

**COMMONWEALTH OF KENTUCKY**

**BEFORE THE PUBLIC SERVICE COMMISSION**

**In the Matter of:**

**ELECTRONIC APPLICATION OF SOUTH )  
EASTERN WATER ASSOCIATION, INC. )  
FOR COMMISSION APPROVAL )  
PURSUANT TO 807 KAR 5:001 AND KRS )  
278.020 FOR A CERTIFICATE OF PUBLIC ) CASE NO. 2021-00222  
CONVENIENCE AND NECESSITY TO )  
DEPLOY AN ADVANCED METERING )  
INFRASTRUCTURE (AMI) SYSTEM )**

**APPLICATION**

Pursuant to KRS 278.020(1) and 807 KAR 5:001, Section 15, South Eastern Water Association, Inc. (“SEWA”) applies to the Public Service Commission (“Commission”) for an Order granting SEWA a Certificate of Public Convenience and Necessity (“CPCN”) to deploy an advanced metering infrastructure (“AMI”) system (the “AMI System Project”). No debt will be incurred. No rate increase will be necessary.

In support of its Application, SEWA provides the following:

## General Information

1. SEWA's full name and post office address is: South Eastern Water Association, Inc., 147 East Somerset Church Road, Somerset, Kentucky 42503. Its email address is sewawater@yahoo.com.

2. SEWA is not a limited liability company or limited partnership. SEWA is a non-profit corporation (water association) organized in the state of Kentucky pursuant to KRS Chapter 273. Its date of incorporation was December 17, 1993. Its Articles of Incorporation (Consolidation) are attached as **Exhibit 1**. SEWA is authorized to transact business in the state of Kentucky and is in good standing. See **Exhibit 2**.

3. SEWA is engaged in the distribution and sale of water in Pulaski County, Kentucky. As of December 31, 2020, it served approximately 7,800 customers and one (1) wholesale customer.<sup>1</sup> SEWA's one (1) wholesale customer is the City of Burnside, Kentucky.

4. SEWA was created as a result of the merger of the following water associations: Barnesburg, Elihu-Rush Branch, Nelson Valley, and Tateville pursuant to the February 22, 1988 Order of the Commission in PSC Case No. 9967.

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<sup>1</sup> Annual Report of South Eastern Water Association, Inc. to the Public Service Commission of the Commonwealth of Kentucky for the Calendar Year Ended December 31, 2020 at Ref Page 27.

5. The governing body of SEWA is its Board of Directors. The present members of the Board of Directors, and their respective offices, are as follows: Joe D. Crawford, President; Grant Treado, Vice President; Mark O. Davis, Secretary-Treasurer; Wade Bumgardner, Director; Bobby Crow, Director; Dennis Faulkner, Director; Dwight Faulkner, Director; and Ernest Stout, Jr., Director.

6. SEWA's Board of Directors has authorized the filing of this Application. The Resolution authorizing SEWA's President to execute and submit an Application for a CPCN for the AMI System Project is attached as **Exhibit 3**.

7. Copies of all orders, pleadings, and other communications related to this proceeding should be directed to:

Morris Vaughn, General Manager  
South Eastern Water Association, Inc.  
147 East Somerset Church Road  
Somerset, Kentucky 42503  
(606) 678-5501  
sewawater@yahoo.com

Joe D. Crawford, President  
South Eastern Water Association, Inc.  
147 East Somerset Church Road  
Somerset, Kentucky 42503  
(606) 678-5501  
joecrawford1958@live.com

Damon R. Talley  
Stoll Keenon Ogden PLLC  
P.O. Box 150  
Hodgenville, KY 42748-0150  
Telephone: (270) 358-3187  
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damon.talley@skofirm.com

Katelyn L. Brown  
Stoll Keenon Ogden PLLC  
500 West Jefferson Street, Suite 2000  
Louisville, KY 40202  
Telephone: (502) 568-5711  
Fax: (502) 333-6099  
katelyn.brown@skofirm.com

### **Project Description**

8. SEWA has approximately 8,000 meters in its service territory and a very substantial number of SEWA's meters are over 30 years old. Indeed, well over a majority of SEWA's meters are more than 10 years of age. Nevertheless, SEWA has been diligent in testing all meters that are removed from the ground before placing them back into service and periodically testing all meters in accordance with the provisions of 807 KAR 5:066, Section 16(1). If the meters test outside the accuracy limits of 807 KAR 5:066, Section 15(2)(a), they are removed from service. If they are within the accuracy limits, they are placed back into service. SEWA proposes to replace all 8,000 meters with Kamstrup AMI meters. The Kamstrup AMI meters are solid state meters with a 20-year warranty. A detailed description of the meters as provided by the meter manufacturer is set forth in **Exhibit 4**. The proposed AMI meters have the following characteristics:

A. The meters are static ultrasound meters. They use transmit time methodology and ultrasonic sound to measure the flow of the water. Two ultrasonic



transducers, which function as both transmitters and receivers, send sound signals against and with the flow of water. The ultrasonic signal traveling with the flow will reach the opposite transducer first. The time difference between the two signals is converted into a flow and the flow sensor sends out pulses corresponding to the amount of the flow. In contrast to mechanical meters that use rotating turbines, ultrasound meters have no moving parts and are thus unaffected by wear and tear. They can measure flow even with low pressure, which is difficult for mechanical flow sensors.

