COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In The Matter of:

ELECTRONIC RATTLESNAKE RIDGE WATER DISTRICT UNACCOUNTED FOR WATER LOSS REDUCTION PLAN, SURCHARGE AND MONITORING	))))	CASE NO. 2024-00176

RESPONSE OF RATTLESNAKE RIDGE WATER DISTRICT (hereinafter RRWD) TO COMMISSION STAFF'S SECOND REQUEST FOR INFORMATION

1. Refer to Rattlesnake Ridge District's Qualified Infrastructure Improvement Plan (QIIP) at unnumbered page 2, paragraph 3, in relation to the zone meters. Explain how Rattlesnake Ridge District has utilized the data from the nine currently installed zone meters and identify the areas the zone meters have identified that may need additional leak detection.

RESPONSE:

The zone meters were installed as part of the Phase 12 Water System Improvements Project. Part of the installation process included wiring the zone meters in with the Telemetry system so that they can be read at anytime. This part is currently ongoing. RRWD has not been able to establish baseline readings in order to utilize the data to identify areas that may need additional leak detection.

2. Refer to Rattlesnake Ridge District's QIIP at unnumbered page 2, paragraph 4. Explain whether Rattlesnake Ridge District plans to hire or utilize current employees in relation to leak detection efforts, or Rattlesnake Ridge District is considering hiring an outside vendor for leak detection efforts.

RESPONSE:

RRWD plans on utilizing current employees to perform the leak detection services once the leak detection equipment is purchased. Due to the size of RRWD's distribution system, an outside vendor would be too cost prohibitive to have these services performed. Should RRWD feel that they need to hire an employee solely dedicated to leak detection, RRWD would request to be able to use the surcharge funds to pay for this employee's time.

3. Refer to Rattlesnake Ridge District's QIIP at unnumbered page 2, paragraph 5. Explain how Rattlesnake Ridge District currently tests its meters and provide documentation for any associated costs for this testing for each meter size.

RESPONSE:

RRWD sends their customer meters (5/8 x ¾) to Ferguson Waterworks due to the fact that they are currently under warranty to be sent off for testing. Ferguson will send RRWD new meters in their place. The larger meters are tested in accordance with PSC regulations and they are performed by Definitive Testing Services located at 240 Chenault Road, Lexington, KY 40502

4. Refer to Rattlesnake Ridge District's QIIP at unnumbered pages 2-3.

a. Provide a list of the identified water loss problem areas within the distribution system, including the current water loss percentage within each area.

b. Explain how Rattlesnake Ridge District plans to prioritize each of the proposed water main replacement projects.

RESPONSE:

A. **Diamond Ridge Road, Horton Flats Road, KY 1496, Huff Run Road, Willard School. RRWD estimates current losses on the above mentioned problem areas to be approximately 25%.**

B. **RRWD plans to replace Horton Flats Road first due to number of main breaks. The second priority would be to replace KY 1496 due the number of leaks on the main. Huff's run road is the third highest priority due to number of leaks and higher pressure on the main causing a greater water loss. Diamond Ridge Road is the next highest priority due to number of customers served and location of the existing water main. RRWD also sells water to Big Sandy Water District through this line. The lowest priority in the proposed water main replacements would be Willard School due to the fact the footage of line needed to replace this section is minimal and does not have blowouts or leaks as the rest.**

5. Refer to Rattlesnake Ridge District's QIIP at unnumbered page 3, Table 7. Provide the following information for the listed items.

a. The quantity and location in the system the proposed items will be installed.

b. State whether each item will be installed using internal labor or if Rattlesnake Ridge will hire an external contractor to complete the instillation.

c. Provide any estimates for the cost of each item and any quotes for proposed contracted work or installation.

d. Provide the estimated completion date for each item.

e. Provide the expected funding source for each item, whether from the water loss surcharge funds or alternate funding.

f. State whether the expected funding has been obtained. If yes, provide the date the funding was provided. If no, provide the status of obtaining the funds.

g. Provide an updated list, in order of priority, to include a detailed description of the schedule for completing the proposed projects

