Witness: John Magner

1. Please refer to Application paragraph 9, in which it states: "KAW does not anticipate that the Project will compete with any other utilities." Confirm that the proposed main beginning at a tie-in to KAW's existing 12-inch main located along US-68 approximately 4.3 miles northeast of the Fayette/Bourbon County border to the tie-into KAW's Millersburg system at a 6-inch main near the existing connection to Paris's system will only be used transmission, and that section of transmission main will not be used to serve retail customers.

#### **Response:**

KAW has designed and proposed the project to serve Millersburg. It is sized to accommodate possible growth, but KAW has no current plans to make any connections. Paris has expressed interest in connecting to the proposed main. Were Paris or other unanticipated utilities to connect to the main, it would serve more than as a transmission main to Millersburg.

Witness: John Magner

2. Please refer to Application paragraph 9, in which it states: "KAW's design consultant for the project has started developing more detailed construction plans sheets, and KAW can provide those to the Commission as they are completed." Please provide a status update as to the development of more detailed construction plans, including when KAW anticipates submitting more detailed plans to the Commission.

#### **Response:**

KAW's design consultant is finalizing a draft preliminary set of design drawings that includes plan views with detailed horizontal alignment information and profile views of the proposed main. The drawings will be reviewed by KAW and are subject to revision. KAW expects the draft preliminary drawings to be complete within the next few weeks.

Witness: John Magner

3. State whether KAW has determined where along US-68 it proposes to install the transmission main.

### **Response:**

As described in the response to City of Paris DR 1-2, KAW's design consultant is preparing a preliminary set of design drawings. KAW will review the alignment presented in these drawings and the alignment will be refined and finalized as the design progresses.

Witness: John Magner

4. State whether KAW has considered the location of other existing and planned utilities in proposing the location of the transmission main.

### **Response:**

Yes, KAW recognizes that various utilities exist along the proposed route for the project and is taking the location of those utilities into consideration. KAW's design consultant is incorporating utility location information from Kentucky 811 design tickets and Kentucky Transportation Cabinet design and construction drawings into the drawings for the proposed project. The design consultant will collect additional field survey information in areas with potential utility conflicts as the design progresses.

#### Witness: John Magner

5. Please refer to Application paragraph 13. Provide a detailed explanation of how KAW calculated the "variable incremental production cost of approximately \$0.60 per 1,000 gallons for KAW to supply the same volume of water."

### **Response:**

This value was calculated by dividing calendar year 2022 total production costs (including power, chemicals, and labor) by the amount of water produced by KAW for the same period.

Witness: John Magner

6. Please refer to the testimony of John Magner, starting at line 23 on page 6, where it states: "Constructing a 16" main around Paris will increase available capacity for potential water sales to Paris Water Works." Please confirm that construction of KAW's proposed transmission line would enable Paris to make an emergency interconnection with the proposed transmission line.

#### **Response:**

KAW is willing and interested in engaging in discussions with Paris Water Works and other regional utilities to evaluate potential solutions to regional water supply that are beneficial to KAW's existing customers, other water utilities, and the region.

#### Witness: John Magner

- 7. Please refer to Table 1 on page 5 of 8 of Exhibit 2 to the Application (Stantec Memo regarding Millersburg Water Supply Project– Preliminary Planning Study).
  - a. Provide a detailed explanation of how KAW or Stantec determined Future Demand for "Stream No. 7" (KAW to Paris) would be 117 MG annually and 444 peak gpm.
  - b. Confirm that "Steam No. 7" refers to anticipated sales by KAW to Paris.

#### **Response:**

- a. The annual volume of 117 million gallons ("MG") was calculated by KAW's design consultant as approximately 15% of Paris Water Works's annual production of 778.195 MG on the Kentucky WRIS portal. This annual production value is noted in the "WRIS System Data Report" that is attached to this response. The peak rate of 444 gallons per minute ("gpm") was calculated by converting the annual production value from MG per year to gpm and applying an assumed peak-day to average-day multiplier of two.
- b. "Stream No. 7" is an estimate of future sales for the purpose of evaluating the size of the proposed main. The proposed project has an estimated useful life of 80 years, so the potential for future sales must be considered when evaluating the capacity of the main and Paris has expressed interest in a connection to the proposed main. Potential future sales to Paris will be based on the needs of Paris and negotiations with KAW regarding connections to the proposed main.



