COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF HARDIN COUNTY	**)**	
WATER DISTRICT NO. 2 FOR A	**)**	
DECLARATORY ORDER THAT	**)**	
SAMPLE TESTING SATISFIES THE	**)**	
TESTING REQUIREMENTS OF 807	**)**	**CASE NO. 2016-00432**
KAR 5:066, SECTION 16(1) OR, IN	**)**	
THE ALTERNATIVE, FOR AN	**)**	
ORDER GRANTING A DEVIATION	**)**	
FROM 807 KAR 5:066, SECTION 16(1)	**)**	

RESPONSE OF

HARDIN COUNTY WATER DISTRICT NO. 2

TO

COMMISSION STAFF'S SECOND REQUEST FOR INFORMATION

DATED MAY 11, 2017

FILED: June 5, 2017

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF HARDIN COUNTY WATER DISTRICT NO. 2 FOR A DECLARATORY ORDER THAT SAMPLE TESTING SATISFIES THE TESTING REQUIREMENTS OF 807 KAR 5:066, SECTION 16(1) OR, IN THE ALTERNATIVE, FOR AN ORDER GRANTING A DEVIATION FROM 807 KAR 5:066, SECTION 16(1)	)	**CASE NO. 2016-00432**

RESPONSE OF APPLICANT TO
COMMISSION STAFF'S SECOND REQUEST FOR INFORMATION

Comes the Applicant, Hardin County Water District No. 2, for its Response to the Commission Staff's Second Request for Information, and states as shown on the following pages.

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COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF HARDIN COUNTY WATER DISTRICT NO. 2 FOR A DECLARATORY ORDER THAT SAMPLE TESTING SATISFIES THE TESTING REQUIREMENTS OF 807 KAR 5:066, SECTION 16(1) OR, IN THE ALTERNATIVE, FOR AN ORDER GRANTING A DEVIATION FROM 807 KAR 5:066, SECTION 16(1)	)	**CASE NO. 2016-00432**

CERTIFICATION OF RESPONSE OF APPLICANT TO COMMISSION STAFF'S SECOND REQUEST FOR INFORMATION

This is to certify that I have supervised the preparation of the Applicant's Response to the Commission Staff's Second Information Request. The responses submitted on behalf of Hardin County Water District No. 2 are true and accurate to the best of my knowledge, information, and belief formed after a reasonable inquiry.

Date: 6/5/17

James R. Jeffries

James R. Jeffries, General Manager
Hardin County Water District No. 2

HARDIN COUNTY WATER DISTRICT NO. 2

CASE NO. 2016-00432

Response to Commission Staff's Second Request for Information

Question No. 1

Responding Witnesses:

James R. Jeffries, General Manager
Scott Clark, Customer Service Manager

Q-1. Provide the current number of Hardin No. 2's active accounts.

A-1. Currently, Hardin No. 2 has 27,632 active accounts. Contained in the total number of active accounts are 26,839 customers with 5/8" x 3/4" meters.

HARDIN COUNTY WATER DISTRICT NO. 2

CASE NO. 2016-00432

Response to Commission Staff's Second Request for Information

Question No. 2

Responding Witness: James R. Jeffries

Q-2. Refer to Hardin No. 2's application, which states that Hardin No. 2 is current with its replacement program. State whether Hardin No. 2 has any water meters in service that are older than those replaced in 2006.

A-2. Hardin No. 2 does not have any water meters in service that are older than those replaced in 2006. All meters were installed in 2006 or more recently.

HARDIN COUNTY WATER DISTRICT NO. 2

CASE NO. 2016-00432

Response to Commission Staff's Second Request for Information

Question No. 3

Responding Witness: James R. Jeffries

Q-3. Refer to the application, which states that Hardin No. 2 adopted its Sample Meter Testing Plan in 2016. State whether in 2016 only a sample test of all meters reaching ten years of service in that year was tested, or if all meters reaching ten years of service in that year were tested.

A-3. Hardin No. 2 did **not** test all meters that reached ten years of service in 2016. Instead, it sample tested the meters that reached ten years of service in 2016 in accordance with the ANSI Standard referenced in Hardin No. 2's Sample Meter Testing Plan.

