RESOLUTION 23-22

A RESOLUTION TO AUTHORIZE THE SOLE SOURCE PURCHASE OF BADGER CELLULAR WATER METERS FOR THE UTILITY DEPARTMENT

WHEREAS, the City of Spring exclusively installs Badger water meters for single family residential homes with approximately twenty thousand (20,000) Badger water meters currently installed in the City; and

WHEREAS, the corporate office of Badger Meter, Inc. advised the City of Spring Hill that it is the exclusive distributor of Badger Meters in Tennessee; and

WHEREAS, the purchase of other types of water meters for the city's water service system will create undue hardships in efficiency, reliability, and accuracy in our monthly water reading accounts; and

WHEREAS, the city staff was informed there are approximately 5,000 original obsolete meters in our distribution system that are over 16 years; and

WHEREAS, city staff recommends upgrading the obsolete units as they fail and all future units purchased for replacement and for resale to be the newest technology through a reoccurring monthly order; and

WHEREAS, city staff has experienced an average of 150 meter failures for the past six months with a total of 780 meter replacements anticipated prior to the close of the fiscal year 2023; and

WHEREAS, city staff recommends a budget amendment increasing the funding of water meter replacement costs at an additional $218,122.50; and

WHEREAS, the city staff recommends continuation of the sole source purchasing of water meters from Badger Meter Inc. for the fiscal year 2023 based upon proposed pricing presented by Badger; and

NOW, THEREFORE, BE IT RESOLVED, that the City of Spring Hill Board of Mayor and Aldermen authorizes the upgrade of the obsolete meters through a monthly reoccurring order with a not to exceed cost of $218,122.50 for fiscal year 2023.

Passed and adopted by the Board of Mayor and Aldermen of the City of Spring Hill, Tennessee, on the 6th day of February, 2023.

Jim Hagaman, Mayor

ATTEST:
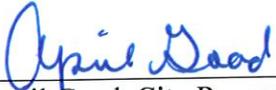
_____
April Goad, City Recorder

LEGAL FORM APPROVED:

_____
Patrick Carter, City Attorney

City of
SPRING HILL
TENNESSEE
est. 1809

REQUEST:	***Approval of Resolution 23-22***
SUBMITTED BY:	**Jessica Weaver, Utility Director**
DATE:	**February 6, 2023**
RE:	**To approve purchase of replacement Cellular Badger Meters for the FY 2022/2023**

ATTACHMENTS:

PURPOSE:

To approve Resolution 23-22 to approve purchase of Badger meters for the purpose of replacement of obsolete meters and upgrade to the most current technology.

BACKGROUND:

The City of Spring Hill utilizes Badger meters for water meters. The city currently has approximately 20,000 meters installed in the system. Water meters are read monthly and the data is imported into Tyler Technologies Utility module for billing purposes. The City of Spring Hill has utilized Bader water meters for approximately 19 years. With the reliability and the established method to complete monthly readings and billing, it is recommended that we continue the sole source purchase of these meters for FY 23 and futures. It was recently brought to staff's attention that approximately 5,000 of the meters that were installed close to 19 years ago are now obsolete. The Federal Communication Commission has not renewed licensing for Badger that provides the ability for them to produce the equipment any longer. This has led staff to research alternative options. Badger produces two meters that are approved by the FCC. One of which is the current radio read meter being installed that has approximately 10 additional years life expectancy and limited warranty and One meter that is the new cellular meter. The cellular meters are the newest technology that provides our billing software to be used to its full capabilities. It will provide customers and staff with real time data on water usage as well as the ability to detect leaks and excessive water usage electronically. This technology has been utilized by neighboring cities for years with great success. Converting to this technology will also provide for our staff to eliminate several days of meter reading each month saving much needed employee time and resources.

City Staff will be able to replace each one of the obsolete meters when they die. Currently staff has experienced approximately 150 meters each month for the past 6 months that have broken or died and had to be replaced. With these estimates, staff anticipates an additional 750 meters to expire prior to the new fiscal year. The total cost for each device is $272.83 ($272.83*750 estimated meters to expire=$204,622.50) These new cellular meters can be installed quickly by staff with one additional component, a meter box lid. The current meter box lids are concrete and will not allow the signal to pass through. The replacement lid quotes obtained by staff currently have the lowest estimated cost of $18.00 per lid ($18.00*750 per meter lids=$13,500.00)

FINANCIAL IMPACT:

This will be funded from enterprise fund balance as part of the FY 2023 budget amendment No. 1 at a not to exceed cost of $218,122.50. The meter cost of $204,622.50 will be coded to line 410-52110-393 (old Chart of Accounts) and 410-52110-5251 (new Chart of Accounts). The lids will be coded to line 410-52110-320 at a cost of $13,500.00.