KY0090343 - Paris Water Works



Date Last Modified: 03.23.2021

Date Last Modified: 08.19.2023

DOW Permit ID: KY0090343 Link: DOW SDWIS Report

DOW Permit Type: **DRINKING WATER (PWSID)** 

DOW Permit Name: Paris Water Works
WRIS System Name: Paris Water Works

System Type: Community Water Source Type: Surface Water ADD WMC Contact: Karyn Leverenz

ADD ID: **BGADD** Primary County: **Bourbon** Dow Field Office: **Frankfort** 

Permit Dates: Issued: **01.01.1973** Expired: Inactivated:

#### **OPERATIONS AND MANAGEMENT INFORMATION**

**System Management Entity Information:** 

Entity Name: City of Paris (Water)

Office Address 1: 525 High St

City, State Zip: Paris, KY 40361

Office Address 2:

Office Phone: 859-983-3871 Fax: 859-987-4640

Auth Official EMail:

#### Primary Facility Information:

✓ This is a treatment facility.

This is a maintenance facility.

Facility Name: Water Treatment Plant

Facility Contact: **Chad Smart**Facility Phone: **859-987-2110**Facility Addr 1: **700 Scott St.** 

Facility Addr 2:

City, State Zip: Paris, KY 40361

Date Last Modified: 03.23.2021

#### **System Management Contact Information:**

Contact Type	Contact Name	Title	EMail
1 Operations Contact:	Chad Smart	Water Superintendent	
2 Business Contact:	Unknown/Vacancy	Utility Billing	
Manager:	Johnny Plummer	Mayor	

<sup>1</sup> Person responsible for physical infrastructure operations.

#### OWNER ENTITY INFORMATION

PSC Group ID: 8810300

Entity Type: Incorporated City

Entity Name: City of Paris

Web URL:

Contact EMail:

Office EMail:

Data Source: Kentucky Department for Local Government

Office Phone: **859-987-2110** Toll Free: Fax: **859-987-4640** 

Mail Address Line 1: **525 High St**Mail Address Line 2:

Mail City, State Zip: **Paris, KY 40361**Phys Address Line 2:

Phys City, State Zip:

Contact: Stephanie Settles Financial Contact: Auth Official: John A. Plummer

Contact Title: City Clerk Financial Contact Title: Auth Official Title: Mayor

Financial Contact EMail:

Contact Phone: 859-987-2110 Financial Contact Phone: Auth Official Phone: 859-987-2110

System Respondent ADD WMP Date

<sup>2</sup> Person responsible for billing and financial operations.



KY0090343 - Paris Water Works



DOW Permit ID: KY0090343 Link: DOW SDWIS Report

DOW Permit Type: DRINKING WATER (PWSID)

DOW Permit Name: Paris Water Works WRIS System Name: Paris Water Works

> System Type: Community Water Source Type: Surface Water ADD WMC Contact: Karyn Leverenz

ADD ID: BGADD Primary County: Bourbon Dow Field Office: Frankfort

Permit Dates: Issued: 01.01.1973 Expired: Inactivated:

#### **DEMOGRAPHIC INFORMATION**

Counties D	irectly Served:	1	County	Connection	Serviceable	Serviceable	Med. HH	МНІ
	Population	Households	Served	Count	Population	Households	Income	MOE
Directly Serviceable:	12,483	5,593	Bourbon	5,281	12,483	5,593	\$49,323	\$8,031
Indirectly Serviceable:	14,861	6,280	Totals:	5,281	12,483	5,593	\$49,323	\$8,031
Total Serviceable:	27,344	11,873	MHI Source: American Community Survey 2017-2021 5 Yr Estimates					

Note: Population counts are based on KIA census block overlay with WRIS mapped features.

MHI Source: American Community Survey 2017-2021 5 Yr Estimates

(Table B19013). MHI MOE = Med HH Income Margin of Error.

#### **FISCAL ATTRIBUTES**

Date Established: 01.18.1932 Employees: 13

If this is a municipal system, what is the cost per 4,000 gallons of finished water

for customers:

(a) Produce Water? Yes (a) inside your municipality: \$16.08 (b) Have wholesale customers? Yes (b) outside your municipality: \$22.08

(c) Purchase water? No

Does this system:

If this is a non-municipal system, what is the customer cost per 4,000 gallons of finished water?

Date of Last Rate Adjustment: 02-01-2023 Comments: Serviceable population is 14,958

System is about to begin work on a comprehensive rate study.