B. The meters have a low start flow down to 0.15 gallons per minute which ensures the measurement of water at relatively low flows and allows for greater measurement accuracy. The meters are also capable of detecting signs of water leaks and pipe bursts.

C. The meter housing and measurement part are made of the synthetic material polyphenylene sulfide, which is free from lead and other heavy metals. The meters are fully compliant with NSF/ANSI 61, which establishes the minimum requirements for the control of potential adverse human health effects from products that contact drinking water.

D. The meter measures water and ambient temperatures and thus will enable SEWA to monitor the temperature of the water reaching the end user and warn of freezing temperatures that may damage meter equipment and piping.

E. Each meter is equipped with a wireless radio transmitter and high-power antenna that can transmit a data package every 16 seconds. This data package includes target meter readings, daily maximum flow, monthly maximum flow, and water and ambient temperature. The meter can collect and store up to 460 days of information. All transmitted information is encrypted.

F. Each meter is warranted for a period of 20 years. Each is equipped with a lithium battery that is also warranted for 20 years. This warranty is not prorated, which means that if an AMI meter is found to be slow or defective in its 19<sup>th</sup> year of operation, it will be replaced with a new AMI meter. A copy of the manufacturer's warranty is found in **Exhibit 5**.

G. Each Kamstrup meter is tested for accuracy by the manufacturer at the maximum, intermediate, and minimum flow rates set forth in 807 KAR 5:066, Section 15(2)(a). Proof of these test results will be attached to each meter and provided to SEWA at the time the meters are delivered.

9. The new meters will utilize radio transmitters, which will transmit data to a Kamstrup-hosted server through antennas located on SEWA's existing water tanks. The server stores 12 months of customer meter usage data and can be accessed by SEWA via the internet. All data will be encrypted using Advanced Encryption Standard ("AES") 256-bit encryption algorithms to protect the customer

data. A description of the radio transmitting software is found in the manufacturer's literature set forth in **Exhibit 6** of this Application.

10. The Kamstrup AMI meters will be installed throughout SEWA's service territory in Pulaski County. A map depicting the location of the proposed facilities that will be installed as part of the AMI System Project is attached as **Exhibit 7** to this Application.

11. Allied Utility Solutions, LLC ("Allied") will furnish and install the AMI System, which includes providing the Kamstrup AMI meters, AMI Software and Hosted Service, and FCC Licensed AMI Reading System. The total cost for this project payable to Allied is \$2,220,000, plus applicable sales tax. The expected completion date is August 2022.

12. SEWA expects to declare all of its old meters as surplus and advertise these meters for sale upon completion of the AMI System Project.

### **Benefits of AMI System Project**

13. The proposed AMI System Project will achieve several operational efficiencies as well as provide additional benefits to SEWA customers.

14. SEWA currently engages Tru-Check Meter Service, Inc. ("Tru-Check"), a meter reading company, to read its approximately 8,000 meters per month. The Tru-Check Agreement expired on September 30, 2019, but SEWA has been contracting with Tru-Check on a month-to-month basis since then. Tru-Check

currently charges \$1.05 per meter read and SEWA conducts its own re-reads of meters, if necessary. The Tru-Check Agreement is attached to this Application as **Exhibit 8**. Over the past couple of years, Tru-Check has not been able to satisfactorily perform its duties under the Agreement. Tru-Check has not been timely with its meter reading duties, which has caused SEWA personnel to devote time to meter reading. The quality of Tru-Check's performance has deteriorated over the past few months because of the retirement of one of its long-time employees who read SEWA's meters. In addition, Tru-Check has had a significant turnover rate in its other employees responsible for reading the SEWA meters. The proposed AMI System Project will eliminate the need for Tru-Check's services.

15. SEWA will save approximately **\$100,800** (8,000 meters per month times 12 months times \$1.05 per meter equals \$100,800) per year in meter reading costs once the AMI System Project is completed. In addition to cost savings from the conclusion of the Tru-Check Agreement, the AMI System Project will achieve other substantial benefits and operational efficiencies.

