

## APPENDIX C

### APPENDIX TO AN ORDER OF THE KENTUCKY PUBLIC SERVICE COMMISSION IN CASE NO. 2019-00041 DATED MAR 12, 2019

1. Provide the utility's monthly unaccounted for loss water loss percentage report with associated underlying data from January 1, 2018, to the date of the issuance of this Order.
2. Describe in detail the procedure utilized in preparing monthly water use and loss reports, including, but not limited to, the following:
  - a. How the utility calculates water loss, water treatment plant usage, system flushing, and disinfection byproduct flushing.
  - b. Identify by name and job title employees who prepare or assist in the preparation of the reports.
  - c. What is included in the water loss category. Specifically, state whether the utility includes water loss from known leaks and breaks in the water loss category.
3. State whether the water utility has completed a water loss detection plan.
  - a. If the answer is yes, provide a copy of the last completed water loss detection plan.
  - b. If the answer is no, explain why a water loss detection plan has not been completed.
4. State whether the water utility has completed a comprehensive unaccounted-for water loss reduction plan.

a. If the answer is yes, provide a copy of the last completed comprehensive unaccounted-for water loss reduction plan.

b. If the answer is no, explain why a comprehensive unaccounted-for water loss reduction plan has not been completed.

5. Describe and provide the results of all water loss reduction projects that the water utility has initiated from January 1, 2015, to the date of the issuance of this Order.

6. Provide a copy of the utility's most recent and updated annual and long-range Capital Improvement Plans.

7. Provide the names of the persons or entities responsible for assisting the utility with capital improvement planning, grant application assistance, engineering design, and construction services.

8. Provide a copy of the utility's preventative maintenance program for the plant, pump, and storage facilities.

9. State whether the water utility has assigned specific personnel the responsibility to detect and fix of water line leaks, and if so, state the names and job titles of such personnel and describe the functions and duties of each.

10. State whether leak detection is conducted on a daily basis, and if not, state the reasons why not.

11. Provide the number of completed water line leak repairs by category, i.e., mains, service lines, etc. that were completed from September 1, 2018, to the date of the issuance of this Order.

12. Provide copies of each work order generated to investigate leaks reported by customers of the utility from September 1, 2018, to the date of the issuance of this Order.

13. Does the utility have a policy or operating procedure in place that addresses the process and the length of time it should take for the utility to fix a known or reported leaking water line? If yes, provide a copy of the policy or operating procedure.

14. Provide a general asset ledger listing identifying all new equipment purchased by the utility from January 1, 2018, to the date of the issuance of this Order used in water loss reduction efforts (e.g., listening devices, flow meters, metal detectors, hand tools, etc.).

15. Provide the type of training and the total amount of time the utility's personnel have received for leak detection and repairs since January 1, 2015, to the date of the issuance of this Order. List the personnel and dates of training.

16. Does the utility have a policy to identify errors that result in missed customer billings or under billings of customer accounts? If so, provide a copy of the policy.

17. If the utility produces and treats water for its distribution system, provide the date that the utility's water treatment plant meter was last tested and state how frequently the utility's water treatment plant meter is tested. Provide a copy of the most recent meter test results.

18. Provide the dates on which the utility's master meters were last tested and the results of the tests.

19. Provide the utility's procedure and schedule for testing its master meters and customer meters.

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20. State the number of meters that have been replaced by the utility from January 1, 2018, to the date of the issuance of this Order.

21. Provide the type of metering equipment, including brands and model numbers, the utility uses.

22. State whether the utility utilizes supervisory control and data acquisition (SCADA) technology within its system.

23. State whether the utility utilizes telemetry within its system.

24. State whether all meters within the utility's distribution area are read monthly. If all meters are not read monthly state the reasons why not.

25. What training is provided to the utility's meter readers?

26. Does the utility utilize master meter zones in leak detection? If yes, for each of the utility's master meter zones, provide a monthly comparison of the master meter readings to the total customer meter readings for that zone for December 2018 and January 2019.

27. State whether the utility uses a system-wide hydraulic model to evaluate the pressure zones and flow in the utility's distribution system.

28. Does the utility manager regularly report the water loss reduction efforts to the water utility's board of commissioners? Provide copies of any written reports, memorandums, letters, emails, or minutes from January 1, 2018, to the date of the issuance of this Order that details the efforts of the utility manager in reducing water loss as reported to the water utility's board of commissioners.

29. For the period from January 1, 2015, to the date of the issuance of this Order, discuss whether the water utility's board of commissioners has placed any

deadlines or target dates on the utility for achieving a reduction in the amount of water loss.

30. Provide a list of the utility management's five most critical projects, listed in order of priority, notwithstanding the opinions of the county judge/executive nor the opinions of the water district board of commissioners.

31. Provide the total salary of the general manager/superintendent of the water utility for calendar years 2017 and 2018.

32. Provide a copy of the most recent signed employment contract between the general manager/superintendent and the utility.

33. State the average age, with the high and low ages, of the utility's distribution mains.

34. "Service connection," as defined by 807 KAR 5:066(6), means the line from the main to the customer's point of service, and shall include the pipefittings and valves necessary to make the connection. State the average age of the utility's service connections.

35. Has the utility mapped the entire distribution area for service connections to include mapping of its system, and identifying parts of its system with repeated breaks?

36. Provide a copy of the utility's policy for dealing with apparent theft of water.

37. Provide documentation of any request by the utility from January 1, 2017, to the date of the issuance of this Order to the county attorney or commonwealth attorney's office for the prosecution of any person for the theft of water.

a. State whether the utility provided information related to the request for prosecution to the county attorney or commonwealth attorney's office for this time frame.

b. If the response to Item 37a. above is confirmed, state to which office the utility provided the information, whether any action was taken on behalf of the utility to prosecute any person for theft of water, and provide copies of the documentation and correspondence related to the prosecution.

38. Provide the utility's policy for determining whether a leak adjustment to a customer's account is warranted and identify the person(s) that approve leak adjustments.

39. State whether the utility's tariff permits the utility to adjust late charges when making a leak adjustment.

40. Provide a copy of the utility's most recent Leak Adjustment Worksheet that was used by the utility and explain what software is being used by the utility to generate the Leak Adjustment Worksheet. If the utility is using Microsoft Excel to generate the Leak Adjustment Worksheet, then provide a copy of the most recent Leak Adjustment Worksheet used by the utility in electronic format with all rows unprotected and all formulas intact.

41. State whether the utility has conducted a comprehensive water audit, and if so, provide a copy of the most recent water audit.

42. Provide a copy of the utility's procedure for monitoring and documenting withdrawals from the utility's distribution system by fire departments. If no document exists, explain the process in detail.

a. For each fire department that made a withdrawal from the utility's system from January 1, 2018, to the date of the issuance of this Order, provide a copy of the fire department's estimate of its withdrawal.

b. For any instance in which a fire department failed to provide an estimate of withdrawal from January 1, 2018, to the date of the issuance of this Order, state the actions the utility implemented to correct the failure.

c. Provide the date on which the utility last imposed a penalty on a fire department for the fire department's failure to submit a quarterly report on its water usage.

d. Provide a sample copy of each type of report form that the utility provides to fire departments.

e. Provide the fourth quarter of the 2018 fire protection water usage, by month, and describe the formula relied upon, identifying all variables, and all assumptions and workpapers utilized to produce this information.

43. Explain how the utility accounts for flushing when determining water loss for its system.

44. Provide the type of flushing equipment that the utility uses.

45. Provide the utility's system flushing records, by month, from January 1, 2018, to the date of the issuance of this Order, and describe the formula relied upon, identifying all variables, and all assumptions and workpapers utilized to produce this information.

# Rattlesnake Ridge Response to Appendix C

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1. See Attached forms

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# Monthly Water Use Report

Water Utility:

Rattlesnake Ridge Water District

PWSID: Kv0220555

For the Month of:

January

Year:

2018

1 PRODUCTION COST PER THOUSAND

2 PURCHASE COST PER THOUSAND

(insert cost)

(insert cost) ----- ,

**GALLONS**

**WATER PRODUCED or PURCHASED**

3	Water Produced	<u>53,814,000</u>	99.7%
4	Water Purchased	<u>165,000</u>	0.3%
5	<b>TOTAL PRODUCED AND PURCHASED</b>	<b>53,979,000</b>	
6	<b>TOTAL COST #VALUE!</b>		

**WATER SOLD**

		12,798,780	
7	Residential	2,978,500	
8	Commercial		
9	Industrial		
10	Bulk Loading Stations		
11	Wholesale		
12	Other Sales (explain)		
13	<b>TOTAL WATER SOLD</b>	15,777,280	29.2%
14	<b>TOTAL WATER NOT SOLD</b>	38,201,720	<b>70.8%</b>

**BREAKDOWN OF WATER USAGE**

15	Water Treatment Plan		
16	Wastewater Treatment		
17	System Flushing	180,000	#VALUE!
18	Fire Department Usage	409,955	#VALUE!
19	DBP Flushing	<b>47,331</b>	
	DBP Maintenance	0	
20	<b>TOTAL USAGE</b>	637,286	
21	<b>WATER LOSS PERCENTAGE FOR RATE PURPOSES</b>		<b>69.6%</b>

**BREAKDOWN OF WATER LOST**

22	Tank Overflows (other than for DBP maintenance)		
23	Excavation Breaks	1,451,411	#VALUE!
24	Repaired Line Breaks	0	
25	Unknown Loss	36,113,023	<b>66.9%</b>
26	<b>TOTAL WATER NOT SOLD OR USED</b>	<b>37,564,434</b>	
27	<b>COST OF WATER NOT SOLD OR USED</b>	<b>#VALUE!</b>	

**"UNKNOWN LOSS" FLOW RATE AND COST:**

28	"Unknown Loss"	36,113,023	
29	% "Unknown Loss"	66.9%	
30	Number of Days in <u>Period!</u>	31	
31	"Unknown Loss" per Day (Gallons per Day)	1,164,936	
32	"Unknown Loss" per Minute (GPM)	808.98	
33	"Unknown Loss" Cost for Month	#VALUE!	