Date Last Modified: 06.04.2023

#### Providers that purchase water from this system:

Purchaser DOW	Water Ann. Vol.		Cost		Interconnects		Serviceable			
Permit ID	Purchaser Name	Туре	(MG)	Raw	Fin	Perm	Seas	Emer	Population	Households
KY0490179	Harrison County Water Association	F			\$2.25	1	0	0	13,937	5,817
KY0090287	Kentucky American Water - Millersburg	F	78.651		\$2.25	1	0	0	924	463
	Totals and Averages		78.651		\$2.25	2	0	0	14,861	6,280

- MG = Million Gallons
- Water Types: R = Raw Water, F = Finished Water, B = Both Raw and Finished Water
- Cost Categories: Raw = Raw Untreated Water, Fin = Finished Treated Water
- Raw and Finished costs are per 1,000 gallons.
- Interconnect Types: Perm = Permanent, Seas = Seasonal, Emer = Emergency

**Kentucky Infrastructure Authority** Aug 20, 2023 12:24 PM

Page 2 of 5



KY0090343 - Paris Water Works



#### **SYSTEM PLANNING**

#### **Water Treatment Plants:**

Facility Name	Design Capacity (MGD)	Ave. Daily Prod. (MGD)	High. Daily Prod. (MGD)
PARIS WTP	3.000	2.323	3.349
Totals	3.000	2.323	3.349

778.195

778.195 35%

#### **Operational Statistics:**

	WRIS	SDWIS MOR
Total Annual Vol. Produced (MG):	719.780	778.19
Total Annual Vol. Purchased (MG):		ı
Total Annual Vol. Provided (MG):	719.780	778.19
Estimated Annual Water Loss:	32%	35

			WRIS	SDWIS MOR
Wholesale Customers:	2	Wholesale Usage (MG):	78.651	93.663
Residential Customers:	4,309	Residential Usage (MG):		
Commercial Customers:	760	Commercial Usage (MG):		
Institutional Customers:		Institutional Usage (MG):		
Industrial Customers:		Industrial Usage (MG):		
Other Customers:		Other Cust. Usage (MG):		
Total Customers:	5,071			
Flushing, Mainte	Fire Protection Usage (MG):	410.870		
	Tota	l Annual Water Usage (MG):	489.521	504.533

Water supply inadequacies during normal operating conditions:

#### Not provided.

Water supply inadequacies during drought operating conditions:

#### Not provided.

Comments: Estimated Annual Water Loss is somewhere around 25%-30% (2019)

Total wholesale volume sold was 66.475MG.

high daily prod is 3.146mg avg daily prod 2.326mgd

Date Last Modified: 06.04.2023

#### WMP Site Visit - Survey Information:

Site Visit / Survey Date: 03.09.2023 Survey Administrator: Karyn Leverenz

Principal Respondent: Kevin Mayhorn, Jamie Miller

Other Respondent(s):

Comments: Still waiting on current rates, wholesale volume by customer (2022)

Date Last Modified: 06.04.2023



KY0090343 - Paris Water Works



DOW Permit ID: KY0090343 Link: DOW SDWIS Report

DOW Permit Type: **DRINKING WATER (PWSID)** 

DOW Permit Name: Paris Water Works WRIS System Name: Paris Water Works

System Type: Community Water Source Type: Surface Water ADD WMC Contact: Karyn Leverenz

	ADD ID: <b>BGADD</b>	Primary County: Bourbon	Dow Field Office:	Frankfort				
F	Permit Dates: Issued: 01.01.1973	Expired:	Inactivated:					
		SYSTEM MAINTENA	NCE					
<b>V</b>	The management of this system participates in	n an Area Water Management Plan	ning Council (AWMPC).					
<b>✓</b>	The management of this system participates in	n regular training activities.						
<b>✓</b>	System operator(s) participate in regular training activities.							
$\bigcirc$	This system has an asset management plan.							
	Date asset management plan last updated:							
$\bigcirc$	This system as a capital improvement plan.							
	Date capital improvement plan last updated:							
<b>/</b>	This system has GIS capabilities.							
	Date GIS data last submitted to the WRIS:							
Thi	s system has a policy manual in place conta	ining the following items:						
<b>V</b>	Personnel Policies	Standard Operating Procedure	es					
Ż	Line Maintenance Program	✓ Meter Testing Program						
<b>V</b>	Routine Pressure Checks	✓ Pump Station Maintenance Sc	hedule					
<b>V</b>	Emergency Operation Procedures	✓ Backup Sources						
<b>/</b>	A Water Shortage Plan	✓ A Water Conservation Plan						
Date	e of last DOW Sanitary Survey: Month: 11, Yea	ır: <b>2017</b>						
	This system has periodic service outages.							
	Cause(s):							
$\bigcirc$	This system has periodic pump failures.							
	Cause(s):							
<b>V</b>	This system has periodic line breaks.							
•	The following components are associated with	th periodic line breaks:						
	Typical line size: <b>6.00</b>	, , , , , , , , , , , , , , , , , , , ,						
	Typical line location(s): varies							
	Typical cause(s): Temperatu	re changes						
	Other cause(s): Construction	on accidents						
	Est. Water Loss Percentage: 37.0 %							
$\bigcirc$	This system has localized problems.							
	The following components are associated with	th localized problems:						
	Problem location(s):							
	Problem diameter(s):							
	Problem pressure(s);							
	Problem cause(s):							
	Other problem characteristics:							
<b>✓</b>	This system has as-built plans (record drawing	gs).						
	Est. degree of accuracy for as-built plans (	%): 90%						
<b>~</b>	This system uses an on-staff inspector(s) for o	construction projects.						
Mai	ntenance notes for this system:							

