISTRATION OR AN EXEMPTION THEREFROM UNDER SAID ACT AND LAWS. The Company's obligation to sell the Bonds to you hereunder is subject to the condition that at the Closing you confirm, by accepting delivery of the Bonds, the aforesaid representations and agreements as if made at that time.

5. Closing Conditions. Your obligation to purchase and the Company's obligation to sell the Bonds pursuant to this Agreement are conditioned upon:

5.1. Additional Stock. The issue and sale, at or prior to the Closing, of additional shares of Common Stock of the Company (the "Additional Stock") for an aggregate price of not less than \$6,000,000 before deducting the costs of such sale.

5.2. Governmental Authorization. The authorization, prior to the Closing, of the issue and sale of the Bonds and Additional Stock by the Public Service Commission of the Commonwealth of Kentucky, whose authorization is required, which authorization shall not contain any conditions deemed by the Company to be burdensome to it.

5.3. Closing Certificate. The Company shall deliver to you at the Closing a certificate duly authorized, executed and delivered by the Company substantially in the form of the certificate attached hereto as Exhibit "B", the truth and accuracy of which, at the time of Closing, shall be a condition precedent to your obligations hereunder.

5.4. Opinions. You shall receive at the Closing from Chapman and Cutler, your special counsel in connection with this transaction, and from Stoll, Keenon & Park, LLP, counsel for the Company, their opinions satisfactory to you and covering the matters set forth in Exhibit "C" hereto.

5.5. Proceedings and Documents. All proceedings to be taken in connection with the transactions contemplated by this Agreement, and all documents incident thereto, shall be

satisfactory in form and substance to you and your special counsel; and you and your special counsel shall have received counterparts, originals or certified or other copies of all documents which you may reasonably request in connection with said transactions and all corporate proceedings in connection therewith, in form and substance satisfactory to you and your special counsel, such documents where appropriate to be certified by the proper corporate or governmental authorities.

6. Expenses. The Company agrees to bear all reasonable expenses in connection with the transactions herein contemplated whether or not such transactions are effected, including the reasonable fees and out-of-pocket disbursements of Chapman and Cutler, your special counsel in connection with the transactions contemplated by this Agreement.

7. Inability to Complete Transaction. In the event that the transactions herein contemplated are not carried out by reason of the inability of either party to perform any of the conditions herein specified, neither party hereto shall be responsible to the other for any damages or otherwise by reason thereof, except as is provided in paragraph 6 hereof.

8. Financial Statements. The Company agrees that, so long as you shall hold any of the Bonds purchased hereunder, it will deliver to you:

8.1. As soon as practicable, and in any event within sixty (60) days, after the end of each quarterly period, except the last, of each fiscal year of the Company, (i) a copy of its balance sheet as at the end of such quarterly period; and (ii) a copy of its income statement for the twelve (12) months' period and for the portion of the fiscal year to the end of such quarterly period, together with the figures for the corresponding periods one (1) year prior thereto, in reasonable detail, prepared in accordance with generally accepted accounting principles consistently applied and certified by the Comptroller or an Assistant Comptroller of the Company.

8.2. As soon as practicable, and in any event within one hundred twenty (120) days, after the end of each fiscal year of the Company, a copy of its balance sheet as at the end of such year and its statements of income, retained earnings and cash flows for such year together with the figures for the corresponding period for the fiscal year prior thereto, in reasonable detail, prepared in accordance with generally accepted accounting principles consistently applied and certified by independent accountants of recognized national standing selected by the Company.

8.3. Within the period provided in Section 8.2 above, the written statement of such accountants that in making the examination necessary to their certification of such audit report they have obtained no knowledge of any event of default (as defined in the Indenture), or event which with the lapse of time or giving of notice, or both, would become such an event of default, or if such accountants shall have obtained knowledge of any such event of default or event which would so become an event of default, they shall disclose in such statement the default or defaults and the nature thereof.

8.4. Such other information pertinent to an evaluation of your investment as you may reasonably request from time to time.

9. Inspection of Properties and Books. The Company agrees that, after the execution and delivery of this Agreement and so long as you shall hold any of the Bonds sold to you hereunder, you shall have the right to visit and inspect its properties under its guidance, to examine the books of account of the Company, to make extracts therefrom, and to discuss its affairs, finances and accounts with and be advised as to the same by its officers, all at reasonable times and at reasonable intervals. This privilege may be exercised only by any of your financial officers or by anyone duly designated for the purpose in writing by any such financial officers. So long as no "event of default" (as defined in the Indenture) shall have occurred and be continuing, the Company shall not be required to pay or reimburse you for expenses which you may incur in connection with any such visitation or inspection. If a default shall have occurred and be continuing, the Company shall reimburse you for any reasonable expenses incurred in connection with any such visitation or inspection.

10. Exchange and Transfer of Bonds. The Company agrees that, within a reasonable time (not exceeding ninety (90) days after you shall have made written request therefor to the Company), it will deliver to you at the principal office of the Trustee, in exchange for any Bonds delivered to you at the Closing, an equal aggregate principal amount of registered Bonds of said Series without coupons, in authorized denominations. The Company shall bear all expenses (including documentary or other similar taxes upon the original issue of the Bonds, but excluding any transfer or any similar taxes) and shall make no charge in connection with (i) the preparation, issue, authentication and delivery to you of any Bonds delivered to you at the Closing, and (ii) anything in the Indenture to the contrary notwithstanding, any exchange permitted by this paragraph. The Company will pay the reasonable cost of shipping for your account to your home office or to the office of a

depository designated by you all Bonds delivered to you at the Closing or upon any exchange above provided. The Bonds shall be transferred in accordance with the provisions of Section 1.07 of the Original Indenture; provided that the Company shall make no charge in connection with the preparation, issue, authentication and delivery to any transferee of any Bonds; provided further that the Company shall not be required to pay any taxes or other governmental charges in connection with such transfer.

11. Home Office Payment. So long as you are the holder of any Bonds the Company will cause payment of principal, interest and premium, if any, on any fully registered Bond registered in your name to be made in the manner set forth in Schedule 1 or in such other manner or to such other address as you shall designate in writing to the Company. In the case of any payment of interest or premium on the Bonds or the redemption of less than all of the Bonds, such payment on or redemption of the Bonds shall be without presentation or surrender of such Bonds. In the case of redemption of all of the Bonds at final maturity or otherwise, payment of principal, interest and premium, if any, shall be made upon presentation and surrender of the Bonds as provided in the Indenture. You agree that you will not sell, transfer or otherwise dispose of any Bond unless you shall have caused notation to be made thereon of (i) all payments of principal on such Bond and (ii) the last interest payment date to which interest has been paid on such Bond; and prior to delivery thereof such Bond shall have been presented to the Trustee for inspection or surrendered in exchange for a new Bond or Bonds for the unpaid balance of the principal amount thereof.

12. Loss, Theft or Destruction of Bonds. In the event of mutilation of any Bond owned by you, upon surrender and cancellation of such Bond, the Company will deliver a new Bond, of like tenor, in lieu of such mutilated Bond. If you are the owner of any lost, stolen or destroyed Bond, then the affidavit of your President or a Vice President, setting forth the fact of loss, theft or destruction and of your ownership of the Bond at the time of such loss, theft or destruction shall be accepted by the Company as satisfactory evidence thereof, and no indemnity shall be required as a condition to execution and delivery of a new Bond other than your written agreement to indemnify the Company and the Trustee under the Indenture. No charge will be made to you for the delivery of a new Bond pursuant to this paragraph. //

13. Survival. All covenants, agreements, representations and warranties made herein, and in certificates delivered pursuant hereto, by or on behalf of the respective parties hereto, shall survive the execution and delivery of the Bonds to you hereunder

and your payment therefor, and shall bind and inure to the benefit of the respective parties hereto and their successors and assigns.

14. Notices. All communications provided for hereunder shall be in writing and, if to you, mailed or delivered to the address and for the attention of the person shown on Schedule 1, or, if to the Company, mailed or delivered to it at 2300 Richmond Road, Lexington, Kentucky 40502, Attention: Vice President and Treasurer, or in either case to such other address as may be designated in writing by the party to receive such notice.

15. Entire Agreement. It is understood and agreed that in entering into this Agreement you have not relied on any oral representations or oral warranties or oral information made or given to you by any representatives of the Company or by anyone on its behalf, and that all statements, covenants, agreements, representations and warranties made herein supersede any oral or written statements inconsistent therewith. Any amendment hereto must be in writing.

16. Governing Law. This Agreement shall be governed by and construed in accordance with the law of the Commonwealth of Kentucky.

17. Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

18. Captions. The headings preceding the text of the sections hereof are inserted solely for convenience of reference and shall not constitute a part of this Agreement nor affect its meaning, construction or effect.

If the foregoing is satisfactory to you, please sign the form of acceptance on the enclosed counterpart of this letter and forward the same to the Company, whereupon this letter will become a binding agreement between you and the Company.

Very truly yours,

KENTUCKY-AMERICAN WATER COMPANY

By: _____
Vice President and Treasurer

The foregoing Agreement is hereby accepted as of the date first above written.

AMERICAN UNITED LIFE INSURANCE COMPANY

By: _____
Its: Authorized Signatory

By: _____
Its: Authorized Signatory

KENTUCKY-AMERICAN WATER COMPANYSCHEDULE 1

NAME AND ADDRESS OF PURCHASER NOTICE AND PAYMENT INFORMATION	AMOUNT OF BONDS TO BE PURCHASED
<u>AMERICAN UNITED LIFE INSURANCE COMPANY</u> Private Placements One American Square PO Box 368 Indianapolis, Indiana 46206-0368 Telephone Number: XXXXXXXXXX Attention: Chris Pahlke	<u>\$9,000,000</u>

Payments

All payments on or in respect of the Bonds to be by bank wire transfer of Federal or other immediately available funds (identifying each payment as Kentucky-American Water Company, General Mortgage Bonds, 6.99% Series, due June 1, 2028, principal or interest) to:

ABA _____

for credit to American United Life Insurance Collection Account

Notices

All notices of scheduled payments and written confirmation of each such payment, to be addressed:

AMERICAN UNITED LIFE INSURANCE COMPANY
 Private Placements
 One American Square
 PO Box 368
 Indianapolis, Indiana 46206-0368
 Telephone Number: XXXXXXXXXX
 Attention: Chris Pahlke

All financial reports, compliance certificates and all other written communications, including notice of prepayments to be addressed as first provided above.

Name of Nominee in which Notes are to be issued: None

Taxpayer I.D. Number: _____

PROMISSORY NOTE
FOR LONG-TERM BORROWINGS
6.593% Maturity - October 15, 2037

\$47,000,000

October 22, 2007

FOR VALUE RECEIVED, **Kentucky-American Water Company**, an **Kentucky** corporation (herein "Borrower") hereby promises to pay to the order of American Water Capital Corp., a Delaware corporation ("Lender"), in same day funds at its offices at 1025 Laurel Oak Road, Voorhees, NJ 08043 or such other place as Lender may from time to time designate, the principal sum of **Forty Seven Million** dollars (**\$47,000,000**), together with interest thereon from the date hereof until paid in full. Interest shall be charged on the unpaid outstanding principal balance hereof at a rate per annum equal to the rate paid and to be paid by Lender with respect to the borrowings it made in order to provide funds to Borrower hereunder. Interest on borrowings shall be due and payable in immediately available funds on the same business day on which the Lender must pay interest on the borrowings it made in order to provide funds to the Borrower hereunder. The principal amount hereof shall be due and payable hereunder at such times and in such amounts and in such installments hereunder as the Lender must pay with respect to the borrowings it made in order to provide funds to the Borrower hereunder. Lender has provided Borrower with a copy of the documentation evidencing the borrowings made by Lender in order to provide funds to Borrower hereunder. In the absence of manifest error, such documentation and the records maintained by Lender of the amount and term, if any, of borrowings hereunder shall be deemed conclusive.

The occurrence of one or more of any of the following shall constitute an event of default hereunder:

(a) Borrower shall fail to make any payment of principal and/or interest due hereunder or under any other promissory note between Lender and Borrower within five business days after the same shall become due and payable, whether at maturity or by acceleration or otherwise;

(b) Borrower shall apply for or consent to the appointment of a receiver, trustee or liquidator of itself or any of its property, admit in writing its inability to pay its debts as they mature, make a general assignment for the benefit of creditors, be adjudicated a bankrupt or insolvent or file a voluntary petition in bankruptcy or a petition or an answer seeking reorganization or an arrangement with creditors or to take advantage of any bankruptcy, reorganization, insolvency, readjustment of debt, dissolution or liquidation of law or statute, or an answer admitting the material allegations of a petition filed against it in any proceeding under any such law, or if action shall be taken by Borrower for the purposes of effecting any of the foregoing; or

(c) Any order, judgment or decree shall be entered by any court of competent jurisdiction, approving a petition seeking reorganization of Borrower or all or a substantial part of the assets of Borrower, or appointing a receiver, trustee or liquidator of Borrower or any of its property, and such order, judgment or decree shall continue unstayed and in effect for any period of sixty (60) days.

Upon the occurrence of any event of default, the entire unpaid principal sum hereunder plus all interest accrued thereon plus all other sums due and payable to Lender hereunder shall, at the option of Lender, become due and payable immediately. In addition to the foregoing, upon the occurrence of any event of default, Lender may forthwith exercise singly, concurrently, successively or otherwise any and all rights and remedies available to Lender by law, equity, statute or otherwise.

Borrower hereby waives presentment, demand, notice of nonpayment, protest, notice of protest or other notice of dishonor in connection with any default in the payment of, or any enforcement of the payment of, all amounts due hereunder. To the extent permitted by law, Borrower waives the right to any stay of execution and the benefit of all exemption laws now or hereafter in effect.