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HARDIN COUNTY WATER DISTRICT NO. 2

CASE NO. 2016-00432

Response to Commission Staff's Second Request for Information

Question No. 4

Responding Witness: James R. Jeffries

Q-4. Explain how the Sample Meter Testing Plan provides for a random sampling process. Will a random selection be made for each year of service being tested, or does Hardin No. 2 plan to randomly select a group at ten years of service, and re-test those same meters for years 11-15?

A-4. Hardin No. 2 plans to randomly select a sample of meters from each installation year and re-test those meters in each subsequent year. For instance, Hardin No. 2 randomly selected a sample of 35 meters installed in 2006 that were tested in Year 1 of the Sample Meter Testing Plan. Unless instructed otherwise by the Commission, Hardin No. 2 will sample test the same 35 randomly selected meters in Year 2, Year 3, and beyond.

Hardin No. 2 believes that such an approach is consistent with the procedures in the ANSI Standard. In the A7 section of the ANSI Standard titled "Sample Selection," subsection A7.1 explains how sample size should be determined and subsection A7.2 explains how samples should be selected. Regarding selection, the ANSI Standard states only that "[u]nits of the sample shall be selected at random without regard to their quality."[1] In 2016, Hardin No. 2 randomly selected and tested 35 meters installed in 2006

[1] A7.2 of ANSI Standard.

to represent the lot of meters installed in 2006. When Hardin No. 2 tests the same 35 meters in 2017 as 11-year-old meters, the 35 meters remain a random selection of the meters installed in 2006. As required by the ANSI Standard, the 35 meters are units of the 2006 lot that were selected at random without regard to quality. Thus, Hardin No. 2 believes that testing the same random selection each year is appropriate and in accordance with the ANSI Standard.

To Hardin No. 2's knowledge, the ANSI Standard does not further address whether a different group of units must make up the sample each year. Hardin No. 2 understands that this issue may not be specifically considered by the ANSI Standard because the ANSI Standard is typically used for quality control in manufacturing processes, not to monitor the accuracy of water meters over a period of several years. Hardin No. 2 is also unaware of any other utilities that have, under the ANSI Standard, determined whether a new random selection should be made annually for each year of service being tested.

By testing the same randomly selected meters each year, Hardin No. 2 will be able to track the performance of the same meters each year. Hardin No. 2 believes that tracking the same meters will allow Hardin No. 2 to best draw conclusions about the meter group as a whole.

Furthermore, Hardin No. 2 will not be drawing conclusions about the accuracy of a meter age group based on one sample test. Multiple groups of meters at each age of service will be tested. For instance, the sample of meters installed in 2006 was tested at 10 years of age in Year 1. A different sample group of meters installed in 2007 will be tested at 10 years of age in Year 2, and so on. Thus, Hardin No. 2 and the Commission will have results from multiple random samples of meters through which to draw conclusions about the accuracy of the meters as a whole at different meter ages.

HARDIN COUNTY WATER DISTRICT NO. 2

CASE NO. 2016-00432

Response to Commission Staff's Second Request for Information

Question No. 5

Responding Witness: James R. Jeffries

Q-5. Explain Hardin No. 2's claim that there is an asymmetry or variability using the ANSI Standard to measure low flow readings and recommend any other available ANSI standards that could account for the variability as opposed to utilizing the means analysis.

A-5. The ANSI Standard's Double Specification Limit method (the "DSL") was used to determine acceptance of the meters at maximum and intermediate flows. The DSL, however, is an imperfect measure of low flow results because of the asymmetry of the parameters for low flow numbers. Generally, the ANSI Standard determines acceptance of a sample by using the sample's average and standard deviation. The DSL works well to determine acceptance of meters at maximum and intermediate flow rates because the upper and lower limits of these flow rates are equally above and below 100%. For instance, the upper and lower limits for maximum and intermediate flow rates are 98.5-101.5.[2] A "perfect" unit under the DSL would fall squarely between the upper and lower limits at 100%. The more meters in the sample that register near 100% – i.e., the more accurate the sample tested meters are – the more likely the sample will be accepted.

[2] 807 KAR 5:066, Section 15.

Thus, the DSL is a good method of determining acceptance at the maximum and intermediate flows because the testing method rewards the most accurate meters.