Date Last Modified: 04.02.2018







DOW Permit ID: KY0090343 Link: DOW SDWIS Report

DOW Permit Type: **DRINKING WATER (PWSID)** 

DOW Permit Name: Paris Water Works
WRIS System Name: Paris Water Works

System Type: Community Water Source Type: Surface Water ADD WMC Contact: Karyn Leverenz

ADD ID: **BGADD** Primary County: **Bourbon** Dow Field Office: **Frankfort** 

Permit Dates: Issued: **01.01.1973** Expired: Inactivated:

#### The following projects are associated with this system (included constructed projects):

PNUM	Applicant	Project Status	Funding Status	Schedule	Project Title	Agreed Order	Profile Modified	GIS Modified
WX21017006	City of Paris	Constructed	Over Funded	0-2 Years	PARIS-BOURBON CO. INDUSTRIAL PARK WATER EXPANSION	N	12.16.2011	07.28.2010
WX21017007	City of Paris	Constructed	Fully Funded	0-2 Years	City of Paris - U.S. 68 Bypass Water Transmission Main Extension	N	04.09.2013	12.21.2011
WX21017010	City of Paris	Constructed	Not Funded	0-2 Years	City of Paris WTP Telemetry Upgrade	N	05.04.2015	03.21.2013
WX21017011	City of Paris	Under Construction	Not Funded	3-5 Years	City of Paris Amr System Upgrade (Automatic Meter Read) Project	N	05.04.2015	01.09.2017
WX21017012	City of Paris	Approved	Not Funded	0-2 Years	City of Paris Creek Crossing Pipe Replacement Under Houston and Stoner Creeks.	N	12.10.2019	
WX21017014	City of Paris	Approved	Not Funded	3-5 Years	City of Paris Water Valve Replacement Phase I	N	12.10.2019	06.05.2017
WX21017015	City of Paris	Constructed	Not Funded	0-2 Years	City of Paris Creekbank Stabilization Project At Water Plant Intake	N	05.04.2015	08.24.2010
WX21017016	City of Paris	Constructed	Not Funded	0-2 Years	City of Paris Renovation of By- Pass 1 MG Elevated Tank	N	05.04.2015	03.20.2013
WX21017020	Bourbon County Fiscal Court	Approved	Not Funded	0-2 Years	Paris-Bourbon County Industrial Park Connector Rd Water Line	N	10.05.2020	08.03.2020
WX21017021	City of Paris	Approved	Not Funded	0-2 Years	Paris Water Treatment Plant Improvements	N	01.08.2021	10.23.2020
WX21017022	City of Paris	Approved	Fully Funded	0-2 Years	Paris Water System Improvements	N	06.06.2022	01.19.2021
WX21017023	City of Paris	Approved	Not Funded	0-2 Years	Paris to Kentucky American Water System Connection	N	01.29.2018	06.05.2017
WX21017025	City of Paris	Approved	Partially Funded	0-2 Years	Millersburg Rd Tank Project	N	12.09.2022	10.12.2022

Witness: John Magner

8. Explain why it would be beneficial to install a 16-inch main that ties-in to KAW's existing 12-inch main located along US-68 approximately 4.3 miles northeast of the Fayette/Bourbon County border, as opposed to maintaining the current size of the planned connecting main of 12 inches.

#### **Response:**

KAW may wish to construct a future main from the proposed main to KAW's North Middletown system to increase the available capacity of water in North Middletown. Extending the 16" portion of main to the northern end of Martin Luther King Jr. Boulevard provides additional system resiliency for KAW's North Middletown customers via a potential main along North Middletown Road.

