

COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC INVESTIGATION INTO )  
EXCESSIVE WATER LOSS BY KENTUCKY'S ) CASE NO.  
JURISDICTIONAL WATER UTILITIES ) 2019-00041

ORDER

The Commission, on its own motion, initiates this investigation to review the excessive water loss by Kentucky's jurisdictional water utilities that report over 35 percent water loss in their annual reports on file with the Commission.<sup>1</sup> The Commission has noted in numerous recent orders that it is placing greater emphasis on monitoring utilities that consistently exceed the 15 percent unaccounted-for water loss threshold, and has strongly encouraged utilities to continue to pursue reasonable actions to reduce unaccounted-for water loss.<sup>2</sup> The Commission views excessive water loss as a potential warning sign of the financial health and operational well-being of water utilities. Failure by a water utility to make significant progress towards reducing its amount of water loss may cause the Commission to pursue additional action with the utility.

The Commission has plenary authority under KRS 278.040 to regulate the rates and services of jurisdictional utilities and to enforce the provisions of KRS Chapter 278.<sup>3</sup>

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<sup>1</sup> Appendix A to this Order lists Kentucky's jurisdictional water utilities that report over 35 percent water loss in their annual reports on file with the Commission.

<sup>2</sup> See generally *Electronic Application of Estill County Water District No. 1 for Rate Adjustment Pursuant to 807 KAR 5:076*, Case No. 2017-00176 (Ky. PSC Dec. 20, 2017), Order at 4.

<sup>3</sup> *Kentucky Public Service Com'n v. Commonwealth ex rel. Conway*, 324 S.W.3d 373, 383 (Ky. 2010).

KRS 278.030 requires every utility to furnish “adequate, efficient and reasonable” service. KRS 278.260 permits the Commission, on its own motion, to investigate any act or practice of a utility that affects or is related to the service of a utility. After conducting such an investigation and finding that a practice is unreasonable, unsafe, improper, or inadequate, KRS 278.280(1) further permits the Commission to determine the reasonable, safe, proper, or adequate practice or methods to be observed and to fix same by Order. KRS 278.230 permits the Commission to inspect the books and records of any jurisdictional utility and provides that jurisdictional utilities’ books and records shall be available to the Commission. KRS 278.230 also permits the Commission to require jurisdictional utilities to file “reports . . . or other information” the Commission reasonably requires.

The Commission has defined “unaccounted for water” at 807 KAR 5:067, Section 1(7):

Unaccounted for water” means the volumetric sum of all water purchased and produced by the utility less the volume of water:

- (a) Sold;
- (b) Provided to customers without charge as authorized by the utility’s tariff; and
- (c) Used by the utility to conduct the daily operation and maintenance of its treatment, transmission, and distribution systems.

Unaccounted-for water loss is “the difference of the total amount of water produced and purchased and the sum of water sold, water used for fire protection purposes,<sup>4</sup> and water used in treatment and distribution operations (e.g., backwashing filters, line flushing).”<sup>5</sup>

Pursuant to KRS 278.280(2), the Commission has prescribed in its regulations that:

Except for purchased water rate adjustments for water districts and water associations, and rate adjustments pursuant to KRS 278.023(4), for rate making purposes a utility’s unaccounted-for water loss shall not exceed fifteen (15) percent of total water produced and purchased, excluding water used by a utility in its own operations.<sup>6</sup>

The policy enacted by this regulation is “intended to serve as an incentive to promote efficient management.”<sup>7</sup> Despite this regulation, the water utilities listed in Appendix A of this Order report an unaccounted-for water loss that exceeds 35 percent of the total water produced and purchased, excluding water used by a utility in operation of its plant, system flushing, wastewater purposes (e.g., backwashing of filters), and fire department usage. The Commission initiates this initial administrative proceeding to investigate the reasons why the utilities listed in Appendix A of this Order have the highest water loss percentages among Kentucky’s jurisdictional water utilities and to determine what actions may be necessary in order to decrease their percentage of water loss.

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<sup>4</sup> When provided without charge pursuant to the utility’s tariff.

<sup>5</sup> *Application of Cannonsburg Water District for (1) Approval of Emergency Rate Relief and (2) Approval of the Increase in Nonrecurring Charges*, Case No. 2011-00217 (Ky. PSC June 4, 2012), Order at 5 n.12.

<sup>6</sup> 807 KAR 5:066, Section 6(3).

<sup>7</sup> *In the matter of the Notice by Lake Village Water Association, Inc., of a Tariff Amendment Adjusting Rates and Imposing Construction Surcharge*, Case No. 89-075 (Ky. PSC Jan. 29, 1990), Order at 5.

