

**COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION**

In the Matter of:

**ELECTRONIC INVESTIGATION)
INTO THE MEASURING,)
RECORDING, AND REPORTING OF) CASE NO. 2018-00394
WATER LOSS BY KENTUCKY'S)
JURISDICTIONAL WATER)
UTILITIES)**

**RESPONSE OF
CARROLL COUNTY WATER DISTRICT #1
TO
COMMISSION'S REQUEST FOR INFORMATION
DATED DECEMBER 18, 2018**

FILED: January 11, 2019

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**CERTIFICATION OF RESPONSE OF CARROLL COUNTY WATER
DISTRICT #1 TO
COMMISSION'S REQUEST FOR INFORMATION**

This is to certify that I have supervised the preparation of Carroll County Water District #1's Response to the Commission's Request for Information. The response submitted on behalf of Carroll County Water District #1 is true and accurate to the best of my knowledge, information, and belief formed after a reasonable inquiry.

Date: 1-11-19



Obe D. Cox, Manager
Carroll County Water District #1

Carroll County Water District # 1

CASE NO. 2018-00394

Response to Commission's Request for Information

Question No. 1

Responding Witness: Obe D. Cox

- Q-1. Explain in detail the manner in which you measure, calculate, and track water loss, and:
- a. Identify whether you use any manual form (including Excel spreadsheet) or electronic or mechanized system to calculate and track water loss.
 - b. Provide a copy of any form used (including Excel spreadsheet).
 - c. Identify the source of any form or system used.
- A-1. At Carroll County Water District #1 (CCWD), the water loss is calculated monthly by using the meter billing usage report with the number of gallons sold to all customers that has been generated by the billing system. Then we tally the two water treatment plants which comes from the Division of Water Monthly Operator Reports. The difference in water sold and the total of both treatment plants. Next, we take all system field logs and submittals to account for treatment; distribution operation that requires producing potable water; fire department submittals and etc. On a daily basis, it is scheduled to log our 24 hour past day and our current 8 hour flow rates. Furthermore, we look at our graphs to check the trend for any slight increase during low

demand. If anything looks suspicious but not obvious we will compare flows to our hydraulic model.

- a. CCWD has for a long time used an excel spreadsheet provided to us by Kentucky Rural Water Association (KRWA) and KY PSC. We prefer the KRWA spreadsheet as it allows us to enter our cost of production of water so we all can convert water-loss into loss revenue on a month to month basis, as well as annually. KRWA spreadsheet allows us to track for water leaks found and fixed as SCADA allows us to know the amount of water loss. Even though this value cannot be reported for rate purposes, it still has good value for management. We use the KY PSC format as it does not take much time to enter as they are very close. The reason why we do so is for the ease to transfer to KY PSC Annual Report. Furthermore, it allows for insurance if one spreadsheet gets corrupted; we have a backup.
- b. See both spreadsheets that are attached.
- c. KRWA and KY PSC is the provider of the spreadsheet used.

Carroll County Water District #1

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Response to Commission's Request for Information

Question No. 2

Responding Witness: Obe D. Cox

Q-2. Explain in detail your understanding of the information to be provided in each of the categories on the Water Statistics page (reference page 30) of the annual report required of jurisdictional water utilities, accessed through the Commission's website.

A-2. CCWD produces all of its water for its distribution system and truly believes in its ability, understands the water statistics form and uses it in a consistent fashion to trend increases or decreases of water loss.

Line 1: Water produced, purchased and distributed is a self-explanatory labeled heading for data entry on line 2 and 3.

Line 2: Water produced is the amount of water generated at its own facilities in U.S. gallons in thousands.

Line 3: The total amount of gallons purchased in thousands.

Line 4: The total amount of gallons that was flowed into the utility's distribution system; totally produced and purchased in thousand-gallon increments.

Line 5: Does not exist.

Line 6: "Water Sales" is a self-explanatory category label heading to allow line 7 through 12 to be detailed for customer types and line 13 is the total for "water sales"

Line 7: The total of all water sold to residential customers only.

Line 8: The total of all commercial customers only.

Line 9: The total of all industrial customers only.

Line 10: The total sales of water loading station.

Line 11: The total sales to another Public Water Supplier (PWS).

Line 12: Other sales are other miscellaneous water sales that are not considered as others listed above such as emergency sales to another public water supplier.

Line 13: Total sale of all water.

Line 15: Other water used is a label of a category that sums lines 16-20 to compute the total of water used to produce potable water or assist with emergency response units. These impact operation cost but do not generate revenue to cover the cost.

Line 16: Utility water treatment plant is a category that tracks the amount of water required to produce potable water at the regulatory levels.

Line 17: Wastewater plant is a category that tracks the amount of water that is required to produce a safe, regulatory discharge of waste water.

Line 18. System flushing is a category to track the amount of water to keep the distribution with a safe potable water supply.