Paris has expressed interest in a connection to KAW's proposed main. KAW believes this indicates a possibility that Paris may wish to purchase water from KAW in the future, therefore the size of the proposed main around Paris was increased to provide additional capacity to accommodate potential future sales.

#### Witness: John Magner

9. State the anticipated cost differential between installing 33,000 linear feet of 16" ductile iron water main as proposed by KAWC compared to 33,000 linear feet of 12" ductile iron water main in the same proposed location.

#### **Response:**

The difference in cost between constructing 16" and 12" ductile iron water main would likely be due to the difference in material costs. As provided in the "Engineer's Opinion of Probable Project Costs" provided as Exhibit 4 to the direct testimony of John Magner, the anticipated difference in price between 16" and 12" ductile iron pipe is \$15 per linear foot. Applying this price difference to a total length of 33,000 linear feet results in an anticipated cost differential of \$495,000.

Witness: John Magner

10. Please refer to the testimony of John Magner in response to the question starting at line 4 on page 7. Please provide all reports, analysis, and documentation evaluating the various alternatives KAW considered for supplying water to KAW's Millersburg system.

### **Response:**

Please refer to KAW's response to PSC DR 1-1.

Witness: John Magner

11. Please refer to the testimony of John Magner, starting at line 12 on page 7. Identify the total estimated cost for constructing a main through downtown Paris.

## **Response:**

Please refer to KAW's response to PSC DR 1-2.

#### Witness: John Magner

- 12. Please refer to the testimony of John Magner, starting at line 17 on page 7.
  - a. Explain why tying into KAW's existing 8" main on Bethlehem Road would not provide adequate hydraulic capacity.
  - b. Explain why tying into KAW's existing 8" main on Bethlehem Road would adversely affect pressures in other areas of KAW's system.
  - c. Explain whether design changes could be made to that alternative route such that it could provide adequate hydraulic capacity without adversely affecting pressures in other areas of KAW's system.

#### **Response:**

- a. KAW performed hydraulic analyses using our hydraulic model as described in the response to PSC DR 1-1. Based on the hydraulic modeling performed for the referenced alternative, it would not deliver adequate velocities for flushing. Additionally, modeling indicated the referenced alternative could only provide approximately 500 gallons per minute ("gpm") of additional capacity above the estimated modeled demand of the Millersburg system, whereas the proposed alternative could provide up to approximately 1,000 gpm of additional capacity based on the preliminary modeling.
- b. KAW's hydraulic modeling of the alternative indicated that reductions in pressure would occur in the Winchester Road area of KAW's system in Lexington, KY.
- c. A design modification that could potentially improve this alternative is upsizing approximately six miles of existing 8" KAW main between US-68 and Bethlehem Road in addition to constructing the new main proposed in the original alternative. The additional main upsizing, however, would increase the estimated cost of this alternative significantly such that its estimated cost would be much greater than the estimated cost of the proposed project.

Witness: John Magner

13. State what real property or private easements will need to be obtained for KAW's proposed route of the transmission main.

## **Response:**

Preliminary alignment design indicates that few to no private permanent easements will be required. Easement requirements will be determined as the design is finalized.

#### Witness: John Magner

14. Please refer to the testimony of John Magner, starting at line 6 on page 4, which states "KAW's current available capacity may not be able to meet these demands and KAW has had to so inform prospective customers." Quantify the current demand that KAW believes is unmet.

#### **Response:**

The available flow from Paris is not capable of adequately supplying the Millersburg system during times of increased demand, as demonstrated in the scenario below.

- Provide the average Millersburg system demand of 180,000 gallons per day, or 125 gallons per minute ("gpm"), as provided in PSC DR-17 and PSC DR-18.
- Refill KAW's Millersburg tank at a rate of 125 gpm after a fire event that consumed 500 gpm over a duration of two hours, or a total of 60,000 gallons from the tank. This refilling rate allows for the tank to be refilled within 8 hours to provide storage for supplying the Millersburg system during periods of increased demand.
- Provide an additional 20 gpm to Nicholas County Water District for a new meat processing facility that is anticipated to become operational in 2023.