Following the occurrence of any event of default, Borrower will pay upon demand all costs and expenses (including all amounts paid to attorneys, accountants, and other advisors employed by Lender), incurred by Lender in the exercise of any of its rights, remedies or powers hereunder with respect to such event of default, and any amount thereof not paid promptly following demand therefor shall be added to the principal sum hereunder and will bear interest at the contract rate set forth herein from the date of such demand until paid in full. In connection with and as part of the foregoing, in the event that this Note is placed in the hands of an attorney for the collection of any sum payable hereunder, Borrower agrees to pay reasonable attorneys' fees for the collection of the amount being claimed hereunder, as well as all costs, disbursements and allowances provided by law.


If for any reason one or more of the provisions of this Note or their application to any entity or circumstances shall be held to be invalid, illegal or unenforceable in any respect or to any extent, such provisions shall nevertheless remain valid, legal and enforceable in all such other respects and to such extent as may be permissible. In addition, any such invalidity, illegality or unenforceability shall not affect any other provisions of this Note, but this Note shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein.

This Note inures to the benefit of Lender and binds Borrower and Lender's and Borrower's respective successors and assigns, and the words "Lender" and "Borrower" whenever occurring herein shall be deemed and construed to include such respective successors and assigns.

This Promissory Note is one of the promissory notes referred to in the Financial Services Agreement dated as of June 15, 2000 between Borrower and Lender to which reference is made for a statement of additional rights and obligations of Lender and Borrower.

IN WITNESS WHEREOF, Borrower has executed this Promissory Note the day and year first written above.

Kentucky-American Water Company

By: 
Rochelle Kowalski
VP of Finance

LOAN AGREEMENT

by and among

COUNTY OF OWEN, KENTUCKY,
as Issuer

and

AMERICAN WATER CAPITAL CORP.,
as Financing Company

and

KENTUCKY-AMERICAN WATER COMPANY,
as Operating Company

Relating to

\$71,390,000

County of Owen, Kentucky
Water Facilities Refunding Revenue Bonds
(Kentucky-American Water Company Project)
Series 2019A and 2019B

Dated as of November 1, 2019

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EXHIBIT A DESCRIPTION OF THE FACILITIES

LOAN AGREEMENT

THIS LOAN AGREEMENT (this “**Agreement**”), dated as of November 1, 2019, is among the **COUNTY OF OWEN, KENTUCKY** (the “**Issuer**”), a public body corporate and politic duly created and existing as a county and political subdivision under the Constitution and laws of the Commonwealth of Kentucky (the “**Commonwealth**”), **AMERICAN WATER CAPITAL CORP.**, a corporation duly organized and existing under the laws of the State of Delaware (the “**Financing Company**”), and **KENTUCKY-AMERICAN WATER COMPANY**, a corporation duly organized and existing under the laws of the Commonwealth of Kentucky (the “**Operating Company**”);

WITNESSETH:

WHEREAS, the Issuer is empowered under the provisions of Sections 103.200 to 103.285, inclusive, of the Kentucky Revised Statutes (the “**Act**”) to borrow money through the issuance and sale of negotiable revenue bonds and to loan the proceeds from the sale of such bonds to any person, including any industrial concern or utility company, to finance the acquisition of any “industrial building” as defined in the Act, including facilities for the furnishing of water, if available on reasonable demand to members of the general public; and

WHEREAS, the Act provides that any bonds issued and outstanding thereunder may, at any time on or after their earliest redemption date, be refunded by the issuer thereof, with the consent of such industrial concern or utility company, in such amount as the governing body of such issuer may deem necessary to refund the principal of the bonds to be refunded; and

WHEREAS, the Act provides that any refunding bonds issued under the authority of Section 103.220 thereof shall be payable from the revenues out of which the bonds to be refunded were payable; and

WHEREAS, pursuant to Ordinance No. 163 adopted by the Fiscal Court of the Issuer on May 28, 2009, the Issuer has previously issued its Waterworks System Revenue Bonds, 2009 Series A (Kentucky-American Water Company Project) in the principal amount of \$45,390,000 (the “**2009 Series A Bonds**”), all of which are outstanding, and loaned the proceeds from the sale thereof to the Operating Company and the Financing Company (individually, a “**Borrower**” and together, the “**Borrowers**”) to finance facilities for the furnishing of water by the Operating Company that is available on reasonable demand to members of the general public constituting an “industrial building” within the meaning of the Act; and

WHEREAS, pursuant to Ordinance No. 166 adopted by the Fiscal Court of the Issuer on August 25, 2009, the Issuer has previously issued its Waterworks System Revenue Bonds, 2009 Series B (Kentucky-American Water Company Project) in the principal amount of \$26,000,000 (the “**2009 Series B Bonds**”), all of which are outstanding, and loaned the proceeds from the sale thereof to the Borrowers, to finance facilities for the furnishing of water by the Operating Company that is available on reasonable demand to members of the general public constituting an “industrial building” within the meaning of the Act; and

WHEREAS, the water furnishing facilities acquired, constructed, installed and equipped by the Operating Company with the proceeds of the 2009 Series A Bonds and the 2009 Series B Bonds consist of a water treatment plant at Pool No. 3 of the Kentucky River located within the corporate boundaries of the Issuer, as more particularly described in Exhibit A hereto (the “**Facilities**”); and

WHEREAS, the Borrowers have requested the Issuer to issue its refunding revenue bonds in two series in the aggregate principal amount of not to exceed \$71,390,000 in order to refund all or part of the 2009 Series A Bonds and the 2009 Series B Bonds; and

WHEREAS, pursuant to and in accordance with the provisions of the Act and an Ordinance duly adopted by the Fiscal Court of the Issuer on October 14, 2019 (the “**Ordinance**”), the Issuer has authorized the issuance of its Water Facilities Refunding Revenue Bonds (Kentucky-American Water Company Project) Series 2019A (the “**Series A Bonds**”) in the aggregate principal amount of \$45,390,000, the proceeds of the sale of which are to be used to currently refund \$45,390,000 in aggregate principal amount of the 2009 Series A Bonds; and

WHEREAS, pursuant to and in accordance with the provisions of the Act and the Ordinance, the Issuer has authorized the issuance of its Water Facilities Refunding Revenue Bonds (Kentucky-American Water Company Project) Series 2019B (the “**Series B Bonds**”) and, together with the Series A Bonds, the “**Bonds**”) in the aggregate principal amount of \$26,000,000, the proceeds of the sale of which are to be used to currently refund \$26,000,000 in aggregate principal amount of the 2009 Series B Bonds; and

WHEREAS, each of the Issuer, the Financing Company and the Operating Company has duly authorized the execution, delivery and performance of this Agreement specifying the terms and conditions of the loan by the Issuer to the Borrowers of the proceeds of the Bonds to refund the 2009 Series A Bonds and the 2009 Series B Bonds and the payment by the Borrowers to the Issuer of amounts sufficient for the payment of the principal of and premium, if any, and interest on the Bonds and certain related expenses; and

WHEREAS, all Bonds will be secured by a pledge and assignment of the payments by the Borrowers to the Issuer hereunder of amounts sufficient for the payment of the principal of and premium, if any, and interest on the Bonds;

NOW, THEREFORE, for and in consideration of the premises and the respective representations and covenants hereinafter contained, the parties hereby formally covenant, agree and bind themselves as follows:

ARTICLE I

DEFINITIONS

Section 1.1. Definition of Terms. Unless the context otherwise requires, the terms used in this Agreement shall have the meanings specified in Section 1.1 of the Indenture, as originally executed or as it may from time to time be supplemented or amended as provided therein. In addition, the following term shall have the following meanings:

“**Loan Documents**” means this Agreement, the Tax Agreement, any Reimbursement Agreement and any Remarketing Agreement which may be in effect.

Section 1.2. Number and Gender. The singular form of any word used herein, including the terms defined in Section 1.1 of the Indenture, shall include the plural, and vice versa. The use herein of a word of any gender shall include all genders.

Section 1.3. Articles, Sections, Etc. Unless otherwise specified, references to Articles, Sections and other subdivisions of this Agreement are to the designated Articles, Sections and other subdivisions of this Agreement as amended from time to time. The words “hereof,” “herein,” “hereunder” and words of similar import refer to this Agreement as a whole. The headings or titles of the several articles and sections, and the table of contents appended to copies hereof, shall be solely for convenience of reference and shall not affect the meaning, construction or effect of the provisions hereof.

ARTICLE II

REPRESENTATIONS AND WARRANTIES OF THE ISSUER AND EACH BORROWER

Section 2.1. Representations and Warranties of the Issuer. The Issuer makes the following representations and warranties to the Borrowers:

(a) The Issuer is a public body corporate and politic duly created and existing as a county and political subdivision under the Constitution and laws of the Commonwealth, having those powers enumerated under the Act. Based upon representations of the Operating Company, the Facilities constitute an “industrial building” within the meaning of the Act. Under the provisions of the Act, the Issuer has the power to enter into the transactions contemplated by this Agreement and the Indenture and to carry out its obligations hereunder. By proper action, the Issuer has duly authorized the issuance of the Bonds and the application of the proceeds thereof to the current refunding of the 2009 Series A Bonds and the 2009 Series B Bonds and the execution, delivery and performance of its obligations under this Agreement and the Indenture.

(b) All requirements have been met and procedures have occurred in order to authorize the execution and delivery of this Agreement. The Issuer has taken all necessary action and has complied with all provisions of the law required to make this Agreement a valid and binding limited obligation of the Issuer, except to the extent limited by bankruptcy, insolvency or other laws affecting the enforcement of creditors’ rights generally, by the application of equitable principles regardless of whether enforcement is sought in a proceeding at law or in equity, or by public policy.

(c) The Bonds have been duly authorized, executed and delivered by the Issuer. Nothing in this Agreement shall be construed as requiring the Issuer to provide any financing or refinancing for the Facilities other than with the proceeds of the Bonds.

(d) To the best knowledge of the Issuer, there is no action, suit, proceeding, inquiry or investigation by or before any court, governmental agency or public board or

body pending or threatened against the Issuer which (i) affects or seeks to prohibit, restrain or enjoin the issuance, execution or delivery of the Bonds, the origination of the loan or the lending of the proceeds of the Bonds to the Borrowers, or the execution and delivery of this Agreement, (ii) affects or questions the validity or enforceability of the Bonds or this Agreement or (iii) questions the Tax-exempt status of interest on the Bonds.

Section 2.2. Representations and Warranties of each Borrower. Each Borrower represents and warrants to the Issuer that, as of the date of this Agreement and as of the date of delivery of the Bonds to the initial purchasers thereof:

(a) Such Borrower has corporate power and authority under the laws of the state of its formation (i) to enter into this Agreement and the other Loan Documents, (ii) to agree to be bound by the terms of the Indenture, (iii) to perform its obligations hereunder and under the other Loan Documents, and (iv) to consummate the transactions contemplated hereunder and under the other Loan Documents.

(b) Such Borrower is a corporation validly existing and in good standing under the laws of the state of its formation. Such Borrower has by proper corporate action duly authorized the execution and delivery of this Agreement and the other Loan Documents and the performance of its obligations hereunder and under the other Loan Documents.

(c) This Agreement has been duly executed and delivered by such Borrower and constitutes a legal, valid and binding obligation of such Borrower, enforceable in accordance with its terms, except as limited by bankruptcy, insolvency, reorganization, moratorium or other similar laws or judicial decisions affecting the rights of creditors generally and by judicial discretion in the exercise of equitable remedies. Upon the execution and delivery of each of the Loan Documents by such Borrower, each such Loan Document will constitute a valid and binding obligation of such Borrower, enforceable in accordance with its terms, except as limited by bankruptcy, insolvency, reorganization, moratorium or other similar laws or judicial decisions affecting creditors' rights generally and by judicial discretion in the exercise of equitable remedies.

(d) The execution and delivery of this Agreement and the other Loan Documents and the performance by such Borrower of its obligations hereunder and thereunder and the consummation of the transactions contemplated hereby and thereby do not and will not conflict with, or constitute a breach or result in a violation of, the charter or bylaws of such Borrower, will not violate any law, regulation, rule or ordinance or any material order, judgment or decree of any federal, state or local court and (with due notice or the passage of time, or both), do not conflict with, or constitute a breach of, or a default under, or result in the creation or imposition of any prohibited lien, charge or encumbrance whatsoever upon any of the property or assets of such Borrower under the terms of any material document, instrument or commitment to which such Borrower is a party or by which such Borrower or any of its property is bound.

(e) Neither such Borrower nor any of its business or properties, nor any relationship between such Borrower or any other person, nor any circumstances in connection with the execution, delivery and performance by such Borrower of this

Agreement and the other Loan Documents or the offer, issue, sale or delivery by the Issuer of the Bonds is such as to require the consent, approval or authorization of, or the filing, registration or qualification with, any governmental authority on the part of such Borrower other than those already obtained.

(f) Such Borrower has not been served with and, to the knowledge of such Borrower, there is no action, suit, proceeding, inquiry or investigation by or before any court, governmental agency or public board or body pending or threatened directly against such Borrower which (i) affects or seeks to prohibit, restrain or enjoin the issuance, sale or delivery of the Bonds or the lending of the proceeds of the Bonds to such Borrower or the execution and delivery of this Agreement or the other Loan Documents, (ii) affects or questions the validity or enforceability of this Agreement or the other Loan Documents, (iii) questions the power or authority of such Borrower to carry out the transactions contemplated by, or to perform its obligations under, this Agreement or the other Loan Documents or the powers of the Operating Company to own, acquire, equip or operate the Facilities, or (iv) which, if adversely determined, would materially impair its right to carry on business substantially as now conducted or as now contemplated to be conducted, or would materially adversely affect its financial condition.

(g) To the best of its knowledge, such Borrower is not in default under any document, instrument or commitment to which such Borrower is a party or to which it or any of its property is subject which default would or could affect the ability of such Borrower to carry out its obligations hereunder or under the other Loan Documents.

(h) Any certificate signed by an Authorized Representative of such Borrower and delivered pursuant hereto or the other Loan Documents or the Indenture shall be deemed a representation and warranty by such Borrower to the Issuer and the Trustee of the statements made therein.