Line 19: Fire department category is to track all fire departments use for emergency response and safety emergency training exercises.

Line 20: Other category is miscellaneous category that is not considered to be as described above with this category of water used such as meter production and/or master meter(s) that are known to be inaccurate and non-meter theft events.

Line 21: Total other water used is the total of this category that is labeled by Line 15 and is accounted for as part of operation to provide safe potable water to the communities.

Line 22: Does not exist.

Line 23: Water loss is a category label that reflects all items that are considered to be unaccounted loss and liability risk of losing potential revenue and adding additional cost to operation.

Line 24: Tank overflows are when operation controls (telemetry or valve) malfunction to allow potable water to be wasted through the overflow pipe.

Note: When performing routine purge of stratified water; clean water surface to clean overflow pipe debris is also considered to be line 24, even though they are part of proper operation maintenance service. This water

loss should be allowed to be added to Line 18 or be placed in a category of its own, maybe "Required Tank Flushes".

Line 25: Line Breaks are considered to be non-revenue water loss due to excavation damage to waterlines or its accessories that can be estimated.

Line 26: Line Leaks are considered to be non-revenue water loss that can be estimated that occurs from the natural state of water lines or its accessories, such as pipe failure from fatigue, poor construction, or natural ground movement.

Line 27: Other line items are the amount of non-revenue water loss that is unaccounted for and requires personnel to research leak zones to determine pressure drops, flow spikes, or higher trends during low demand, meter accuracy, or thefts. The water loss in this category is the loss that truly is the "unaccounted" for and should be the category line item that indicates further research need and must be considered high risk concern.

Line 28: Total Line and Loss is the gross of this category being lines 24 through 27.

Line 29: Does not exist.

Line 30: Does not exist.

Line 31: Does not exist.

Line 32: Water Loss Percentage is the label to Line 33 being the unaccounted water; non-revenue loss percentage.

Line 33: The Description of Line 28 Divided by Line 4 reference the above line items and give direction to calculate the water loss percentage.

Carroll County Water District #1

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Response to Commission's Request for Information

Question No. 3

Responding Witness: Obe D. Cox

Q-3. State any questions you have regarding how to use the updated Commission Form described and attached as Appendix A to this Order.

A-3. Carroll County Water District #1 has two questions regarding Exhibit Appendix "A" – Question 1 regards to the electronic version when released.

CCWD Q1: The existing worksheet will not allow entry into cell (E-38) of the electronic excel spreadsheet; being Line 26 the "Line Leak". This is an auto populated field that will not allow a manual data entry. Will the propose spreadsheet resolve this issue, assuming that Line 30 will auto populate the unknown/left over balance?

CCWD Q2: In the near future, will Line 24 tank overflow be defined to allow the utility to account for water flowed through overflow pipe when routine maintenance is being performed to achieve removing stratified water from the tank; clearing surface; purging overflow pipe to clean screens and recalibrating telemetry electronics?

Carroll County Water District #1

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Response to Commission's Request for Information

Question No. 4

Responding Witness: Obe D. Cox

Q-4. State any suggestions or improvements you have for the updated Commission Form described and attached as Appendix A to this Order.

A-4. Suggestion 1: CCWD #1 suggest that the spreadsheet can handle values in decimal format as several systems throughout the state bill in hundred values. Also for smaller systems that computer/track small leaks, could adopt the PSC report to be done with their internal working worksheets that will compute the same and not round off different.

Suggestion 2: CCWD #1 wishes PSC to review the current KRWA spreadsheet that is found in their compliance program that allows for the cost of production and purchase water. This allows for a quick vision of water loss and revenue loss. Also, a good exhibit for the oversight governing board. Could these two forms be blended to produce one form that meets the intended purpose of the PSC's annual report.

Carroll County Water District #1

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Response to Commission's Request for Information

Question No. 5

Responding Witness: Obe D. Cox

- Q-5. State any questions you have regarding how the information in the updated Commission Form described and attached as Appendix A to this Order is to be incorporated into annual reports.
- A-5. CCWD #1 has no questions regarding the information in the updated Commission Form, as shown in Appendix A.

Carroll County Water District #1

CASE NO. 2018-00394

Response to Commission's Request for Information

Question No. 6

Responding Witness: Obe D. Cox

- Q-6. State any concerns you have regarding the use of the updated Commission Form described and attached as Appendix A to this Order.
- A-6. CCWD #1 has no concerns regarding the use of the updated form as described and attached.

