

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

KENTUCKY-AMERICAN WATER COMPANY'S)	CASE NO.
REQUEST FOR PERMISSION TO DEVIATE)	2009-00253
FROM 807 KAR 5:066, SECTION 16(1))	

ORDER

Kentucky-American Water Company ("Kentucky-American") has petitioned the Commission to deviate from 807 KAR 5:066, Section 16(1) and to keep its 5/8-inch meters in service for 15 years without the need to test for accuracy. 807 KAR 5:066, Section 16, Periodic Tests states in part:

(1) Each utility shall test periodically all water meters so that no meter will remain in service without test for a period longer than specified in the following table:

SIZE OF METER INCHES	INTERVAL BETWEEN TEST YEARS
5/8	10
5/8 X 3/4	10
3/4	10
1	10
1 1/4	4
1 1/2	4
2	4
3	2
4 and larger	1

The purpose of the Commission's meter testing regulation is to protect the integrity of and promote public confidence in a utility's billing system. Without the accurate measurement of water consumption and accurate customer billing, customers

will lack confidence in the fairness of utility bills. Any deviation from the 10-year meter testing requirement of 807 KAR 5:066, Section 16(1), therefore, must not compromise this purpose.

Kentucky-American's request is based upon the results of a 10-year pilot study authorized by the Commission on September 30, 1997. The Commission granted Kentucky-American permission to deviate from 807 KAR 5:066, Section 16(1), and to conduct a pilot study until December 31, 2007. This authorization was contingent upon Kentucky-American's adherence to the Pilot Sampling Plan ("Plan") for meters older than ten years,¹ which was developed by Economic and Engineering Services, Inc. and made part of Kentucky-American's June 26, 1997 amended application. On July 31, 2007, Kentucky-American was granted a one-year extension to complete the pilot study.²

The broad objective of the Plan was to provide a means to ensure that meters left in place beyond ten years are accurate and to determine a meter life that is appropriate. Initially, the target for meter life was 20 years, but the Plan emphasized that meter accuracy would be monitored by rigorous statistical sample by year. If the results of the sampling plan showed that meters older than ten years were not accurate after a certain age, the meter life would be set back to ten years or the length of life that was accurate.

¹ Case No. 1996-00569, *Application of Kentucky-American Water Company for Permission to Deviate from the Requirements of 807 KAR 5:066, Section 16(1), of the Commission's Rules* (Ky. PSC Sept. 30, 1997).

² Case No. 2007-00198, *Kentucky-American Water Company's Request for Permission to Deviate from the Requirements of 807 KAR 5:066, Section 16(1)* (Ky. PSC Jul. 31, 2007)

Annual reporting to the Commission was an integral part of the program and allowed the Commission to actively monitor the program and to halt the program at any time.³ The annual report included test summaries with explicit delineation of whether a particular meter had failed or passed the accuracy test. If a meter age failed, Kentucky-American was to determine whether the pilot program should be halted or if an age of service should be set. Any failing of a meter age would trigger reconsideration of the pilot program.⁴ Although the pilot study was initially established to test meters through the 20-year mark, on May 4, 2007, Kentucky-American reported that its 17-year-old meters had failed the tests for accuracy and that it had concluded meters older than 15 years were not sufficiently accurate and that future testing of these meters would be discontinued.⁵

Based upon the results of its pilot study, Kentucky-American has asked to deviate from 807 KAR 5:066, Section 16(1), and to keep its 5/8-inch meters in service for 15 years without testing for accuracy. Having considered the request and being otherwise sufficiently advised, the Commission finds the following:

1. Kentucky-American, a Kentucky corporation, is a wholly owned subsidiary of American Water Works Company, Inc. ("American-Water").⁶

³ *Id.* Exhibit C, Kentucky-American Water Company's Pilot Sampling Plan for Meters Older than Ten Years at 1-1.

⁴ *Id.* at 3-5.

⁵ Letter report from William F. White, Network Superintendent, Kentucky-American Water Company, to Beth A. O'Donnell, Executive Director, Public Service Commission, as part of Kentucky-American's Request for Extension of the Plan in Case No. 2007-00198, *Kentucky-American Water Company's Request For Permission To Deviate From the Requirements of 807 KAR 5:066, Section 16(1)* (Ky. PSC filed May 4, 2007). *Kentucky-American's Pilot Program Sampling Results in the Year 2007 for Meters Over Ten Years Old and Request for One-Year Extension of the Sampling Plan.*

⁶ Annual Report of Kentucky-American Water Company to the Kentucky Public Service Commission for the year ended December 31, 2010 at 6.

2. Kentucky-American owns and operates facilities used to distribute water to approximately 119,619 customers, including approximately 110,744 residential customers in Bourbon, Clark, Fayette, Gallatin, Grant, Harrison, Jessamine, Owen, Scott, and Woodford counties.⁷

3. On November 26, 1996, Kentucky-American petitioned the Commission for permission to create a ten-year pilot study to determine whether 5/8-inch meters remain accurate beyond 10 years in service.⁸

4. On June 26, 1997, Kentucky-American filed a testing plan for meters older than ten years which had been developed by Economic and Engineering Services, Inc.⁹

5. On September 30, 1997, the Commission granted Kentucky-American's application to suspend testing of 5/8-inch meters until December 31, 2007, contingent upon adherence to the Plan.¹⁰

6. On July 31, 2007, the Commission granted Kentucky-American a one-year extension of the pilot study, to December 31, 2008, to allow testing of the final set of 200 15-year-old meters for one additional year.¹¹

7. During the pilot study, Kentucky-American continued to file its quarterly meter testing reports as required by 807 KAR 5:006, Section 3(2), and also filed an

⁷ *Id.* at 5 & 30.

⁸ Case No. 1996-00569, *Application of Kentucky-American Water Company for Permission to Deviate from the Requirements of 807 KAR 5:066, Section 16(1), of the Commission's Rules* (Ky. PSC filed Nov. 26, 1996).

⁹ Case No. 1996-00569, *Amended Application* (Ky. PSC filed Jun. 26, 1997).

¹⁰ Case No. 1996-00569, *Kentucky-American Water Company* (Ky. PSC Sept. 30, 1997).

¹¹ Case No. 2007-00198, *Kentucky-American Water Company's Request for Permission to Deviate from the Requirements of 807 KAR 5:066, Section 16(1)* (Ky. PSC Jul. 31, 2007).

annual report of its pilot study meter testing results with its fourth period quarterly meter test report.

8. Implementation of the pilot study included Kentucky-American's adherence to the following protocol and procedures of the Plan:

a. Beginning in 1999, a sample group of 200 meters that had been installed in 1988 was tested.¹²

b. Kentucky-American used a random number generator which included and tested 200 additional meters in the pilot study for each year between 1999 and 2007, with the exception of the year 2003.

c. Compliance with the Plan required Kentucky-American to add 400 additional meters if the testing of a particular meter age showed accuracy problems. The test results would then be grouped with the first failed 200 meters, bringing the total sample to 600.

d. If the additional sample and the original sample averages in total failed, all meters of that specific age were tested.

e. If a particular age of meter passed for five consecutive years, no further testing was needed and that age of meter was considered accurate.

f. As a sample of meters entered test year 11, they were tested and discarded. A new sample-year 11 age group was selected and tested in test year 12, and so on.

¹² The 5/8-inch meters tested in the pilot study were not all identical and were manufactured by Rockwell, Badger, Trident, or Sensus.

g. Each meter was tested at three different flow rates: a maximum flow rate of 15 gallons per minute (“gpm”); an intermediate flow rate of 2 gpm; and a minimum flow rate of one-fourth gpm.

h. The method of testing meter accuracy at the three flow-rate levels was by means analysis, with the mean of a set of data being the same as its average.

i. At each flow rate, the accuracies were averaged for each sample for a particular age. The accuracies were then compared to established accuracy levels prescribed by 807 KAR 5:066, Section 15(2)(a).

j. Accuracy limits in percentages for both the maximum and the intermediate flow rates are 98.5-101.5, and the minimum flow rate is 90-101.

k. A sample was deemed inaccurate if the mean of any of the three flow rates was outside any of these prescribed levels.

9. The results of the pilot study, as reported by Kentucky-American, are detailed below and are summarized in the appendix to this order.¹³

1999

In the year 1999, there was one set of meters tested:

11-year-old meters installed in 1988;

The one set of 11-year-old meters passed the Means Analysis Test.¹⁴

2000

In the year 2000, two sets of meters were tested:

11-year-old meters installed in 1989;

12-year-old meters installed in 1988;

Both sets of meters passed the Means Analysis Test.¹⁵

¹³ This summary has been prepared by Staff and is based upon information and data provided by Kentucky-American.

¹⁴ Kentucky-American's Response to Commission Staff's First Data Request, Item 3.

¹⁵ *Id.*

2001

In the year 2001, three sets of meters were tested:

11-year-old meters installed in 1990;

12-year-old meters installed in 1989;

13-year-old meters installed in 1988;

All three sets of meters passed the Means Analysis Test.

2002

In the year 2002, four sets of meters were tested:

11-year-old meters installed in 1991;

12-year-old meters installed in 1990;

13-year-old meters installed in 1989;

14-year-old meters installed in 1988;

All four sets of meters passed the Means Analysis Test.

2003

No Meters were tested.¹⁶

2004

Five sets of meters were tested:

11-year-old meters installed in 1993;

12-year-old meters installed in 1992;

13-year-old meters installed in 1991;

14-year-old meters installed in 1990;

15-year-old meters installed in 1989;

All five sets of meters passed the Means Analysis Test.

The 11-year-old meters were found to be accurate overall, given accurate testing for five years ending in 2004.

No further testing of the 11-year-old meters was required.

2005

Four sets of meters were tested:

12-year-old meters installed in 1993;

13-year-old meters installed in 1992;

14-year-old meters installed in 1991;

15-year-old meters installed in 1990;

All four sets of meters passed the Means Analysis Test.

The 12-year-old meters were found to be accurate overall, given accurate testing for five years ending in 2005.

No further testing of the 12-year-old meters was required.

¹⁶ KAWC did not conduct meter tests in 2003 due to unforeseen personnel problems. Because no meters were fully tested as per the Sampling Plan procedures, Kentucky-American treated the year 2003 as a year without a test for either pass or fail for any test year. The Commission granted KAWC a one-year extension.

2006

Four sets of meters were tested:

13-year-old meters installed in 1993;

14-year-old meters installed in 1992;

15-year-old meters installed in 1991;

16-year-old meters installed in 1990;

All four sets of meters passed the Means Analysis Test.

The 13-year-old meters were found to be accurate overall, given accurate testing for five years ending in 2005, and no further testing of the 13-year-old meters was required.

2007

Four sets of meters were tested:

14-year-old meters installed in 1993;

15-year-old meters installed in 1992;

16-year-old meters installed in 1991;

17-year-old meters installed in 1990;

The 14, 15, and 16-year-old meters passed the Means Analysis Test.

The 14-year-old meters were found to be accurate overall, given accurate testing for five years ending in 2007, and no further testing of the 14-year-old meters was required.

The 17-year-old meters failed and Kentucky-American concluded that meters older than 15-years were not sufficiently accurate, and further testing on them was discontinued.¹⁷

2008

There was one set of meters tested:

15-year-old meters installed in 1993;

The 15-year-old meters passed the Means Analysis Test and were found to be accurate overall, given accurate testing for five years ending in 2008, and no further testing of the 15-year-old meters was required.

10. By keeping meters in service for five extra years, Kentucky-American estimates that it will save the time and expense of changing out meters that still have years of remaining useful life and will result in the purchase of fewer new meters.

¹⁷ Letter report from William F. White, Network Superintendent, Kentucky-American Water Company to Beth A. O'Donnell, Executive Director, Public Service Commission, as part of Kentucky-American's Request for Extension of the Plan in Case No. 2007-00198, *Kentucky-American Water Company's Request For Permission To Deviate From the Requirements of 807 KAR 5:066, Section 16(1)* (Ky. PSC filed May 4, 2007). *Kentucky-American's Pilot Program Sampling Results in the Year 2007 for Meters Over Ten-Years-Old and Request for One-Year Extension of the Sampling Plan.*

11. Kentucky-American proposes to remove all meters at their 15-year mark and store them for a minimum of three months after removal so that they will be available for any testing that may be necessary. After that, the meters will be discarded.

12. Kentucky-American anticipates that the annual capital expenditure savings from moving to a 15-year meter replacement program is \$545,872, with an associated annual revenue requirement savings of \$90,918 to be passed through to its customers in subsequent rate cases.¹⁸

13. Kentucky-American should be permitted to deviate from the requirements of 807 KAR 5:066, Section 16(1), and to keep its 5/8-inch meters in service without testing for accuracy for 15 years, with the condition that it test a random sample of 200 meters that are removed from service after 15 years for the calendar years 2012 and 2013. The results of these tests should be filed with the Commission by March 31 of the following year.

14. Kentucky-American should be permitted to remove its 5/8-inch meters at their 15-year mark and to store them for a minimum of three months after removal so that they will be available for any testing that may be necessary before they are discarded.

15. Kentucky-American should be put on notice that, if the accuracy of any 5/8-inch meter that has been removed from service and discarded pursuant to this Order is disputed or challenged, Kentucky-American will have the burden of proof that

¹⁸ Responses to Commission Staff's First Data Request, Item 1. Note: the savings to an individual customer would not be significant. At this level of savings, the benefit to an individual customer would be less than \$1 per year or \$.06 per month.

the discarded meter was accurate and that any corresponding billing was also accurate.

IT IS THEREFORE ORDERED that:

1. Kentucky-American's application to deviate from 807 KAR 5:066, Section 16(1), regarding the frequency of testing its 5/8-inch meters is granted.

2. Kentucky-American is permitted to keep its 5/8-inch meters in service for 15 years without testing for accuracy.

3. Kentucky-American shall remove its 5/8-inch meters at or before their 15-year mark and shall store them for a minimum of three months after removal so that they will be available for any testing that may be necessary.

4. Kentucky-American shall have the burden of proof regarding the accuracy of any 5/8-inch meter that has been removed after 15 years in service and has been discarded without being tested for accuracy.

5. For calendar years 2012 and 2013, Kentucky-American shall test a random sample of 200 5/8-inch meters that are removed from service after 15 years pursuant to this Order.

6. On or before March 31 of 2013 and 2014, Kentucky-American shall file with the Commission a written report containing the test results of the 200 15 year 5/8-inch meters tested during the prior calendar year.

7. Nothing contained in this Order shall limit the Commission's authority to review the authorized deviation while the deviation remains in effect.

By the Commission

ENTERED ^{PA}
OCT 05 2011
KENTUCKY PUBLIC
SERVICE COMMISSION

ATTEST:



Executive Director

APPENDIX

APPENDIX TO AN ORDER OF THE KENTUCKY PUBLIC SERVICE
COMMISSION IN CASE NO. 2009-00253 DATED **OCT 05 2011**

SUMMARY OF TEST YEARS

	Test Year	Year Installed	Meter Age	Test Results
1.	1999	1988	11 Years	Passed
2.	2000	1989 1988	11 Years 12 Years	Passed Passed
3.	2001	1990 1989 1988	11 Years 12 Years 13 Years	Passed Passed Passed
4.	2002	1991 1990 1989 1988	11 Years 12 Years 13 Years 14 Years	Passed Passed Passed Passed
5.	2003	No Testing	*****	*****
6.	2004	1993 1992 1991 1990 1989	11 Years 12 Years 13 Years 14 Years 15 Years	Passed* Passed Passed Passed Passed
7.	2005	1993 1992 1991 1990	12 Years 13 Years 14 Years 15 Years	Passed* Passed Passed Passed
8.	2006	1993 1992 1991 1990	13 Years 14 Years 15 Years 16 Years	Passed* Passed Passed Passed
9.	2007	1993 1992 1991 1990	14 Years 15 Years 16 Years 17 Years	Passed* Passed Passed Failed
10.	2008	1993	15 Years	Passed*
	*Passed for	5th Year		

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