# Monthly Water Use Report

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# Monthly Water Use Report

Water Utility: Rattlesnake Ridge Water District PWSID: Ky0220555

For the Month of: February Year: 2018

1 PRODUCTION COST PER THOUSAND (insert cost) \_\_\_\_\_  
 2 PURCHASE COST PER THOUSAND (insert cost) \_\_\_\_\_

		<b>GALLONS</b>	
<b>WATER PRODUCED OR PURCHASED</b>			
3	Water Produced	<u>41,893,000</u>	98.3%
4	Water Purchased	<u>720,000</u>	1.7%
5	<b>TOTAL PRODUCED AND PURCHASED</b>	42,613,000	
6	<b>TOTAL COST #VALUE!</b>		

<b>WATER SOLD</b>			
7	Residential	14,346,834	
8	Commercial	5,345,370	
9	Industrial		
10	Bulk Loading Stations		
11	Wholesale		
12	Other Sales (explain)		
13	<b>TOTAL WATER SOLD</b>	19,692,204	46.2%
14	<b>TOTAL WATER NOT SOLD</b>	22,920,796	<b>53.8%</b>

<b>BREAKDOWN OF WATER USAGE</b>			
15	Water Treatment Plant	2,000,000	
16	Wastewater Treatment		
		417,8088	
17	System Flushing	<u>59,076</u>	#VALUE!
18	Fire Department Usage DBP Maintenance	0	#VALUE!
19	DBP Flushing		
20	<b>TOTAL USAGE</b>	2,476,884	
21	<b>WATER LOSS PERCENTAGE FOR RATE PURPOSES</b>		<b>48.6%</b>

<b>BREAKDOWN OF WATER LOST</b>			
22	Tank Overflows (other than for DBP maintenance)		
23	Excavation Breaks	<u>1,518,111</u>	#VALUE!
24	Repaired Line Breaks		
25	Unknown Loss	18,925,767	<b>44.4%</b>
26	<b>TOTAL WATER NOT SOLD OR USED</b>	<b>20,443,912</b>	
27	<b>COST OF WATER NOT SOLD OR USED</b>		<b>#VALUE!</b>

<b>"UNKNOWN LOSS" FLOW RATE AND COST:</b>			
28	"Unknown Loss"	18,925,767	
29	% "Unknown Loss"	<u>44.4%</u>	
30	Number of Days in Period	<u>18</u>	
31	"Unknown Loss" per Day (Gallons per Day)	675,920	
32	"Unknown Loss" per Minute (GPM)	469.39	
33	"Unknown Loss" Cost for Month		<b>#VALUE!</b>

# Monthly Water Use Report

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## Monthly Water Use Report

W --. Utility: Rattlesnake Ridge Water District PWSID: Ky0220555

For the Month of: March Year: 2018

1 PRODUCTION COST PER THOUSAND (insert cost) \_\_\_\_\_  
 2 PURCHASE COST PER THOUSAND (insert cost). - - - - -

**GALLONS**

<b>WATER PRODUCED or PURCHASED</b>			
3	Water Produced	<u>45,460,000</u>	100.0%
4	Water Purchased		0.0%
5	<b>TOTAL PRODUCED AND PURCHASED</b>	45,460,000	
6	<b>TOTAL COST #VALUE!</b>		

<b>WATER SOLD</b>			
7	Residential	<u>9,766,790</u>	
8	Commercial	<u>1,985,450</u>	
9	Industrial		
10	Bulk Loading Stations		
11	Wholesale		
12	Other Sales (explain)		
13	<b>TOTAL WATER SOLD</b>	11,752,240	25.9%
14	<b>TOTAL WATER NOT SOLD</b>	33,707,760	74.1%

<b>BREAKDOWN OF WATER USAGE</b>			
15	Water Treatment Plant	<u>2,000,000</u>	
16	Wastewater Treatment Plant		
17	System Flushing	<u>327,685</u>	#VALUE!
18	Fire Department Usage	<u>35,250</u>	#VALUE!
19	DBP Flushing	<u>0</u>	
20	<b>TOTAL USAGE</b>	2,362,935	
21	<b>WATER LOSS PERCENTAGE FOR RATE PURPOSES</b>		-

<b>BREAKDOWN OF WATER LOST</b>			
22	Tank Overflows (other than for DBP maintenance)	<u>69.0</u>	
23	Excavation Breaks	<u>674,429</u>	#VALUE!
24	Repaired Line Breaks	<u>0</u>	
25	Unknown Loss	30,670,396	67.5%
26	<b>TOTAL WATER NOT SOLD OR USED</b>	<b>31,344,825</b>	
27	<b>COST OF WATER NOT SOLD OR USED</b>	<b>#VALUE!</b>	

**"UNKNOWN LOSS" FLOW RATE AND COST:**

28	"Unknown Loss"	30,670,396	
29	% "Unknown Loss"	67.5%	
30	Number of Days in Period	31	
31	"Unknown Loss" per Day (Gallons per Day)	989,368	
32	"Unknown Loss" per Minute (GPM)	687.06	
	"Unknown Loss" Cost for Month	#VALUE!	





# Monthly Water Use Report

W-• Utility:

Rattlesnake Ridge Water District

PWSID: Ky0220555

For the Month of:

April

Year: | 2018

1 PRODUCTION COST PER THOUSAND

(insert cost) \_\_\_\_\_

2 PURCHASE COST PER THOUSAND

(insert cost) \_\_\_\_\_

**GALLONS**

**WATER PRODUCED or PURCHASED**

3	Water Produced	46,774,000	99.2%
4	Water Purchased	400,000	0.8%
5	<b>TOTAL PRODUCED AND PURCHASED</b>	47,174,000	
6	<b>TOTAL COST #VALUE!</b>		

**WATER SOLD**

7	Residential	12,536,640	
8	Commercial	3,080,560	
9	Industrial		
10	Bulk Loading Stations		
11	Wholesale		
12	Other Sales (explain)		
13	<b>TOTAL WATER SOLD</b>	15,617,200	33.1%
14	<b>TOTAL WATER NOT SOLD</b>	31,556,800	<b>66.9%</b>

**BREAKDOWN OF WATER USAGE**

15	Water Treatment Plan	3,000,000	
16	Wastewater Treatmen		
17	System Flushing	192,,8255	#VALUE!
18	Fire Department Usage	46,850	#VALUE!
19	DBP Flushing	0	
20	<b>TOTAL USAGE</b>	3,239,675,..... ,.....	
21	<b>WATER LOSS PERCENTAGE FOR RATE PURPOSES</b>		<u>60.0%<sup>4</sup></u>

**BREAKDOWN OF WATER LOST**

22	Tank Overflows (other than for DBP maintenance)		
23	Excavation Breaks	975,554	#VALUE!
24	Repaired Line Breaks		
25	Unknown Loss	27,341,571	<b>58.0%</b>
26	<b>TOTAL WATER NOT SOLD OR USED</b>	<b>28,317,125</b>	
27	<b>COST OF WATER NOT SOLD OR USED</b>	<b>#VALUE!</b>	

<b>"UNKNOWN LOSS" FLOW RATE AND COST:</b>			
28	"Unknown Loss"	27,341,571	
29	% "Unknown Loss"	58.0%	
30	Number of Days in Period	30	
31	"Unknown Loss" per Day (Gallons per Day)	911,386	
32	"Unknown Loss" per Minute (GPM)	632.91	
33	"Unknown Loss" Cost for Month	#VALUE!	