Item #	Project	Project Description	Project Cost
1	Pressure Reducing Stations	Installation of pressure reducing stations on five branch lines	$ 50,000
2	Water Valve Insertion	Installation of water valves of various sizes within the system to help reduce the amount of time it takes to find and repair leaks	100,000
3	Zone Meters	Installation of zone meters to help narrow down areas that may have potential leaks	250,000
4	Leak Detection Equipment	Purchase of leak detection equipment to find leaks quicker	25,000
5	Water Meter Testing Bench	Purchase of a water meter testing bench to test meters for accuracy	50,000
6	Diamond Ridge RD Water Main Replacement	Replacement of problematic water main (1,000 ft, 3 and 4 inch)	60,000
7	Horton Flats Road Water Main Replacement	Replacement of problematic water main (7,500 ft, 3 and 4 inch)	325,000
8	KY 1496 Water Main Replacement	Replacement of problematic water main (20,000 ft, 4 inch)	850,000
9	Willard School Water Main Replacement	Replacement of problematic water main (500 ft, 6 inch)	50,000
10	Huff Run Road Water Main Replacement	Replacement of problematic water main (15,000 ft, 8 inch)	800,000
	Total Qualified Infrastructure Future Expenditures		$ 2,560,000

RESPONSE:

A. See Attached Appendix A for quantity and location for the listed items

B. The PRV's will be installed using internal labor. The Water valves will be installed using an external contractor. The Zone meters will be installed using an external contractor. Leak detection equipment will be used by internal labor. Testing water meters will be done by internal labor. Diamond Ridge Road Water Main Replacement will be constructed using an external contractor. Horton Flats Road Water Main Replacement will be constructed using an external contractor. Ky 1496 Water Main Replacement will be constructed using an external contractor. Willard School Water Main Replacement will be constructed using an external contractor.

Huff Run Road Water Main Replacement will be constructed using an external contractor.

C. **See Attached Cost Estimates.**

D. **PRV Installation to be complete July 2027. Water valve insertion to be complete January 2027. Zone Meter installation to be complete by December 2027. Leak Detection Equipment to be purchased by January 2026. Water Meter Test Bench to be purchased by January 2026. Diamond Ridge Road to be Complete by December 2028. Horton Flats Road to be Complete by December 2027. KY 1496 to be complete by December 2029. Willard School to be complete by December 2028. Huff Run Road to be complete by December 2029.**

E. **PRV installation is expected to be funded by Water Loss Surcharge Funds. Water Valve Insertions is expected to be funded by Water Loss Surcharge Funds. Zone Meter Installations are expected to be funded by Water Loss Surcharge Funds. Leak Detection Equipment purchase is expected to be purchased by Water Loss Surcharge Funds. The Water Meter Test Bench is expected to be funded by Water Loss Surcharge Funds. Diamond Ridge Water Main Replacement is Expected to be funded by Water Loss Surcharge Funds. Horton Flats Water Main Replacement is expected to be funded by Water Loss Surcharge Funds. KY 1496 Water Main Replacement is expected to be funded by alternate sources i.e. CDBG, SRF, RD, ARC, etc. Willard School Water Main Replacement is expected to be funded by Water Loss Surcharge Funds. Huff Run Road Water Main Replacement is expected to be funded by alternate sources i.e. CDBG, SRF, RD, ARC, etc.**

F. All the items listed above referencing Water Loss Surcharge Funds will be paid for up until the surcharge funds have been expended. No request for use has been submitted at this time, but same will occur before there is any use of the Water Loss Surcharge Funds. The items listing alternate funding sources will be put into a project profile to apply for funding. Funding has not been obtained for these items, expected date currently unknown.

G. See Appendix B

6. Refer to Item 5 in the table above, the water meter testing bench.

    a. Provide the in-service date of the 4,030 meters referenced in the QIIP filing.

    b. State the percentage of customer meters installed as part of the replacement.

    c. State the number of meters currently testing by a third party.

    d. State the cost per meter for testing by the third party.

    e. State how the meter testing bench would be staffed.

RESPONSE:

A. The in service date for the 4,030 meters is July 21, 2023

B. The percentage of customer meters installed as part of the replacement is 100%

C. 12 Meters per the request of the customer to test for accuracy

D. $33 per 5/8 x 3/4 meter and $225 per >1" meter

E. Current RRWD Staff would be certified to test the 5/8 x ¾ meters using the proposed testing bench.

7. Refer to Rattlesnake Ridge District's QIIP at unnumbered page 4. Explain whether Rattlesnake Ridge District has an estimate, expressed as a water loss percentage, of the anticipated impact in water loss from the proposed projects.