STAFF RECOMMENDATION:

Staff recommends approval of Resolution 23-22 to approve purchase of badger cellular meters through a reoccurring purchase at a not to exceed cost of $218,122.50

Cost Comparison

Description	Orion Cellular NaaS AMI (New)	Orion Mobile AMR (Current Solution)	Difference
Endpoint Only	$142.52	$118.89	$23.63
Endpoint + Encoder	$219.33	$189.42	$29.92
Endpoint + Encoder + Meter	$272.83	$243.84	$28.99
	Does not require additional hardware or assets to be owned and managed by the utility.	Requires additional equipment to complete reading. Utility must own and operated handheld devices, subscribe to annual software services for handheld and laptop devices, own and operate vehicles, dedicate staff time and resources to gathering reading, fixing read error, maintaining equipment, and managing collected data.	

All prices are subject to change and require final approval from Badger Meter Inc finance office
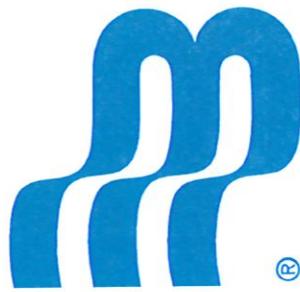
Badger Meter

SMART WATER IS BADGER METER

AGENDA

01 Opening remarks and introductions

02 Current environment of Spring Hill's system

03 Why communities implement Advanced Metering Infrastructure (AMI)

04 How AMI works and what is AMI

05 Our ask to the board

06 Closing remarks

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EVERY DROP COUNTS

BADGER METER® SNAPSHOT

- **117 Years of Operations**
- **NYSE Listed (BMI) $2.99B market capitalization**
- **Over 1,900 Employees**
- **Present in 50+ Countries**
- **9 Global Manufacturing Sites**
- **5 Global R&D Centers**
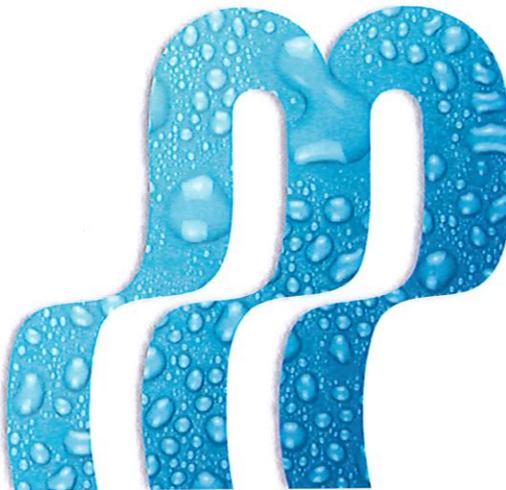
CURRENT STATE OF SYSTEM
HOW WE WORK TOGETHER TODAY

- Current meter hardware solution is 18+ years old *(originally installed 2004)*

- Approximately 5,000 residential service locations have hardware that has been discontinued and need to be replaced

- Current AMR solution hardware has indefinite hold on leads times due to extended COVID restrictions

- No consumer water management application

- Existing foundation for BEACON® SaaS full utilization and AMI

Why Advanced Metering Infrastructure (AMI)
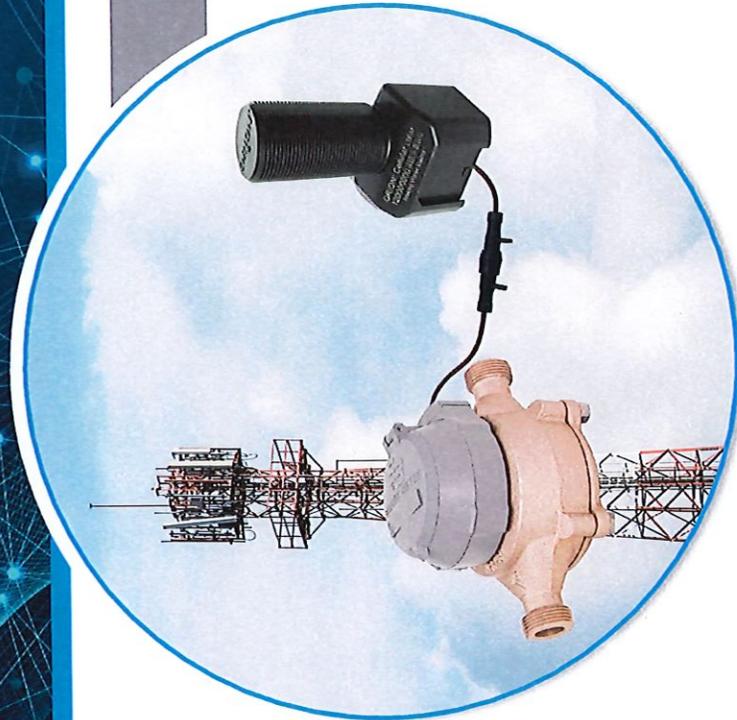
Total Utility Solution Made Easy

01 Improved end customer experience

02 Reduced water loss across utility

03 Increased utility staff efficiency and productivity
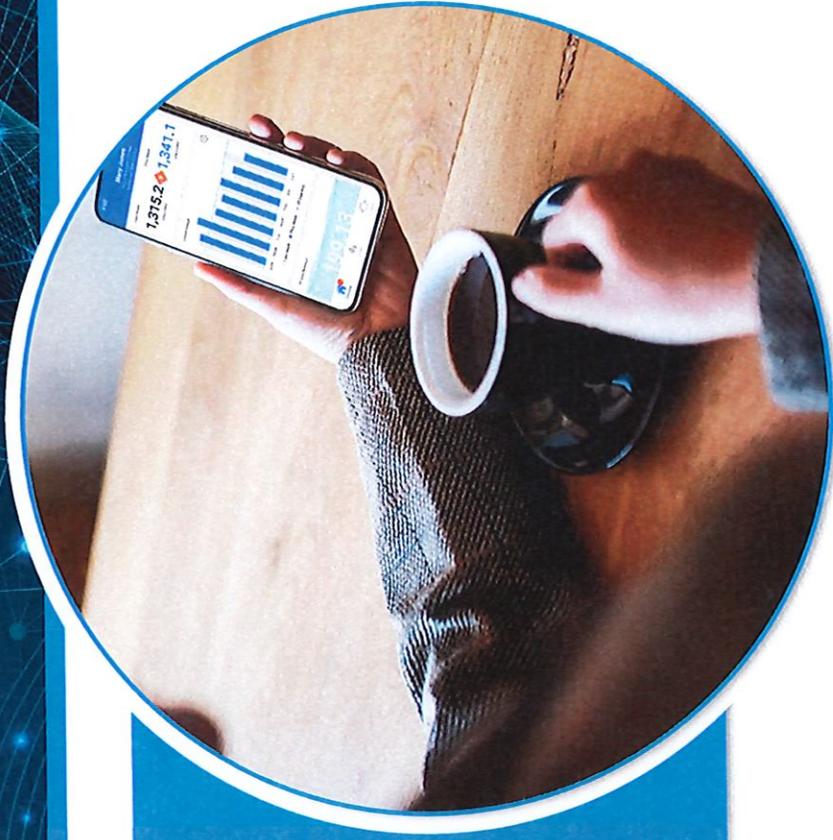
04 Reduced operating expense growth for utility

IMPROVED CUSTOMER EXPERIENCE
EYEONWATER SMART PHONE APP

01 Apple iOS and Android native smart phone app

02 Intuitive interface design increases customer engagement

03 Native phone notifications and utility notices strengthen consumer engagement

04 All features of EyeOnWater portal are captured in app

IMPROVED CUSTOMER EXPERIENCE
EYEONWATER WEB PORTAL

01 Enhanced customer service through consumer responsibility and ownership

02 Interface design is simple and intuitive for utility customers

03 Consumer self-service decreases high bill disputes

04 Consumers can setup email or text leak notification alerts

REDUCE WATER LOSS
BEACON CONSUMPTION VIEW

01 Three years of 15-minute interval data of consumption available to view, print or email

02 Precipitation and temperature data assist with billing disputes

03 Water Pressure, Water Temperature and Rate of Flow overlays also available

EVERY DROP COUNTS

INCREASED EFFICIENCY AND PRODUCTIVITY
DISTRICT METERING AREA (DMA)

01 DMA feature assist with monitoring distribution system for non-revenue water

02 Identify a problem prior to major water main break

03 Easily import DMA areas via your GIS system

REDUCED OPERATING EXPENSE GROWTH
BEACON SaaS
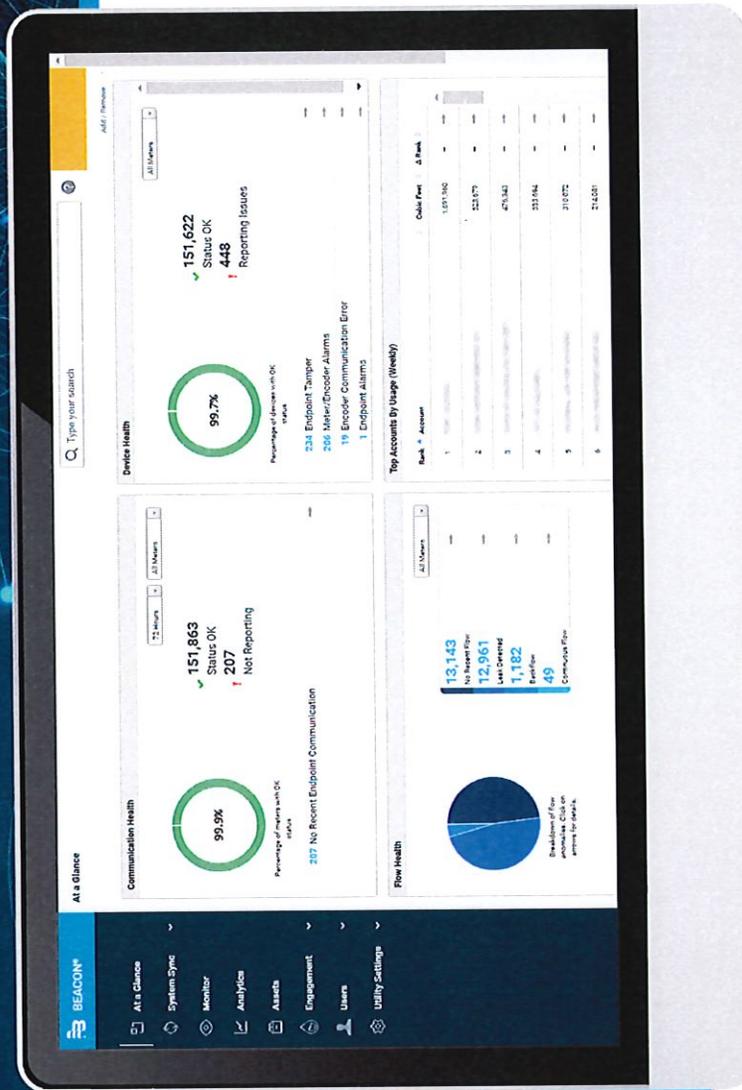
01 User Defined Custom Dashboard

02 Twelve System Management Dashboard Modules

03 Actionable Intelligence at a Glance

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04 How AMI works and what is AMI
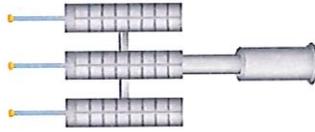
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ORION
CELLULAR NaaS SOLUTION

ORION CELLULAR NAAS ENDPOINT

Reliably collects and securely transmits 15-minute interval consumption / exception data in a non-proprietary standards-based two-way digital format via Cellular Network four times per weekday. Stores 42 days of data backup and transmits a mobile signal to support installation, troubleshooting, and walk-by back-up method of data collection for obtaining a missed read. Successfully deployed millions of endpoints with thousands of utility customers.

Secure Two-Way Communication

Encrypted Data Transmission

CELLULAR NETWORK AS A SERVICE

Robust Long-Term Evolution Network securely transfers endpoint data to BEACON while also sending confirmation and any queued commands to endpoint. Network utilizes Private Custom APN with Private IPs for advanced security with no direct access to Public Internet.

Secure Two-Way Communication

AT&T Private Network & Secondary Carrier

BEACON CLOUD PLATFORM

Securely stores queued commands and endpoint data in AES-256-Bit Encryption format. Sends endpoint confirmation of data storage. Data is accessible via internet connected device for Utility and Consumer.
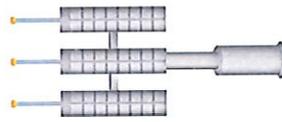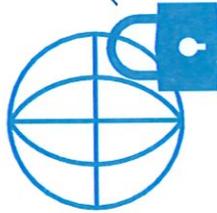
ORION CELLULAR
NETWORK SECURITY

BEACON
CLOUD PLATFORM

Multi Protocol Label Switching
AT&T Virtual Private Network

PUBLIC
INTERNET

Multi Protocol Label Switching
AT&T Virtual Private Network

CELLULAR NETWORK
AS A SERVICE

Proprietary Encoded Algorithm
Containing No Customer Info

Encrypted Data

ORION® CELLULAR
NAAS ENDPOINT

ISO 27001 Certified and SOC 2 Compliant - Addresses Trust Service Principles of security, availability, processing integrity, confidentiality, and privacy
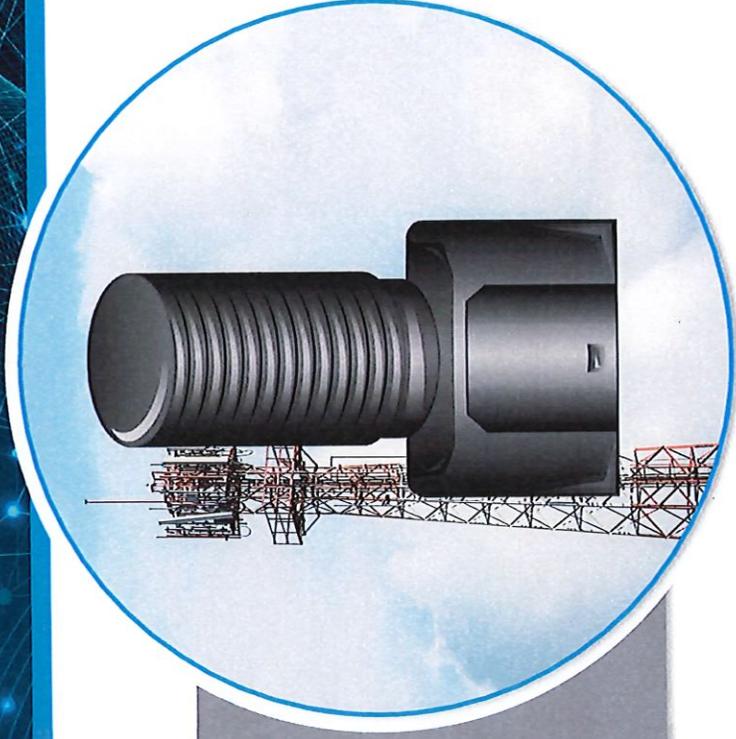
EVERY DROP COUNTS

PROVEN SOLUTION

RELIABILITY

LESS THAN 0.5%
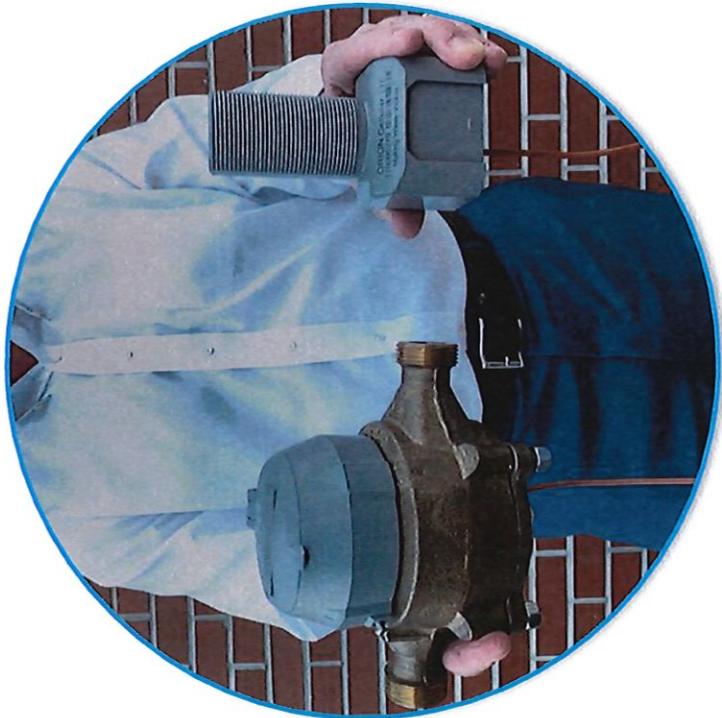### FAILURE RATE OVER
20 YEAR LIFE

Over 10 million ORION endpoints deployed at more than 3,000 Utilities since 2002

ORION
CELLULAR ENDPOINT

FIXED NETWORKING MADE EASY

01 Developed in 2014 from the ground up as Network as a Service solution… No Utility owned infrastructure required

02 Time synchronized 15-minute interval data for better decision making while maintaining 20-Year battery life

03 Secure LPWAN non-proprietary 3GPP-based two-way cellular licensed frequency with walk-by read backup

04 20-Year Endpoint and Network Warranty (10 Years Full / Plus additional 10 Years of Proration)
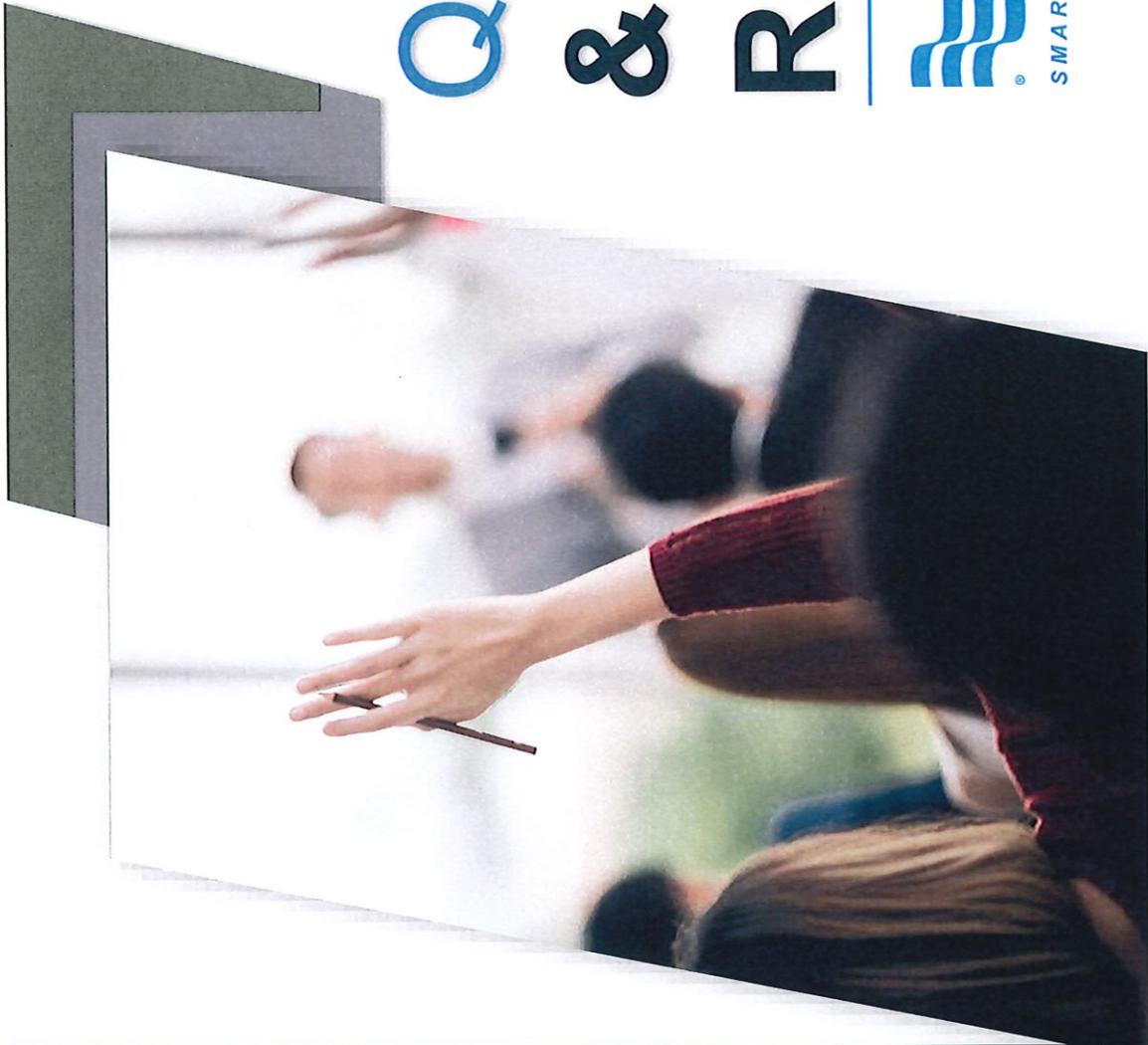
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05 **Our Ask to the Board**

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QUESTIONS & CLOSING & REMARKS

Badger Meter

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