# **Monthly Water Use Report**

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# Monthly Water Use Report

Utility: Rattlesnake Ridge Water District PWSID: Ky0220555

For the Month of: May Year: 2018

1 PRODUCTION COST PER THOUSAND (insert cost) \_\_\_\_\_  
 2 PURCHASE COST PER THOUSAND (insert cost) \_\_\_\_\_

**GALLONS**

<b>WATER PRODUCED or PURCHASED</b>			
3	Water Produced	48,142,000	100.0%
4	Water Purchased	_____	0.0%
5	<b>TOTAL PRODUCED AND PURCHASED</b>	48,142,000	
6	<b>TOTAL COST #VALUE!</b>		

**WATER SOLD**

7	Residential		
8	Commercial	10,969,870	
9	Industrial	2,679,210	
10	Bulk Loading Stations		
11	Wholesale		
12	Other Sales (explain) -----		
13	<b>TOTAL WATER SOLD</b>	13,649,080	28.4%
14	<b>TOTAL WATER NOT SOLD</b>	34,492,920	71.6%

**BREAKDOWN OF WATER USAGE**

15	Water Treatment Plan	2,500,000	
16	Wastewater Treatment	354,789	
17	System Flushing	0	#VALUE!
18	Fire Department Usage	0	
19	DBP Flushing DBP Maintenance		
20	<b>TOTAL USAGE</b>	2,854,789	

21 **WATER LOSS PERCENTAGE FOR RATE PURPOSES** 65.7%<sub>i</sub>

**BREAKDOWN OF WATER LOST**

22	Tank Overflows (other than for DBP maintenance)		
23	Excavation Breaks	361,033	#VALUE!
24	Repaired Line Breaks		
25	Unknown Loss	31,277,098	65.0%

26 **TOTAL WATER NOT SOLD OR USED** 31,638,131  
 27 **COST OF WATER NOT SOLD OR USED** #VALUE!

**"UNKNOWN LOSS" FLOW RATE AND COST:**

28 "Unknown Loss" 31,277,098  
 29 % "Unknown Loss" 65.0%

## Monthly Water Use Report

30 (insert days of operation during month) \_\_\_\_\_ Number of Days in Period | \_\_\_\_\_  
31 "Unknown Loss" per Day (Gallons per Day)  
32 "Unknown Loss" per Minute (GPM)  
33 "Unknown Loss" Cost for Month #VALUE!  
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# Monthly Water Use Report

W,...., Utility: Rattlesnake Ridge Water District PWSID: Ky0220555  
 For the Month of: June Year: I 2018

1 PRODUCTION COST PER THOUSAND (insert cost) \_\_\_\_\_  
 2 PURCHASE COST PER THOUSAND (insert cost) -----

### GALLONS

#### WATER PRODUCED or PURCHASED

3	Water Produced	45,787,000	99.3%
4	Water Purchased	310,000	0.7%
5	<b>TOTAL PRODUCED AND PURCHASED</b>	46,097,000	
6	<b>TOTAL COST #VALUE!</b>		

#### WATER SOLD

7	Residential	14,917,280	
8	Commercial	2,888,740	
9	Industrial	0	
10	Bulk Loading Stations		
11	Wholesale		
12	Other Sales (explain) <span style="float: right;">TOTAL WATER SOLD</span>		
13	<b>TOTAL WATER SOLD</b>	17,806,020	38.6%
14	<b>TOTAL WATER NOT SOLD</b>	28,290,980	<b>61.4%</b>

#### BREAKDOWN OF WATER USAGE

5	Water Treatment Plan		
		2,000,000	
16	Wastewater Treatment Plant	754,474	
17	System Flushing	53,410	#VALUE!
18	Fire Department Usage	0	#VALUE!
19	DBP Flushing <span style="float: right;">DBP Maintenance</span>		
20	<b>TOTAL USAGE</b>	2,807,884	
21	<b>WATER LOSS PERCENTAGE FOR RATE PURPOSES</b>		55.3%

#### BREAKDOWN OF WATER LOST

22	Tank Overflows (other than for DBP maintenance)	50,000	#VALUE!
23	Excavation Breaks	2,046,891	#VALUE!
24	Repaired Line Breaks	0	
25	Unknown Loss	23,386,205	50.7%
26	<b>TOTAL WATER NOT SOLD OR USED</b>	<b>25,483,096</b>	
27	<b>COST OF WATER NOT SOLD OR USED</b>	<b>#VALUE!</b>	

<b>"UNKNOWN LOSS" FLOW RATE AND COST:</b>		
28	"Unknown Loss"	23,386,205
29	% "Unknown Loss"	50.7%
30	(insert days of operation during month) Number of Days in Period	
	"Unknown Loss" per Day (Gallons per Day)	
	"Unknown Loss" per Minute (GPM)	

# Monthly Water Use Report

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# Monthly Water Use Report

Utility: Rattlesnake Ridge Water District PWSID: Ky0220555

For the Month of: JULY Year: j 2018

1 PRODUCTION COST PER THOUSAND (insert cost) \_\_\_\_\_  
 2 PURCHASE COST PER THOUSAND (insert cost) =====

**GALLONS**

**WATER PRODUCED or PURCHASED**

3	Water Produced	55,384,000	99.6%
4	Water Purchased	220,000	0.4%
5 <b>TOTAL PRODUCED AND PURCHASED</b>		55,604,000	
6	<b>TOTAL COST #VALUE!</b>		

**WATER SOLD**

7	Residential		
8	Commercial	15,336,890	
9	Industrial	17,043,630	
10	Bulk Loading Stations		
11	Wholesale		
12	Other Sales (explain) -----		
13 <b>TOTAL WATER SOLD</b>		32,380,520	58.2%
14	<b>TOTAL WATER NOT SOLD</b>	23,223,480	<b>41.8%</b>

**BREAKDOWN OF WATER USAGE**

15	Water Treatment Plant	1,500,000	
16	Wastewater Treatment		
17	System Flushing	637,634	#VALUE!
18	Fire Department Usage	0	
19	DBP Flushing	0	

20 **TOTAL USAGE** 2,137,634  
 21 **WATER LOSS PERCENTAGE FOR RATE PURPOSES** 37.9%

**BREAKDOWN OF WATER LOST**

22	Tank Overflows (other than for DBP maintenance)		
23	Excavation Breaks	2,625,933	#VALUE!
24	Repaired Line Breaks	0	
25	Unknown Loss	18,459,913	<b>33.2%</b>
26 <b>TOTAL WATER NOT SOLD OR USED</b>		<b>21,085,846</b>	
27	<b>COST OF WATER NOT SOLD OR USED</b>	<b>#VALUE!</b>	

**"UNKNOWN LOSS" FLOW RATE AND COST:**

28	"Unknown Loss"	18,459,913	
29	% "Unknown Loss"	33.2%	
30	(insert days of operation during month) Number of Days in Period		
31	"Unknown Loss" per Day (Gallons per Day)		
32	"Unknown Loss" per Minute (GPM)		
	"Unknown Loss" Cost for Month		#VALUE!

# Monthly Water Use Report

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# Monthly Water Use Report

Water Utility:

Rattlesnake Ridge Water District

PWSID: Kv0220555

For the Month of:

August

Year: 2018

1 PRODUCTION COST PER THOUSAND

2 PURCHASE COST PER THOUSAND

(insert cost)

(insert cost) \_\_\_\_\_

**GALLONS**

**WATER PRODUCED or PURCHASED**

3	Water Produced	<u>52,562,000</u>	100.0%
4	Water Purchased	_____	0.0%
5	<b>TOTAL PRODUCED AND PURCHASED</b>	52,562,000	
6	<b>TOTAL COST #VALUE!</b>		

**WATER SOLD**

7	Residential	9,844,290	
8	Commercial	3,296,230	
9	Industrial		
10	Bulk Loading Stations		
11	Wholesale		
12	Other Sales (explain)		
13	<b>TOTAL WATER SOLD</b>	13,140,520	25.0%
14	<b>TOTAL WATER NOT SOLD</b>	39,421,480	<b>75.0%</b>

**BREAKDOWN OF WATER USAGE**

15	Water Treatment Plan	2,000,000	
16	Wastewater Treatment	639,225,533	
17	System Flushing	<b>39,842</b>	#VALUE!
18	Fire Department Usage	0	#VALUE!
19	DBP Flushing		

22	Tank Overflows (other than for DBP maintenance)		
23	Excavation Breaks	<u>2,270,621</u>	#VALUE!
24	Repaired Line Breaks	0	
25	Unknown Loss	34,471,764	<b>65.6%</b>
26	<b>TOTAL WATER NOT SOLD OR USED</b>	<b>36,742,385</b>	
27	<b>COST OF WATER NOT SOLD OR USED</b>	<b>#VALUE!</b>	

**"UNKNOWN LOSS" FLOW RATE AND COST:**

28	"Unknown Loss"	34,471,764	
29	% "Unknown Loss"	<u>65.6%</u>	
30	Number of Days in <u>Period</u>	<u>31</u>	
31	"Unknown Loss" per Day (Gallons per Day)	1,111,992	
32	"Unknown Loss" per Minute (GPM)	772.22	
	"Unknown Loss" Cost for Month	#VALUE!	