RESPONSE:

RRWD has estimated that the QIIP can reduce their projected water loss from approximately 28% to approximately 20%.

8. Refer to Rattlesnake Ridge District's 2022, 2023, and 2024 annual reports regarding water gallons sold. Rattlesnake Ridge District reported 176,980,000; 262,317,000; and 255,799,000 gallons sold in 2022, 2023, and 2024 respectively. Provide an explanation for the increased gallons sold since 2022, which appears to be an approximate 50 percent increase between 2022 and 2023.

RESPONSE:

RRWD's large (>1") meters were being read wrong due to different brands and types of meters within the system. RRWD went back in Phase 12 WSI project and installed new larger meters that are now the same. One example was being read at 100,000 gallons and should have been read as 1,000,000 gallons. This was discovered on 08/11/2023 and has been corrected. Also, DOW had required the city of Olive Hill to purchase water off of RRWD due to drought conditions and the City's waning water supply.

The above Responses are true and correct to the best of my information, knowledge, and belief formed after reasonable inquiry.

STEVE ISON, BOARD CHAIRMAN
RATTLESNAKE RIDGE WATER DISTRICT

COMMONWEALTH OF KENTUCKY
COUNTY OF Carter

The foregoing instrument was sworn, subscribed, and acknowledged to before me this 25th day of Sept, 2025 by STEVE ISON, **Chairman of the Board, Rattlesnake Ridge Water District,** to be his free act and deed.

My commission expires: 11-26-27

NOTARY PUBLIC, KENTUCKY
NOTARY ID # KYNP81247

Respectfully submitted,

DELORES WOODS BAKER
Local Counsel RRWD
134 W Third St
Maysville, KY 40156
606-564-7969
dwbaker@maysvilleky.net