A. The AMI System Project will allow SEWA to provide enhanced customer service by alerting the utility if a customer exceeds a threshold water usage set by the utility and allowing SEWA to respond to customer issues with near-real-time water usage data. The AMI System Project will provide a significant amount

of customer usage data by the hour, day, and week, which will be useful to customers and the utility.

B. The use of an AMI system will eliminate the need to issue estimated bills. Currently, if a meter cannot be timely read due to inclement weather, such as snow, ice, or freezing rain, or the inaccessibility of the meter, SEWA will issue an estimated monthly bill. Once installed, the AMI System will enable SEWA to remotely read the meters regardless of weather or other obstacles.

C. The AMI System Project will eliminate human errors associated with the current meter reading system.

D. Currently SEWA's distribution system has 31 distinct meter routes. It takes two (2) full-time equivalent employees of Tru-Check nearly an entire month to manually read all of SEWA's water meters (15 to 20 meter reading days spread over 30 days). The AMI System Project will allow all meters to be read on the same day (probably within the same hour or less). This will enhance water loss audits and avoid the lag time between reading the master meters on one day and the customer meters over a 30-day period.

E. The AMI System Project will reduce non-revenue water by enabling SEWA to quickly identify water leaks, meter tampering, and theft of service.

16. The proposed deployment of the AMI System Project will not compete with the facilities of another public utility, corporation, or person.

17. The proposed deployment of the AMI System Project will not result in the wasteful duplication of utility facilities or inefficient investment.

18. For the foregoing reasons, public convenience and necessity require the deployment of the proposed AMI System Project.

### **No Permits or Other Regulatory Approvals Required**

19. SEWA is not aware of any franchises, permits, or regulatory approvals required for the proposed installation of the AMI System Project.

20. The AMI System Project does not require the approval of the Kentucky Division of Water.

21. The AMI System Project does not require the acquisition of any parcels of land or easements. All equipment will be installed on existing SEWA property.

### **Project Costs and Related Matters**

22. The plans and specifications for the proposed AMI System Project are set forth as **Exhibit 9** to this Application. The plans and specifications were not prepared by an engineer. Therefore, neither KRS 322.340 nor 807 KAR 5:001, Section 4(13), requires that an engineer's seal or signature be affixed to those documents.

23. The total estimated cost of the proposed AMI System Project is \$2,436,461. The Project Cost Summary is attached as **Exhibit 10** to this Application. The total estimated cost of the AMI System Project incorporates the actual bids received. SEWA proposes to pay the cost of the deployment of the AMI System by using its own unrestricted cash reserves. SEWA will **not** borrow any money to finance the AMI System Project.

24. SEWA advertised the AMI System Project in compliance with the provisions of KRS Chapter 424. A copy of the Advertisement for Bids published in the *Commonwealth Journal* and the proof of publication are attached as **Exhibit 11**. It received, opened, and reviewed the bids on May 4, 2021. Only one (1) bidder, Allied, submitted a bid for furnishing and installing the AMI System in accordance with the terms of the advertisement and the Bid Specifications, therefore there is no bid tabulation or recommendation of award letter. Allied's completed Bid Form is attached as **Exhibit 12**. Allied's bid was accepted by a Resolution adopted by SEWA's Board of Directors on May 13, 2021. SEWA awarded the contract contingent upon the Commission granting it a CPCN for the deployment of the AMI System. The Resolution is attached as **Exhibit 3**.

25. The bids have a **90-day** hold period and will expire on August 2, 2021 unless SEWA issues a Notice of Award to Allied before that date. Accordingly,

SEWA requests an Order from the Commission no later than Thursday, **July 29, 2021**.

26. The Commission has previously reviewed and approved the use of AMI systems by water utilities subject to its jurisdiction<sup>2</sup> and found the installation of such systems will likely improve the quality of service provided to customers.<sup>3</sup> Non-jurisdictional water utilities in Kentucky have also found the use of AMI systems to be cost-effective and beneficial to their customers.<sup>4</sup>

27. The annual cost of operation of the proposed AMI System Project is approximately \$21,116 per year. A statement of the annual cost of operation of the AMI System Project is set forth at **Exhibit 13**.

28. SEWA will not incur any new debt as a result of the AMI System Project. As of December 31, 2020, SEWA had unrestricted cash reserves exceeding \$6,200,000. It will use a portion of these reserves to pay for the AMI System Project. See **Exhibit 14**.

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<sup>2</sup> See *Electronic Application of Southeast Daviess County Water District for Commission Approval Pursuant to KRS 807, KRS 5:001, and KRS 278.020 for a Certificate of Public Convenience and Necessity to Install an Advanced Metering Infrastructure (AMI System)*, Case No. 2017-00458, Order (Ky. PSC Feb. 27, 2018); *Electronic Application of West Daviess County Water District for Commission Approval Pursuant to KRS 807, KRS 5:001, and KRS 278.020 for a Certificate of Public Convenience and Necessity to Install an Advanced Metering Infrastructure (AMI System)*, Case No. 2017-00459, Order (Ky. PSC Feb. 27, 2018); *Electronic Application of McCreary County Water District for Authorization to Execute Lease-Purchase Agreement and Related Relief*, Case No. 2018-00038, Order (Ky. PSC June 28, 2018).