# Monthly Water Use Report

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# Monthly Water Use Report

Utility: Rattlesnake Ridge Water District PWSID: Kv0220555

For the Month of: September Year: 2018

1 PRODUCTION COST PER THOUSAND (insert cost) \_\_\_\_\_  
 2 PURCHASE COST PER THOUSAND (insert cost) \_\_\_\_\_  
GALLONS

**WATER PRODUCED or PURCHASED**

3	Water Produced	52,600,000	99.6%
4	Water Purchased	235,000	0.4%
5	<b>TOTAL PRODUCED AND PURCHASED</b>	52,835,000	
6	<b>TOTAL COST #VALUE!</b>		

**WATER SOLD**

7	Residential		
8	Commercial	14,174,290	
9	Industrial	5,345,130	
10	Bulk Loading Stations		
11	Wholesale		
12	Other Sales (explain) -----		
13	<b>TOTAL WATER SOLD</b>	19,519,420	36.9%
14	<b>TOTAL WATER NOT SOLD</b>	33,315,580	<b>63.1%</b>

**BREAKDOWN OF WATER USAGE**

5	Water Treatment Plan	2,500,000	
16	Wastewater Treatment		
17	System Flushing	539,628	#VALUE!
18	Fire Department Usage	58,558	#VALUE!
19	DBP Flushing	0	
	DBP Maintenance		
20	<b>TOTAL USAGE</b>	3,098,186	
21	<b>WATER LOSS PERCENTAGE FOR RATE PURPOSES</b>		<b>57.2%</b>

**BREAKDOWN OF WATER LOST**

22	Tank Overflows (other than for DBP maintenance)		
23	Excavation Breaks	4,216,283	#VALUE!
24	Repaired Line Breaks	0	
25	Unknown Loss	26,001,111	<b>49.2%</b>
26	<b>TOTAL WATER NOT SOLD OR USED</b>	<b>30,217,394</b>	
27	<b>COST OF WATER NOT SOLD OR USED</b>	<b>#VALUE!</b>	

**"UNKNOWN LOSS" FLOW RATE AND COST:**

28	"Unknown Loss"	26,001,111	
29	% "Unknown Loss"		
30	(insert days of operation during month) Number of Days in Period	49.2%	
31	"Unknown Loss" per Day (Gallons per Day)		
32	"Unknown Loss" per Minute (GPM)		
33	"Unknown Loss" Cost for Month	#VALUE!	

# Monthly Water Use Report

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## Monthly Water Use Report

W Utility:                     Rattlesnake Ridge Water District                     PWSID: I  Kv0220555                      
 For the Month of:                     Oct                     Year: I  2018                    

1 PRODUCTION COST PER THOUSAND (insert cost) \_\_\_\_\_  
 2 PURCHASE COST PER THOUSAND (insert cost) \_\_\_\_\_

**GALLONS**

<b>3</b>	<b>WATER PRODUCED or PURCHASED</b>		
	Water Produced	53,726,000	99.5%
	Water Purchased	260,000	0.5%

<b>5</b>	<b>TOTAL PRODUCED AND PURCHASED</b>	53,986,000	
<b>6</b>	<b>TOTAL COST #VALUE!</b>		

**WATER SOLD**

<b>7</b>	Residential	9,057,120	
<b>8</b>	Commercial	3,678,570	
<b>9</b>	Industrial	_____	
<b>10</b>	Bulk Loading Stations	_____	
<b>11</b>	Wholesale	_____	
<b>12</b>	Other Sales (explain) -----	_____	
<b>13</b>	<b>TOTAL WATER SOLD</b>	12,735,690	23.6%
<b>14</b>	<b>TOTAL WATER NOT SOLD</b>	41,250,310	<b>76.4%</b>

**BREAKDOWN OF WATER USAGE**

<b>16</b>	Water Treatment Plan	3,000,000	
<b>17</b>	Wastewater Treatment	717,890	#VALUE!
<b>18</b>	System Flushing	<b>38,200</b>	
<b>19</b>	Fire Department Usage	0	#VALUE!
<b>20</b>	DBP Flushing	0	
<b>21</b>	<b>TOTAL USAGE</b>	3,756,090	
	<b>WATER LOSS PERCENTAGE FOR RATE PURPOSES</b>		<b>69.5%</b>

**BREAKDOWN OF WATER LOST**

<b>22</b>	Tank Overflows (other than for DBP maintenance)	20,000	#VALUE!
<b>23</b>	Excavation Breaks	4,541,148	#VALUE!
<b>24</b>	Repaired Line Breaks	0	
<b>25</b>	Unknown Loss	32,933,073	<b>61.0%</b>
<b>26</b>	<b>TOTAL WATER NOT SOLD OR USED</b>	37,494,220	
<b>27</b>	<b>COST OF WATER NOT SOLD OR USED</b>	#VALUE!	

**"UNKNOWN LOSS" FLOW RATE AND COST:**

<b>28</b>	"Unknown Loss"	32,933,073	
<b>29</b>	% "Unknown Loss"	61.0%	
<b>30</b>	Number of Days in Period	31	
<b>31</b>	"Unknown Loss" per Day (Gallons per Day)	1,062,357	
	"Unknown Loss" per Minute (GPM)	737.75	

# Monthly Water Use Report

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# Monthly Water Use Report

W Utility: Rattlesnake Ridge Water District PWSID: | Kv0220555

For the Month of: November Year: | 2018

1 PRODUCTION COST PER THOUSAND (insert cost) \_\_\_\_\_  
 2 PURCHASE COST PER THOUSAND (insert cost) \_\_\_\_\_

**GALLONS**

<b>WATER PRODUCED or PURCHASED</b>			
3	Water Produced	<u>53,726,000</u>	100.0%
4	Water Purchased	_____	0.0%
5	<b>TOTAL PRODUCED AND PURCHASED</b>	<u>53,726,000</u>	
6	<b>TOTAL COST #VALUE!</b>		

**WATER SOLD**

7	Residential	19,863,540	
8	Commercial	4,037,390	
9	Industrial	_____	
10	Bulk Loading Stations	_____	
11	Wholesale	_____	
12	Other Sales (explain)	_____	
13	<b>TOTAL WATER SOLD</b>	23,900,930	44.5%
14	<b>TOTAL WATER NOT SOLD</b>	<u>29,825,070</u>	<b>55.5%</b>

**BREAKDOWN OF WATER USAGE**

5	Water Treatment Plan	2,500,000	
6	Wastewater Treatment	_____	
17	System Flushing	371,661	#VALUE!
		<b>71,702</b>	
18	Fire Department Usage	_____	
19	DBP Flushing	0	#VALUE!
20	<b>TOTAL USAGE</b>	2,943,363	
21	<b>WATER LOSS PERCENTAGE FOR RATE PURPOSES</b>		<b>50.0%</b>

**BREAKDOWN OF WATER LOST**

22	Tank Overflows (other than for DBP maintenance)	_____	
23	Excavation Breaks	<u>6,267,706</u>	#VALUE!
24	Repaired Line Breaks	0	
25	Unknown Loss	20,614,001	<b>38.4%</b>
26	<b>TOTAL WATER NOT SOLD OR USED</b>	<b>26,881,707</b>	
27	<b>COST OF WATER NOT SOLD OR USED</b>	<b>#VALUE!</b>	

**"UNKNOWN LOSS" FLOW RATE AND COST:**

28	"Unknown Loss"	20,614,001	
29	% "Unknown Loss"	<u>38.4%</u>	
30	Number of Days in Period	31	
31	"Unknown Loss" per Day (Gallons per Day)	664,968	
	"Unknown Loss" per Minute (GPM)	461.78	
	"Unknown Loss" Cost for Month	#VALUE!	

# Monthly Water Use Report

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## Monthly Water Use Report

Utility:

Rattlesnake Ridge Water District

PWSID: |

Kv0220555

For the Month of:

December

Year: |

2018

- 1 PRODUCTION COST PER THOUSAND
- 2 PURCHASE COST PER THOUSAND

(insert cost) | \_\_\_\_\_ |  
 (insert cost) | ===== |

**GALLONS**

<b>WATER PRODUCED or PURCHASED</b>			
3	Water Produced	52,830,000	99.1%
4	Water Purchased	500,000	0.9%
5	<b>TOTAL PRODUCED AND PURCHASED</b>	53,030,000	
6	<b>TOTAL COST #VALUE!</b>		

**WATER SOLD**

7	Residential	11,112,040	
8	Commercial	2,656,560	
9	Industrial		
10	Bulk Loading Stations		
11	Wholesale		
12	Other Sales (explain)		
13	<b>TOTAL WATER SOLD</b>	13,768,600	26.0%
14	<b>TOTAL WATER NOT SOLD</b>	39,261,400	74.0%

**BREAKDOWN OF WATER USAGE**

5	Water Treatment Plant	2,000,000	
16	Wastewater Treatment Plant		
17	System Flushing	449,157	#VALUE!
18	Fire Department Usage	41,300	#VALUE!
19	DBP Flushing	0	
	DBP Maintenance		
20	<b>TOTAL USAGE</b>	2,490,457	

**21 WATER LOSS PERCENTAGE FOR RATE PURPOSES 69.3%**

**BREAKDOWN OF WATER LOST**

22	Tank Overflows (other than for DBP maintenance)		
23	Excavation Breaks	1,799,856	#VALUE!
24	Repaired Line Breaks	0	
25	Unknown Loss	34,971,087	65.9%
26	<b>TOTAL WATER NOT SOLD OR USED</b>	36,770,943	
27	<b>COST OF WATER NOT SOLD OR USED</b>	#VALUE!	