APPENDIX A

The quantity and location in the system of the proposed items to be installed

Appendix A

Category	Line Size	Description	Location
Zone Meter	12 Inch	Install zone meter outside of plant to monitor water going toward Rt 7 Tanks.	Rt 7 Tanks
Zone Meter	12 Inch	Install zone meter outside of plant to monitor water going toward Rattlesnake Ridge and Mayhew Tanks.	Rattlesnake Ridge Tank
Zone Meter	4 Inch	Install zone meter at beginning of Hurricane Creek to monitor Hurricane and Caines Creek usage.	Isonville Tank
Zone Meter	4 Inch	Install zone meter on Bill Branch and use the valves on the other side of Rt 32 to isolate between East toward Martha and West toward 706 North/706 South.	Isonville Tank
Zone Meter	4 Inch	Install zone meter at Square Lick with tee and valves to be able to isolate water going toward Cory Road/Three Pine direction and also be able to see what flow is going toward Square Lick, 986 Ross Chapel, and Tick Ridge way.	McConnell Tank
Zone Meter	4 Inch	Install zone meter on 1555 at the intersection of Ky 504 and Ky 1555 heading toward 504 East Tank.	504 East Tank
Zone Meter	4 Inch	Install zone meters on Mabry Ridge off of Rt 504 to monitor usage going toward Rt 1620, Mushroom Hill, Parker Trail,& Tick Ridge.	504 East Tank
Zone Meter	4 Inch	Install zone meter on Ky 649 (Stark Ridge) to monitor usage on Stark Ridge.	504 West Tank
Zone Meter	4 Inch	Install zone meter at the intersection of 1122 and 486 to monitor usage across 1122, Brushy, and 1496.	Mayhew Tank
Zone Meter	4 Inch	Install zone meter at the mouth of Hwy 201.	Mayhew Tank
Zone Meter	4 Inch	Install zone meter on Oakland Ridge where the line goes over toward Carter City.	Oakland Ridge Tank
Zone Meter	4 Inch	Install zone meter at Webb Ridge and Rt 59.	Walnut Grove Tank
Zone Meter	4 Inch	Install Zone Meter on Smith Run at intersection of Rose Ridge and Smith Run to monitor the usage on Smith Run.	Walnut Grove Tank
Zone Meter	6 Inch	Install zone meter on Oakland Ridge around Menix Rd and 182. Place the meter on Menix Rd so that you can use the main line valves on 182 to determine if the usage coming back from the tank is going back towards Carter Caves or back towards Opossum Holler.	Oakland Ridge Tank
Zone Meter	8 Inch	Install zone meter on MaddoxTrail just off of Rattlesnake Ridge to monitor usage going toward Gregoryville Tank.	Rattlesnake Ridge Tank
Line Replacement	3 Inch	Replace approximately 1,500' of 3" & 4" water main on Horton Flats Rd.	Rt 7 Tanks
Line Replacement	4 Inch	Replace approximately 1,000' of 3" & 4" water main on Diamond Ridge Rd.	Diamond Ridge Tank
Line Replacement	4 Inch	Replace approximately 20,000' of 4" water main on Ky 1496.	Mayhew Tank
Line Replacement	6 Inch	Replace approximately 500' of 6" water main at Willard School.	Mayhew Tank
Line Replacement	8 Inch	Replace approximately 15,000' of 8" water main on Huffs Run.	Mayhew Tank
PRV	4 Inch	Add PRV on Horton Flat to lower pressure that has caused numerous leaks in the past.	Rt 7 Tanks
PRV	4 Inch	Add a PRV on 1620 on the North Side of Mushroom Hill.	504 West Tank
PRV	4 Inch	Install PRV in existing vault on Ky 32 across from Bill Branch heading east toward Martha.	Isonville Tank
PRV	4 Inch	Install PRV at junction of 1444 and 773, to reduce pressure toward Bucksaw Junction	Mayhew Tank
PRV	4 Inch	Install PRV at the junction of Ky 504 and Ky 649 (Skaggs Flat)	504 East Tank
Valve Insertion	4 Inch	Install new 4" valve and wet tap to tie 1496 Lost Creek in to the 8" on Rt1 to remove an existing 4" creek crossing.	Mayhew Tank
Valve Insertion	4 Inch	Install new 4" valve at Griffith pond on Rt 1 to isolate the cut off the creek crossing that goes to 1496.	Mayhew Tank
Valve Insertion	4 Inch	Install 4" valve by Glancy on Falls Branch.	Mayhew Tank
Valve Insertion	4 Inch	Install 4" valve on 1555 to be able to isolate leaks to a smaller area.	504 East Tank

Valve Insertion	6 Inch	Install new 6" valve on Rattlesnake Ridge across from Maddox Trail on the 6" line coming from the plant to better isolate leaks on Rt 7.	Rattlesnake Ridge Tank
Valve Insertion	6 Inch	Install 6" valve on Wicker Holler to better isolate leaks.	Oakland Ridge Tank
Valve Insertion	6 Inch	Install 6" valve on Opossum Holler before Adkins Loop Feed valve to better isolate and check for leaks.	Oakland Ridge Tank
Valve Insertion	6 Inch	Install 6" valve at the intersection of Webb Ridge and Rt 2 to better isolate andcheck for leaks.	Walnut Grove Tank
Valve Insertion	6 Inch	Install 6" valve on 486 (At Backbone) to better isolate and check for leaks.	Isonville Tank
Valve Insertion	6 Inch	Install 6" vlave at Salter Road on Rattlesnake Ridge to better isolate and check for leaks.	McConnell Tank
Valve Insertion	6 Inch	Inatall 6" valve at Bruin Lake Crossing on the Campground to be able to check the lake crossing for leaks.	Rattlesnake Ridge Tank
Valve Insertion	6 Inch	Install 6" valve on 3298 (Cory Ridge) at Barker Flats to better isolate and check for leaks.	McConnell Tank
Valve Insertion	6 Inch	Intall 6" valve on the South side of the Clifty Lake Crossing to isolate and check lake crossing for leaks.	Rattlesnake Ridge Tank
Valve Insertion	6 Inch	Intall 6" valve on the North side of the Clifty Lake Crossing to isolate and check lake crossing for leaks.	Rattlesnake Ridge Tank
Valve Insertion	8 Inch	Install 8" valve at intersection of Fultz Rd and Popes Fork to better isolate the Big Sinking/Big Run line.	Rattlesnake Ridge Tank
Valve Insertion	8 Inch	Replace 8" Valve on Rattlesnake Ridge across from Maddox Trail on the Big Sinking Line, valve leaks through.	Rattlesnake Ridge Tank
Valve Insertion	8 Inch	Replace 8" "Jones Valve" on Maddox Trail, valve leaks through.	Rattlesnake Ridge Tank
Valve Insertion	8 Inch	Replace 8" "Bridge Valve" on Maddox Trail, valve leaks through.	Rattlesnake Ridge Tank
Valve Insertion	8 Inch	Replace 8" "Sparks Valve", valve leaks through.	Rattlesnake Ridge Tank
Valve Insertion	4 Inch	Install new 4" valve at the mouth of Davey's Run to be able to isolate Davey and keep Heritage School in water.	Mayhew Tank