However, the DSL is an imperfect way to measure low flow accuracy because the upper and lower limits for low flow rates are not equally above and below 100%. In Case No. 2009-00253, Kentucky American used the upper and lower limits of 90-101 to measure low flow accuracy. However, when using these limits with the DSL, a "perfect" sample would be a sample with a mean of 95-96% and a low standard deviation. A sample with many values around 100% would be less likely to be accepted than a sample with many values around 95-96% because the units measuring 100% are near the upper limit and far from the lower limit. Thus, because using the DSL to test low flow accuracy rewards less accurate meters, Hardin No. 2 believes that the DSL presents fundamental issues and should not be used to determine the acceptance of meters at low flow rates.

Hardin No. 2 recommends using the **Single Specification Limit** method (the "SSL") contained in the ANSI Standard with lessened scrutiny to test meters at low flow. Under this method, and only to test low flow accuracy, Hardin No. 2 will use an AQL of 10.0. Hardin No. 2 will also use Inspection Level I. Section A7.1 of the ANSI Standard states that Inspection

Level I may be specified when less discrimination is needed. Using these parameters, Table A-2 specifies that Sample Size Code Letter H should be used.

Hardin No. 2 will use the SSL as outlined in Section B, Part 1 of the ANSI Standard. The repaired meter accuracy limit in 807 KAR 5:066, Section 15 is a minimum of 90% and this value will be used as the lower limit. The SSL should be used when the lot must only meet an upper *or* lower limit, whereas the DSL should be used when the lot must meet an upper *and* lower limit. **Example B-2** in the ANSI Standard demonstrates the SSL calculation method.[3] Section B5.1 states that **Table B-4** is used for reduced inspection. In 2016, for instance, Hardin No. 2 had 555 10-year-old meters. Using the Sample Size Code Letter H specified in Table A-2, Table B-4 provides that a sample size of 7 and an acceptability criterion of 30.50 shall be used. Hardin No. 2 will randomly select by a computerized process the sample of low flow meters from those meters that are sample tested at maximum and intermediate flows. The attached calculation shows that Hardin No. 2's 10-year-old meters in 2016 **are accepted** for minimum flows under the Single Specification Limit. See Exhibit 5-1.

[3] The parameters for the SSL are given in "two equivalent forms," which are identified at Form 1 and Form 2. Section B1 of ANSI Standard. Hardin No. 2 has selected Form 2, but Form 1 would reach the same result.

Lowered levels of scrutiny are appropriate to measure low flow meter accuracy because meter accuracy at low flows has a miniscule effect on revenue. As explained in Hardin No. 2's Sample Meter Testing Plan, only about 8.15% of the volume of water consumed in Hardin No. 2's system at residential meters is consumed at a minimum flow range.[4] Hardin No. 2's water usage at low flow rates is consistent with the water use profile test performed in Case No. 2011-00220 and AWWA studies, which show that domestic water users use around 7% of water at low flow rates. Furthermore, and most importantly, meters that are inaccurate at low flows, are nearly always inaccurate because the meters are too slow, not because the meters are over registering customer usage. Thus, lowered levels of scrutiny for meter accuracy at low flows is appropriate because only around 8% of water is used at low flows and because customers are not being over charged.

[4] Hardin No. 2 recorded data on 30 consecutive days from 19 data-loggers located throughout its distribution system in order to determine the volume of water consumed in each flow rate. As was used in Case No. 2011-00220, the flow ranges were measured at 1/2 gpm or less for the low flow, between 1/2 gpm and 6 gpm for the medium flow, and above 6 gpm for the high flow. Using 8% of water at low flow rates is consistent with the AWWA study used in Case No 2011-00220, which found that domestic water users use 7% of water at low flow rates.

EXHIBIT 5-1

Single Specification Limit
ANSI Standard for Minimum Flow

1	Sample Size: n	7
2	Sum of Measurements	651
3	Sum of Squared Measurements	60639
4	Correction Factor (CF)	60543
5	Corrected Sum of Squares (SS)	96
6	Variance (V)	16
7	Estimate of Lot Standard Deviation	4
8	Sample Mean	93
9	Lower Specification Limit	90
10	Quality Index: QL (lower)	0.75
ANSI Standard Table B-5 used to derive values below		
11	Est. of Lot Percent NcF (P)	23.440%
12	Max. Allowable Percent NcF (M)	30.500%
13	Acceptability Criterion (to accept, P<M)	**Accepted**

Test Results of 2016 Sample Meters
for Minimum Flow Test

Serial No.	Minimum
59510797	98
59511140	91
59510881	91
59510976	90
33783484	98
32525655	95
33911488	88

HARDIN COUNTY WATER DISTRICT NO. 2

CASE NO. 2016-00432

Response to Commission Staff's Second Request for Information

Question No. 6

Responding Witness: James R. Jeffries

Q-6. During the April 13, 2017 Informal Conference ("IC"), Hardin No. 2 representatives stated that an estimate of the soft cost savings associated with sample testing of meters could be provided.

a. Provide an estimate of the soft cost savings.

b. Provide a detailed explanation of all benefits Hardin No. 2 will experience due to the proposed sample meter testing.