**"UNKNOWN LOSS" FLOW RATE AND COST:**

28		34,971,087	
29	% "Unknown Loss"	65.9%	

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# Monthly Water Use Report

PM)

"Unknown Loss" Cost for Month #VALUE!

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# Monthly Water Use Report

W?'='- Utility: Rattlesnake Ridge Water District PWSID: Kv0220555

For the Month of: January Year: 2019

1 PRODUCTION COST PER THOUSAND

(insert cost) \_\_\_\_\_

2 PURCHASE COST PER THOUSAND

(insert cost) \_\_\_\_\_

		<b>GALLONS</b>	
<b>WATER PRODUCED or PURCHASED</b>			
3	Water Produced	<u>56,099,000</u>	100.0%
4	Water Purchased	_____	0.0%
5	<b>TOTAL PRODUCED AND PURCHASED</b>	56,099,000	
6	<b>TOTAL COST #VALUE!</b>		
<b>WATER SOLD</b>			
7	Residential		
8	Commercial	9,656,250	
9	Industrial	2,653,410	
10	Bulk Loading Stations		
11	Wholesale		
12	Other Sales (explain)-----		
13	<b>TOTAL WATER SOLD</b>	12,309,660	21.9%
14	<b>TOTAL WATER NOT SOLD</b>	43,789,340	<b>78.1%</b>

<b>BREAKDOWN OF WATER USAGE</b>			
5	Water Treatment Plan	3,000,000	
16	Wastewater Treatment		
17	System Flushing	682,710	#VALUE!
		<b>36,928</b>	
18	Fire Department Usage		
19	DBP Flushing	0	#VALUE!
20	<b>TOTAL USAGE</b>	3,719,638	
21	<b>WATER LOSS PERCENTAGE FOR RATE PURPOSES</b>		<b>71.4%</b>

<b>BREAKDOWN OF WATER LOST</b>			
22	Tank Overflows (other than for DBP maintenance)		
23	Excavation Breaks	5,958,974	#VALUE!
24	Repaired Line Breaks	0	
25	Unknown Loss	34,110,728	<b>60.8%</b>
26	<b>TOTAL WATER NOT SOLD OR USED</b>	<b>40,069,702</b>	
27	<b>COST OF WATER NOT SOLD OR USED</b>	<b>#VALUE!</b>	

<b>"UNKNOWN LOSS" FLOW RATE AND COST:</b>			
28	"Unknown Loss"	34,110,728	
29	% "Unknown Loss"	60.8%	
30	Number of Days in Period	<b>31</b>	
31	"Unknown Loss" per Day (Gallons per Day)	1,100,346	
32	"Unknown Loss" per Minute (GPM)	764.13	
33	"Unknown Loss" Cost for Month	#VALUE!	

# Monthly Water Use Report

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# Monthly Water Use Report

**W Utility:** Rattlesnake Rid.9.e Water District      **PWSID** Ky0220555  
**For the Month of:** Feb      **Year:** 2019

**1 PRODUCTION COST PER THOUSAND** \_\_\_\_\_  
**2 PURCHASE COST PER THOUSAND** \_\_\_\_\_  
(insert cost)! (insert cost)!L-----

		<b>GALLONS</b>	
<b>WATER PRODUCED or PURCHASED</b>			
3	Water Produced	<u>51,973,000</u>	99.5%
4	Water Purchased	<u>275,000</u>	0.5%
5	<b>TOTAL PRODUCED AND PURCHASED</b>	52,248,000	
6	<b>TOTAL COST #VALUE!</b>		
<b>WATER SOLD</b>			
7	Residential		
8	Commercial	<u>13,791,118</u>	
9	Industrial	<u>2,985,850</u>	
10	Bulk Loading Stations		
11	Wholesale		
12	Other Sales (explain) -----		
13	<b>TOTAL WATER SOLD</b>	16,776,968	32.1%
14	<b>TOTAL WATER NOT SOLD</b>	35,471,032	<b>67.9%</b>

<b>BREAKDOWN OF WATER USAGE</b>			
15	Water Treatment Plan	<u>3,000,000</u>	
16	Wastewater Treatment		
17	System Flushing	<u>694,222</u>	#VALUE!
18	Fire Department Usage	<u>47,300</u>	#VALUE!
19	DBP Flushing      DBP Maintenance	<u>0</u>	
20	<b>TOTAL USAGE</b>	3,741,522	
21	<b>WATER LOSS PERCENTAGE FOR RATE PURPOSES</b>		<b>60.7%1</b>

<b>BREAKDOWN OF WATER LOST</b>			
22	Tank Overflows (other than for DBP maintenance)		
23	Excavation Breaks	<u>4,128,663</u>	#VALUE!
24	Repaired Line Breaks	<u>0</u>	
25	Unknown Loss	27,600,847	<b>52.8%</b>
26	<b>TOTAL WATER NOT SOLD OR USED</b>	<b>31,729,510</b>	
27	<b>COST OF WATER NOT SOLD OR USED</b>	<b>#VALUE!</b>	

<b>"UNKNOWN LOSS" FLOW RATE AND COST:</b>		
28	"Unknown Loss"	27,600,847
29	% "Unknown Loss"	<u>52.8%</u>
30	-	
31		
32		
33		

# Monthly Water Use Report

er Minute (GPM)

"Unknown Loss" Cost for Month

#VALUE!

(insert days of operation during month)

Number of Days in Period

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# Rattlesnake Ridge Response to Appendix C

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2. A. The water district uses a form supplied to us by Rural Water to calculate the amount of water used in flushing, disinfection and line breaks by putting in the size of the line, pressure, the size of the crack or break and the estimated time it leaked or was flushed to determine the water lost or flushed.

2. B. David Gifford Assistant Manager

2. C. The District fixes all leaks as soon as we find them or a leak is reported. We do not hesitate fixing any leaks and we only report water that has leaked, flushed, or used in fire protection or tank overflows do to telemetry failure.

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# Rattlesnake Ridge Response to Appendix C

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**3. Yes, See attached form**

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## **WATER LEAK DETECTION PLAN**

CHECK SCADA SYSTEM DAILEY TO DETERMINE TANK LEVELS AND WHAT TANK LEVELS ARE ABNORMALLY FALLING. CHECK WATER PUMPED OUT FROM PLANT DAILEY. CHECK AREAS IN SYSTEM WHERE TANK LEVELS ARE FALLING. ONCE AREA IS DTERMINED TO HAVE A POSSIBLE LEAK OR LEAKS SEND PERSONELL TO BEGIN LOCATING LEAKS.



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# Rattlesnake Ridge Response to Appendix C

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4. Yes, It is explained in our detection and water loss reduction plan on the form in question# 3  
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# Rattlesnake Ridge Response to Appendix C

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5. We as a District did not have a water loss reduction plan in use until January 2018 when the board required us to start a water loss and reduction plan.

# Rattlesnake Ridge Response to Appendix C

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6. The District does not have a Capital Improvement Plan in place at this time.

# Rattlesnake Ridge Response to Appendix C

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7. The District has Bluegrass Engineering of Georgetown ,KY as its engineering firm.

# Rattlesnake Ridge Response to Appendix C

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8. The District does a monthly inspection of all of its pump stations, plant and storage facilities and it is documented on form from each site. See attached form.