(i) The information contained in the Official Statement, dated November 7, 2019 which pertains to such Borrower, the Bonds and/or the Facilities is true and correct and accurately summarizes the matters encompassed thereby to the extent such matters are described therein;

(j) The costs of the Projects as set forth in the Project Certificates attached to the Tax Agreement were determined in accordance with sound accounting principles. All the information provided and representations made by the Operating Company and/or the Financing Company in the Tax Agreement are true and correct as of the date thereof.

(k) To the best of its knowledge, no event has occurred and no condition exists which would constitute an Event of Default or Loan Default Event or which, with the passing of time or with the giving of notice or both, would become an Event of Default or Loan Default Event.

(l) The Facilities are located within the corporate limits of the Issuer.

(m) The Operating Company has no present intention of disposing of or abandoning any part of the Facilities nor of directing any part of the Facilities to a use other than the purposes represented to the Issuer.

(n) Such Borrower acknowledges, represents and warrants that it understands the nature and structure of the transactions relating to the financing and refinancing of the Facilities; that it is familiar with the provisions of all of the documents and instruments relating to such financing and refinancing to which such Borrower is a party or of which it is a beneficiary, including the Indenture; that it understands the risks inherent in such transactions; and that it has not relied on the Issuer for any guidance or expertise in analyzing the financial or other consequences of the transactions contemplated by this Agreement or the Indenture or otherwise relied on the Issuer for any advice.

(o) The Facilities constitute an “industrial building” for the purpose of the Act, and have and will promote the public purposes of the Act to promote economic development, relieve conditions of unemployment and encourage the increase of industry in the Commonwealth. The Operating Company will operate the Facilities in accordance with the provisions of the Act.

ARTICLE III

ISSUANCE OF THE BONDS; APPLICATION OF PROCEEDS

Section 3.1. Agreement to Issue Bonds; Application of Bond Proceeds; Deposit of Additional Funds by Borrowers. To provide funds to currently refund the 2009 Series A Bonds, the Issuer agrees that it will issue under the Indenture, sell and cause to be delivered to the purchasers thereof, the Series A Bonds. The proceeds received from the sale of the Series A Bonds will initially be deposited with the Trustee as provided in Section 3.1 of the Indenture and in accordance with Section 3.2 of the Indenture the Trustee is directed to transfer such proceeds on the Closing Date to the 2009 Series A Trustee under the Escrow Agreement for the defeasance and current refunding of the 2009 Series A Bonds as provided in the Indenture.

To provide funds to currently refund the 2009 Series B Bonds, the Issuer agrees that it will issue under the Indenture, sell and cause to be delivered to the purchasers thereof, the Series B Bonds. The proceeds received from the sale of the Series B Bonds will initially be deposited with the Trustee as provided in Section 3.1 of the Indenture and in accordance with Section 3.2 of the Indenture the Trustee is directed to transfer such proceeds on the Closing Date to the 2009 Series B Trustee under the Escrow Agreement for the defeasance and current refunding of the 2009 Series B Bonds as provided in the Indenture.

The Borrowers covenant to provide on the Closing Date (1) moneys for deposit with the 2009 Series A Trustee under the Escrow Agreement which, together with the transfer to the 2009 Series A Trustee described in the first paragraph of this Section and the investment income therefrom, will be sufficient to pay the redemption price of all of the 2009 Series A Bonds to be redeemed on the redemption date within 90 days of the Closing Date, and (2) moneys for deposit with the 2009 Series B Trustee under the Escrow Agreement which, together with the transfer to the 2009 Series B Trustee described in the second paragraph of this Section and the investment

income therefrom, will be sufficient to pay the redemption price of all of the 2009 Series B Bonds to be redeemed on the redemption date within 90 days of the Closing Date.

Section 3.2. Investment of Moneys in Funds. Any moneys in any fund or account held by the Trustee under the Indenture shall, at the written request of an Authorized Representative of the Financing Company, be invested or reinvested by the Trustee as provided in the Indenture. Such investments shall be held by the Trustee and shall be deemed at all times a part of the fund or account from which such investments were made, and the interest accruing thereon, and any profit or loss realized therefrom, shall be credited or charged to such fund or account.

ARTICLE IV

LOAN OF PROCEEDS; REPAYMENT PROVISION

Section 4.1. Loan of Bond Proceeds; Issuance of Bonds. The Issuer covenants and agrees, upon the terms and conditions in this Agreement, to make a loan to the Borrowers from the proceeds of the Series A Bonds for the purpose of refunding the 2009 Series A Bonds and to make a loan to the Borrowers from the proceeds of the Series B Bonds for the purpose of refunding the 2009 Series B Bonds, and the Borrowers agree to apply the gross proceeds of such loans to the refunding of the 2009 Series A Bonds and the 2009 Series B Bonds as set forth in Section 3.1 hereof. The Issuer further covenants and agrees that it shall take all actions within its authority to keep this Agreement in effect in accordance with its terms. Pursuant to said covenants and agreements, the Issuer will issue the Bonds upon the terms and conditions contained in this Agreement and the Indenture and will cause the Bond proceeds to be applied as provided in Article III of the Indenture.

Section 4.2. Loan Payments and Payment of Other Amounts.

(a) On or before 12:30 p.m. New York City time on each Bond Payment Date, until the principal of and premium, if any, and interest on, the Bonds shall have been fully paid or provision for such payment shall have been made as provided in the Indenture, the Borrowers shall pay to the Trustee as a repayment on the loan made to the Borrowers from Bond proceeds pursuant to Section 4.1 hereof, a sum equal to the amount payable on such Bond Payment Date as principal of, and premium, if any, and interest on, the Bonds as provided in the Indenture. Such Loan Payments shall be made in federal or other immediately available funds at the Corporate Trust Office of the Trustee. The term “**Bond Payment Date**” as used in this Section 4.2(a) shall mean any date upon which any such amounts payable with respect to the Bonds shall become due, whether upon redemption, acceleration, maturity or otherwise.

Each payment made pursuant to this Section 4.2(a) shall at all times be sufficient to pay the total amount of interest and principal (whether at maturity or upon redemption or acceleration) and premium, if any, becoming due and payable on the Bonds on each Bond Payment Date; provided that any amount held by the Trustee in the Bond Fund on any due date for a Loan Payment hereunder shall be credited against the Loan Payment due on such date, to the extent available for such purpose; and provided further that, subject to the provisions of this paragraph, if at any time the amounts held by the Trustee in the Bond Fund (other than the Letter of Credit Account) are sufficient to pay all of the principal of and interest and premium, if any, on the Bonds as such

payments become due, the Borrower shall be relieved of any obligation to make any further payments under the provisions of this Section. Notwithstanding the foregoing, if on any date the amount held by the Trustee in the Bond Fund is insufficient to make any required payments of principal of (whether at maturity or upon redemption or acceleration) and interest and premium, if any, on, the Bonds as such payments become due, the Borrowers shall forthwith pay such deficiency as a Loan Payment hereunder.

The obligations under this Section 4.2(a) to make Loan Payments are joint and several obligations and liabilities of the Financing Company and the Operating Company, as the “Borrowers” hereunder. It is the intention of the Financing Company and the Operating Company, as between themselves and not in contradiction of their joint and several liability as the “Borrowers” hereunder, that the Financing Company will be primarily responsible for the Loan Payments under this Section 4.2(a) while the Operating Company will be primarily responsible for the covenants under this Agreement relating to the operation and maintenance of the Facilities.

The obligation of the Borrowers to make any payment required by this Section 4.2(a) shall be deemed to have been satisfied to the extent of any corresponding payment made to the Trustee by a Credit Provider pursuant to a Letter of Credit then in effect with respect to the Bonds.

(b) The Borrowers also shall make any payments required to be made pursuant to Sections 2.4, 4.6, 4.7(d)(ii) and 4.8 of the Indenture at the applicable Purchase Price thereof by 1:45 p.m. New York City time on the Purchase Date in federal or other immediately available funds; provided, however the obligation to make such payments shall have been deemed satisfied to the extent that such Purchase Price shall have been paid from remarketing proceeds or from a draw under a Letter of Credit pursuant to Section 4.7(D)(1) of the Indenture.

The obligations under this Section 4.2(b) to make payments of Purchase Price are joint and several obligations and liabilities of the Financing Company and the Operating Company, as the “Borrowers” hereunder. It is the intention of the Financing Company and the Operating Company, as between themselves and not in contradiction of their joint and several liability as the “Borrowers” hereunder, that the Financing Company will be primarily responsible for making payments of Purchase Price in accordance with this Section 4.2(b), while the Operating Company will be primarily responsible for the covenants under this Agreement relating to the operation and maintenance of the Facilities.

(c) The Borrowers shall pay (i) the annual fee of the Trustee, if any, for its ordinary services rendered as Trustee and/or Tender Agent, respectively, and its ordinary expenses incurred under the Indenture, as and when the same become due, (ii) the reasonable fees, charges and expenses (including reasonable legal fees and expenses) of the Trustee, as Bond Registrar and Paying Agent, the reasonable fees of any other Paying Agent as provided in the Indenture, and (iii) the reasonable fees, charges and expenses of the Trustee for the necessary extraordinary services rendered by it and extraordinary expenses incurred by it under the Indenture, as and when the same become due. The Trustee’s compensation shall not be limited by any provision of law regarding the compensation of a Trustee of an express trust.

(d) The Borrowers shall pay the reasonable fees, charges and expenses of any Remarketing Agent to the extent a Remarketing Agent is required for a series of Bonds pursuant

to Section 5.10 hereof. Such payments shall be made directly to the Remarketing Agent. The Issuer shall have no obligation whatsoever with respect to the payment of fees, charges and expenses of any Remarketing Agent.

(e) The Borrowers shall pay any amounts required to be deposited in the Rebate Fund to comply with the provisions of the Tax Agreement and to pay the reasonable fees, charges and expenses of any rebate analyst.

(f) The Borrowers shall pay the reasonable charges and expenses of the Issuer related to the issuance of the Bonds.

Section 4.3. Unconditional Obligation. The obligations of the Borrowers to make the Loan Payments and the other payments required by Section 4.2 hereof and to perform and observe the other agreements on their part contained herein shall be absolute and unconditional, irrespective of any defense or any rights of set-off, recoupment or counterclaim it might otherwise have against the Issuer, and during the term of this Agreement, the Borrowers shall pay all payments required to be made on account of this Agreement as prescribed in Section 4.2 and all other payments required hereunder, free of any deductions and without abatement, diminution or set-off. Until such time as the principal of and premium, if any, and interest on, the Bonds shall have been fully paid, or provision for the payment thereof shall have been made as required by the Indenture, the Borrowers (i) will not suspend or discontinue any payments provided for in Section 4.2; (ii) will perform and observe all of its other covenants contained in this Agreement; and (iii) except as provided in Article VII hereof, will not terminate this Agreement for any cause, including, without limitation, the occurrence of any act or circumstances that may constitute failure of consideration, destruction of or damage to all or a portion of those facilities or equipment comprising the Facilities, commercial frustration of purpose, any change in the tax or other laws of the United States of America or of the Commonwealth or any political subdivision of either of these, or any failure of the Issuer or the Trustee to perform and observe any covenant, whether express or implied, or any duty, liability or obligation arising out of or connected with this Agreement or the Indenture, except to the extent permitted by this Agreement.

Section 4.4. Assignment of Issuer's Rights. As security for the payment of the Bonds, the Issuer will assign to the Trustee the Issuer's rights under this Agreement including the right to receive Loan Payments hereunder (except the Unassigned Issuer Rights). The Issuer hereby directs the Borrowers to make the Loan Payments required hereunder directly to the Trustee for deposit as contemplated by the Indenture. The Issuer hereby directs the Borrowers to make the Purchase Price Payments required hereunder directly to the Trustee, in its capacity as Trustee or Tender Agent as contemplated by the Indenture. The Borrowers hereby consent to such assignment and agree to make payments directly to the Trustee or the Tender Agent, as the case may be, without defense or set-off by reason of any dispute between the Borrowers and the Issuer or the Trustee.

Section 4.5. Amounts Remaining in Funds. After payment in full of (i) the Bonds, or after provision for such payment shall have been made as provided in the Indenture, (ii) the fees, charges and expenses of the Issuer and the Trustee, in its capacities as Trustee, Tender Agent, Bond Registrar and Paying Agent and any other Paying Agents in accordance with the Indenture, (iii) all other amounts required to be paid under this Agreement and the Indenture, and (iv) if

applicable, payment to any Credit Provider of any amounts owed to any Credit Provider under a Reimbursement Agreement with respect to a Letter of Credit, any amounts remaining in any fund held by the Trustee under the Indenture (excepting the Rebate Fund) shall be paid as provided in Section 10.1 of the Indenture. Notwithstanding any other provision of this Agreement or the Indenture, under no circumstances shall proceeds of a draw on a Letter of Credit or remarketing proceeds be paid to the Issuer, the Borrowers or an affiliate of the Borrowers.

ARTICLE V

SPECIAL COVENANTS AND AGREEMENTS

Section 5.1. Right of Access to the Facilities. During the term of this Agreement and so long as the Operating Company owns the Facilities, the Issuer, the Trustee, and the duly authorized agents of either of them shall have the right at all reasonable times during normal business hours to enter upon each site where any part of the Facilities is located and to examine and inspect such Facilities; provided that reasonable notice shall be given to the Operating Company at least five Business Days prior to such examination or inspection, and such inspection shall not disturb the Operating Company's normal business operations.