<sup>3</sup> See, e.g., *Application of Graves County Water District for Approval of Construction and Issuance of a Certificate of Convenience and Necessity for the Purchase and Installation of Automated Meter Reading Equipment*, Case No. 2011-00233, Order at 7 (Ky. PSC Nov. 3, 2011).

<sup>4</sup> See, e.g., Water Finance & Management, *Oldest City in Kentucky Implements AMI Project* (Mar. 29, 2021), available at <https://waterfm.com/oldest-city-in-kentucky-implements-ami-project/> (last viewed June 2, 2021); Advocate-Messenger, *High Tech Water Meters Coming to Danville* (Dec. 15, 2017), available at <http://www.amnews.com/2017/12/15/high-tech-water-meters-coming-to-danville/> (last viewed June 2, 2021).



29. There will be no rate increase associated with the AMI System Project.

**WHEREFORE**, South Eastern Water Association, Inc. requests that the Commission:

1. Grant SEWA a Certificate of Public Convenience and Necessity to install the proposed AMI System Project;

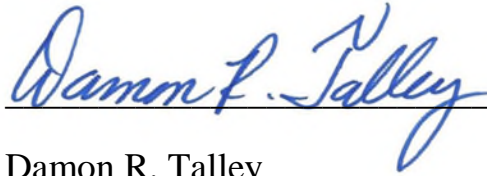
2. Enter an Order granting the requested relief without holding an evidentiary hearing in this matter and no later than **July 29, 2021**; and,

3. Grant any and all such other relief to which SEWA may be entitled.

**[Remainder of page intentionally left blank.]**

Dated: June 9, 2021

Respectfully submitted,

A handwritten signature in blue ink that reads "Damon R. Talley". The signature is written in a cursive style and is positioned above a solid horizontal line.


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katelyn.brown@skofirm.com

*Counsel for South Eastern Water  
Association, Inc.*

## CERTIFICATE OF SERVICE

In accordance with 807 KAR 5:001, Section 8 and the Commission's March 16, 2020 and March 24, 2020 Orders in Case No. 2020-00085 regarding electronic filings, I certify that South Eastern Water Association, Inc.'s filing of this Application was electronically transmitted to the Public Service Commission on June 9, 2021; that there are currently no parties that the Commission has excused from participation by electronic means in this proceeding; and South Eastern Water Association, Inc. will file original paper copies of this filing within 30 days of the lifting of the State of Emergency.

  
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Damon R. Talley

## FILING REQUIREMENTS

### FILING REQUIREMENTS FOR AN APPLICATION FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY

Source Authority	Requirement	Location
807 KAR 5:001, § 14(1)	Applicant's name, mailing address and e-mail address	Page 2, Para 1
807 KAR 5:001, § 14(1)	Statutory Reference – KRS 278.020(1)	Page 1
807 KAR 5:001, § 4(3)	Signature of Applicant's Attorney	Page 14
807 KAR 5:001, § 4(3)	Name, Address, Telephone Number, Fax Number, and e-mail address of Applicant's Attorney	Page 3-4, Para 7
807 KAR 5:001, § 14(2)	If Applicant is corporation: State and date of incorporation, attestation of good standing in state of incorporation, statement regarding authorization to transact business in Kentucky	Page 2, Para 2 Exhibit 2
807 KAR 5:001, § 14(3)	If Applicant is a limited liability company: State and date of organization, attestation of good standing in state of incorporation, statement regarding authorization to transact business in Kentucky	Page 2, Para 2 <b>Not Applicable</b>
807 KAR 5:001, § 14(4)	If the Applicant is a limited partnership: a certified copy of limited partnership agreement and all amendments or statement identifying prior Commission proceedings in which limited partnership agreement and all amendments filed	Page 2, Para 2 <b>Not Applicable</b>
807 KAR 5:001, § 15(2)(a)	The facts relied upon to show that the public convenience and necessity requires the proposed construction	Page 7-10, Para 13-18
807 KAR 5:001, § 15(2)(b)	Copies of franchises or permits for the proposed construction or extension	Page 10, Para 19-21 <b>Not Applicable</b>
807 KAR 5:001, § 15(2)(c)	A full description of the proposed location, route, or routes of the proposed construction or extension, including a description of the manner in which same will be constructed, and the names of all public utilities, corporations, or persons with whom the proposed construction or extension is likely to compete	Page 4-7, Para 8-10 Page 10, