STOLL KEENON OGDEN PLLC

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October 9, 2024

VIA ELECTRONIC MAIL

Linda C. Bridwell
Executive Director
Kentucky Public Service Commission
211 Sower Blvd
Frankfort, KY 40601

Re: Young v. Kentucky American Water, Case Nos. 2023-00261

Dear Ms. Bridwell:

Enclosed please find Kentucky American Water's submission for electronic filing. I hereby certify that: (1) this electronic filing is a true and accurate copy of the original documents in paper medium; (2) the electronic filing has been transmitted to the Commission on October 9, 2024; and (3) no party has been excused from participation by electronic means but a paper copy of the filing has been provided to Mr. Young via U.S. Mail on October 9, 2024.

Very truly yours,

Lindsey W. Ingram III

Cc via U.S. Mail: Bobby Young
1691Donelwal Drive
Lexington, KY 40511

VERIFICATION

COMMONWEALTH OF KENTUCKY)
) SS:
COUNTY OF FAYETTE)

The undersigned, William Andy Lewis, being duly sworn, deposes and says that he is the Vice President of Operations for Kentucky-American Water Company, that he has personal knowledge of the matters set forth in the accompanying data responses for which he is identified as the responsible witness, and that the answers contained therein are true and correct to the best of his information, knowledge and belief.

William A. Lewis

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 8th day of October, 2024.

Notary Public

My Commission Expires:
July 31, 2025
Notary ID: KYNP21988

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00261
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION

Witness: William A. Lewis

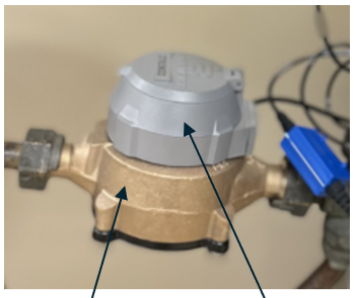
1. Refer to the complaint filed by Bobby Young received August 1, 2023, and filed in Public Service Commission Case No.: 2023-00261.

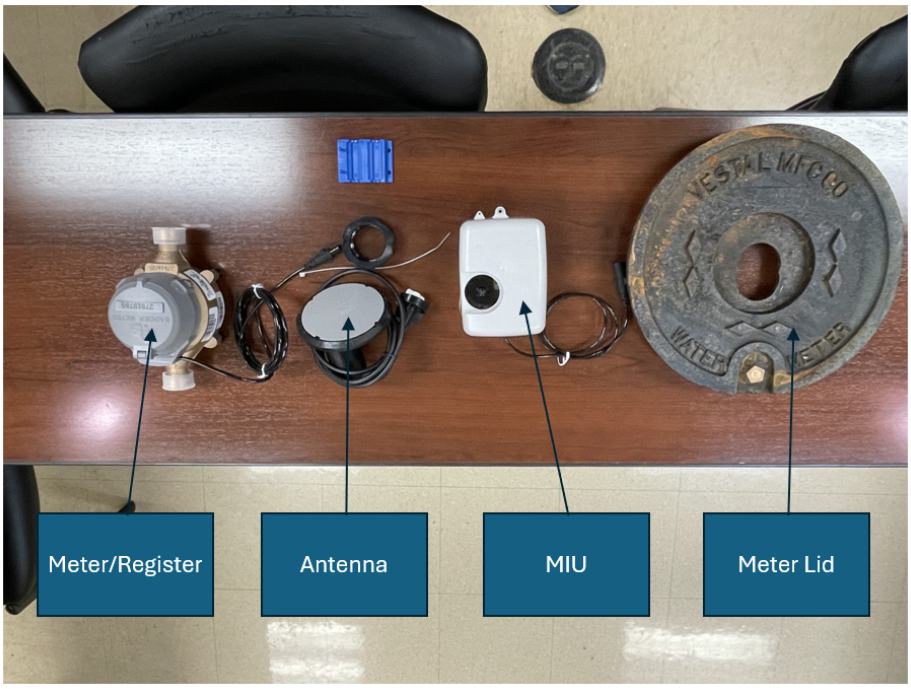
   a. Confirm that a Neptune R900 System Endpoint is attached to the Kentucky-American water meter serving 1691 Donelwal Drive, Lexington, Kentucky 40511 (Customer Address) during any or all portions of January 2023 and February 2023. If unable to confirm, identify which automated meter reading (AMR) or advanced metering infrastructure (AMI) system(s), if any, was utilized on the Kentucky-American water meter serving the Customer Address during any or all portions of January 2023 and February 2023.

   b. If an AMR/AMI system was utilized at the Customer Address, identify the system, and provide the product sheet, including a picture of the product and a description of the system's capabilities. If the product sheet is unavailable, provide a detailed physical description of the system, its capabilities as well as a photograph of the system.

Response:

An Automatic Meter Reading (AMR) system, is designed to automatically read, transmit, and collect meter readings without requiring an individual to manually visit and transcribe a meter reading from a meter register into a manual collection point (e.g., meter reading book). In the case of an AMR meter, readings are transmitted via a radio signal from the meter to a mobile collector in a truck driven by a KAW employee in the nearby vicinity of the meter. By contrast, Advanced Metering Infrastructure (AMI) systems utilize cell or radio technology to transmit meter reading data to a fixed location without the need for an employee to be in a truck in the vicinity of the meter. The images and descriptions below of an AMR system are provided in general to help explain and amplify KAW's responses to these data requests.





Meter – The volumetric measuring device that measures the quantity of water used downstream of the meter.

Register – The recording device that records the volumetric quantity of water measured by the meter used downstream of the meter.

MIU or Meter Interface Unit - The electronic device that transmits the meter reading recorded on the meter register to a mobile data collection device. Data from the mobile collection device is uploaded to billing software that is later used to generate a customer water bill.

Antenna – The MIU transmits data through the antenna.

Lid – This is the meter pit lid. The AMR antenna protrudes through the top of the lid to provide better connectivity to the mobile data collection device.