A-6. a. See attached Exhibits 6-1 and 6-2. Hardin No. 2 estimates soft cost savings of **$359,225.00** over the five-year period of the Sample Meter Testing Plan. To calculate the soft cost savings, Hardin No. 2 calculated the cost of changing out its 10-year-old meters (at a price of approximately $50.00 per meter changeout) over the five-year period of the Sample Meter Testing Plan. Hardin No. 2 also calculated the cost of sample testing meters over the five-year period of the Sample Meter Testing Plan. Hardin No. 2 used a cost of $25.00 per meter testing to calculate the total sample meter testing cost in accordance with Hardin No. 2's existing tariff for providing the meter testing service. To determine the total soft cost savings, Hardin No. 2 subtracted the total sample meter testing cost from the total meter

changeout cost. Hardin No. 2 used the total meter changeout cost to determine the soft cost savings because Hardin No. 2 will change out all 10-year-old meters if it is unable to implement its Sample Meter Testing Plan.

b. Hardin No. 2 will receive numerous benefits from sample testing. First, Hardin No. 2 will benefit from capital cost savings due to the proposed sample meter testing. Hardin No. 2 will be able to depreciate its meters over fifteen (15) years instead of ten (10) years, resulting in annual cost savings of approximately $76,636. A detailed explanation of this calculation is shown in Hardin No. 2's response to Question No. 7 of the Commission Staff's First Request for Information. Additionally, Hardin No. 2 will avoid making capital expenditures totaling $528,908 (5,749 meters x $92.00 per meter = $528,908) over the next five years. Hardin No. 2 understands that Hardin No. 2 will have to replace meters eventually, but if Hardin No. 2 is able to increase the service life of its meters to 15 years, Hardin No. 2 will then replace the 15-year-old meters each year, but will have a one-time savings of approximately $528,908 by not having to replace the 10-14 year-old meters.

Second, Hardin No. 2 will also achieve the soft cost savings described in part a.

EXHIBIT 6-1

Sample Testing Costs for Hardin No. 2's Sample Meter Testing Plan (2016-2021)

	Year of Installation of Meters to be Sample Tested								
	2006	2007	2008	2009	2010	2011	Total Meters Tested	Cost of Sample Testing	Yearly Cost of Sample Meter Testing
2016	35						35	$25.00	$875.00
2017	35	35					70	$25.00	$1,750.00
2018	35	35	50				120	$25.00	$3,000.00
2019	35	35	50	50			170	$25.00	$4,250.00
2020	35	35	50	50	50		220	$25.00	$5,500.00
2021	35	35	50	50	50	50	270	$25.00	$6,750.00

TOTAL Sample Testing Cost **$22,125.00**

1. The horizontal axis of the chart shows the year of installation of meters to be sample tested.

2. The vertical axis shows the year of sample testing.

3. The numbers in the chart are the number of meters of each age group that will be sample tested each year.

4. Sample size is determined using the ANSI Standard Inspection Level II and Table A-2 and Table B-3.

EXHIBIT 6-2

Meter Changeout Costs for Time Period of Hardin No. 2's Sample Meter Testing Plan

	10-year-old Meters	Cost to Changeout Meter	Total Cost to Changeout Meters
2016	555	$50.00	$27,750.00
2017	1074	$50.00	$53,700.00
2018	1342	$50.00	$67,100.00
2019	1487	$50.00	$74,350.00
2020	1291	$50.00	$64,550.00
2021	1878	$50.00	$93,900.00
		TOTAL Meter Changeout Cost	**$381,350.00**