Under this scenario, KAW would need 270 gpm of supply to the Millersburg system, which is almost double the average of 200,000 gallons per day, or approximately 140 gpm, that Paris is obligated to supply to KAW. The demand of KAW's Millersburg system is expected to increase due to additional development in the region such as the proposed industrial park in Nicholas County and as described in numerous letters of support provided in Exhibit 5 to the direct testimony of John Magner. Increased demands will increase the water supply needs of the Millersburg system. The hydraulic analysis provided in Exhibit 2 to the direct testimony of John Magner provides additional discussion regarding anticipated future demands. Please also see PSC DR 1-12

KAW routinely receives requests from Paris to reduce the flow rate into Millersburg when Paris receives pressure complaints, which limits KAW's ability to meet increased demand conditions. KAW is also unable to certify hydrants in Millersburg due to the limited supply from Paris.

Witness: John Magner

15. Identify the monthly gallons of water KAW purchased from Paris from January 2021 to present.

## **Response:**

Please see attachment.

	Water Purchased from Paris (Gallons)								
Month	2021	2022	2023						
January	4,969,000	6,080,000	8,015,960						
February	4,952,000	6,562,000	4,044,270						
March	5,034,000	6,053,525	3,508,480						
April	4,581,000	6,541,425	3,361,570						
May	4,608,000	5,476,460	3,412,410						
June	3,585,000	6,748,870	4,075,790						
July	5,212,000	4,625,760	3,779,410						
August	5,264,000	5,050,310							
September	4,848,000	5,343,320							
October	4,700,000	6,909,680							
November	5,731,000	6,737,580							
December	6,444,000	7,313,050							

<sup>\*</sup>Data based on KAW monthly operating reports.

Witness: John Magner

16. Identify the monthly total gallons of water sold by KAW to KAW's customers downstream of Paris's master meter from January 2021 to present. Please breakdown the monthly totals by KAW's retail customers and each of KAW's wholesale customers served through the Millersburg system.

## **Response:**

Please see attachment.

	Water Sold by KAW (Gallons)											
		2021			2022			2023				
Month	Retail	Harrison Co.	Nicholas Co.	Retail	Harrison Co.	Nicholas Co.	Retail	Harrison Co.	Nicholas Co.			
	rectan	Water Assoc.	Water District	Ketan	Water Assoc.	Water District	Ketan	Water Assoc.	Water District			
January	1,365,900	1,280,600	27,700	1,369,400	3,134,100	92,700	1,711,600	2,341,700	30,900			
February	1,104,000	1,268,600	32,166	1,329,700	1,080,200	54,000	2,321,800 <sup>1</sup>	1,985,600	27,500			
March	1,367,000	1,071,100	23,900	1,078,400	1,389,400	56,300	97,800 <sup>1</sup>	1,500,800	30,300			
April	1,240,500	1,396,500	58,400	1,227,400	1,266,400	61,300	1,160,700	1,670,700	35,000			
May	907,700	1,025,500	28,400	1,004,200	1,108,000	58,000	1,031,000	1,257,300	34,700			
June	1,242,900	1,194,600	35,200	1,182,400	1,677,500	63,700	1,340,300	1,497,400	50,800			
July	1,430,300	1,453,300	38,800	1,568,700	1,746,600	62,900	1,381,300	1,816,400	45,300			
August	1,188,200	1,326,200	27,600	1,207,200	1,439,600	51,700						
September	1,276,500	1,550,600	28,400	1,439,400	1,949,900	32,700						
October	1,106,200	1,210,000	23,100	2,079,900	1,688,200	22,700						
November	1,059,600	2,051,700	27,600	1,886,200	1,641,100	24,300						
December	1,064,600	3,253,052	50,176	1,198,900	1,535,500	27,000						

<sup>&</sup>lt;sup>1</sup>Data reflects adjusted billing related to a commercial customer.

<sup>&</sup>lt;sup>2</sup>Data for sales to Harrison County Water Association and Nicholas County Water District are based on monthly operating reports for KAW's Millersburg system.

<sup>&</sup>lt;sup>3</sup>Retail sales include sales to commercial and residential customers in the Millersburg system.

Witness: John Magner

17. Describe KAW's leak detection efforts on its Millersburg system to help minimize unnecessary consumption.

#### **Response:**

KAW assumes this question seeks information regarding KAW's efforts to reduce unaccounted for water which can be caused, in part, by leaks. KAW's typical efforts to reduce unaccounted for water across our system include those listed below.

- Leak detection, including deploying acoustic monitoring devices and performing leak sounding.
- Replacing aging main.
- Efficient repair of identified leaks and main breaks.
- Fire service audits and large meter testing.

KAW continues to undertake leak detection efforts in the Millersburg system. KAW identified and repaired a significant leak in Millersburg in January 2023.