(a) Yes, an R900 Neptune with an automated meter reading (AMR) endpoint was installed and was utilized and accurately served the customer during the time period of January 2023 – February 2023. The R900 Neptune AMR endpoint was installed and worked correctly. Please refer to KAW_R_PSCDR1_NUM001_100924_Attachment_1 for a monthly reading status from December 2022 until September 2024. This attachment identifies the meter number and the MIU or Meter Interface Unit.

KAW knows that the meter installed at this address was measuring accurately because it was tested and passed the KAW bench test and was found to be operating accurately. As noted in the Commission's September 25, 2024 Order, Mr. Young's Complaint admits that the meter tested accurately. KAW's meter test results are attached to his Complaint. KAW also notes that, contrary to the statement in the Commission's September 25, 2024 Order that the Commission did not test

the meter, the Commission did, in fact, have the meter tested. As shown in the documents attached to Mr. Young's Complaint, Commission Staff *did* have the meter tested by the Louisville Water Company. Both the KAW test results and Staff's test results (performed by Louisville Water Company) show that the meter tested accurately. Again, the results are attached to Mr. Young's Complaint, but KAW has also attached them to this response as KAW_R_PSCDR1_NUM001_100924_Attachment 2.

(b) Please refer to KAW_R_PSCDR1_NUM001_100924_Attachment_3 for the R900 meter product sheet that gives details about how the unit transmits the meter reading by radio frequency to the mobile data collector in the KAW truck driving in the vicinity of the meter once per month. Please refer to KAW_R_PSCDR1_NUM001_100924_Attachment_4 for the R900 AMR data collection product sheet. This mobile unit sits inside the meter reading vehicle that KAW employees drive in the vicinity of a meter to collect meter readings. This meter reading data is then used for billing purposes and identifies usage for each customer meter and indicates any potential leak detection on those meters. Regardless of whether it is an AMR or AMI setup, the usage data is collected by KAW and any indication of a possible leak is addressed. As stated above, KAW_R_PSCDR1_NUM001_100924_Attachment_1 shows the usage data collected from Mr. Young's meter. This data was retrieved from the actual meter was analyzed and compared with his previous month's meter readings for usage. On at least one reading the data did show a potential water leak somewhere downstream from his meter (which is consistent with Mr. Young's indications of toilet repairs). As stated above, the Customer's meter was tested and passed the KAW bench test for operating and reading usage accurately. It also passed the Commission's test (performed by Louisville Water Company).

Device ID	Read Time	Cycle	Route	Meter S/N	MIU ID	Previous Reading	Reading	Skip Code	Trouble Code	Status/Flag	Read Method	Address	Account Status	Reading Device	Technician
6994549	9/18/2024 6:20	14	LEX401	64854592	1575015214	711	754			Leak		1691 Donelwal Dr	A	MRX-1	Blair,Billy
6994549	8/15/2024 8:52	14	LEX401	64854592	1575015214	683	711			Leak		1691 Donelwal Dr	A	MRX-1	Blair,Billy
6994549	7/17/2024 9:41	14	LEX401	64854592	1575015214	639	683					1691 Donelwal Dr	A	MRX-1	Blair,Billy
6994549	6/17/2024 10:03	14	LEX401	64854592	1575015214	609	639					1691 Donelwal Dr	A	MRX-1	Blair,Billy
6994549	5/15/2024 8:59	14	LEX401	64854592	1575015214	585	609					1691 Donelwal Dr	A	MRX-1	Blair,Billy
6994549	4/15/2024 10:55	14	LEX401	64854592	1575015214	563	585					1691 Donelwal Dr	A	MRX-1	Blair,Billy
6994549	3/14/2024 14:09	14	LEX401	64854592	1575015214	563	563			USE		1691 Donelwal Dr	A	MRX-1	Maynard,Glen
6994549	2/15/2024 9:37	14	LEX401	64854592	1575015214	563	563			USE		1691 Donelwal Dr	A	MRX-1	Blair,Billy
6994549	1/18/2024 10:26	14	LEX401	64854592	1575015214	547	563					1691 Donelwal Dr	A	MRX-1	Todd,Stephen
6994549	12/15/2023 13:34	14	LEX401	64854592	1575015214	528	547					1691 Donelwal Dr	A	MRX-1	Blair,Billy
6994549	11/15/2023 12:52	14	LEX401	64854592	1575015214	506	528					1691 Donelwal Dr	A	MRX-1	Blair,Billy
6994549	10/17/2023 9:43	14	LEX401	64854592	1575015214	482	506					1691 Donelwal Dr	A	MRX-1	Lay,David
6994549	9/18/2023 10:43	14	LEX401	64854592	1575015214	447	482					1691 Donelwal Dr	A	MRX-1	Blair,Billy
6994549	8/15/2023 13:19	14	LEX401	64854592	1575015214	416	447					1691 Donelwal Dr	A	MRX-1	Blair,Billy
6994549	7/18/2023 12:11	14	LEX401	64854592	1575015214	374	416					1691 Donelwal Dr	A	MRX-1	Blair,Billy
6994549	6/16/2023 7:43	14	LEX401	64854592	1575015214	344	374					1691 Donelwal Dr	A	MRX-1	Blair,Billy
6994549	5/15/2023 13:49	14	LEX401	64854592	1575015214	127	344					1691 Donelwal Dr	A	MRX-1	Blair,Billy
6994549	4/18/2023 10:18	14	LEX401	64854592	1575015214	19	127			Leak		1691 Donelwal Dr	A	MRX-1	Lay,David
6994549	3/16/2023 8:38	14	LEX401	64854592	1575015214		19					1691 Donelwal Dr	A	MRX-1	Blair,Billy
3768076	2/15/2023 11:28	14	LEX401	088701030N	1482163512	704		[314] - New Meter Found - Company Action Required			[11] - RF	1691 Donelwal Dr	A	MRX-1	Blair,Billy
3768076	1/23/2023 7:56	14	LEX401	088701030N	1482163512	665	704					1691 Donelwal Dr	A	MRX-1	Payne,Jaden
3768076	12/20/2022 16:14	14	LEX402	088701030N	1482163512	663	665					1691 Donelwal Dr	A	SM-1	Maynard,Glen

Commonwealth of Kentucky
Public Service Commission
211 Sower Blvd.
P.O. Box 615
Frankfort, Kentucky 40602-0615
Telephone: (502) 564-3940
psc.ky.gov

METER STANDARDS LABORATORY
REQUEST METER TEST REPORT
[Pursuant to 807 KAR 5:066, Section 15(2)(a)]
WATER

CUSTOMER: Bobby Young
UTILITY: Kentucky-American Water Company
TEST DATE: 5/8/2023
TESTING FACILITY: Louisville Water Company

DISCUSSION:
The Division of Inspections (DOI) received a request from the Consumer Services Branch tohave Bobby Young's meter tested by Kentucky Public Service Commission (Commission) as per 807 KAR 5:006, Section 19(2).

On May 8, 2023, Mr. Young's meter was tested by Louisville Water Company, an independent third party representing the Commission. Louisville Water Company's meter testing facility is located at 4801 Allmond Ave. Louisville, KY 40214. Records indicate that Mr. Young's meter was first tested by Kentucky-American Water Company on February 17, 2023. (See attachment A)

FINDINGS:
The request test was performed in accordance with 807 KAR 5:066, Section 15(2)(a). The meter was tested at the minimum flow rate of ¼ gallon per minute ("gpm"), the intermediate flow rate of 2 gpm, and the high flow rate of 15 gpm. At each flow test, the resulting accuracies were then compared with the accuracy requirements prescribed by 807 KAR 5:066, Section15(2)(a).

The accuracy results of this meter were 97 percent at 1/4 gpm, 101 percent at 2 gpm, and 99 percent at 15 gpm.

These accuracy results are within the Commission's accuracy limits for each flow rate.

REPORT SUBMITTED BY: **Date:** June 15, 2023

Utility Inspector
Division of Inspections
Kentucky Public Service Commission

Attachments:
A. Kentucky-American Water Company's Meter Test Results
B. Louisville Water Company's Meter Test Results

Louisville Water Company
4801 Allmond Ave.
Louisville, Ky 40214
502-569-3600

Date Tested:	5/8/2023
Tester:	Angela Thacker

Meter Shop Test Report

Customer:	PSC

Meter Mfg:	Model:	Type:	Size:	SN#:
Neptune	T-10	PD	5/8 x 3/4	88701030

As Found Reading:	72382.10
As Left Reading:	72418.05

Test Rate	Test Quantity gal/cf	Flow Rate gpm	Start Read	Final Read	% Accuracy	% Accuracy Limits	Pass/Fail
Minimum	cf	1/4	72406.13	72407.10	97%	≥ 90% and ≤ 101%	Pass
Intermediate	cf	2	72407.10	72408.11	101%	≥ 98.5% and ≤ 101.5%	Pass
Maximum	cf	15	72408.11	72418.05	99%	≥ 98.5% and ≤ 101.5%	Pass

Kentucky American Water - Customer Meter Test Form BENCH 2 (5/8") Only

CUSTOMER NAME: Bobby Young ACCT

SERVICE ADDRESS: 1691 Donelwal Dr PREMISE #: 9120066636

METER SIZE: 5/8" NUMBER: 88701030 DATE: 2/17/23

FIRST TEST READINGS

Volume / Test	GPM	Adj. Read	Final Read	Test %	Required Accuracy
1 CF / LOW	1/4	723.7015	723.7113	98	95%-101%
1 CF / MED	2	723.7113	723.7214	101	98.5%-101.5%
10CF / HIGH	15	723.7214	723.8209	99.5	98.5%-101.5%

IF ANY OF THE TESTS ABOVE ARE NOT WITHIN THE REQUIRED ACCURACY LIMITS THEN FURTHER TESTING IS REQUIRED BELOW

SECOND TEST READINGS

Flow % of Capacity / Volume / Test	GPM	Adj. Read	Final Read	Test %	% Accuracy
25% / 1 CF / LOW					95%-101%
50% / 1 CF / MED					98.5%-101.5%
75% / 10CF / HIGH					98.5%-101.5%

First Test Series % Average: 99.5 Second Test Series % Average:

Less Standard: 100% Equal % of Error: Fast: Slow:

Before Test Reading: 0723.70 After Test Reading: 0723.82

Customer Witness? Yes: ✓ No: (X) Joe. Nye

IF % OF ERROR IS GREATER THAN 2%, COMPLETE APPROPRIATE SECTION BELOW.

Length of time error is known to have existed:

FAST METER basis for refund: Amount of refund:

SLOW METER basis for additional Bill: Amount of additional Bill:

Comments: Meter could not be data logged because it has an old model MIU.
Meter passed bench test.

Copy To: Disputes: Customer Advocacy Meter Tech: E. Mosby

ARB® UTILITY MANAGEMENT SYSTEMS™

NEPTUNE TECHNOLOGY GROUP

R900® RF
WALL OR PIT MIU

R900 PIT MIU

R900 WALL MIU

The R900 MIU provides water utilities with a reliable and economical RF reading solution.

The R900 Meter Interface Unit (MIU) is a compact electronic device that collects meter-usage data from up to two networked encoder registers and transmits the data for collection by the meter reader. The R900 MIU is compatible with ARB® III, IV & V, ProRead (ARB VI), E-Coder™ (ARB VII), and Sensus ECR® II & III* encoder registers. The R900 MIU automatically detects the type of register to which it is connected; therefore, no field programming is necessary.

Data transmitted by the MIU is received by Neptune walk-by, mobile, or fixed-network data collection systems and stored for downloading at the utility office. The R900 MIU is a one-way communication device that transmits data using frequency-hopping, spread-spectrum technology to ensure data security and improve meter reading accuracy and reliability.

When connected to a single encoder register by a three-conductor wire, the R900 MIU reads the register automatically once an hour and transmits the meter reading with MIU ID number every 14 seconds. When connected to two networked encoder registers, the R900 MIU reads the registers automatically once an hour and transmits the meter readings with MIU ID numbers alternately every 11 seconds. When connected to E-Coder electronic absolute encoders, the R900 MIU reads the registers every 15 minutes and transmits in the same intervals as described.

As part of the ARB "absolute" encoder technology, the remote electronic reading is guaranteed to match the reading on the encoder register exactly (once per hour) when the R900 MIU interrogates the encoder register.

R900 WALL MIU

The R900 Wall MIU features a compact enclosure that can be easily mounted to most flat wall surfaces or pipe. The R900 Wall MIU can be installed as far as 500 feet from the encoder register. The MIU is designed to easily upgrade existing probe-based systems that use wall receptacles.

R900 PIT MIU

The R900 Pit MIU features a compact enclosure equipped with an external antenna for optimal performance. The antenna is designed to be mounted above the pit lid through the industry standard 1-3/4" hole. The rugged antenna design allows installation in high traffic areas and the electronic enclosure is fully potted to withstand flooded pit environments. The MIU is designed to easily upgrade probe-based systems that use pit receptacles.

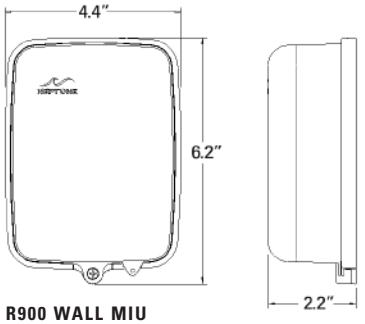
** The ECR® III Register is supported when programmed with the same format used in the "6 wheel ECR II register."*

KEY FEATURES

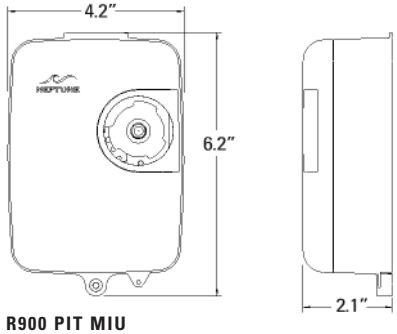
- No FCC license required
- No MIU programming required - automatically detects register type
- Long-life lithium battery with HLC capacitor
- Available in both R900 Wall MIU and R900 Pit MIU versions
- Fully submersible R900 Pit MIU enclosure
- Rugged pit antenna designed to withstand traffic
- Reads up to two networked ProRead or E-Coder encoder registers
- Compatible Neptune meter reading systems
- Enables E-Coder "value-added" features*
- Suitable for any size utility
- 20-year warranty (10 full/10 prorated)

**When connected to second generation or later R900.*

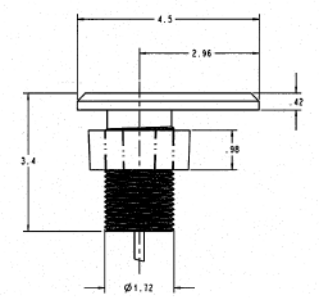
DIMENSIONS



R900 WALL MIU



R900 PIT MIU



R900 PIT ANTENNA

The R900 works with route management software to provide a complete meter reading solution with advanced functions for water utilities.

KEY BENEFITS

- Enhanced output power allows migration from walk-by to mobile, and fixed-network for targeted C&I accounts
- Provides value-added features like leak, tamper and reverse flow detection when connected to Neptune's E-Coder electronic absolute encoder*
- Improves meter reading accuracy
- Addresses "hard-to-read" meters
- Increases meter reader safety
- Minimizes reading time
- Enhances customer care
- Reduces costs
- Easy to install
- Easily upgradeable with existing probe-based systems

TECHNICAL SPECIFICATIONS

- Electrical Specifications:
  - Power: Lithium battery with HLC capacitor
- Transmitter Specifications:
  - Transmit period: Every 14 seconds for single meter and alternately every 11 seconds for two networked encoder registers
  - Transmitter channels: 50
  - Channel frequency: 910 to 920 MHz spread spectrum
  - Output Power: Meets FCC Part 15.247
  - FCC Verification: Part 15.247
- Encoder Register Interface - Wall:
  - Compatible with Neptune ARB III, IV & V, ProRead and E-Coder, and Sensus ECR II & III*
  - Maximum cable length: Networked - 250 feet (91 m) (total for both registers); Single Register - 500 feet (152 m)
- Encoder Register Interface - Pit:
  - Compatible with Neptune ARB III, IV & V, ProRead and E-Coder, and Sensus ECR II & III*
  - Two available wire lengths: 6 feet and 25 feet
- Environmental Conditions:
  - Operating temperature: -22ºF to 149ºF (-30ºC to 65ºC)
  - Storage temperature: -40ºF to 158ºF (-40ºC to 70ºC)
  - Operating humidity:
    - R900 Wall MIU: 0 to 95%, condensing
    - R900 Pit MIU: 100% submersible
- Functional Specifications:
  - 1-2 register readings
  - 1-2 MIU IDs

**The ECR® III Register is supported when programmed with the same format used in the 6 wheel ECR II register."*

**When connected to second generation or later R900.*

Neptune Technology Group Inc.
1600 Alabama Highway 229
Tallassee, AL 36078
USA
Tel: (800) 645-1892
Fax: (334) 283-7299

Neptune Technology Group (Canada) Ltd.
7275 West Credit Avenue
Mississauga, Ontario
L5N 5M9
Canada
Tel: (905) 858-4211
Fax: (905) 858-0428

Neptune Technology Group Inc.
Ejército Nacional No. 418
Piso 12, Desp. 1201-1202
Col. Chapultepec Morales
Delegación Miguel Hidalgo
11570 México, Distrito Federal
Tel: (525) 55203 5294 / (525) 55203 5708
Fax: (525) 55203 6503

NEPTUNE TECHNOLOGY GROUP
neptunetg.com

Streamline Meter Reading

Neptune R900® System: Mobile Data Collector

The Neptune® mobile data collector provides fast, accurate automatic water meter reading to preserve resources, create operational efficiencies, and enhance safety. Critical data is transformed into actionable information to help identify causes of loss. Access to consumption data and alerts of leaks and backflow conditions aid in proactively addressing high bill complaints, reducing delinquent payments, and eliminating write-offs.

The R900® System is designed to easily support past generations of meters, encoder registers, and data collectors – preserving your asset investments and offering the flexibility to incorporate future innovations as needed.

- Reliable, accurate, and field-proven
- Seamless compatibility with all generations of R900® endpoints
- Automatic, rugged, portable, and easy-to-use
- Improves accuracy, increases reader safety, and reduces reading time
- Common core code base for faster availability of new features and functionalities
- Save money with flexible hardware connection options via Bluetooth or USB
- Makes Automatic Meter Reading (AMR) safer and simpler
- Small enough to fit in any vehicle

NEPTUNE
TECHNOLOGY GROUP

#winyourday

Specifications

Physical Specifications

- Dimensions:
  8” (width) x 3.15” (height) x 11” (length excluding connections and handle)
- Weight: ~5 lbs

Electrical Specifications

- Power consumption: < 1A
- Power supply: 12V DC via vehicle power source adapter

Environmental Conditions

- Operating temperature:
  -4°F to +122°F (-20°C to +50°C)
- Storage temperature:
  -40°F to +185°F (-40°C to +85°C)
- Operating humidity: 5 to 95% non-condensing relative humidity

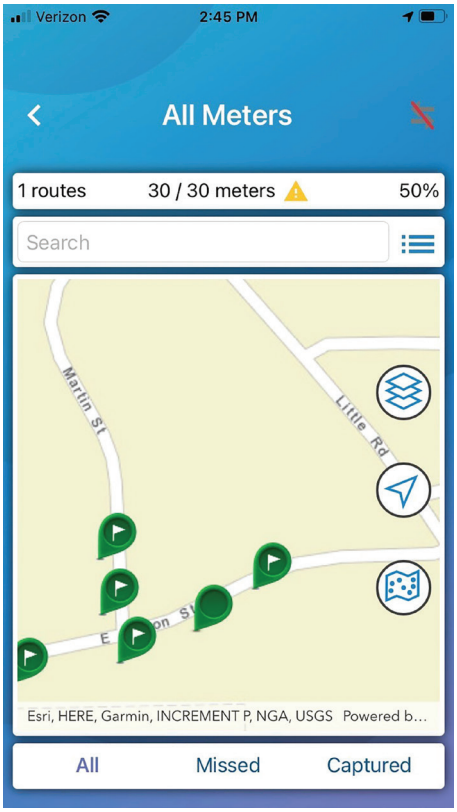
Mobile Computing Hardware Specifications

Neptune recommends the following for optimal performance:

- Android operating system versions 11 – 13 with recommended Samsung, Google, and Motorola device manufacturers
- Apple iOS versions 13 – 16 for iPhones and iPads

Neptune 360 (Head End System):

- Google Chrome and Microsoft Edge web browsers
- Microsoft Edge web browser for optimal viewing and performance when using touch screen monitors



neptunetg.com

Neptune Technology Group
1600 Alabama Highway 229
Tallassee, AL 36078
800-633-8754 f 334-283-7293

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00261
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION

Witness: William A. Lewis

2. If an AMR/AMI system was utilized at the Customer Address explain whether or not the system is able to be tested for accuracy. If so, explain if the system was tested for accuracy as part the investigation into Mr. Young's complaint.

Response:

As indicated in response to Question 1, an AMR system was in place at Mr. Young's premise by which KAW obtained his usage. And, yes, KAW can and did verify that the AMR system worked properly and accurately. This was achieved by comparing the usage obtained via the AMR process to the measured usage as shown on the actual meter itself. The AMR system merely takes the usage data from the meter itself and transmits it electronically to the collection point in a KAW truck. So any variance between the usage shown on the meter and usage as transmitted via AMR would be a cause for concern. But KAW made that comparison and there was no variation. This fact confirms that the AMR system was working properly. KAW again notes that the meter itself was working properly as shown by the KAW meter test results and the Commission's meter test results (performed by Louisville Water Company).

The AMR verification process described above is consistent with KAW's general practice whenever there is an issue raised with a specific usage reading. If an issue is raised, KAW compares what is transmitted from the endpoint through radio frequency to our data collection device, with the actual reading on the meter itself. An employee will individually check the readings on the meters to cross-reference the reading from the endpoint consistency and accuracy. Again, regarding Mr. Young, both the readings on the meter itself and the reading that was transmitted from the endpoint were a match. Please see KAW_R_PSCDR1_NUM001_100924_Attachment_1 for the detailed readings from Mr. Young's meter.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00261
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3. If an AMR/AMI system was utilized at the Customer Address, explain whether submerging that system in water can cause false meter readings. Provide any manufacture documentation supporting Kentucky-American's response.

Response:

The meter is designed to remain accurate in water, even "submerged." The meter pit and equipment therein are expected and designed to function in a below grade environment which necessarily anticipates water intrusion.

It is important to maintain the distinction between the two primary parts of an AMR Meter system. The meter is the portion that physically "reads" or measures the volume of water going through it. The MIU or endpoint is the communication device attached to the meter. The MIU does not measure or read the water use. It merely transmits the meter usage data by radio to a data collection device. It is conceivable that environmental impacts could affect meter reading communication from the meter register to the MIU or cause the MIU to not communicate to the truck mounted meter reading collection system, but this has no effect on the actual meter reading itself.

If water does damage a MIU, then the MIU will do one of the following:

- Not capture the meter reading from the meter register,
- Not communicate to the meter reading collection system in the truck,
- Or the MIU will transmit an error code to the meter reading collection equipment if possible.

In these cases, the KAW meter reading system will reject the meter reading during the meter reading process and/or generate an error alert. A rejected meter reading or error alert will generate a work order to investigate the meter. During this investigation, the meter *itself* will be manually read to confirm the meter is functioning correctly and the functionality of the endpoint will be evaluated.

Here, as explained in response to Question 2, Mr. Young's meter was tested for accuracy as part of the investigation into his complaint. KAW compared the transmitted endpoint reading to the actual reading from the meter itself and those comparisons proved that the endpoint readings were accurate. Additionally, Mr. Young's meter was tested and passed the KAW bench test for operating accurately as well as the Commission's test (performed by Louisville Water Company).

Finally, please see KAW_R_PSCDR1_NUM001_100924_Attachment_3. In this attachment, the AMR manufacturer states that the electronic enclosure is fully potted to withstand flooded pit environments and continue to fully operate accurately even if fully submerged.

Witness: William A. Lewis

4. If an AMR/AMI system was utilized at the Customer Address, state whether the system was submerged in water when investigated by Kentucky-American.

Response:

On 1/03/2023, a KAW Field Service Representative (FSR) responded to the customer's request for a leak investigation. The FSR notes indicate that water was present in the meter box and that the water tested negative for chlorine. Testing for chlorine helps to determine whether water in a meter box is treated water (containing chlorine) which may indicate a leak, or rainwater/groundwater (not containing chlorine). Although the FSR notes indicate unchlorinated water was in the meter pit, they do not indicate that actual water level present inside the meter pit. Thus, KAW cannot be certain whether the AMR equipment was submerged.

Please refer to KAW's response to Question 6 for information regarding the step-by-step investigation KAW performed in response to Mr. Young's inquiry.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00261
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION

Witness: William A. Lewis

5. If an AMR/AMI system was utilized at the Customer address, identify all other reasons that the AMR/AMI system in question could cause it to malfunction and give false readings.

Response:

AMR systems and their MIUs may not operate properly for various reasons. Those reasons may include, but are not limited to: battery failure, obstructions to the meter, accidental damage to the MIU itself (such as inadvertent physical damage), inclement weather, interference to the communication path between the endpoint and the receiving device, and intentional tampering with the MIU. In the event of MIU error, malfunction, or failure, the reading is rejected by the billing system and an order is created to repair/replace meter reading device. Meter reading equipment also documents the error, malfunction, or failure by listing said events and causing need for a manual read. Regardless of the reason an AMR system does not perform properly, the transmitted reading is rejected, a manual read occurs, and KAW investigates the issue for repair or replacement. In Mr. Young's case, KAW's investigation shows that his meter and his AMR system both functioned properly.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2023-00261
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION

Witness: William A. Lewis

6. Explain in specific detail any and all of the steps that Kentucky-American performed in its investigation of Mr. Young's complaint.

Response:

Mr. Young's water usage complaint began with an emergency order on January 3, 2023. This resulted in KAW taking comprehensive steps to validate the accuracy of water usage at Mr. Young's premises. This involved detailed research, the generation of service orders to authenticate meter readings, ensuring the absence of meter movement, conducting meter tests at certified facilities, and addressing all inquiries received from the Public Service Commission.

The specific details of KAW's investigation are below:

- On 1/3/2023,Mr. Young contacted KAW to report a water-filled and leaking meter outside Mr. Young's premises resulting in KAW dispatching an emergency order, A Field Service Representative (FSR) met Mr. Young on site and tested that water in the meter box for chlorine. No chlorine was present during test. No movement was seen on the meter to indicate a leak at the time of order.

- On 02/15/2023, Mr. Young called to report that their water meter had filled up, attributing that with a high bill suggesting it was KAW's fault. A work order was scheduled and the customer's request for a call ahead was noted on the order. Upon arriving, the FSR replaced Mr. Young's meter including the MIU because it was no longer sending a read and because the meter was due for a periodic replacement anyway. During the visit it was also noted that Mr. Young indicated to the FSR he recently repaired his toilet. Though Mr. Young continued to dispute the bill, on 2/17/2023, KAW's meter test results confirmed the meter was functioning accurately. KAW informed Mr. Young of these results and denied his request for a bill adjustment. Subsequently, Mr. Young requested to escalate the issue to a supervisor.

- On 02/20/2023, Mr. Young called in to provide a manual meter reading of 40898 and requested it be noted in his account. He called to explain his belief that his high water bill was due to the endpoint. Despite KAW's more in-depth explanations, he refused to accept the findings, so KAW offered information on KAW's H2O payment assistance program, and KAW reminded the him that he was on hold until 3/8/2023 to prevent disconnection and late fees. Subsequently, on 02/21/2023, Mr. Young visited the local KAW office to

dispute the bill and requested to speak with the customer advocacy manager. An email was sent to the manager.

- On February 27, 2023, KAW received a complaint made to the Public Service Commission (PSC). In response to the PSC's inquiries, KAW provided all requested information regarding the measures taken to address Mr. Young's complaint, including:

  February 27 – March 24, 2023: Multiple emails and responses were sent to the PSC to answer questions such as the ones below. KAW's responses included providing bills, a meter read history, and answering other questions:

1. *Date: 3/7/2023 12:28:23 PM Please provide a meter history for the past 36 months to the PSC, and was the customer notified of high usage?*
2. *Date: 3/9/2023 12:02:18 PM Below you will find Mr. Young was not estimated once in the last 36 months. All the reads were actual reads for meter number 088701030N. Please let me know if you need any additional information; thank you.*
3. *Date: 3/15/2023 10:40:39 AM Was Mr. Young's meter replaced within the past 12 months? Please provide a copy of his April 2022, July 2022, and Dec.2022*

- On 5/8/2023, Mr. Young's meter was tested at Louisville Water Company at the PSC's direction. The meter tested accurately.

- On 5/9/2023, a KAW FSR again went to Mr. Young's premise and inspected the meter. The meter showed movement and the movement was shown to Mr. Young which indicated a possible leak on his side of the meter. Mr. Young indicated he still wants to contest the high bill that he received. He said that he does his own plumbing work. He said that he is 87 years old.

- On 05/25/2023, Mr. Young called to discuss a leak issue. KAW informed him about the leak the FSR noted on the 5/9/2023 visit and that the FSR said any leak needs to be fixed before requesting a leak bill adjustment. He reported that he already fixed it in prior weeks.[1]

- On 06/15/2023, Mr. Young called to discuss his account and was informed about the total and past-due balances. He inquired about KAW's leak adjustment form, stating he never received it. After being told that it had been sent out twice, Mr. Young mentioned repairing his toilet on the same day the FSR came out on 5/9/2023. Mr. Young was advised to wait

[1] KAW has a leak detection kit that it frequently sends to customers. Two of the most common indoor leaks are a leaky toilet or a leaky faucet. Even a slow drip can waste as much as 20 gallons of water each day. Please see KAW_R_PSCDR1_NUM006_100924_Attachment_1.

for the next bill to reflect that repair and to call in to inquire about a leak adjustment at that time.

- On 07/05/2023, Mr. Young mailed a leak adjustment form, which was denied because toilet leaks are not eligible for adjustment under KAW's tariff for service line leaks.[2] During a call, Mr. Young also disputed the high bill in January 2023, claiming no leak. KAW explained that a toilet leak could have caused the high bill, but the customer denied this and became upset. Eventually, he agreed to pay the bill but mentioned involving his lawyer. KAW assured the customer that we would document the conversation in his account.

- On 08/22/2023, Mr. Young was contacted about a reported leak in January and February 2023. Mr. Young mentioned the endpoint as the source of failure and claimed to have only leaked in May. A payment dispute was created for the January and February 2023 charges, as the customer refused to make the payment. Mr. Young continued to request an adjustment.

- In October 2023, Mr. Young continued to dispute the findings from KAW's investigation. On 10/03/2023, the Public Service Commission called to ask if KAW could add another hold to this account because the customer is disputing his bill. KAW added holds to prevent late fees and disconnection. On 10/09/2023, Mr. Young initiated the formal complaint process at the PSC; his account was placed on on hold until 2024.This matter remains under review and throughout the period, KAW has cooperated fully with the PSC, providing information to all responses received.

[2] See KAW's Tariff at Sheet 44 which is for bill adjustments due to a leak in the customer service line between the meter and the customer's premise (which would not include a toilet leak): https://psc.ky.gov/tariffs/Water/Districts,%20Associations,%20%26%20Privately%20Owned/Kentucky-American%20Water%20Company/Tariff.pdf

PLACE THIS TAG ON YOUR MAIN WATER SHUT-OFF VALVE

AMERICAN WATER

EPA WaterSense PARTNER

WATER LEAKS: WHAT YOU SHOULD KNOW

AMERICAN WATER

Imagine that the dot inside these brackets [•] is the only hole in your home's water system. By its size alone, that hole may not seem worth tracking down. But that hole can waste more than 4,000 gallons of fresh water each month — enough water to take a shower every day for more than half a year!

Consider how important water is for our families, pets and environment, and you see that even tiny holes deserve immediate attention. That's why we developed this simple water leak detection kit. It's designed to help you find and repair water leaks — even the tiny ones.

GETTING READY

Use the checklists on the following pages to help direct your search for some fairly common — and a few not-so-common — water leaks.

How can you be sure your inspection will be as thorough as possible? The checklists cover three areas: common indoor leaks, not-so-common indoor leaks, and outdoor leaks. If you investigate the leak possibilities in the order shown, you'll uncover the greatest potential for savings in the first few places you look. It's a good idea to have the following items with you as you begin your work:

- Flashlight
- Leak Detection Tablets (included with this kit) or Food Coloring
- Shut-Off Valve Tag (located to the left)

SPOT YOUR SHUT-OFF VALVE NOW

Your main shut-off valve controls all of the water coming into your house. Everyone in your home should know the location of this valve, and how to turn it off. In case of an emergency such as a burst pipe, fast action could prevent costly damage from flooding.

If you don't know where this valve is located, it's important that you find out. Normally, it's near the water meter. If your meter is outside the house, find the place where the water service line enters the building. The shut-off valve is likely to be close by. Common locations are in the basement, under the kitchen sink, near the meter box or at the pressure regulator (if required). We have included an identification tag to cut out and place on your main shut-off valve. (See flap on left).

After finding the valve, turn it to make sure it isn't stuck. Water valves are generally closed by turning the handle clockwise. If a valve does not turn easily, do not force it or it might break. Rather, you may want to have the valve repaired so that it will work when you need it.

NOW YOU'RE READY TO BEGIN!

When opening the valve to turn the water back on, open it fully, then close it just a quarter of a turn to make closing the valve easier the next time. You should also check every water fixture shut-off valve periodically, and consider operating the main and individual valves annually.

EPA WaterSense PARTNER

AMERICAN WATER

WATER LEAK DETECTION KIT

BECAUSE EVERY DROP MATTERS

AMERICAN WATER

WE KEEP LIFE FLOWING ™

At American Water, we are committed to environmental stewardship and the responsible management of our precious natural resources. By using this leak detection kit to identify and repair water leaks, you can help make a difference in your monthly bill while conserving water.

COMMON INDOOR LEAKS

THE LEAKY TOILET

Toilet flushes make up about 25 percent of the average household use. Accounting for the majority of indoor water waste, toilet leaks are often caused by worn or damaged parts in the toilet flush tank.

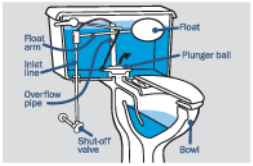
Some of these leaks will empty directly into the sewer line without leaving any clues. Even so, you can check for these leaks. Common causes include:

Float arm problems
Remove the lid from the top of the flush tank. See if the overflow pipe and the plunger ball are working properly. Do this by flushing the toilet, watching the tank mechanism and listening. You should hear the water flow shut off.

If the water does not shut off, check the water level. If it has risen above the overflow pipe, gently bend the float arm down and flush again.

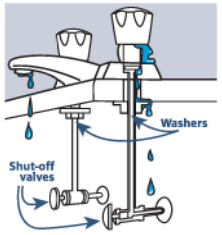
You may need to replace the plunger ball if the water level is about one inch below the top of the overflow pipe and you still hear water flowing.

A tiny pinhole
A pinhole opening below the overflow pipe's water line could produce an invisible leak. Check for this by shining a flashlight down into the overflow pipe. If you see running water, you have a leak that should be repaired.



Water in the overflow pipe could also be caused by a pinhole in the float or a worn washer on the inlet line.