Section 5.2. Maintenance of Existence. Each Borrower covenants and agrees that during the term of this Agreement, such Borrower will maintain its legal existence in good standing in its state of formation, and, in the case of the Operating Company, the Operating Company shall be organized or qualified (or its applicable subsidiary shall be organized or qualified) to conduct business in the Commonwealth either directly or indirectly through one of its subsidiaries or affiliates. Each such Borrower further covenants and agrees that it will not dissolve, sell or otherwise dispose of all or substantially all of its assets and will not combine or consolidate with or merge into another entity so that such Borrower is not the resulting or surviving entity (any such sale, disposition, combination or merger shall be referred to hereafter as a "transaction"); provided that such Borrower may enter into such transaction, if: (i) the surviving or resulting transferee, person or entity, as the case may be, assumes and agrees in writing to pay and perform all of the obligations of such Borrower hereunder and under the Tax Agreement; (ii) in the case of the Operating Company, the surviving or resulting transferee, person or entity, as the case may be (or its applicable subsidiary), is organized or qualified to do business in the Commonwealth as a foreign qualified corporation or other entity under the laws of the Commonwealth; (iii) if a Letter of Credit is in effect, the existing Letter of Credit will remain in full force and effect or an alternate Letter of Credit meeting the requirements of this Agreement will be timely provided; (iv) such Borrower shall deliver to the Trustee prior to the consummation of the transaction an Approving Opinion; and (v) such Borrower shall deliver to the Issuer and the Trustee a copy of the assumption agreement described in clause (i) above and, if applicable, evidence of qualification to do business in the Commonwealth as described in clause (ii) above.

If a merger, consolidation, sale or other transfer is effected, as provided in this Section, all provisions of this Section shall continue in full force and effect and no further merger, consolidation, sale or transfer shall be effected except in accordance with the provisions of this Section.

Section 5.3. Records and Financial Statements of Borrowers. The Operating Company shall keep, or cause to be kept, proper books of record and account, prepared in accordance with generally accepted accounting principles, in which complete and accurate entries shall be made of all transactions of or in relation to the business, properties and operations of the Operating Company relating to the Facilities. The Financing Company shall keep, or cause to be kept, proper books of record and account, prepared in accordance with generally accepted accounting principles, in which complete and accurate entries shall be made of all transactions of or in relation to payments made by the Financing Company with respect to the Bonds. Such books of record and account shall be available for inspection by the Issuer or the Trustee during normal business hours and under reasonable circumstances.

Section 5.4. Insurance. So long as the Operating Company owns the Facilities, the Operating Company agrees to insure the Facilities during the term of this Agreement for such amounts and for such occurrences as are customary for similar facilities of the Operating Company within the Commonwealth, by means of policies issued by reputable insurance companies qualified to do business in the Commonwealth or through “self insurance” in accordance with the ordinary course of business of the Operating Company.

Section 5.5. Maintenance and Repairs; Taxes; Utility and Other Charges. So long as the Operating Company owns the Facilities, the Operating Company agrees to maintain the Facilities during the term of this Agreement (i) in as reasonably safe condition as its operations shall permit and (ii) in good repair and in good operating condition, ordinary wear and tear excepted, making from time to time all necessary repairs thereto and renewals and replacements thereof. The Operating Company agrees to pay or cause to be paid during the term of this Agreement all taxes, governmental charges of any kind lawfully assessed or levied upon the Facilities or any part thereof, including any taxes levied against any portion of any Facilities which, if not paid, will become a charge on the receipts from the Facilities, all utility and other charges incurred in the operation, maintenance, use, occupancy and upkeep of any portion of the Facilities and all assessments and charges lawfully made by any governmental body for public improvements that may be secured by a lien on the Facilities, provided that with respect to special assessments or other governmental charges that may lawfully be paid in installments over a period of years, the Operating Company shall be obligated to pay only such installments as are required to be paid during the term of this Agreement. The Operating Company may, at the Operating Company’s expense and in the Operating Company’s name, in good faith, contest any such taxes, assessments and other charges and, in the event of any such contest, may permit the taxes, assessments or other charges so contested to remain unpaid during that period of such contest and any appeal therefrom unless by such nonpayment the Facilities or any part thereof will be subject to loss or forfeiture.

Section 5.6. Qualification to Do Business. The Operating Company, or any successor or assignee as permitted by Section 5.2, shall, throughout the term of this Agreement, be qualified to do business in the Commonwealth, either directly or indirectly through one of its subsidiaries or affiliates.

Section 5.7. Tax Covenants. The Borrowers shall at all times do and perform all acts and things permitted by law and this Agreement and the Indenture which are necessary in order to assure that interest paid on the Bonds (or any of them) will be Tax-Exempt and shall take no action

that would result in such interest not being Tax-Exempt. Without limiting the generality of the foregoing, the Borrowers agree to comply with the provisions of the Tax Agreement, which are hereby incorporated herein. This covenant shall survive payment in full or defeasance of the Bonds.

The Borrowers hereby covenant and agree with the Issuer and the Trustee for the benefit of the holders of any Bonds, present and future, that they will not make, or permit, any use of the proceeds of the Bonds which will cause the Bonds to be “arbitrage bonds” within the meaning of Section 148 of the Code. The Borrowers shall deliver to the Issuer their certificates, evidencing their reasonable expectations, in the form of the Tax Agreement and upon which the Issuer may rely in furnishing its own arbitrage certifications as set forth in the Tax Agreement.

Section 5.8. Assignment by Borrowers. The rights and obligations of each Borrower under this Agreement may be assigned by such Borrower to any person in whole or in part, subject, however, to each of the following conditions:

(a) No assignment other than pursuant to Section 5.2 hereof shall relieve such Borrower from primary liability for any of its obligations hereunder, and in the event of any assignment not pursuant to Section 5.2 hereof such Borrower shall continue to remain primarily liable for the payments specified in Section 4.2 hereof and for performance and observance of the other agreements on its part herein provided to be performed and observed by it.

(b) Any assignment from such Borrower other than pursuant to Section 5.2 hereof shall retain for such Borrower such rights and interests as will permit it to perform its obligations under this Agreement, and any assignee from such Borrower shall assume in writing the obligations of such Borrower hereunder to the extent of the interest assigned.

(c) Within 30 days after delivery thereof, such Borrower shall furnish or cause to be furnished to the Issuer, the Credit Provider, if any, and the Trustee a true and complete copy of each such assignment together with an instrument of assumption.

(d) Such Borrower shall furnish to the Issuer, the Credit Provider, if any, and the Trustee an Approving Opinion addressed to the Issuer and the Trustee.

Section 5.9. Letter of Credit.

(a) The Financing Company may, at its option, provide for the delivery to the Trustee of a Letter of Credit or an Alternate Letter of Credit for a series of Bonds on (1) any Conversion Date, (2) any Business Day during a Term Interest Rate Period on which the Bonds are otherwise subject to optional redemption or (3) any Business Day during a Variable Interest Rate Period. A Letter of Credit shall be an irrevocable letter of credit or other irrevocable credit facility (including, if applicable, a confirming letter of credit), issued by a Credit Provider, the terms of which shall be acceptable to the Trustee and shall otherwise comply with the requirements of the Indenture; provided, that the expiration date of such Letter of Credit shall be a date not earlier than one year from its date of issuance or, if an Index Interest Rate Period, a SIFMA Interest Rate Period or a Term Interest Rate Period will be in effect, the first date on which the Bonds of such series are subject to

optional redemption, subject to earlier termination upon payment of such Bonds in full or provision for such payment in accordance with Article X of the Indenture or as otherwise set forth in the Letter of Credit. On or prior to the date of the delivery of a Letter of Credit for a series of Bonds to the Trustee, the Financing Company shall cause to be furnished to the Trustee (i) an Approving Opinion addressed to the Issuer and the Trustee with respect to the delivery of such Letter of Credit, and (ii) an opinion of counsel to the Credit Provider issuing such Letter of Credit addressed to the Trustee and the Borrowers to the effect that such Letter of Credit is enforceable in accordance with its terms (except to the extent that the enforceability thereof may be limited by bankruptcy, reorganization or similar laws limiting the enforceability of creditors' rights generally and except that no opinion need be expressed as to the availability of any discretionary equitable remedies).

(b) The Financing Company shall provide to the Trustee (with a copy to the Issuer and the Remarketing Agent) a notice at least 15 days prior to the effective date of any Letter of Credit or Alternate Letter of Credit (and in no event later than 35 days prior to the expiration of any existing Letter of Credit) identifying the Letter of Credit or Alternate Letter of Credit, if any, and the rating which will apply to the Bonds of the relates series after the effective date.

(c) Prior to the commencement of the first Interest Rate Period for a series of Bonds after the termination of a Letter of Credit for such series, the Financing Company shall furnish an Approving Opinion addressed to the Issuer and to the Trustee with respect to the termination of such Letter of Credit.

Section 5.10. Remarketing Agent. At any time the Bonds of a series are in a Variable Interest Rate Period, an Index Interest Rate Period, a SIFMA Interest Rate Period or a Term Interest Rate Period of less than one year and prior to the conversion of a series of Bonds to another Interest Rate Period, the Financing Company shall retain a Remarketing Agent for such series which meets the requirements set forth in the Indenture to perform the duties set forth in the Indenture.

Section 5.11. Compliance with Indenture. The Borrowers recognize that the Indenture contains provisions that, among other things, relate to matters affecting the Facilities and the administration and investment of certain funds. The Borrowers have reviewed the Indenture and hereby assent to all provisions of the Indenture. The Borrowers shall take such action as may be reasonably necessary in order to enable the Issuer and the Trustee to comply with all requirements and to fulfill all covenants of the Indenture to the extent that compliance with such requirements and fulfillment of such covenants are dependent upon any observance or performance required of the Borrowers by the Indenture or this Agreement.

ARTICLE VI

LOAN DEFAULT EVENTS AND REMEDIES

Section 6.1. Loan Default Events. Any one of the following which occurs and continues shall constitute a Loan Default Event:

(a) Failure of the Borrowers to make any Loan Payment required by Section 4.2(a) hereof when due, which failure shall have resulted in an Event of Default under Section 7.1(a) or (b) of the Indenture; or

(b) Failure of the Borrowers to make any Purchase Price Payment required by Section 4.2(b) hereof when due, which failure shall have resulted in an Event of Default under Section 7.1(b) of the Indenture; or

(c) Failure of a Borrower to observe and perform any covenant, condition or agreement on its part required to be observed or performed by this Agreement (other than as provided in clause (a) or (b) above), which continues for a period of 30 days after written notice delivered by the Issuer or the Trustee to the Borrowers and any Credit Provider, if any, which notice shall specify such failure and request that it be remedied, unless the Issuer and the Trustee shall agree in writing to an extension of such time; provided, however, that if the failure stated in the notice cannot be corrected within such period, the Issuer and the Trustee will not unreasonably withhold their consent to an extension of such time if corrective action is instituted within such period and diligently pursued in good faith until the default is corrected; or

(d) The dissolution or liquidation of a Borrower or the filing by a Borrower of a voluntary petition in bankruptcy, or failure by a Borrower promptly to cause to be lifted any execution, garnishment or attachment of such consequence as will impair such Borrower's ability to carry on its obligations hereunder, or the entry of any order or decree granting relief in any involuntary case commenced against a Borrower under any present or future federal bankruptcy act or any similar federal or state law, or a petition for such an order or decree shall be filed in any court and such petition shall not be discharged or denied within 90 days after the filing thereof, or if a Borrower shall admit in writing its inability to pay its debts generally as they become due, or a receiver, trustee or liquidator of a Borrower shall be appointed in any proceeding brought against such Borrower and shall not be discharged within 90 days after such appointment or if a Borrower shall consent to or acquiesce in such appointment, or assignment by a Borrower for the benefit of its creditors, or the entry by a Borrower into an agreement of composition with its creditors, or a bankruptcy, insolvency or similar proceeding shall be otherwise initiated by or against a Borrower under any applicable bankruptcy, reorganization or analogous law as now or hereafter in effect and if initiated against a Borrower shall remain undismissed (subject to no further appeal) for a period of 90 days; provided, the term "dissolution or liquidation of a Borrower," as used in this subsection, shall not be construed to include the cessation of the existence of such Borrower resulting either from a merger or consolidation of such Borrower into or with another entity or a dissolution or liquidation of such Borrower

following a transfer of all or substantially all of its assets as an entirety or under the conditions permitting such actions contained in Section 5.2 hereof; or

(e) The existence of an “Event of Default” (as defined therein) under the Indenture.

Section 6.2. Remedies on Default. Subject to Section 6.1 hereof, whenever any Loan Default Event shall have occurred and shall be continuing:

(a) In the case of a Loan Default Event specified in clause (a), (b) or (d) of Section 6.1 hereof, the Trustee, by written notice to the Issuer, the Borrowers and the Credit Provider, if any, may declare the unpaid balance of the loan payable under Section 4.2(a) of this Agreement to be due and payable immediately, provided that concurrently with or prior to such notice the unpaid principal amount of the Bonds shall have been declared to be due and payable under the Indenture. Upon any such declaration such amount shall become and shall be immediately due and payable as determined in accordance with Section 7.1 of the Indenture.

(b) The Trustee may have access to and may inspect, examine and make copies of the books and records and any and all accounts, data and federal income tax and other tax returns of the Borrowers relating to the Bonds and/or the Facilities.

(c) The Issuer or the Trustee may take whatever action at law or in equity as may be necessary or desirable to collect the payments and other amounts then due and thereafter to become due or to enforce performance and observance of any obligation, agreement or covenant of the Borrowers under this Agreement.

(d) If applicable, the Trustee shall immediately draw upon any Letter of Credit, if permitted by its terms and required by the terms of the Indenture, and apply the amount so drawn in accordance with the Indenture and may exercise any remedy available to it thereunder.

In case the Trustee, the Credit Provider, if any, or the Issuer shall have proceeded to enforce its rights under this Agreement and such proceedings shall have been discontinued or abandoned for any reason or shall have been determined adversely to the Trustee, the Credit Provider, if any, or the Issuer, then, and in every such case, the Borrowers, the Trustee, the Credit Provider, if any, and the Issuer shall be restored respectively to their several positions and rights hereunder, and all rights, remedies and powers of the Borrowers, the Trustee, the Credit Provider, if any, and the Issuer shall continue as though no such action had been taken.

In case a Loan Default Event shall occur with respect to the payment of any Loan Payment payable under Section 4.2(a) hereof and the unpaid principal amount of the Bonds shall have been declared to be due and payable under the Indenture, then, upon demand of the Trustee, the Borrowers will pay to the Trustee the whole amount that then shall have become due and payable under said Section, with interest on the amount then overdue at the rate then borne by the Bonds on the day prior to the occurrence of such default.