Carroll County Water District #1

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Response to Commission's Request for Information

Question No. 7

Responding Witness: Obe D. Cox

Q-7. State whether you believe it is reasonable, proper, and appropriate for the Commission to require jurisdictional water utilities to maintain and use the updated Commission Form described and attached as Appendix A to this Order. Fully explain your answer

A-7. Carroll County Water District # 1 strongly believes that it is reasonable, proper and appropriate that the PSC requires jurisdictional water utilities to maintain and use a proper Monthly Loss Report spreadsheet that easily transfers over into the PSC Annual Report. The concern CCWD has is that we hope that the Commission understands that the loss percentage does not have the same impact on every system if the value is the same. If a system is a producer verses purchaser; a combination of high cost treatment versus low cost treatment with high debt to low debt; high energy versus low energy water loss. The different types of scenarios may cause management to have staff to finish inhouse rehab projects versus the hunt of an elusive low energy water leak that has been determined appropriate to locate when proper weather allows easier discovery.

In summary, CCWD believes in the paper form as shown to be used; pending clarity of electronic format.

CERTIFICATE OF SERVICE

In accordance with 807 KAR 5:001, Section 8, I certify that Carroll County Water District #1's electronic filing of this Response is a true and accurate copy of the same document being filed in paper medium; that the electronic filing was transmitted to the Public Service Commission on January 11, 2019; that there are currently no parties that the Public Service Commission has excused from participation by electronic means in this proceeding; and that an original paper medium of this Response will be delivered to the Public Service Commission within two business days.

Respectfully submitted,



Obe D. Cox, Manager

Attached:

Exhibit "A" - PSC Monthly Loss Report

Exhibit "B" - KRWA Monthly Loss Report

PUBLIC SERVICE COMMISSION

Monthly Water Loss Report

Water Utility:

For the Month of: Year:

LINE #	ITEM	GALLONS (Omit 000's)
1	WATER PRODUCED, PURCHASED & DISTRIBUTED	
2	Water Produced	
3	Water Purchased	
4	TOTAL PRODUCED AND PURCHASED	-
5		
6	WATER SALES	
7	Residential	
8	Commercial	
9	Industrial	
10	Bulk Loading Stations	
11	Wholesale	
12	Other Sales _____	
13	TOTAL WATER SALES	- #DIV/0!
14		
15	OTHER WATER USED	
16	Utility and/or Water Treatment Plant	
17	Wastewater Plant	-
18	System Flushing	
19	Fire Department	
20	Other _____	
21	TOTAL OTHER WATER USED	- #DIV/0!
22		
23	WATER LOSS	
24	Tank Overflows	
25	Line Breaks	
26	Line Leaks	-
27	Other _____	
28	TOTAL LINE LOSS	- #DIV/0!
29		
30	Note: Line 13 + Line 21 + Line 28 Must Equal Line 4	
31		
32	WATER LOSS PERCENTAGE	
33	Unaccounted-For Water (Line 28 divided by Line 4)	#DIV/0!

Water Use Report

Exhibit "B"

Water Utility: (insert water system name) PWSID: (insert PWSID)

For the Month of: January Year: 2019

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

GALLONS

WATER PRODUCED or PURCHASED		
3	Water Produced	<input style="width: 95%;" type="text"/>
4	Water Purchased	<input style="width: 95%;" type="text" value="0"/>
5	TOTAL PRODUCED AND PURCHASED	0
6	TOTAL COST	

WATER SOLD		
7	Residential	<input style="width: 95%;" type="text"/>
8	Commercial	<input style="width: 95%;" type="text"/>
9	Industrial	<input style="width: 95%;" type="text"/>
10	Bulk Loading Stations	<input style="width: 95%;" type="text"/>
11	Wholesale	<input style="width: 95%;" type="text"/>
12	Other Sales (explain) _____	<input style="width: 95%;" type="text"/>
13	TOTAL WATER SOLD	0
14	TOTAL WATER NOT SOLD	0

BREAKDOWN OF WATER USAGE		
15	Water Treatment Plant	<input style="width: 95%;" type="text"/>
16	Wastewater Treatment Plant	<input style="width: 95%;" type="text"/>
17	System Flushing	<input style="width: 95%;" type="text"/>
18	Fire Department Usage	<input style="width: 95%;" type="text"/>
19	Other Usage (explain) _____	<input style="width: 95%;" type="text"/>
20	TOTAL USAGE	0
21	WATER LOSS PERCENTAGE FOR RATE PURPOSES	<input style="width: 95%;" type="text"/>

BREAKDOWN OF WATER LOST		
22	Tank Overflows	<input style="width: 95%;" type="text"/>
23	Excavation Breaks	<input style="width: 95%;" type="text"/>
24	Repaired Line Breaks	<input style="width: 95%;" type="text"/>
25	Unknown Loss	0
26	TOTAL WATER NOT SOLD OR USED	0
27	COST OF WATER NOT SOLD OR USED	

"UNKNOWN LOSS" FLOW RATE AND COST:		
28	"Unknown Loss"	0
29	% "Unknown Loss"	
30	Number of Days in Period	<input style="width: 95%;" type="text" value="31"/>
31	"Unknown Loss" per Day (Gallons per Day)	0
32	"Unknown Loss" per Minute (GPM)	0.00
33	"Unknown Loss" Cost for Month	