Defective plunger ball (flapper valve)
This is often a silent leak which causes the tank to continually drain and refill. Check for a worn or improperly seated plunger ball (flapper valve) by dropping one of the dye-tracing tablets (included with this kit), or a few drops of food coloring, into the toilet tank. Do not flush. If a leak exists, the dye-colored water will seep into the bowl in about five minutes. If it does, the plunger ball (flapper valve) may need to be replaced or realigned.



A slow drip can waste as much as 20 gallons of water each day.

THE LEAKY FAUCET

A dripping faucet
A slow drip can waste as much as 20 gallons of water each day. A mere 1/16-inch leak wastes 100 gallons of water each day. With that much water — and money — going down the drain, it's important to get leaky faucets fixed as soon as possible.

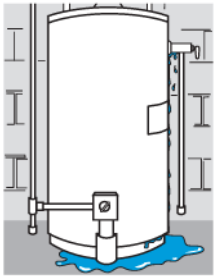
If you notice that a faucet is dripping, first try closing it tightly. If it continues to drip, the most likely cause is a worn or wrong-size seat washer (also called a stem washer). With just a little effort, you may be able to replace the washer yourself. You may need an adjustable wrench, a standard-blade screwdriver, and a Phillips screwdriver for older plumbing fixtures. It may be more economical to rebuild or replace the faucet if it is washerless.

Changing a washer
Before you start, turn off the water supply to the faucet by closing the fixture's shut-off valve. Most kitchen and bathroom faucets have shut-off valves under the sink. Turn the valve clockwise until it's tight. This shuts off the water to the sink only, and does not affect the water service for any other part of the house.

Be certain that the replacement washer is the same size as the worn one (if the worn washer was the correct size). If you need help, bring the worn washer to your plumbing supply or hardware store, and the store representative can help you match it with a new one.

COMMON INDOOR LEAKS CONTINUED

NOT-SO-COMMON INDOOR LEAKS


Water dripping down the side of the tank could mean the pressure release valve is stuck.

Water heater tank
The pressure valve release could be stuck. This valve is most often found near the top of the tank, and is usually a large brass fitting threaded into the tank. If it's not working properly, water will be leaking from it, dripping down the side of the tank and accumulating on the floor.

Boiler
Listen for the sound of running water. If it is continuous and does not stop and start periodically, your boiler system may have a leak.

Water softener
If you have a water softener, it could be wasting water if it is not recycling properly. The cycling process, regulated by a timer, often occurs between 2 a.m. and 4 a.m. You're likely to have a problem in this unit if you constantly hear the sound of running water.

Washing machine
If you see water on the floor near the machine, it could mean a leak. You may want to call your washing machine repair service.

Humidifier
Water accumulated beneath the unit could be a sign of a leak. If the overflow discharge is piped into a sewer or drainage line, you may not find any visual signs of a leak. Listen for running water. If it's continuous, the float valve could be stuck.

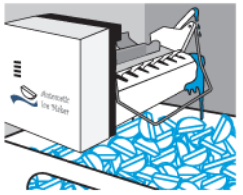
Fire suppression systems
Many newer homes and businesses have fire suppression systems. If so, check to make sure that the sprinkler heads are tight and not leaking.

Dishwasher
Water accumulated on the floor near the unit could be a sign of a leak. You may want to call your dishwasher repair service.

NOT-SO-COMMON INDOOR LEAKS CONTINUED

Refrigerator ice-making unit
A leak in the ice-making unit will cause excessive ice accumulation in the freezer and may also produce small puddles of water under the refrigerator. You may want to call your refrigerator repair service.

Bathtubs & showers
Check the spout and shower head for dripping water. New washers may be needed on the faucet handles. You may be able to do this repair yourself by unscrewing the faucet and replacing the washer with one of the same size. Before doing this repair, close your home's main shut-off valve.



OUTDOOR LEAKS

When checking for water leaks, many people forget that water faucets and equipment exist outside as well as inside the home. Here are four areas you shouldn't overlook.

Water faucets
Each faucet should be checked for leaks. Make sure faucets are closed when not in use. If you find a leaky faucet, change the washer (after closing the shut-off valve).

In colder climates, during the winter, these inside shut-off valves should be closed to prevent freeze-ups. Be sure to open the outside faucet after you have shut the inside valve so that any water still in the pipes will drain out. These shut-off valves are usually in your basement. One shut-off valve may control all the outdoor faucets.

Automatic lawn-sprinkling system
Soft spots on your lawn may indicate a leak that is being absorbed into the ground.

Swimming pool
The pool system's automatic shut-off valve could be malfunctioning, causing a continuous cycle of water to be pumped in and then drained out. If the water level stays higher than normal, or the pool overflows when people are using it, your automatic shut-off valve may need some attention.

Service connecting line
If you find a soft, wet spot on your lawn or hear running water outside your house, you may have a leak in the service line to your house. Water soaks into the ground, causing the soft spots. Close the main shut-off valve. If the sound of running water continues, the outside service could be leaking.

YOU'VE CHECKED EVERYTHING... NOW WHAT?

If you haven't found a leak after checking all of the water outlets mentioned, and you still suspect a problem, you may want to call in a licensed plumber. You're also welcome to contact an American Water customer service representative for assistance. We'll work as hard as possible to help you.

11-2019

YOUR MAIN WATER SHUT-OFF VALVE

WHEN YOU LOCATE THE VALVE, PLACE THIS I.D. TAG ON IT.

You may want to turn the valve to make sure it isn't stuck. Water valves are generally closed by turning the handle clockwise. **PLEASE NOTE: If a valve does not turn easily, do not force it, or it might break.** Rather, you may want to have the valve repaired so that it does turn easily. Then, check sinks and other fixtures to be sure you have found the main valve and that it is working properly. When opening the valve to turn the water on, open it fully, then close it just a quarter turn to make it easier to close the next time. You should also find, turn, and tag individual shut-off valves on fixtures such as sinks and toilets, and consider operating the main and individual valves annually.

LEAK DETECTION TABLETS
FOR DETECTING TOILET LEAKS