In case the Borrowers shall fail forthwith to pay such amounts upon such demand, the Trustee shall be entitled and empowered to institute any action or proceeding at law or in equity for the collection of the sums so due and unpaid, and may prosecute any such action or proceeding to judgment or final decree, and may enforce any such judgment or final decree against the Borrowers and collect in the manner provided by law the moneys adjudged or decreed to be payable.

In case proceedings shall be pending for the bankruptcy or for the reorganization of a Borrower under the federal bankruptcy laws or any other applicable law, or in case a receiver or trustee shall have been appointed for the property of a Borrower or in the case of any other similar judicial proceedings relative to a Borrower, or the creditors or property of a Borrower, then the Trustee shall be entitled and empowered, by intervention in such proceedings or otherwise, to file and prove a claim or claims for the whole amount owing and unpaid pursuant to this Agreement and, in case of any judicial proceedings, to file such proofs of claim and other papers or documents as may be necessary or advisable in order to have the claims of the Trustee allowed in such judicial proceedings relative to such Borrower, its creditors or its property, and to collect and receive any moneys or other property payable or deliverable on any such claims, and to distribute such amounts as provided in the Indenture after the deduction of its reasonable charges and expenses to the extent permitted by the Indenture. Any receiver, assignee or trustee in bankruptcy or reorganization is hereby authorized to make such payments to the Trustee, and to pay to the Trustee and the Issuer any amount due each of them for their respective reasonable compensation and expenses, including reasonable expenses and fees of counsel incurred by each of them up to the date of such distribution.

In the event the Trustee incurs expenses or renders services in any proceedings which result from a Loan Default Event under Section 6.1(d) hereof, or from any default which, with the passage of time, would become such Loan Default Event, the expenses so incurred and compensation for services so rendered are intended to constitute expenses of administration under the United States Bankruptcy Code or equivalent law.

Section 6.3. Agreement to Pay Attorneys' Fees and Expenses. In the event a Borrower should default under any of the provisions of this Agreement and the Issuer or the Trustee should employ attorneys or incur other expenses for the collection of the payments due under this Agreement or the enforcement of performance or observance of any obligation or agreement on the part of such Borrower herein contained, the Borrowers shall pay promptly to the Issuer or the Trustee the reasonable fees and expenses of such attorneys and such other reasonable out-of-pocket expenses so incurred by the Issuer or the Trustee, whether incurred at trial, on appeal, in bankruptcy proceedings, or otherwise.

Section 6.4. No Remedy Exclusive. No remedy herein conferred upon or reserved to the Issuer or the Trustee is intended to be exclusive of any other available remedy or remedies, but each and every such remedy shall be cumulative and shall be in addition to every other remedy given under this Agreement or now or hereafter existing at law or in equity or by statute. No delay or omission to exercise any right or power accruing upon any default hereunder shall impair any such right or power or shall be construed to be a waiver thereof, but any such right and power may be exercised from time to time and as often as may be deemed expedient. In order to entitle the Issuer or the Trustee to exercise any remedy reserved to it in this Article, it shall not be necessary

to give any notice, other than such notice as may be expressly required herein or by applicable law. Such rights and remedies as are given the Issuer hereunder shall also extend to the Trustee as the assignee of the Issuer.

Section 6.5. No Additional Waiver Implied by One Waiver. In the event any agreement or covenant contained in this Agreement should be breached by a Borrower and thereafter waived by the Issuer, the Credit Provider, if any, or the Trustee, such waiver shall be limited to the particular breach so waived and shall not be deemed to waive any other breach hereunder.

ARTICLE VII

PREPAYMENT

Section 7.1. Redemption of Bonds with Prepayment Moneys. By virtue of the assignment of the rights of the Issuer under this Agreement to the Trustee as is provided in Section 4.4 hereof, the Borrowers shall pay directly to the Trustee any amount permitted or required to be paid by it under this Article VII. The Indenture provides that the Trustee shall use the moneys so paid to it by the Borrowers to redeem the Bonds of a series on the date set for such redemption pursuant to Section 7.5 hereof or to reimburse any Credit Provider for any draw under the Letter of Credit therefor. The Issuer shall call Bonds of a series for redemption as required by Article IV of the Indenture or as requested by the Borrowers pursuant to the Indenture or this Agreement.

Section 7.2. Options to Prepay Installments. The Borrowers shall have the option to prepay the Loan Payments with respect to a series of Bonds payable under Section 4.2(a) hereof by paying to the Trustee, for deposit in the Bond Fund, the amount set forth in Section 7.4 hereof and to cause all or any part of the Bonds of such series to be redeemed at the times and at the prices set forth in Sections 4.1(c), (d), (e) or (f) of the Indenture, as the case may be.

Section 7.3. Mandatory Prepayment. If a mandatory redemption of the Bonds of a series is required by Section 4.1(a) of the Indenture, the Borrowers shall have and hereby accept the obligation to prepay the Loan Payments with respect to the Bonds of such series by paying to the Trustee, for deposit in the Bond Fund, the amount set forth in Section 7.4 hereof, to be used to redeem all or a part of the Outstanding Bonds of such series.

Section 7.4. Amount of Prepayment. In the case of a redemption of the Outstanding Bonds of both series of Bonds in full, the amount to be paid shall be a sum sufficient, together with other funds and the yield on any securities deposited with the Trustee and available for such purpose, to pay (1) the principal of all Bonds Outstanding on the redemption date specified in the notice or notices of redemption, plus interest accrued and to accrue to the payment or redemption date of the Bonds, plus premium, if any, pursuant to the Indenture, (2) all reasonable and necessary fees and expenses of the Issuer (including without limitation, reasonable legal fees and expenses), the Trustee and any Paying Agent accrued and to accrue through final payment of the Bonds and (3) all other liabilities of the Borrowers accrued and to accrue under this Agreement. In the case of a redemption of all of the Outstanding Bonds of a series or part of the Bonds then Outstanding of a series, the amount payable shall be a sum sufficient, together with other funds deposited with the Trustee and available for such purpose, to pay the principal amount of and premium, if any,

and accrued interest on the Bonds to be redeemed, as provided in the Indenture, and to pay expenses of redemption of such Bonds.

Section 7.5. Notice of Prepayment. To exercise an option granted in or to perform an obligation required by this ARTICLE VII Article VII, either Borrower shall give written notice at least 15 days (or such shorter period as shall be acceptable to the Trustee) prior to the last day by which the Trustee is permitted to give notice of redemption pursuant to Section 4.3 of the Indenture, to the Issuer, the Credit Provider, if any, the Remarketing Agent and the Trustee specifying the amount to be prepaid and the date upon which any prepayment will be made. If either Borrower fails to give such notice of a prepayment in connection with a mandatory redemption of the Bonds of a series under this Agreement, such notice may be given by the Issuer, the Trustee or any Holder or Holders of 10% or more in aggregate principal amount of the Bonds Outstanding of such series. The Issuer and the Trustee, at the written request of either Borrower or any such Holder, shall forthwith take all steps necessary under the applicable provisions of the Indenture (except that the Issuer shall not be required to make payment of any money required for such redemption) to effect redemption of all or part of the Bonds of a series then Outstanding, as the case may be, on the earliest practicable date thereafter on which such redemption may be made under applicable provisions of the Indenture. The Issuer hereby appoints the Borrowers to give all notices and make all requests to the Trustee with respect to the application of funds paid by the Borrowers as prepayments, including notices of optional redemption of the Bonds in conformity with Article IV of the Indenture.

ARTICLE VIII

NON-LIABILITY OF ISSUER; EXPENSES; INDEMNIFICATION

Section 8.1. Non-liability of Issuer. The Issuer shall not be obligated to pay the principal or Purchase Price of or interest on the Bonds, except from Revenues and other moneys and assets received by the Trustee pursuant to this Agreement. The Bonds shall not constitute an indebtedness of the Issuer within the meaning of the Constitution of the Commonwealth, but shall be payable as to principal and interest solely from the Revenues, including from loan repayments, made by the Borrowers to the Trustee on behalf of the Issuer in respect of the loan of the Bond proceeds to the Borrowers hereunder. Neither the faith and credit nor the taxing power of the Issuer, the Commonwealth or any political subdivision thereof, nor the faith and credit of the Issuer or the Commonwealth is pledged to the payment of the principal or Purchase Price or interest on the Bonds. Neither the Issuer nor its officers, agents or employees or their successors and assigns shall be liable for any costs, expenses, losses, damages, claims or actions, of any conceivable kind on any conceivable theory, under, by reason of or in connection with this Agreement, the Bonds or the Indenture, except only to the extent amounts are received for the payment thereof from the Borrowers under this Agreement. The Borrowers hereby acknowledge that the Issuer's sole source of moneys to repay the Bonds will be provided by payments made by the Borrowers to the Trustee pursuant to this Agreement, together with investment income on certain funds and accounts held by the Trustee under the Indenture, and hereby agree that if the payments to be made hereunder shall ever prove insufficient to pay all principal or Purchase Price and interest on the Bonds as the same shall become due (whether by maturity, redemption, acceleration or otherwise), then upon notice from the Trustee, the Borrowers shall pay such amounts as are required from time to time to prevent any deficiency or default in the payment of such principal or Purchase Price or interest,

including, but not limited to, any deficiency caused by acts, omissions, nonfeasance or malfeasance on the part of the Trustee, the Borrowers, the Issuer or any third party, subject to any right of reimbursement from the Trustee, the Issuer or any such third party, as the case may be, therefor but solely, in the case of the Issuer, from the Revenues.

Section 8.2. Expenses. The Borrowers shall pay or reimburse the Issuer, the Trustee, in its capacities as Trustee, Tender Agent, Bond Registrar and Paying Agent and any other Paying Agent for, from and against and reimburse them promptly for all reasonable costs and charges, including, without limitation, the Issuer's administrative fees, including but not limited to post-issuance compliance, informational document requests and audits by the Internal Revenue Service of the Bonds and/or the Facilities, the Trustee's compensation provided for in the Indenture and including fees and disbursements of attorneys, accountants, consultants and other experts, incurred in good faith in connection with this Agreement, the Bonds or the Indenture.

Section 8.3. Indemnification. **THE BORROWERS RELEASE THE ISSUER, THE TRUSTEE, IN ALL OF ITS CAPACITIES HEREUNDER AND ANY OTHER PAYING AGENT, AND THEIR OFFICERS, EMPLOYEES AND AGENTS AND THE ISSUER INDEMNIFIED PARTIES (COLLECTIVELY, THE "INDEMNIFIED PARTIES"), FROM, AND COVENANT AND AGREE THAT NONE OF THE INDEMNIFIED PARTIES SHALL BE LIABLE FOR, AND COVENANT AND AGREE, TO THE EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD HARMLESS THE INDEMNIFIED PARTIES FOR, FROM, AND AGAINST, ANY AND ALL LOSSES, COSTS, CLAIMS, DAMAGES, LIABILITIES OR EXPENSES, OF EVERY CONCEIVABLE KIND, CHARACTER AND NATURE WHATSOEVER (INCLUDING BUT NOT LIMITED TO ATTORNEY'S FEES, LITIGATION AND COURT COSTS, AMOUNTS PAID IN SETTLEMENT, AND AMOUNTS PAID TO DISCHARGE JUDGMENTS) DIRECTLY OR INDIRECTLY ARISING OUT OF, RESULTING FROM OR IN ANY WAY CONNECTED WITH (1) THE FACILITIES, OR THE CONDITIONS, OCCUPANCY, USE, POSSESSION, CONDUCT OR MANAGEMENT OF, OR WORK DONE IN OR ABOUT, OR FROM THE PLANNING, DESIGN, ACQUISITION, INSTALLATION OR CONSTRUCTION OF THE FACILITIES OR ANY PART THEREOF; (2) THE ISSUANCE, OFFERING, SALE, DELIVERY OR PAYMENT OF THE BONDS AND INTEREST THEREON OR ANY CERTIFICATIONS, COVENANTS OR REPRESENTATIONS MADE BY EITHER BORROWER IN CONNECTION THEREWITH AND THE CARRYING OUT OF ANY OF THE TRANSACTIONS CONTEMPLATED BY THE BONDS AND THIS AGREEMENT; (3) THE TRUSTEE'S ACCEPTANCE OR ADMINISTRATION OF THE TRUSTS UNDER THE INDENTURE, OR THE EXERCISE OR PERFORMANCE OF ANY OF ITS RIGHTS, OBLIGATIONS, POWERS OR DUTIES UNDER THE INDENTURE; OR (4) ANY UNTRUE STATEMENT OR ALLEGED UNTRUE STATEMENT OF ANY MATERIAL FACT OR OMISSION OR ALLEGED OMISSION TO STATE A MATERIAL FACT NECESSARY TO MAKE THE STATEMENTS MADE, IN LIGHT OF THE CIRCUMSTANCES UNDER WHICH THEY WERE MADE, NOT MISLEADING, IN ANY OFFICIAL STATEMENT OR OFFERING CIRCULAR UTILIZED BY THE ISSUER OR ANY UNDERWRITER OR PLACEMENT AGENT IN CONNECTION WITH THE SALE OF THE BONDS, PROVIDED THAT THE BORROWERS SHALL HAVE NO LIABILITY UNDER THIS CLAUSE (4) IN ANY SUCH CASE TO THE EXTENT THAT ANY SUCH LOSS, CLAIM, DAMAGE, LIABILITY OR**