Savings Over Hardin No. 2's Sample Meter Testing Plan

TOTAL Meter Changeout Cost - TOTAL Sample Testing Cost = **$359,225.00**

HARDIN COUNTY WATER DISTRICT NO. 2

CASE NO. 2016-00432

Response to Commission Staff's Second Request for Information

Question No. 7

Responding Witness: James R. Jeffries

Q-7. Refer to Hardin No. 2's Response to Staff's First Request for Information ("Staff's First Request"), Item 1. Hardin No. 2 states that all meters installed from 2006-2011 are Sensus SR Meters, consisting of 15,589 Sensus SR Series; 10,607 Sensus Accustream; and 169 Sensus iPERL meters.

a. Explain how all three types of meters being used are comparable to the Sensus SR meters that were studied in the cases cited in comparison by Hardin No. 2 in its application.

b. Explain whether Hardin No. 2 will be using the same make and models of meters moving forward, and if not, how and why other makes or models of meters would be considered comparable to those previously studied.

A-6. a. In its response to Staff's First Request, Item 1, Hardin No. 2 stated that Hardin No. 2's system included 26,609 5/8- x 3/4" meters, which included 26,365 Sensus meters and 244 Badger meters. The Sensus meters included 15,589 Sensus SR Series, 10,607 Sensus Accustream, and 169 Sensus iPERL. Staff's question states that these meters were all installed from 2006-2011, which is inaccurate. The breakdown of meters by manufacturer and model provided in response to Staff's First Request included all meters in Hardin No. 2's system. Hardin No. 2 indicated in its response to Item 1 of Staff's First Request the number of meters installed each year that are currently in Hardin No.

2's system; 7,627 meters were installed from 2006-2011. All 7,627 meters installed from 2006-2011 are Sensus SR Series meters. There were no Accustream or iPERL meters installed from 2006-2011 and thus those models will not be sample tested under the Sample Meter Testing Plan.

The Sensus SR Series meters that will be sample tested are similar to those studied in the cases cited in comparison by Hardin No. 2. All meters tested in Case No. 2011-00220 were Sensus Model SRII Meters.[5] A wide variety of meter models and types were studied in Case No. 2009-00253, including Sensus SR Series meters.

All meters installed by Hardin No. 2 during the 2006-2011 time frame and the meters used by Warren County and Kentucky American in the cases cited by Hardin No. 2 in its Application are known in the industry as AWWA Standard C710 Positive Displacement Meters. None of the meters sample tested by Hardin No. 2, Kentucky American, or Warren County had magnetically driven registers.

b. Hardin No. 2 plans to continue purchasing meters which meet or exceed AWWA Standards.

[5] *Joint Application of Warren County Water District, Simpson County Water District, and Butler County Water System, Inc. for a Deviation from Approved Meter Testing Program*, Case No. 2011-00220, Order at 4 (Ky. PSC Mar. 5, 2013).

HARDIN COUNTY WATER DISTRICT NO. 2

CASE NO. 2016-00432

Response to Commission Staff's Second Request for Information

Question No. 8

Responding Witness: James R. Jeffries

Q-8. Refer to Hardin No. 2's response to Staff's First Request, Item 1, which states that 555 meters reached the threshold of ten years of age in 2016. Generally, the number of meters that will reach the ten-year age threshold will increase annually through the year 2026, when 5,890 meters would be replaced. If the Commission were to deny the proposed deviation to allow sample testing of meters, provide a comparison of Hardin No. 2's current staff level to the level of staff Hardin No. 2 will need to remain current with its meter replacement program in 2026.

A-8. In the event the Commission denies the proposed deviation, Hardin No. 2 will be able to remain current with its meter replacement program without adding additional employees. It will need approximately four (4) months to replace the 555 meters that were installed in 2006 and the 1,074 meters that were installed in 2007. In 2025 and 2026, it may be necessary for Hardin No. 2 to temporarily reassign some staff to ensure the timely replacement of nearly 6,000 meters in each of those two (2) years.

HARDIN COUNTY WATER DISTRICT NO. 2

CASE NO. 2016-00432

Response to Commission Staff's Second Request for Information

Question No. 9

Responding Witness: James R. Jeffries

Q-9. During the IC, Hardin No. 2 representatives stated that 555 meters were installed in 2006. Following the proposed Sample Meter Testing Plan, Hardin No. 2 tested 35 meters in 2016 from this group. Provide detailed estimate of costs incurred to test the 35 meters.

A-9. Based on the soft costs explained in the response to Q-6, the cost was approximately $875 ($25 x 35 = $875). The total estimated costs for sample testing for the years 2016 through 2021 will be $22,125.00. (See Exhibit 6-1 attached to the response to Question 6.)