RATER STORAGE INSPECTION

Type: Elevated ( ) Standpipe  
Ground Storage (- · ·) Clearwell

Size: \_\_\_\_\_ Location: \_\_\_\_\_

Date Constructed: \_\_\_\_\_

Type Tank: Welded Metal ( ) Steel-lined glass  
Concrete

SITE:

1. Does site slope away from bank? ( ) Yes ( ) No
2. Is ground soft or soggy? ( ) Yes ( ) No

FOUNDATIONS:

1. Is the concrete foundation cracked? ( ) Yes ( ) No
2. Is the concrete foundation level? ( ) Yes ( ) No
3. Is there a gap between riser base and the concrete?  
( ) Yes ( ) No
4. Condition of anchor bolts? ( ) Yes ( ) No

COLUMNS: (Elevated Tanks Only)

1. Is there condensation on columns? ( ) Yes ( ) No
2. Are they straight? ( ) Yes ( ) No
3. Is there any slack in the diagonal X-rods? ( ) Yes ( ) No
4. Condition of bolted connection on riser rods?  
( ) Fair ( ) Poor

TANK OR SRELL:

1. Any disfiguration in tank bottom, shell, roof or irregularities in the contour of the steel? ( ) Yes ( ) No
2. Are any weld seams concave? ( ) Yes ( ) No
  - a. Are there any rust streaks originating from the weld seams?  
( ) Yes ( ) No
  - b. Any evidence of water leaking from tank? ( ) Yes ( ) No
3. Is there any metal loss by pitting? ( ) Yes ( ) No
4. Condition of finish coat? ( ) Good ( ) Fair ( ) Bad.
5. Condition of intermediate coat? ( ) Good, ( ) Fair  
( ) Bad
6. condition of primer coat? ( ) Good ( ) Fair ( ) Bad
7. Amount of surface area showing rust? \_\_\_\_\_
8. Any water ponding on roof? ( ) Yes ( ) No





ACCESSORIES:

1. Is there a safety climbing device or cage on the ladder:  
{ } Yes ( ) No
  
2. Is there a target on tank?-. { Yes ) No
  - a. Is it working properly? Yes No
  
3. Does the utility have a climbing harness? ( ) Yes ( ) No
4. How often does the utility climb tank? ( ) day ) week  
{ } month ( ) other
  
5. What is the condition of the overflow,--- - - - -  
( ) Good ( ) Fair { ) Poor
  - a. Does overflow have a screen or flapper?  
( ) Screen ( ) Flapper ( ) either
  - b. Any evidence of cross-connections? ( ) Yes ) No
  - c. Rip-rap to prevent erosion at end of overflow?  
( ) Yes { ) No

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COMMENTS:

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# Rattlesnake Ridge Response to Appendix C

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## 9. WC Gilbert-Manager

David Gifford -Assistant Manager

Jerry Callihan Field Foreman

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# Rattlesnake Ridge Response to Appendix C

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10. Yes the District works on leak detection every day by installing valves to eliminate problem areas such as creek crossing and other areas where water may not be surfacing. We also purchased a listening device and a portable flow meter to help detect leaks.

# Rattlesnake Ridge Response to Appendix C

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11. **See Attached** Files

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# Rattlesnake Ridge Response to Appendix C

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12. See Attached Work Orders

CHECKLIST/TYPE: CHECK WORK ORDER NO 9861
SCHEDULED DATE: 01/29/18 SCHEDULED TIME: PM:
I TRUCTIONS: LEAK BY DRIVE HE MARKED IT
SON SPOKE TO DAVID
SON SAID IT IS UNDERMINING HIS DRIVE WAY

METER LOCATION: BELOW ROAD NEXT TO TRAILER

IN:

\*\*\*\*\*

ACCOUNT:160-37410-01 CITY: OLIVE HILL, KY 41164
NAME :HOLBROOK, CHARLES OWNER: OWNER
S/ADDR: BEAR RIDGE O/ADDR:
PHONE :606 738 - 4048
OWNER PHONE:
ISSUED: 01/29/18 BY: CAROLYN COMPLETED:

\*\*\*\*\*OLD METER INFORMATION\*\*\*\*\* NEW METER INFORMATION\*\*\*\*\*

SIZE: 5/8 in. TY: GUSE: 356 03/11 \*
MAKE SERIAL REMOTE MXUID CURRENT \* MAKE SERIAL REMOTE MXUID
1: 55919932 100025479 42823 A\*
2: \*
3: \*
4: \*

\*\*\*\*\*

Table with columns: HISTORY, DATE, CURRENT, PREVIOUS, USAGE, PRIOR W/O, DATE, TYPE. Rows show meter history from 02/18/19 to 11/26/18.

\*\*} \*\*\*\*\*CHECK

\*\*\*\*\*

WORK COMPLETED:

NEW SET : SERIAL NO: REMOTE NO: READ: ---

MATERIAL: ITEM# PART DESCRIPTION QUANTITY

LABOR

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CHECKLIST/TYPE: CHECK WORK ORDER NO: 10486
SCHEDULED DATE: 10/04/18 SCHEDULED TIME: PM:
INSTRUCTIONS: SAYS THAT WE KEEP FIXING A LEAK THERE AND IT JUST
KEEPS LEAKING AND HE CANT GET THRU HIS DRIVEWAY
TO THE FIELD TRACTOR IS GETTING STUCK.....

METER LOCATION: ABOVE BLOW-OFF

IN:

\*\*\*\*\*

ACCOUNT:160-24600-00 CITY: OLIVE HILL, KY 41164
NAME :REYNOLDS, HAZEL OWNER: OWNER
S/ADDR: BINION BRANCH O/ADDR:
PHONE
OWNER PHONE:
ISSUED: 10/04/18 BY: RAK COMPLETED:

\*\*\*\*\*OLD METER INFORMATION\*\*\*\*\* NEW METER INFORMATION\*\*\*\*\*

SIZE: 5/8 in. TY: GUSE: 128 03/11 \*
MAKE SERIAL REMOTE MXUID CURRENT \* MAKE SERIAL REMOTE MXUID
1: 55093831 4392008 41467 A\*
2: \*
3: \*
4: \*

\*\*\*\*\*

Table with columns: HISTORY, DATE, CURRENT, PREVIOUS, USAGE, PRIOR W/O, DATE, TYPE. Rows include dates like 02/14/19 and 01/09/19 with associated meter readings and usage.

\*\*\*t- \*\*\*\*\*CHECK

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WORK COMPLETED:

NEW SET: SERIAL NO: REMOTE NO: READ:

MATERIAL: ITEM# PART DESCRIPTION QUANTITY

LABOR

SIGNATURE: \_\_\_\_\_

DATE: \_\_\_\_\_

TIME: \_\_\_\_\_

NEW WORK ORDERS

08:36:08

CHECK

WORK ORDER NO:

10692

CHECKLIST/TYPE: 01/04/19 SCHEDULED TIME: PM:
SCHEDULED DATE:

INSTRUCTIONS: SAYS THAT WE FIXED A LEAK ON HER PROPERTY BY HERD RIVEWAY AND THE PLACE WHERE IT WAS FIXED IS NOW A SUNKEN HOLE AND STAYS WET. THINKS IT MAY STILL BE LEAKING. WANTS SOMEONE TO COME LOOK AT IT AND FIX
METER LOCATION: WAS JAMES E PARSONS

IN:

\*\*\*\*\*

ACCOUNT:130-03410-00 CITY: GRAYSON, KY 41143
NAME :WADE JR, HALLIE OWNER: OWNER
S/ADDR: HUFFS RUN O/ADDR:
PHONE :606 474 - 2282
OWNER PHONE:
ISSUED: 01/04/19 BY: FELICIA COMPLETED:

\*\*\*\*\*OLD METER INFORMATION\*\*\*\*\* NEW METER INFORMATION\*\*\*\*\*

SIZE: 5/8 in. TY: GUSE: 259 03/04 \*
MAKE SERIAL REMOTE MXUID CURRENT \* MAKE SERIAL REMOTE MXUID
1: 54952039 100020455 46998 A\*
2: \*
3: \*
4: \*

\*\*\*\*\*

Table with columns: HISTORY, DATE, CURRENT, PREVIOUS, USAGE, PRIOR W/O, DATE, TYPE. Rows show meter history from 02/01/19 to 11/01/18.

\*\*/.\_. \*\*\*\*\*CHECK

\*\*\*\*\*\_\*\_\*\*\*\*\*

WORK COMPLETED:

NEW SET: SERIAL NO: REMOTE NO: READ: \_\_\_

MATERIAL: ITEM# PART DESCRIPTION QUANTITY

LABOR

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_



CHECKLIST/TYPE: CHECK WORK ORDER NO 10795  
 SCHEDULED DATE: 02/08/19 SCHEDULED TIME: PM:  
 ILLUSTRATIONS: CHECK FOR LEAK  
 CANT SEE METER FACE ITS FOGGED UP  
 PLEASE ALSO GET READING

METER LOCATION: EDGE OF YARD RIGHT SIDE

IN:

\*\*\*\*\*

ACCOUNT:151-01800-00 CITY: OLIVE HILL, KY 41164  
 NAME :EVANS, DREW OWNER: OWNER  
 S/ADDR: HORTON FLATS O/ADDR:  
 PHONE :606 738 - 5460  
 OWNER PHONE:  
 ISSUED: 02/08/19 BY: CAROLYN COMPLETED:

\*\*\*\*\*OLD METER INFORMATION\*\*\*\*\* NEW METER INFORMATION\*\*\*\*\*

SIZE:	MAKE	SERIAL	REMOTE	MXUID	TY:	GUSE:	CURRENT	NEW METER INFORMATION
5/8 in.						352	03/07	*
1:	55093946			100024642			51694 A*	
2:								*
3:								*
4:								*

\*\*\*\*\*

HISTORY:	DATE	CURRENT	PREVIOUS	USAGE	PRIOR W/O	DATE	TYPE
	02/13/19	51342	51305	37	A		
	01/10/19	54305	49728	4577	A		
	12/21/18	49728	49254	474	A		
	11/28/18	49254	48264	990	A		