Future additional proceedings before this Commission shall address Kentucky jurisdictional utilities that consistently exceed the 15 percent unaccounted-for water loss threshold.

IT IS HEREBY ORDERED that:

1. An investigation to review the excessive water loss by Kentucky's jurisdictional water utilities is initiated. Each water utility operating under Commission jurisdiction that reports over 35 percent water loss in its annual reports on file with the Commission and that is listed in Appendix A of this Order is made a party to this proceeding and shall be served with a copy of this order.

2. All parties shall adhere to the procedural schedule set forth in Appendix B to this Order.

3. a. Responses to requests for information shall be appropriately bound, tabbed, and indexed, with the original in paper medium and an electronic version to the Commission. Electronic documents shall be in portable document format (PDF), shall be searchable, and shall be appropriately bookmarked. Each response shall include the name of the witness responsible for responding to the questions related to the information provided.

b. Each response shall be answered under oath or, for representatives of a public or private corporation or a partnership or an association or a governmental agency, be accompanied by a signed certification of the preparer or person supervising the preparation of the response on behalf of the entity that the response is true and accurate to the best of that person's knowledge, information, and belief formed after a reasonable inquiry.

c. A party shall make timely amendment to any prior response if it obtains information which indicates that the response was incorrect when made or, though correct when made, is now incorrect in any material respect.

d. For any request to which a party fails or refuses to furnish all or part of the requested information, that party shall provide a written explanation of the specific grounds for its failure to completely and precisely respond.

e. Careful attention should be given to copied material to ensure that it is legible. When the requested information has been previously provided in this proceeding in the requested format, reference may be made to the specific location of that information in responding to this request.

f. Any party filing a paper containing personal information shall, in accordance with 807 KAR 5:001, Section 4(10), encrypt or redact the paper so that the personal information cannot be read.

4. Any party filing a paper with the Commission shall file an electronic copy in accordance with the electronic filing procedures set forth in 807 KAR 5:001, Section 8, and shall also file the original in paper medium with the Commission. Responses to requests for information in paper medium shall be appropriately bound, tabbed, and indexed. Electronic documents shall be in portable document format (PDF), shall be searchable and shall be appropriately bookmarked.

5. Pursuant to 807 KAR 5:001, Section 8(10), within seven days of entry of this Order, each utility listed in Appendix A of this Order shall file a written statement with the Commission that:

a. Certifies that they possess the facilities to receive electronic transmissions; and

b. Sets forth the electronic mail address to which all electronic notices and messages related to this proceeding should be served.

6. As set forth in 807 KAR 5:001, Section 4(11)(a), a person requesting permissive intervention in a Commission proceeding is required to demonstrate either (1) a special interest in the proceeding which is not adequately represented in the case, or (2) that the person requesting permissive intervention is likely to present issues or develop facts that will assist the Commission in fully considering the matter without unduly complicating or disrupting the proceedings. Further, KRS 278.040(2) requires that a person seeking intervention must have an interest in the rates or service of a utility, as those are the only matters that are subject to the Commission's jurisdiction. Therefore, any person requesting to intervene in a Commission proceeding must state with specificity the person's special interest that is not otherwise adequately represented, or the issues and facts that the person will present that will assist the Commission in fully considering the matter. In addition, any motion to intervene filed after March 8, 2019, shall also show good cause for being untimely. If the untimely motion is granted, the movant shall accept and abide by the existing procedural schedule.

7. Each water utility listed in Appendix A of this Order shall file a notice of appearance of legal counsel by March 29, 2019.

8. Pursuant to KRS 278.360 and 807 KAR 5:001, Section 9(9), a digital video recording shall be made of any hearing.

9. The Commission does not look favorably on motions for continuance. Accordingly, motions for extensions of time with respect to the schedule herein shall be made in writing and will be granted only upon a showing of good cause.