EXPENSE ARISES OUT OF OR IS BASED SOLELY UPON ANY UNTRUE STATEMENT OR OMISSION PERTAINING ONLY TO THE ISSUER MADE IN ANY OFFICIAL STATEMENT OR OFFERING CIRCULAR WITH RESPECT TO THE BONDS UNDER THE HEADINGS “THE ISSUER” OR “LITIGATION—ISSUER”; PROVIDED FURTHER THAT THE FOREGOING RELEASE AND INDEMNITY IN THIS SECTION SHALL NOT BE REQUIRED FOR DAMAGES THAT RESULT FROM OR ARISE OUT OF THE BREACH OF TRUST, NEGLIGENCE OR WILLFUL MISCONDUCT ON THE PART OF THE PARTY SEEKING SUCH RELEASE OR INDEMNITY. THE INDEMNITY REQUIRED BY THIS SECTION SHALL BE ONLY TO THE EXTENT THAT ANY LOSS SUSTAINED BY THE ISSUER OR THE TRUSTEE EXCEEDS THE NET PROCEEDS THE ISSUER OR THE TRUSTEE RECEIVES FROM ANY INSURANCE CARRIED WITH RESPECT TO THE LOSS SUSTAINED. THE BORROWERS FURTHER COVENANT AND AGREE, TO THE EXTENT PERMITTED BY LAW, TO PAY OR TO REIMBURSE THE INDEMNIFIED PARTIES AND THEIR OFFICERS, EMPLOYEES AND AGENTS FOR ANY AND ALL COSTS, REASONABLE ATTORNEY’S FEES AND EXPENSES, LIABILITIES OR EXPENSES INCURRED IN CONNECTION WITH INVESTIGATING, DEFENDING AGAINST OR OTHERWISE IN CONNECTION WITH ANY SUCH LOSSES, CLAIMS (WHETHER ASSERTED BY THE ISSUER, THE TRUSTEE, A BORROWER, A HOLDER, OR ANY OTHER PERSON), DAMAGES, LIABILITIES, EXPENSES OR ACTIONS, EXCEPT TO THE EXTENT THAT THE SAME RESULT FROM OR ARISE OUT OF THE GROSS NEGLIGENCE OF AN ISSUER INDEMNIFIED PARTY, OR NEGLIGENCE OF A TRUSTEE INDEMNIFIED PARTY, OR WILLFUL MISCONDUCT OF THE PARTY CLAIMING SUCH PAYMENT OR REIMBURSEMENT OR RELATE TO PROVISIONS OF THIS INDEMNITY THAT BY THEIR TERMS THE BORROWERS SHALL HAVE NO LIABILITY THEREFOR. THE PROVISIONS OF THIS SECTION SHALL SURVIVE THE DISCHARGE OF THE INDENTURE AND THE RETIREMENT OF THE BONDS. THE DEFINITION OF “INDEMNIFIED PARTIES” HEREIN SHALL NOT BE AMENDED FOR THE PURPOSES OF DELETING OR REMOVING AN INDEMNIFIED PARTY WITHOUT THE WRITTEN CONSENT OF SUCH INDEMNIFIED PARTY.

ARTICLE IX

MISCELLANEOUS

Section 9.1. Notices. All notices, certificates or other communications shall be deemed sufficiently given if sent by electronic mail, facsimile (receipt confirmed) or if mailed by first-class mail, postage prepaid, addressed to the Issuer, each Borrower, the Trustee, or the Rating Agencies then providing a rating on the Bonds of a series, and other parties indicated below, as the case may be, as follows:

To the Issuer:

County of Owen, Kentucky
100 N. Thomas Street
Owenton, KY 40359
Attention: County Judge/Executive
Telephone: [REDACTED]
Facsimile: [REDACTED]
Email: [REDACTED]

To the Borrowers/Operating Company/Financing Company:

Kentucky-American Water Company
2300 Richmond Road
Lexington, KY 40502
Attention: Brian Queen, Vice President-Finance
and Treasurer
Telephone: (859) 268-6311
Email: brian.queen@amwater.com

American Water Capital Corp.
1 Water Street
Camden, NJ 08102
Attention: James S. Merante, Vice President
and Treasurer
Telephone: (856) 955-4360
Email: james.merante@amwater.com

To the Trustee, Tender Agent and Paying Agent:

The Bank of New York Mellon
384 Rifle Camp Road
Woodland Park, NJ 07423
Attention: Global Corporate Trust
Vanessa Mesa
Telephone: [REDACTED]
Email: [REDACTED]

To any Remarketing Agent:

The address provided in the Remarketing Agreement

To any Credit Provider:

The address provided in the Reimbursement Agreement

A duplicate copy of each notice, certificate or other communication given hereunder by the Issuer or either Borrower shall also be given to the Trustee and the other Borrower and any

Remarketing Agent and Credit Provider, if applicable. Notices to the Trustee are effective only when actually received by the Trustee. The Issuer, each Borrower, the Trustee, any Remarketing Agent and any Credit Provider, if applicable, may, by notice given hereunder, designate any different addresses to which subsequent notices, certificates or other communications shall be sent.

Section 9.2. Severability. If any provision of this Agreement shall be held or deemed to be, or shall in fact be, illegal, inoperative or unenforceable, the same shall not affect any other provision or provisions herein contained or render the same invalid, inoperative, or unenforceable to any extent whatever.

Section 9.3. Execution of Counterparts. This Agreement may be simultaneously executed in several counterparts, each of which shall be an original and all of which shall constitute but one and the same instrument.

Section 9.4. Amendments, Changes and Modifications. Except as otherwise provided in this Agreement or the Indenture, this Agreement may not be effectively amended, changed, modified, altered or terminated except by the written agreement of the Issuer and the Borrowers and with the written consent of the Credit Provider, if applicable, and of the Trustee, if required, in accordance with Section 9.5 of the Indenture.

Section 9.5. Governing Law. This Agreement shall be construed in accordance with and governed by the Constitution and laws of the Commonwealth applicable to contracts made and performed in the Commonwealth. This Agreement shall be enforceable in the Commonwealth.

Section 9.6. Authorized Representative. Whenever under the provisions of this Agreement the approval of the Borrowers, the Financing Company or the Operating Company is required or the Borrowers, the Financing Company or the Operating Company is required to take some action at the request of the Issuer, such approval or such request shall be given on behalf of the Borrowers, the Financing Company and the Operating Company by its Authorized Representative, and the Issuer and the Trustee shall be authorized to act on any such approval or request and neither party hereto shall have any complaint against the other or against the Trustee as a result of any such action taken.

Section 9.7. Term of the Agreement. This Agreement shall be in full force and effect from the date hereof and shall continue in effect as long as any of the Bonds are Outstanding or the Trustee holds any moneys under the Indenture, whichever is later.

Section 9.8. Binding Effect. This Agreement shall inure to the benefit of and shall be binding upon the Issuer, the Borrowers and their respective successors and assigns; subject, however, to the limitations contained in Section 5.2 and Section 5.8 hereof.

Section 9.9. Complete Agreement. The terms and conditions of this Agreement supersede those of all previous agreements between the parties, and that this Agreement, together with the documents referred to in this Agreement, contains the entire agreement between the parties hereto.

This Agreement represents the final agreement between the parties and may not be contradicted by evidence of prior, contemporaneous, or subsequent oral agreements of the parties.

Section 9.10. Business Days. If any payment is to be made hereunder or any action is to be taken hereunder on any date that is not a Business Day, such payment or action otherwise required to be made or taken on such date shall be made or taken on the immediately succeeding Business Day with the same force and effect as if made or taken on such scheduled date.

Section 9.11. Waiver of Personal Liability. No Indemnified Party or any director, officer, agent or employee of either Borrower or any subsidiary thereof shall be individually or personally liable for the payment of any principal of and interest on the Bonds or any other sum hereunder or be subject to any personal liability or accountability by reason of the execution and delivery of this Agreement; but nothing herein contained shall relieve any such member, director, officer, agent or employee from the performance of any official duty provided by law or by this Agreement; provided, however, that no covenant, agreement or obligation contained herein shall be deemed to be a covenant, agreement or obligation of any past, present or future officer, employee or agent of the Issuer in his or her individual capacity so long as he or she acts in good faith, and no such officer, employee or agent shall be subject to any liability under this Agreement or with respect to any other action taken by him or her provided that he or she does not act in bad faith.


Section 9.12. Waivers. Each Borrower and the Issuer hereby (i) irrevocably and unconditionally waives, to the fullest extent permitted by law, trial by jury in any legal action or proceeding relating to this Agreement or the Facilities and for any counterclaim therein and (ii) irrevocably waive, to the maximum extent not prohibited by law, any right it may have to claim or recover in any such litigation any special, exemplary, punitive or consequential damages, or damages other than, or in addition to, actual damages.

[Remainder of page intentionally left blank]

IN WITNESS WHEREOF, the COUNTY OF OWEN, KENTUCKY, AMERICAN WATER CAPITAL CORP. and KENTUCKY-AMERICAN WATER COMPANY have caused this Agreement to be executed in their respective corporate names by their duly authorized officers and, with respect to the County, its seal to be affixed hereto and attested by its duly authorized officer, all as of the date first above written.

COUNTY OF OWEN, KENTUCKY

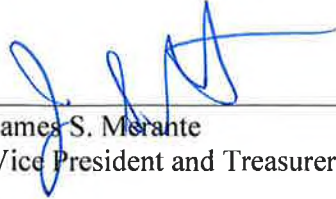
(SEAL)

By  _____
ROBERT CASEY ELLIS
County Judge/Executive

ATTEST:

 _____
LAUREL D. STIVERS
Fiscal Court Clerk

AMERICAN WATER CAPITAL CORP.

By: 
Name: James S. Merante
Title: Vice President and Treasurer

KENTUCKY-AMERICAN WATER
COMPANY


By: 
Name: Brian Queen
Title: Vice President-Finance and Treasurer

EXHIBIT A

DESCRIPTION OF THE FACILITIES

Kentucky-American Water Company received regulatory approval to construct a 20 million gallons per day (“**MGD**”) water treatment plant and related transmission mains and other related facilities to meet its customers’ needs. The water treatment plant, known as Kentucky River Station II (“**KRS II**”), is located on the Kentucky River near Pool 3 approximately two miles north of Swallowfield along the Franklin and Owen county line. It has an initial design capacity of 20 MGD, but is capable of expansion in 5 MGD increments to 30 MGD. It is a conventional water treatment plant that uses rapid mix, flocculation, sedimentation, filtration, and disinfection as treatment. Although a chemical disinfection process is primarily used, KRS II is designed to accommodate the addition of an ultraviolet light disinfection system. Its main building contains wet chemistry and microbiology laboratories. The water treatment plant also is equipped with a standby electric generator to permit plant operation even during power outages.

The water treatment plant and any related facilities that are within the corporate limits of the County of Owen, Kentucky constitute the “Facilities” hereunder.

PROMISSORY NOTE
FOR LONG-TERM BORROWINGS
5.05% Maturity - October 15, 2037

\$20,000,000

November 21, 2011

FOR VALUE RECEIVED, Kentucky-American Water Company, a Kentucky corporation (herein "Borrower") hereby promises to pay to the order of American Water Capital Corp., a Delaware corporation ("Lender"), in same day funds at its offices at 1025 Laurel Oak Rd. Voorhees, NJ 08043 or such other place as Lender may from time to time designate, the principal sum of Twenty Million dollars (**\$20,000,000**), together with interest thereon from the date hereof until paid in full. Interest shall be charged on the unpaid outstanding principal balance hereof at a rate per annum, in accordance with the terms attached, a rate equal to or less than equal to the rate paid and to be paid by Lender with respect to the borrowings it made in order to provide funds to Borrower hereunder. Interest on borrowings shall be due and payable in immediately available funds on the same business day on which the Lender must pay interest on the borrowings it made in order to provide funds to the Borrower hereunder. The principal amount hereof shall be due and payable hereunder at such times and in such amounts and in such installments hereunder as the Lender must pay with respect to the borrowings it made in order to provide funds to the Borrower hereunder. Lender has provided Borrower with a copy of the documentation evidencing the borrowings made by Lender in order to provide funds to Borrower hereunder. In the absence of manifest error, such documentation and the records maintained by Lender of the amount and term, if any, of borrowings hereunder shall be deemed conclusive.

The occurrence of one or more of any of the following shall constitute an event of default hereunder:

(a) Borrower shall fail to make any payment of principal and/or interest due hereunder or under any other promissory note between Lender and Borrower within five business days after the same shall become due and payable, whether at maturity or by acceleration or otherwise;

(b) Borrower shall apply for or consent to the appointment of a receiver, trustee or liquidator of itself or any of its property, admit in writing its inability to pay its debts as they mature, make a general assignment for the benefit of creditors, be adjudicated a bankrupt or insolvent or file a voluntary petition in bankruptcy or a petition or an answer seeking reorganization or an arrangement with creditors or to take advantage of any bankruptcy, reorganization, insolvency, readjustment of debt, dissolution or liquidation of law or statute, or an answer admitting the material allegations of a petition filed against it in any proceeding under any such law, or if action shall be taken by Borrower for the purposes of effecting any of the foregoing; or

(c) Any order, judgment or decree shall be entered by any court of competent jurisdiction, approving a petition seeking reorganization of Borrower or all or a substantial part of the assets of Borrower, or appointing a receiver, trustee or liquidator of Borrower or any of its property, and such order, judgment or decree shall continue unstayed and in effect for any period of sixty (60) days.

Upon the occurrence of any event of default, the entire unpaid principal sum hereunder plus all interest accrued thereon plus all other sums due and payable to Lender hereunder shall, at the option of Lender, become due and payable immediately. In addition to the foregoing, upon the occurrence of any event of default, Lender may forthwith exercise singly, concurrently, successively or otherwise any and all rights and remedies available to Lender by law, equity, statute or otherwise.

Borrower hereby waives presentment, demand, notice of nonpayment, protest, notice of protest or other notice of dishonor in connection with any default in the payment of, or any enforcement of the payment of, all amounts due hereunder. To the extent permitted by law, Borrower waives the right to any stay of execution and the benefit of all exemption laws now or hereafter in effect.