\*\*\*\*\*"X-'"\*\*\*\*\*CHECK

\*\*\*\*\*

WORK COMPLETED:

NEW SET: SERIAL NO: REMOTE NO: READ: \_\_\_

MATERIAL:	ITEM#	PART DESCRIPTION	QUANTITY
-----------	-------	------------------	----------

LABOR

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

CHECK

WORK ORDER NO: 10803

CHECKLIST/TYPE: 02/22/19 SCHEDULED TIME: PM:  
 SCHEDULED DATE: SAID THERE IS WATER LEAKING FROM METER  
 INSTRUCTIONS: PLEASE CHECK METER SAID SHE HAD 2 DIFFERENT PEOPLE  
 COME OUT TO LOOK FOR LEAK AND NO LEAK BUT THEY TH  
 OUGHT THERE WAS SOMETHING WRONG W METER  
 RIGHT SIDE RESIDENCE BY FENCE

METER LOCATION:

IN:

\*\*\*\*\*  
 ACCOUNT:140-10000-01 CITY: WILLARD, KY 41181  
 NAME :GRIFFITH, BRETT OWNER: OWNER  
 S/ADDR: ROUTE 1 O/ADDR:  
 PHONE :606 475 - 3027  
 OWNER PHONE:  
 ISSUED: 02/22/19 BY: CAROLYN COMPLETED:

\*\*\*\*\*OLD METER INFORMATION\*\*\*\*\* NEW METER INFORMATION\*\*\*\*\*  
 SIZE: 5/8 in. TY: GUSE: 353 03/04 \*  
 MAKE SERIAL REMOTE MXUID CURRENT \* MAKE SERIAL REMOTE MXUID  
 1: 55093979 100023042 35900 A\*  
 2: \*  
 3: \*  
 4: \*

\*\*\*\*\*  
 HISTORY: DATE CURRENT PREVIOUS USAGE PRIOR W/O DATE TYPE  
 02/04/19 35547 35018 529 A 8159 06/01/16 CHECK  
 01/03/19 35018 34451 567 A 10033 04/24/18 DISC  
 12/04/18 34451 33912 539 A 9204 06/26/17 CHECK  
 11/02/18 33912 33468 444 A 9037 03/27/17 CHECK  
 \* \*,l: \*\*\*\*\*CHECK

\*\*\*\*\*  
 WORK COMPLETED:

NEW SET: \_\_\_\_\_ SERIAL NO: \_\_\_\_\_ REMOTE NO: \_\_\_\_\_ READ: \_\_\_

MATERIAL: ITEM# PART DESCRIPTION QUANTITY

LABOR

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

# Rattlesnake Ridge Response to Appendix C

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13. We do not have a operating procedure in place but our number one priority is to get our customers back in service as soon as possible so we send enough personal to get the job done safe and quickly.

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# Rattlesnake Ridge Response to Appendix C

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14. The District has purchased a Waterpoint PLD listening device and also a portable flow meter to assist in leak detection. We have also purchased three metal detectors.

# Rattlesnake Ridge Response to Appendix C

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15. See Attached Files

# TRAINING CERTIFICATE

*This Certificate is presented to*

**Shannon Porter  
Rattlesnake Ridge Water District**

In recognition of your participation in:  
"DEVELOPMENT, PLANNING & SET-UP OF SYSTEM W/PORTABLE FLOW METERS,  
LISTENING DEVICES FOR LEAK DETECTION"



*Serving the Ohio Valley*

**Automatic Controls Company,**



Badger Meter

**SECURITY**

**6**

Signature 

Date 8/19/16

5 f

5 PDH



# TRAINING CERTIFICATE

*This Certificate is presented to*

**Willie Gilbert**  
**Rattlesnake Ridge Water District**

**In recognition of your participation in:**  
"DEVELOPMENT, PLANNING & SET-UP OF SYSTEM W/PORTABLE FLOW METERS,  
LISTENING DEVICES FOR LEAK DETECTION"



*Se1T11g the Ohio Valley*  
**Automatic Controls Company**



**Badger Meter**

64seconds

*[Signature]*  
Signature

8/19/16  
-Date-

5 PDH

# TRAINING CERTIFICATE

*This Certificate is presented to*

**David Gifford**  
**Rattlesnake Ridge Water District**

In recognition of your participation in:  
"DEVELOPMENT, PLANNING & SET-UP OF SYSTEM W/PORTABLE FLOWMETERS,  
LISTENING DEVICES FOR LEAK DETECTION"

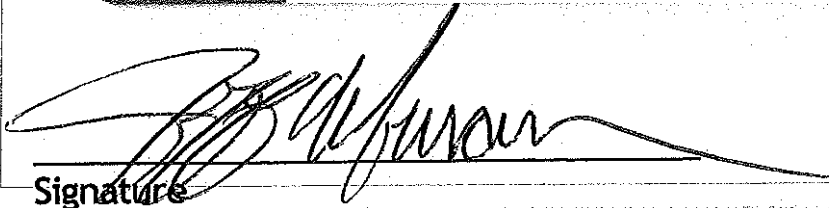


*Serving the Ohio Valley*  
**Automatic Controls Company**



**Badger Meter**

**64 seconds**

  
Signature

**8/19/16**

**5 PDH**

-----Date-----

# Rattlesnake Ridge Response to Appendix C

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16. Our billing has a program to run that shows meters missed as estimates.  
See attachment.

## METER READING EXCEPTION REPORT

ACCOONT	NAME	METER	READING	current	PREVIOUS	USAGE	CHANGE ESTIMATE	FINAL ROLLOVER:
		DATE		READING	READING		OUT	
110-06670-00	ELLIOTT, LAUREL C GREGORY HOLLOW	1	03/01/2019	75158	74826	331	X	
110-07000-00	LAMBERT, MARY GREGORY HOLLOW	1	03/01/2019	77334	77153	11	X	
112-07300-00	DAVIS, EARNEST K RT 182	1	03/05/2019	1308	1277	31		X
112-08610-00	JENKINS, JOHNS SAND RIDGE	1	03/01/2019	14946	14501	444	X	
112-19400-01	MABRY #2, JAMES SAND RIDGE	1	03/01/2019	461	461		X	
113-15390-01	CRUMP, JARRELL GESLING	1		7898	7898		X	
114-02600-00	BURTON, BRIAN RT 1025	1	03/01/2019	69320	69158	842	X	
114-09810-00	JONES, RONALD PR.ATER ROAD	1	03/01/2019	38479	38310	209	X	
114-12600-00	BURTON, ERNEST PRATER ROAD	1	03/01/2019	25163	25081	83	X	
115-40410-00	OWENS, JUDY ROSE RIDGE	1	03/21/2019	585	506	79		X
115-72000-00	HAMILTON #2, BARRY WALNUT GROVE	1	03/01/2019	54239	54019	144	X	
115-79600-00	REEDER, HAROLD REEDER ROAD	1	03/01/2019	24217	24216		X	
116-30400-00	MCCORMICK, WILLIAM RT 474	1	03/01/2019	27851	27851		X	
144-34615-00	SCHUELER, PAUL GREENBRIAR RD	1	03/01/2019	15	15		X	
150-02400-05	BUSH, JOSH RT 7	1	03/21/2019	4704	4670	34		X
160-03250-00	HAMRIC, JAMES B ROUTE 182	1	03/01/2019				X	
15r,...._i00-01	WALL, MAURICE ROUTE 986	1	03/01/2019	77667	77428	296	X	
160-13670-00	NEWELL, JEFFERY ROUTE 986	1	03/05/2019	30392	30376	32		X

## METER READING EXCEPTION REPORT

ACCOUNT	NAME	METER READING DATE	CURRENT READING	PREVIOUS READING	USAGE	CHANGE OUT	ESTIMATE	FINAL ROLLOVER
180-07100-00	HARPER, GLEN ALLEN RT 504 EAST	1 03/01/2019	1	1				X
181-12001-00	HOLBROOK #2, AANDY RT 504 W	1 03/01/2019	64953	64883				X
182-06200-00	MOORE, MICHAEL & CHRYSTAL STARK RIDGE-RANDOL	1 03/01/2019	142609	141785	885			X
182-12610-00	ORRICK, JIM B STARK RIDGE	1 03/01/2019	3948	3941				X
182-12800-00	FLALfflERY, JR STARK RIDGE	1 03/01/2019	60595	60257	341			X
182-17500-01	CARTER, NATHANIEL STARK RIDGE	1 03/01/2019	52967	52637	325			X
182-17850-00	GIVENS #3, BRIAN STARK RIDGE	1 03/01/2019						X
11210-07	SLONE, DONNA STARK RIDGE	1 03/01/2019	68820	68413	440			X
TOTAL NUMBER OF ACCOUNTS: 26				USAGE:		4527		

\* End of Report: Rattlesnake Ridge Water Distri \*

# Rattlesnake Ridge Response to Appendix C

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17. The plant meter has not been tested because it doesn't have test ports on it but the meter was replaced in 2014.