10. Nothing contained herein shall prevent the Commission from entering further Orders in this matter.

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By the Commission

ENTERED  
MAR 12 2019  
KENTUCKY PUBLIC  
SERVICE COMMISSION

ATTEST:



Executive Director

Case No. 2019-00041

## APPENDIX A

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

Big Sandy Water District - serving Boyd, Carter, Johnson, and Lawrence counties

Cawood Water District - serving Harlan County

Estill County Water District - serving Estill County

Farmdale Water District - serving Anderson, Franklin, and Shelby counties

Hyden-Leslie County Water District - serving Clay, Leslie, and Perry counties

Kentucky-American Water Company (only for the former Eastern Rockcastle Water Association, Inc.) - serving Jackson and Rockcastle counties

Milburn Water District - serving Carlisle County

Morgan County Water District - serving Morgan County

North Manchester Water Association, Inc. - serving Clay County

Rattlesnake Ridge Water District - serving Carter, Elliott, Lawrence, Lewis, and Morgan counties

Southern Water & Sewer District - serving Floyd and Knott counties

West Carroll Water District - serving Carroll, Henry, and Trimble counties

- The Commission is currently investigating the water loss percentages of Cannonsburg Water District in Case No. 2014-00267<sup>8</sup> and of Martin County Water District in Case No. 2016-00142.<sup>9</sup> Those utilities are not made a party to this case.

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<sup>8</sup> Case No. 2014-00267, *Cannonsburg Water District's Unaccounted-For Water Loss Reduction Plan, Surcharge and Monitoring*.

<sup>9</sup> Case No. 2016-00142, *Electronic Investigation of the Operating Capacity of Martin County Water District Pursuant to KRS 278.280*.

APPENDIX B

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

Requests for intervention shall be filed no later than.....	03/15/19
Water utilities shall file a copy of all documents listed on Appendix D no later than .....	03/22/19
Water utilities shall file a notice of appearance of legal counsel no later than.....	04/05/19
Water utilities shall file responses to initial requests for information listed on Appendix C no later than .....	04/12/19
All supplemental requests for information to water utilities shall be filed no later than.....	05/03/19
Water utilities shall file responses to supplemental requests for information and shall file direct testimony, if any, in verified prepared form, no later than.....	05/31/19
Intervenor testimony, if any, in verified prepared form, shall be filed no later than .....	06/04/19
All requests for information to intervenors shall be filed no later than .....	06/07/19
Intervenors shall file responses to requests for information no later than.....	06/21/19
Water utilities shall file rebuttal testimony, if any, no later than.....	06/28/19
Public Hearings to be held in Hearing Room 1 of the Commission's offices at 211 Sower Boulevard, Frankfort, Kentucky, for the purpose of cross-examination of witnesses of water utilities and intervenors.....	07/09/19, 07/10/19, 07/11/19, 07/16/19,07/17/19, 07/18/19

## 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.

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.

## APPENDIX D

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

1. A copy of all documents, including but not limited to contracts, amendments to contracts, letters, e-mails and communications of every type which set out the price the utility pays for wholesale water purchases from other water districts, water associations, municipal water utilities, and investor-owned utilities.

2. A copy of all documents, including but not limited to contracts, amendments to contracts, letters, e-mails and communications of every type which set out the price the utility charges for wholesale water sales to other water districts, water associations, municipal water utilities, and investor-owned utilities.

\*Estill County Water District #1  
Estill County Water District #1  
76 Cedar Grove Road  
Irvine, KY 40336

\*Farmdale Water District  
Farmdale Water District  
100 Highwood Drive, Route 8  
Frankfort, KY 40601

\*Big Sandy Water District  
Big Sandy Water District  
18200 Kentucky Route #3  
Catlettsburg, KY 41129

\*Milburn Water District  
Milburn Water District  
7731 State Route 80 East  
Arlington, KY 42021

\*Rattlesnake Ridge Water District  
Rattlesnake Ridge Water District  
3563 State Highway 1661  
P. O. Box 475  
Grayson, KY 41143-0475

\*Hyden-Leslie County Water District  
Hyden-Leslie County Water District  
356 Wendover Road  
Hyden, KY 41749

\*West Carroll Water District  
West Carroll Water District  
225 Sixth Street  
P. O. Box 45  
Carrollton, KY 41008

\*Cawood Water District  
Cawood Water District  
54 Plant Road  
P. O. Box 429  
Cawood, KY 40815

\*Southern Water & Sewer District  
Southern Water & Sewer District  
245 Kentucky Route 680  
P. O. Box 610  
McDowell, KY 41647

\*Morgan County Water District  
Morgan County Water District  
1009 Hwy 172  
West Liberty, KY 41472

\*Kentucky-American Water Company  
Kentucky-American Water Company  
2300 Richmond Road  
Lexington, KY 40502

\*North Manchester Water Association,  
North Manchester Water Association, Inc.  
7362 N Highway 421  
Manchester, KY 40962

\*Eastern Rockcastle Water Association  
Eastern Rockcastle Water Association, Inc.  
9246 Main Street  
Livingston, KY 40445