Following the occurrence of any event of default, Borrower will pay upon demand all costs and expenses (including all amounts paid to attorneys, accountants, and other advisors employed by Lender), incurred by Lender in the exercise of any of its rights, remedies or powers hereunder with respect to such event of default, and any amount thereof not paid promptly following demand therefore shall be added to the principal sum hereunder and will bear interest at the contract rate set forth herein from the date of such demand until paid in full. In connection with and as part of the foregoing, in the event that this Note is placed in the hands of an attorney for the collection of any sum payable hereunder, Borrower agrees to pay reasonable attorneys' fees for the collection of the amount being claimed hereunder, as well as all costs, disbursements and allowances provided by law.

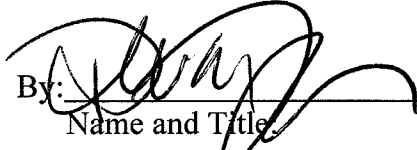
If for any reason one or more of the provisions of this Note or their application to any entity or circumstances shall be held to be invalid, illegal or unenforceable in any respect or to any extent, such provisions shall nevertheless remain valid, legal and enforceable in all such other respects and to such extent as may be permissible. In addition, any such invalidity, illegality or unenforceability shall not affect any other provisions of this Note, but this Note shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein.

This Note inures to the benefit of Lender and binds Borrower and Lender's and Borrower's respective successors and assigns, and the words "Lender" and "Borrower" whenever occurring herein shall be deemed and construed to include such respective successors and assigns.

This Promissory Note is one of the promissory notes referred to in the Financial Services Agreement dated as of June 15, 2000 between Borrower and Lender to which reference is made for a statement of additional rights and obligations of Lender and Borrower.

IN WITNESS WHEREOF, Borrower has executed this Promissory Note the day and year first written above.

Kentucky-American Water Company

By:  _____
Name and Title
VP of Finance, ED

PROMISSORY NOTE
FOR LONG-TERM BORROWINGS
4.00% Maturity - October 15, 2037

\$7,859,000

May 15, 2013

FOR VALUE RECEIVED, **Kentucky-American Water Company**, an **Kentucky** corporation (herein "Borrower") hereby promises to pay to the order of American Water Capital Corp., a Delaware corporation ("Lender"), in same day funds at its offices at 1025 Laurel Oak Road, Voorhees, NJ 08043 or such other place as Lender may from time to time designate, the principal sum of **Seven Million Eight Hundred Fifty Nine Thousand dollars (\$7,859,000)**, together with interest thereon from the date hereof until paid in full. Interest shall be charged on the unpaid outstanding principal balance hereof at a rate per annum equal to the rate paid and to be paid by Lender with respect to the borrowings it made in order to provide funds to Borrower hereunder. Interest on borrowings shall be due and payable in immediately available funds on the same business day on which the Lender must pay interest on the borrowings it made in order to provide funds to the Borrower hereunder. The principal amount hereof shall be due and payable hereunder at such times and in such amounts and in such installments hereunder as the Lender must pay with respect to the borrowings it made in order to provide funds to the Borrower hereunder. Lender has provided Borrower with a copy of the documentation evidencing the borrowings made by Lender in order to provide funds to Borrower hereunder. In the absence of manifest error, such documentation and the records maintained by Lender of the amount and term, if any, of borrowings hereunder shall be deemed conclusive.

The occurrence of one or more of any of the following shall constitute an event of default hereunder:

(a) Borrower shall fail to make any payment of principal and/or interest due hereunder or under any other promissory note between Lender and Borrower within five business days after the same shall become due and payable, whether at maturity or by acceleration or otherwise;

(b) Borrower shall apply for or consent to the appointment of a receiver, trustee or liquidator of itself or any of its property, admit in writing its inability to pay its debts as they mature, make a general assignment for the benefit of creditors, be adjudicated a bankrupt or insolvent or file a voluntary petition in bankruptcy or a petition or an answer seeking reorganization or an arrangement with creditors or to take advantage of any bankruptcy, reorganization, insolvency, readjustment of debt, dissolution or liquidation of law or statute, or an answer admitting the material allegations of a petition filed against it in any proceeding under any such law, or if action shall be taken by Borrower for the purposes of effecting any of the foregoing; or

(c) Any order, judgment or decree shall be entered by any court of competent jurisdiction, approving a petition seeking reorganization of Borrower or all or a substantial part of the assets of Borrower, or appointing a receiver, trustee or liquidator of Borrower or any of its property, and such order, judgment or decree shall continue unstayed and in effect for any period of sixty (60) days.

Upon the occurrence of any event of default, the entire unpaid principal sum hereunder plus all interest accrued thereon plus all other sums due and payable to Lender hereunder shall, at the option of Lender, become due and payable immediately. In addition to the foregoing, upon the occurrence of any event of default, Lender may forthwith exercise singly, concurrently, successively or otherwise any and all rights and remedies available to Lender by law, equity, statute or otherwise.

Borrower hereby waives presentment, demand, notice of nonpayment, protest, notice of protest or other notice of dishonor in connection with any default in the payment of, or any enforcement of the payment of, all amounts due hereunder. To the extent permitted by law, Borrower waives the right to any stay of execution and the benefit of all exemption laws now or hereafter in effect.

Following the occurrence of any event of default, Borrower will pay upon demand all costs and expenses (including all amounts paid to attorneys, accountants, and other advisors employed by Lender), incurred by Lender in the exercise of any of its rights, remedies or powers hereunder with respect to such event of default, and any amount thereof not paid promptly following demand therefor shall be added to the principal sum hereunder and will bear interest at the contract rate set forth herein from the date of such demand until paid in full. In connection with and as part of the foregoing, in the event that this Note is placed in the hands of an attorney for the collection of any sum payable hereunder, Borrower agrees to pay reasonable attorneys' fees for the collection of the amount being claimed hereunder, as well as all costs, disbursements and allowances provided by law.


If for any reason one or more of the provisions of this Note or their application to any entity or circumstances shall be held to be invalid, illegal or unenforceable in any respect or to any extent, such provisions shall nevertheless remain valid, legal and enforceable in all such other respects and to such extent as may be permissible. In addition, any such invalidity, illegality or unenforceability shall not affect any other provisions of this Note, but this Note shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein.

This Note inures to the benefit of Lender and binds Borrower and Lender's and Borrower's respective successors and assigns, and the words "Lender" and "Borrower" whenever occurring herein shall be deemed and construed to include such respective successors and assigns.

This Promissory Note is one of the promissory notes referred to in the Financial Services Agreement dated as of June 15, 2000 between Borrower and Lender to which reference is made for a statement of additional rights and obligations of Lender and Borrower.

IN WITNESS WHEREOF, Borrower has executed this Promissory Note the day and year first written above.

Kentucky-American Water Company

By: 
Mark Shaeffer
Director of FP&A, Central Division

PROMISSORY NOTE
FOR LONG-TERM BORROWINGS
4.000% Maturity due December 1, 2046

\$5,000,000

November 17, 2016

FOR VALUE RECEIVED, Kentucky-American Water Company, an Kentucky corporation (herein "Borrower") hereby promises to pay to the order of American Water Capital Corp., a Delaware corporation ("Lender"), in same day funds at its offices at 1025 Laurel Oak Rd. Voorhees, NJ 08043 or such other place as Lender may from time to time designate, the principal sum of **five million dollars (\$5,000,000)**, together with interest thereon from the date hereof until paid in full. Interest shall be charged on the unpaid outstanding principal balance hereof at a rate per annum, in accordance with the terms attached, a rate equal to or less than equal to the rate paid and to be paid by Lender with respect to the borrowings it made in order to provide funds to Borrower hereunder. Interest on borrowings shall be due and payable in immediately available funds on the same business day on which the Lender must pay interest on the borrowings it made in order to provide funds to the Borrower hereunder. The principal amount hereof shall be due and payable hereunder at such times and in such amounts and in such installments hereunder as the Lender must pay with respect to the borrowings it made in order to provide funds to the Borrower hereunder. Lender has provided Borrower with a copy of the documentation evidencing the borrowings made by Lender in order to provide funds to Borrower hereunder. In the absence of manifest error, such documentation and the records maintained by Lender of the amount and term, if any, of borrowings hereunder shall be deemed conclusive.

The occurrence of one or more of any of the following shall constitute an event of default hereunder:

(a) Borrower shall fail to make any payment of principal and/or interest due hereunder or under any other promissory note between Lender and Borrower within five business days after the same shall become due and payable, whether at maturity or by acceleration or otherwise;

(b) Borrower shall apply for or consent to the appointment of a receiver, trustee or liquidator of itself or any of its property, admit in writing its inability to pay its debts as they mature, make a general assignment for the benefit of creditors, be adjudicated a bankrupt or insolvent or file a voluntary petition in bankruptcy or a petition or an answer seeking reorganization or an arrangement with creditors or to take advantage of any bankruptcy, reorganization, insolvency, readjustment of debt, dissolution or liquidation of law or statute, or an answer admitting the material allegations of a petition filed against it in any proceeding under any such law, or if action shall be taken by Borrower for the purposes of effecting any of the foregoing; or

(c) Any order, judgment or decree shall be entered by any court of competent jurisdiction, approving a petition seeking reorganization of Borrower or all or a substantial part of the assets of Borrower, or appointing a receiver, trustee or liquidator of Borrower or any of its property, and such order, judgment or decree shall continue unstayed and in effect for any period of sixty (60) days.

Upon the occurrence of any event of default, the entire unpaid principal sum hereunder plus all interest accrued thereon plus all other sums due and payable to Lender hereunder shall, at the option of Lender, become due and payable immediately. In addition to the foregoing, upon the occurrence of any event of default, Lender may forthwith exercise singly, concurrently, successively or otherwise any and all rights and remedies available to Lender by law, equity, statute or otherwise.

Borrower hereby waives presentment, demand, notice of nonpayment, protest, notice of protest or other notice of dishonor in connection with any default in the payment of, or any enforcement of the payment of, all amounts due hereunder. To the extent permitted by law, Borrower waives the right to any stay of execution and the benefit of all exemption laws now or hereafter in effect.

Following the occurrence of any event of default, Borrower will pay upon demand all costs and expenses (including all amounts paid to attorneys, accountants, and other advisors employed by Lender), incurred by Lender in the exercise of any of its rights, remedies or powers hereunder with respect to such event of default, and any amount thereof not paid promptly following demand therefore shall be added to the principal sum hereunder and will bear interest at the contract rate set forth herein from the date of such demand until paid in full. In connection with and as part of the foregoing, in the event that this Note is placed in the hands of an attorney for the collection of any sum payable hereunder, Borrower agrees to pay reasonable attorneys' fees for the collection of the amount being claimed hereunder, as well as all costs, disbursements and allowances provided by law.

If for any reason one or more of the provisions of this Note or their application to any entity or circumstances shall be held to be invalid, illegal or unenforceable in any respect or to any extent, such provisions shall nevertheless remain valid, legal and enforceable in all such other respects and to such extent as may be permissible. In addition, any such invalidity, illegality or unenforceability shall not affect any other provisions of this Note, but this Note shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein.

This Note inures to the benefit of Lender and binds Borrower and Lender's and Borrower's respective successors and assigns, and the words "Lender" and "Borrower" whenever occurring herein shall be deemed and construed to include such respective successors and assigns.

This Promissory Note is one of the promissory notes referred to in the Financial Services Agreement dated as of June 15, 2000 between Borrower and Lender to which reference is made for a statement of additional rights and obligations of Lender and Borrower.

IN WITNESS WHEREOF, Borrower has executed this Promissory Note the day and year first written above.

Kentucky -American Water Company

By:  _____

Brian Werner
Director of Financial Analysis & Decision Support
MO and IL/IA

on behalf of:
Gina Money
Director of Financial Analysis & Decision Support
Central Division

PROMISSORY NOTE
FOR LONG-TERM BORROWINGS
3.750% Maturity due September 1, 2047

\$5,000,000

September 13, 2017

FOR VALUE RECEIVED, **Kentucky-American Water Company, an Kentucky corporation** (herein "Borrower") hereby promises to pay to the order of American Water Capital Corp., a Delaware corporation ("Lender"), in same day funds at its offices at 1025 Laurel Oak Rd. Voorhees, NJ 08043 or such other place as Lender may from time to time designate, the principal sum of **five million dollars (\$5,000,000)**, together with interest thereon from the date hereof until paid in full. Interest shall be charged on the unpaid outstanding principal balance hereof at a rate per annum, in accordance with the terms attached, a rate equal to or less than equal to the rate paid and to be paid by Lender with respect to the borrowings it made in order to provide funds to Borrower hereunder. Interest on borrowings shall be due and payable in immediately available funds on the same business day on which the Lender must pay interest on the borrowings it made in order to provide funds to the Borrower hereunder. The principal amount hereof shall be due and payable hereunder at such times and in such amounts and in such installments hereunder as the Lender must pay with respect to the borrowings it made in order to provide funds to the Borrower hereunder. Lender has provided Borrower with a copy of the documentation evidencing the borrowings made by Lender in order to provide funds to Borrower hereunder. In the absence of manifest error, such documentation and the records maintained by Lender of the amount and term, if any, of borrowings hereunder shall be deemed conclusive.

The occurrence of one or more of any of the following shall constitute an event of default hereunder:

(a) Borrower shall fail to make any payment of principal and/or interest due hereunder or under any other promissory note between Lender and Borrower within five business days after the same shall become due and payable, whether at maturity or by acceleration or otherwise;

(b) Borrower shall apply for or consent to the appointment of a receiver, trustee or liquidator of itself or any of its property, admit in writing its inability to pay its debts as they mature, make a general assignment for the benefit of creditors, be adjudicated a bankrupt or insolvent or file a voluntary petition in bankruptcy or a petition or an answer seeking reorganization or an arrangement with creditors or to take advantage of any bankruptcy, reorganization, insolvency, readjustment of debt, dissolution or liquidation of law or statute, or an answer admitting the material allegations of a petition filed against it in any proceeding under any such law, or if action shall be taken by Borrower for the purposes of effecting any of the foregoing; or

(c) Any order, judgment or decree shall be entered by any court of competent jurisdiction, approving a petition seeking reorganization of Borrower or all or a substantial part of the assets of Borrower, or appointing a receiver, trustee or liquidator of Borrower or any of its property, and such order, judgment or decree shall continue unstayed and in effect for any period of sixty (60) days.