# . Rattlesnake Ridge Response to Appendix C

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18. See Attached Files

# Definitive TestinP Services

Lexington, Kentucky  
 & Service

## Certified Meter Test-Results

Certified Meter Test-Results					BEFORE REPAIR TEST RESULTS				AFTER REPAIR TEST RESULTS				Test/Parts
Meter S/n	Meter MFG	MFB Model	Serial Nmlbr	Trans	High flow	Med Aow	LOW FLOW	Avg Test	High flow	Med FLOW	Low Flow	Avg Test	
1	4	1/MA	<"/	%	J/C/	II<'	INI .	..S' A'..	j/Y)	I	//V'i	//Y'I°	-") - d.,/ ,.,., ,.,/
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3													7?/--- -
4													
5	/olellr Rea<lllg llaloro Test												/ - 7 //4' _ ..
6	Meter lmdlngA!lef Tes!:												
7			/V,?2										/i/
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# Rattlesnake Ridge Response to Appendix C

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19. The District uses Definitive Testing of Lexington KY to test all of our meters. We try to pull as many residential meters a month as we can to have tested and our commercial meters are tested and repaired on site.

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# ,\_ Rattlesnake Ridge Response to Appendix C

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20.156

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# //// Rattlesnake Ridge Response to Appendix C

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21. Rattlesnake Ridge Water District uses Sensus brand meters model SR2 AMR for all of our system. We currently have 4045 residential customers and 15 commercial customers.

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# Rattlesnake Ridge Response to Appendix C

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22. The District has a SCADA system that monitors all tanks ,pumping stations and valves that fill tanks. We have an employee at our water plant 24/7 to monitor the SCADA system and to call someone immediately if the need arises.

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# Rattlesnake Ridge Response to Appendix C

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23. Yes the utility has telemetry on all of its sites as explained in Appendix C question 22.



# Rattlesnake Ridge Response to Appendix C

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24. Yes all the meters in our District are read monthly.

# Rattlesnake Ridge Response to Appendix C

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25. Yes, all of our meter readers are trained by Sensus personal and CI Thornburg CO.

# Rattlesnake Ridge Response to Appendix C

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26. No, we do not have master meter zone meters but are looking to install them in future.

# Rattlesnake Ridge Response to Appendix C

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27. The District does pressure surveys in our entire system to record pressure at different areas to allow us to monitor pressure so if we start dropping pressure in certain areas we know where we have a problem.

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# Rattlesnake Ridge Response to Appendix C

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28. Yes, The board gets a copy of water loss, leaks, flushing and any other water loss at every monthly board meeting, and it is discussed at every meeting.

# Rattlesnake Ridge Response to Appendix C

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29. The District does not have a target date on a reduction of water loss, but the board addresses this issue at every monthly meeting and makes it our top priority.

# Rattlesnake Ridge Response to Appendix C

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30. 1. Service line replacement is our number 1 priority.
2. Meter change out is the 2<sup>d</sup> priority because of slow meters.
3. Up grading our telemetry to prevent tank overflows

# Rattlesnake Ridge Response to Appendix C

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31. See attachments



# Rattlesnake Ridge Response to Appendix C

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31. The salary for the Manager for 2017 and 2018 is \$ 65,769.60 per year.

# Rattlesnake Ridge Response to Appendix C

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**32. There is no employment contract between the manager/superintendent and the utility.**

# Rattlesnake Ridge Response to Appendix C

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33. A large number of our main lines have been in the ground since 1985 with other projects coming on in 1990, 1992 and many other projects coming on over the years up to the most recent project in 2018. The district tries to get potable water to customers in rural areas where potable drinking is not available.

# Rattlesnake Ridge Response to Appendix C

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34. Most of our service lines have been in since 1985 and a lot of our leaks are on service lines but we fix them as soon as we find them or a customer reports it.

# --''' Rattlesnake Ridge Response to Appendix C

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35. Most of our service lines have been in since 1985 and a lot of our leaks are on service lines but we fix them as soon as we find them or a customer reports it. We are making plans and mapping out areas that we need to replace service lines.

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# Rattlesnake Ridge Response to Appendix C

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36. The District has a computer print out each month of accounts that are not active, if the meter Shows usage, a work order is issued and someone goes out to check the meter for theft.

# Rattlesnake Ridge Response to Appendix C

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37. The District does not have a lot of theft of water and we have checked into prosecuting but the cost of legal fees is much higher and is not feasible, However we always leave the meter in place so that we can keep track of how much water was stolen and when that meter is reconnected again we can collect revenue for water that was stolen.

37. a. The District has not provided any of this information to the county attorney or commonwealth attorney. We consulted our attorney on this matter who advised us that the legal fees would be more expensive than water lost.

37. b. The district consulted our attorney on this matter at one of our regular board meetings and was advised of the cost to prosecute the small amount of theft that we have.

# Rattlesnake Ridge Response to Appendix C

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38. The District adjusts the customer's bill if the bill has doubled due to a leak and we allow two adjustments in a five year period. The District works with the customer as much as possible to set up a payment arrangement on the remaining balance. The District does not give adjustments for filling swimming pools or water that is not leaked. The Manager "W.C Gilbert" is the person who approves all adjustments.



# Rattlesnake Ridge Response to Appendix C

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39. The District does not have adjustments on late fees on leak adjustments. See attached form on **tariff\$**.

P.S.C. KYNO. \_\_\_\_\_

\_\_\_\_\_ SHEET NO. \_\_\_\_\_

CANCELLING P.S.C. KY. NO. \_\_\_\_\_

\_\_\_\_\_ SHEET NO., \_\_\_\_\_

Rattles Mike Ri Water District  
(Name of Utility)

Leak Adjustment Policy.

(N)

While a utility is not required to have a leak adjustment policy to adjust bills due to a water leak, this utility chooses to offer a leak adjustment to its residential and commercial customers under the following conditions:

1. The customer's bill for the month in which a leak adjustment is requested must be at least 2 times the customer's average monthly bill, which is calculated over a three-month period.
2. The customer must provide a plumber's statement or other proof showing the leak has been repaired.
3. The customer's bill will be based on two components. The first step will be to calculate the customer's average monthly usage over a three-month period. The second step will be to deduct the customer's average monthly usage (as calculated above) from the total amount of water that passed through the meter. The usage calculated in step one will be billed at the utility's regular rates, while the remaining usage will be billed at the utility's current cost of production per 1,000 gallons.
4. If meter readings are not available for an entire three-month period, the average usage of similar customer loads shall be used for comparison purposes for the calculation.
5. Only two (2) leak adjustments per customer will be allowed during any given five (5) year period.

DATE OF ISSUE 11-25-14 Month, Day, Year

DATE EFFECTIVE 11-1-14  
Month/Day/Year

ISSUED BY [Signature]  
(Signature of Officer)

TITLE Commissioner

KENTUCKY

PUBLIC SERVICE COMMISSION  
JEFF R. DEROUEN  
EXECUTIVE DIRECTOR  
TARIFF BRANCH

&d-

BY AUTHORITY OF ORDER OF THE PUBLIC SERVICE COMMISSION  
IN CASE NO. \_\_\_\_\_ DATED \_\_\_\_\_

EFFECTIVE  
4/1/2014  
PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

\_\_\_\_\_

# Rattlesnake Ridge Response to Appendix C

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40. The District does not use Microsoft Excel for our Leak Adjustment Worksheet we use our own in house form. See attached form.

# **EhK ADJUSTMENT SHEET**

AME \_\_\_\_\_

CCOUNT# \_\_\_\_\_

**A T E** \_\_\_\_\_

TOTAL GAL LEAKED \_\_\_\_\_

,VG MONTHLY USE \_\_\_\_\_

IAL NEEDING ADJUSTED \_\_\_\_\_

IAL @ \$2.50 PER IOOO \_\_\_\_\_

a

%TAX. \_\_\_\_\_

;us-TOTAL \_\_\_\_\_

ATEJ-€ES \_\_\_\_\_

TOTAL OUE ON LEAK \_\_\_\_\_

ADJUSTED BY \_\_\_\_\_

APPROVED BY \_\_\_\_\_

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# ·, \_ Rattlesnake Ridge Response to Appendix C

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41. The District does not do a comprehensive water audit.

# Rattlesnake Ridge Response to Appendix C

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42. The fire departments in our District does not report to us. We have asked them several times to report to us. We use the Water Usage Report Form KRS 278.170{3) 807KAR5:095 Section 9 to calculate the water usage for fire departments, please see attached form.

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# Rattlesnake Ridge Response to Appendix C

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43. The District uses a form obtained from Rural Water to calculate flushing.  
See attached form.



# Rattlesnake Ridge Response to Appendix C

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44. The District just uses gate *valve* wrenches and hydrant wrenches to flush hydrants and blow-offs.

- Rattlesnake Ridge Response to  
Appendix C

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45. See attachments.

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