HARDIN COUNTY WATER DISTRICT NO. 2

CASE NO. 2016-00432

Response to Commission Staff's Second Request for Information

Question No. 10

Responding Witness: James R. Jeffries

Q-10. During the IC, Hardin No. 2 representatives stated that the system's line loss had increased in 2015 due to the acquisition of the city of Elizabethtown's ("Elizabethtown") system.

a. Describe the condition of Elizabethtown's system when acquired.

b. Provide a detailed description of Hardin No. 2's efforts to reduce line loss.

A-10. a. Prior to the acquisition of the Elizabethtown System on October 31, 2014, Hardin No. 2 had a very enviable low percentage of line loss for a large water distribution system. Its line loss was as follows:

2013 – 11.6%

2012 – 14.8%

2011 – 12.4%

2010 – 12.7%

Hardin No. 2's 12-month rolling average line loss percentage was 14.7% at the end of October 2014. The distribution system had approximately 860 miles of water mains at the time. The acquisition of the Elizabethtown system occurred October 31, 2014. This system had approximately 140 miles of mains. The combined systems were

immediately considered in the monthly line loss percentage calculation. The rolling average line loss percentage peaked at 21.2% in August 2015. Considering there were no significant distribution changes in this period, Hardin No. 2 estimates that the Elizabethtown system had over 50% unaccounted for water. The causes of this unaccounted for water are numerous:

(1) Elizabethtown did not meter water usage at properties that were owned by Elizabethtown. There were over twenty (20) of these locations including the irrigation systems at the Sports Park, Carroll Soccer Complex, and Freeman Lake Park.

(2) Because Elizabethtown was not subject to Commission meter testing and change out regulations, many of the customer meters were not registering. The customers in these cases were charged a minimum bill or a flat fee based on past usage that was no longer accurate. There were approximately 200 "dead" (inoperable) meters found in the Elizabethtown system.

(3) Elizabethtown had approximately 400 fire services that did not have usage monitoring integrated into the connection. In the event that domestic usage was occurring on these connections, the water would not be metered nor charged to the customer.

(4) Leak detection was not a priority for Elizabethtown because they were not subject to the Commission's target of 15%. As a result, leaks that did not result in pressure drops did not get the attention of Elizabethtown personnel. Only a pressure drop at the customer or a failure to maintain tank levels would result in a response.

b. Hardin No. 2 immediately made efforts to reduce line loss and unaccounted for water after acquiring the Elizabethtown system.

From 2014 to 2016, Hardin No. 2 addressed customer connections for water usage. All stopped meters were immediately targeted for change out. Simultaneously, the Distribution Department began installing meters at Elizabethtown's properties to account for usage at those locations. Also, a meter change out program was implemented to update every customer connection in the Elizabethtown system. At the end of 2016, all domestic usage points had a new meter installed.

Hardin No. 2's leak detection processes immediately began to apply to the Elizabethtown system. Suspected leaks identified by meter readers, 811 line location efforts, and other Hardin No. 2 personnel were immediately addressed by Distribution Department repair crews. Fire connections are still in the process of being addressed. The effort of installing usage detection meters continues. Several locations have been identified where domestic usage was occurring on a fire service line. Those locations were addressed immediately.

In addition to completing the fire service upgrades, Hardin No. 2 is identifying potential professional leak detection service providers to assist with leak detection and will include this activity in the 2018 budget. On several occasions, Hardin No. 2 crews have identified and

repaired "legacy" leaks (i.e., those leaks that have been ongoing for years). It is Hardin No. 2's belief that other legacy leaks are driving the high leak percentage. These legacy leaks are often under roads and sidewalks, do not affect tank trends or system pressures, and find their way into the storm drain system and never come to the surface.

In 2016, Hardin No. 2's line loss percentage was 17.9%. This is not Hardin No. 2's goal and additional efforts are needed, but it does represent significant improvement from the 21.2% line loss percentage in August 2015. All obvious contributors to line loss have been addressed or are in the process of being addressed. Hardin No. 2 will begin using professional assistance to help identify where in the 100-year-old Elizabethtown system it must focus next.

CERTIFICATE OF SERVICE

In accordance with 807 KAR 5:001, Section 8, I certify that Hardin County Water District No. 2'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 June 5, 2017; 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 on or before June 7, 2017.

Damon R. Talley