Upon the occurrence of any event of default, the entire unpaid principal sum hereunder plus all interest accrued thereon plus all other sums due and payable to Lender hereunder shall, at the option of Lender, become due and payable immediately. In addition to the foregoing, upon the occurrence of any event of default, Lender may forthwith exercise singly, concurrently, successively or otherwise any and all rights and remedies available to Lender by law, equity, statute or otherwise.

Borrower hereby waives presentment, demand, notice of nonpayment, protest, notice of protest or other notice of dishonor in connection with any default in the payment of, or any enforcement of the payment of, all amounts due hereunder. To the extent permitted by law, Borrower waives the right to any stay of execution and the benefit of all exemption laws now or hereafter in effect.

Following the occurrence of any event of default, Borrower will pay upon demand all costs and expenses (including all amounts paid to attorneys, accountants, and other advisors employed by Lender), incurred by Lender in the exercise of any of its rights, remedies or powers hereunder with respect to such event of default, and any amount thereof not paid promptly following demand therefore shall be added to the principal sum hereunder and will bear interest at the contract rate set forth herein from the date of such demand until paid in full. In connection with and as part of the foregoing, in the event that this Note is placed in the hands of an attorney for the collection of any sum payable hereunder, Borrower agrees to pay reasonable attorneys' fees for the collection of the amount being claimed hereunder, as well as all costs, disbursements and allowances provided by law.


If for any reason one or more of the provisions of this Note or their application to any entity or circumstances shall be held to be invalid, illegal or unenforceable in any respect or to any extent, such provisions shall nevertheless remain valid, legal and enforceable in all such other respects and to such extent as may be permissible. In addition, any such invalidity, illegality or unenforceability shall not affect any other provisions of this Note, but this Note shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein.

This Note inures to the benefit of Lender and binds Borrower and Lender's and Borrower's respective successors and assigns, and the words "Lender" and "Borrower" whenever occurring herein shall be deemed and construed to include such respective successors and assigns.

This Promissory Note is one of the promissory notes referred to in the Financial Services Agreement dated as of June 15, 2000 between Borrower and Lender to which reference is made for a statement of additional rights and obligations of Lender and Borrower.

IN WITNESS WHEREOF, Borrower has executed this Promissory Note the day and year first written above.

Kentucky -American Water Company

By: 
Mary Gina Money
Director Financial Analysis & Decision Support
Southeast Division

PROMISSORY NOTE
FOR LONG-TERM BORROWINGS
4.15% Maturity due June 1, 2049

\$16,000,000

May 22, 2019

FOR VALUE RECEIVED, **Kentucky-American Water Company, an Kentucky corporation** (herein "Borrower") hereby promises to pay to the order of American Water Capital Corp., a Delaware corporation ("Lender"), in same day funds at its offices at 1 Water Street, Camden, NJ 08102 or such other place as Lender may from time to time designate, the principal sum of **sixteen million dollars (\$16,000,000)**, together with interest thereon from the date hereof until paid in full. Interest shall be charged on the unpaid outstanding principal balance hereof at a rate per annum, in accordance with the terms attached, a rate equal to or less than equal to the rate paid and to be paid by Lender with respect to the borrowings it made in order to provide funds to Borrower hereunder. Interest on borrowings shall be due and payable in immediately available funds on the same business day on which the Lender must pay interest on the borrowings it made in order to provide funds to the Borrower hereunder. The principal amount hereof shall be due and payable hereunder at such times and in such amounts and in such installments hereunder as the Lender must pay with respect to the borrowings it made in order to provide funds to the Borrower hereunder. Lender has provided Borrower with a copy of the documentation evidencing the borrowings made by Lender in order to provide funds to Borrower hereunder. In the absence of manifest error, such documentation and the records maintained by Lender of the amount and term, if any, of borrowings hereunder shall be deemed conclusive.

The occurrence of one or more of any of the following shall constitute an event of default hereunder:

(a) Borrower shall fail to make any payment of principal and/or interest due hereunder or under any other promissory note between Lender and Borrower within five business days after the same shall become due and payable, whether at maturity or by acceleration or otherwise;

(b) Borrower shall apply for or consent to the appointment of a receiver, trustee or liquidator of itself or any of its property, admit in writing its inability to pay its debts as they mature, make a general assignment for the benefit of creditors, be adjudicated a bankrupt or insolvent or file a voluntary petition in bankruptcy or a petition or an answer seeking reorganization or an arrangement with creditors or to take advantage of any bankruptcy, reorganization, insolvency, readjustment of debt, dissolution or liquidation of law or statute, or an answer admitting the material allegations of a petition filed against it in any proceeding under any such law, or if action shall be taken by Borrower for the purposes of effecting any of the foregoing; or

(c) Any order, judgment or decree shall be entered by any court of competent jurisdiction, approving a petition seeking reorganization of Borrower or all or a substantial part of the assets of Borrower, or appointing a receiver, trustee or liquidator of Borrower or any of its property, and such order, judgment or decree shall continue unstayed and in effect for any period of sixty (60) days.

Upon the occurrence of any event of default, the entire unpaid principal sum hereunder plus all interest accrued thereon plus all other sums due and payable to Lender hereunder shall, at the option of Lender, become due and payable immediately. In addition to the foregoing, upon the occurrence of any event of default, Lender may forthwith exercise singly, concurrently, successively or otherwise any and all rights and remedies available to Lender by law, equity, statute or otherwise.

Borrower hereby waives presentment, demand, notice of nonpayment, protest, notice of protest or other notice of dishonor in connection with any default in the payment of, or any enforcement of the payment of, all amounts due hereunder. To the extent permitted by law, Borrower waives the right to any stay of execution and the benefit of all exemption laws now or hereafter in effect.

Following the occurrence of any event of default, Borrower will pay upon demand all costs and expenses (including all amounts paid to attorneys, accountants, and other advisors employed by Lender), incurred by Lender in the exercise of any of its rights, remedies or powers hereunder with respect to such event of default, and any amount thereof not paid promptly following demand therefore shall be added to the principal sum hereunder and will bear interest at the contract rate set forth herein from the date of such demand until paid in full. In connection with and as part of the foregoing, in the event that this Note is placed in the hands of an attorney for the collection of any sum payable hereunder, Borrower agrees to pay reasonable attorneys' fees for the collection of the amount being claimed hereunder, as well as all costs, disbursements and allowances provided by law.

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This Promissory Note is one of the promissory notes referred to in the Financial Services Agreement dated as of June 15, 2000 between Borrower and Lender to which reference is made for a statement of additional rights and obligations of Lender and Borrower.

IN WITNESS WHEREOF, Borrower has executed this Promissory Note the day and year first written above.

Kentucky -American Water Company

By: 

Brian Queen

Divisional CFO, Southeast Division

PROMISSORY NOTE
FOR LONG-TERM BORROWINGS
3.25% Maturity due June 1, 2051

\$13,000,000

May 24, 2021

FOR VALUE RECEIVED, **Kentucky-American Water Company, an Kentucky corporation** (herein "Borrower") hereby promises to pay to the order of American Water Capital Corp., a Delaware corporation ("Lender"), in same day funds at its offices at 1 Water Street, Camden, NJ 08102 or such other place as Lender may from time to time designate, the principal sum of **thirteen million dollars (\$13,000,000)**, together with interest thereon from the date hereof until paid in full. Interest shall be charged on the unpaid outstanding principal balance hereof at a rate per annum, in accordance with the terms attached, a rate equal to or less than equal to the rate paid and to be paid by Lender with respect to the borrowings it made in order to provide funds to Borrower hereunder. Interest on borrowings shall be due and payable in immediately available funds on the same business day on which the Lender must pay interest on the borrowings it made in order to provide funds to the Borrower hereunder. The principal amount hereof shall be due and payable hereunder at such times and in such amounts and in such installments hereunder as the Lender must pay with respect to the borrowings it made in order to provide funds to the Borrower hereunder. Lender has provided Borrower with a copy of the documentation evidencing the borrowings made by Lender in order to provide funds to Borrower hereunder. In the absence of manifest error, such documentation and the records maintained by Lender of the amount and term, if any, of borrowings hereunder shall be deemed conclusive.

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(b) Borrower shall apply for or consent to the appointment of a receiver, trustee or liquidator of itself or any of its property, admit in writing its inability to pay its debts as they mature, make a general assignment for the benefit of creditors, be adjudicated a bankrupt or insolvent or file a voluntary petition in bankruptcy or a petition or an answer seeking reorganization or an arrangement with creditors or to take advantage of any bankruptcy, reorganization, insolvency, readjustment of debt, dissolution or liquidation of law or statute, or an answer admitting the material allegations of a petition filed against it in any proceeding under any such law, or if action shall be taken by Borrower for the purposes of effecting any of the foregoing; or

(c) Any order, judgment or decree shall be entered by any court of competent jurisdiction, approving a petition seeking reorganization of Borrower or all or a substantial part of the assets of Borrower, or appointing a receiver, trustee or liquidator of Borrower or any of its property, and such order, judgment or decree shall continue unstayed and in effect for any period of sixty (60) days.

Upon the occurrence of any event of default, the entire unpaid principal sum hereunder plus all interest accrued thereon plus all other sums due and payable to Lender hereunder shall, at the option of Lender, become due and payable immediately. In addition to the foregoing, upon the occurrence of any event of default, Lender may forthwith exercise singly, concurrently, successively or otherwise any and all rights and remedies available to Lender by law, equity, statute or otherwise.

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IN WITNESS WHEREOF, Borrower has executed this Promissory Note the day and year first written above.

Kentucky -American Water Company

By:  _____
Brian Queen
CFO, Southeast Division

PROMISSORY NOTE
FOR LONG-TERM BORROWINGS
4.450% Maturity due June 1, 2032

\$10,000,000

May 18, 2022

FOR VALUE RECEIVED, **Kentucky-American Water Company, an Kentucky corporation** (herein "Borrower") hereby promises to pay to the order of American Water Capital Corp., a Delaware corporation ("Lender"), in same day funds at its offices at 1 Water Street, Camden, NJ 08102 or such other place as Lender may from time to time designate, the principal sum of **ten million dollars (\$10,000,000)**, together with interest thereon from the date hereof until paid in full. Interest shall be charged on the unpaid outstanding principal balance hereof at a rate per annum, in accordance with the terms attached, a rate equal to or less than equal to the rate paid and to be paid by Lender with respect to the borrowings it made in order to provide funds to Borrower hereunder. Interest on borrowings shall be due and payable in immediately available funds on the same business day on which the Lender must pay interest on the borrowings it made in order to provide funds to the Borrower hereunder. The principal amount hereof shall be due and payable hereunder at such times and in such amounts and in such installments hereunder as the Lender must pay with respect to the borrowings it made in order to provide funds to the Borrower hereunder. Lender has provided Borrower with a copy of the documentation evidencing the borrowings made by Lender in order to provide funds to Borrower hereunder. In the absence of manifest error, such documentation and the records maintained by Lender of the amount and term, if any, of borrowings hereunder shall be deemed conclusive.

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(c) Any order, judgment or decree shall be entered by any court of competent jurisdiction, approving a petition seeking reorganization of Borrower or all or a substantial part of the assets of Borrower, or appointing a receiver, trustee or liquidator of Borrower or any of its property, and such order, judgment or decree shall continue unstayed and in effect for any period of sixty (60) days.

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IN WITNESS WHEREOF, Borrower has executed this Promissory Note the day and year first written above.

DocuSigned by:


Kentucky -American Water Company

By: _____
Brian Queen
CFO, Operations

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Jeffrey Newcomb

108. Refer to the Bulkley Testimony, at 55, lines 10 – 13. Ms. Bulkley discusses Kentucky-American's volumetric risk compared to the companies in the Proxy Group. Provide the following:
- a. Explain why Kentucky American did not request either a revenue stabilization mechanism or a revenue decoupling mechanism in this proceeding.
 - b. Is it Kentucky American's position that it does not need or would not benefit from either a rate stabilization mechanism or revenue decoupling mechanism? Explain the answer in detail.

Response:

- a. Every rate case preparation involves discussion about the prioritization of constructive regulatory mechanisms as well as the number of constructive regulatory mechanisms requested in a case. Not every idea gets put in a case. Kentucky-American continues to evaluate revenue stabilization mechanisms and revenue decoupling mechanisms for inclusion in future rate applications.
- b. No. Kentucky-American will continue to evaluate revenue stabilization mechanisms and revenue decoupling mechanisms and will consider making requests for such mechanisms in future rate applications.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Nicholas Furia

109. Refer to the Application generally. Provide all data and supporting work papers for Kentucky American's requested cost of short-term debt. If the cost of short-term debt includes commitment fees or other fees over and above the pure cost of short-term debt, please separate out such additional fees.

Response:

Please refer to KAW_R_AGDR1_NUM109_081823_Attachment for supporting documentation related to proposed cost of short-term debt. Please note: the cost of short-term debt does not include commitment fees or other fees.

**KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION**

Witness: Ann Bulkley

110. Refer to the Application generally. Provide the historical earned return on equity for Kentucky American from 2017 – 2022.

Response:

Please reference KAW_R_AGDR1_NUM110_081823_Attachment for the calculated return on equity for Kentucky-American's Water Operations, as reported on the Company's Commission Annual Report, for the period 2017-2022.

**KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION**

Witness: Nicholas Furia

111. Refer to the Furia Testimony. Provide all supporting work papers and documentation used in the preparation of Mr. Furia's testimony.

Response:

Please refer to KAW_R_AGDR1_NUM111_081823_Attachment.

**KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00191
ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION**

Witness: Nicholas Furia

112. Refer to the Furia Testimony, at 4, lines 12 – 13, and Exhibit 37. Provide Schedules J-1 through J-5 in native spreadsheet format with cell formulas intact.

Response:

Please refer to the response in KAW_R_AGDR1_NUM111_081823.