Appendix A Quantities

Line Size	PRV	Valve Insertion	Zone Meter	Line Replacement
3 Inch	0	0	0	1
4 Inch	5	5	11	2
6 Inch	0	10	1	1
8 Inch	0	5	1	1
10 Inch	0	0	0	0
12 Inch	0	0	2	0
Totals	***5***	***20***	***15***	***5***

EXHIBIT B

Cost Estimates

BLUEGRASS ENGINEERING PLLC

Client:	RRWD
Project:	Zone Meters
Date:	9/23/2025

Construction Costs

Item #	Description	Quantity	Unit	Unit Cost	Item Cost
1	Install New Zone Meters	10	EA	$ 25,000	$ 250,000
Total - Construction Cost					$ 250,000

BLUEGRASS ENGINEERING PLLC

Client:	RRWD
Project:	PRV Installation
Date:	9/23/2025

Construction Costs

Item #	Description	Quantity	Unit	Unit Cost	Item Cost
1	Install 5 New PRV Stations	5	EA	$ 10,000	$ 50,000
Total - Construction Cost					$ 50,000

BLUEGRASS ENGINEERING PLLC

Client:	RRWD
Project:	Water Valve Insertion
Date:	9/23/2025

Construction Costs

Item #	Description	Quantity	Unit	Unit Cost	Item Cost
1	Install New 8" Gate valves	5	EA	$ 5,000	$ 25,000
2	Install New 6" Gate Valves	10	EA	$ 5,000	$ 50,000
3	Install New 4" Gate Valves	5	EA	$ 5,000	$ 25,000
Total - Construction Cost					$ 100,000

BLUEGRASS ENGINEERING PLLC

Client:	RRWD
Project:	Leak Detection Equipment
Date:	9/23/2025

Construction Costs

Item #	Description	Quantity	Unit	Unit Cost	Item Cost
1	Purchase of Aquascope Listener	1	EA	$ 5,000	$ 5,000
2	Training on Aquascope	1		$ 1,000	$ 1,000
3	Data Loggers	10		$ 1,900	$ 19,000
Total - Construction Cost					$ 25,000

BLUEGRASS ENGINEERING PLLC

Client:	RRWD
Project:	Meter Test Bench
Date:	9/23/2025

Construction Costs

Item #	Description	Quantity	Unit	Unit Cost	Item Cost
1	Purchase of a Water Meter Testing Bench	1	EA	$ 50,000	$ 50,000
Total - Construction Cost					$ 50,000

BLUEGRASS ENGINEERING PLLC

Client:	RRWD
Project:	Diamond Ridge Road
Date:	9/23/2025

Construction Costs

Item #	Description	Quantity	Unit	Unit Cost	Item Cost
1	4" PVC SDR-17 Water Main	800	LF	$ 40	$ 32,000
2	3" PVC SDR-17 Water Main	200	LF	$ 40	$ 8,000
3	Connect to Existing Water Main	2	EA	$ 2,000	$ 4,000
4	Reconnect Existing Water Meters	8	EA	$ 2,000	$ 16,000
Total - Construction Cost					$ 60,000

BLUEGRASS ENGINEERING PLLC

Client:	RRWD
Project:	Horton Flats Road
Date:	9/23/2025

Construction Costs

Item #	Description	Quantity	Unit	Unit Cost	Item Cost
1	4" PVC SDR-17 Water Main	5,000	LF	$ 40	$ 200,000
2	3" PVC SDR-17 Water Main	2,500	LF	$ 40	$ 100,000
3	Connect to Existing Water Main	2	EA	$ 2,500	$ 5,000
4	Reconnect Existing Water Meters	10	EA	$ 2,000	$ 20,000
Total - Construction Cost					$ 325,000

BLUEGRASS ENGINEERING PLLC

Client:	RRWD
Project:	KY 1496
Date:	9/23/2025

Construction Costs

Item #	Description	Quantity	Unit	Unit Cost	Item Cost
1	4" PVC SDR-17 Water Main	20,000	LF	$ 40	$ 800,000
2	Connect to Existing Water Main	2	EA	$ 2,000	$ 4,000
3	Reconnect Existing Water Meters	23	EA	$ 2,000	$ 46,000
Total - Construction Cost					$ 850,000

BLUEGRASS ENGINEERING PLLC

Client:	RRWD
Project:	Willard School
Date:	9/23/2025

Construction Costs

Item #	Description	Quantity	Unit	Unit Cost	Item Cost
1	6" PVC SDR-17 Water Main	500	LF	$ 60	$ 30,000
2	Connect to Existing Water Main	2	EA	$ 3,000	$ 6,000
3	New Flush Hydrant	1	EA	$ 8,000	$ 8,000
4	Water Meter Reconnection	3	EA	$ 2,000	$ 6,000
Total - Construction Cost					$ 50,000

BLUEGRASS ENGINEERING PLLC

Client:	RRWD
Project:	Huff Run Road
Date:	9/23/2025

Construction Costs

Item #	Description	Quantity	Unit	Unit Cost	Item Cost
1	8" PVC SDR-17 Water Main	15,000	LF	$ 50	$ 750,000
2	Connect to Existing Water Main	2	EA	$ 3,000	$ 6,000
3	New Flush Hydrant	1	EA	$ 8,000	$ 8,000
4	Water Meter Reconnection	18	EA	$ 2,000	$ 36,000
Total - Construction Cost					$ 800,000

APPENDIX B

Updated list, in order of priority & detailed description of the schedule for completing the proposed projects

Appendix B

Item #	Project	Completion Description	Project Cost
1	Leak Detection Equipment	November 2025 - Request from PSC authorization to purchase. December 2025 - Purchase Equipment	$ 25,000.00
2	Water Meter Testing Bench	November 2025 - Request from PSC authorization to purchase. December 2025 - Purchase Equipment	$ 50,000.00
3	Zone Meters	January 2026 - Request from PSC authorization to use surcharge funds for Zone Meters. April 2026 - Bid out Zone meters for construction. December 2027 - Zone Meters Complete	$ 250,000.00
4	Water Valve Insertion	May 2026 - Request from PSC authorization to use surcharge funds for water valve insertions. July 2027 - Bid out Water Valve Insertions. December 2027 - Water Vavle Insertions Complete	$ 100,000.00
5	PRV Installation	January 2027 - Request from PSC authorization to use surcharge funds to install PRV's. March 2027 - Begin Installation of PRV's. July 2027 - Installations complete	$ 50,000.00
6	Horton Flats Water Main Replacmenet	January 2027 - Request from PSC authorization to use surcharge funds for Horton Flats WM Replacment. April 2027 - Bid out Horton Flats WM Replacement. December 2027 - Installation complete	$ 325,000.00
7	Diamond Ridge WM Replacement	January 2028 - Request from PSC authorization to use surcharge funds for Diamond Ridge WM Replacement. April 2028 - Bid out Diamond Ridge WM Replacement. December 2028 - Installation Complete	$ 60,000.00
8	Willard School Water Main Replacement	January 2028 - Request from PSC authorization to use surcharge funds for Willard School WM Replacement. April 2028 - Bid out Willard School WM Replacement. December 2028 - Installation Complete	$ 50,000.00
9	KY 1496 Water Main Replacement	October 2026 - Begin Funding Applications. May 2029 - Begin Construction. December 2029 - Construction Complete	$ 850,000.00
10	Huff Run Road Water Main Replacement	October 2026 - Begin Funding Applications. May 2029 - Begin Construction. December 2029 - Construction Complete	$ 800,000.00
	Total Qualified Infrastructure Future Expenditures		$ 2,560,000.00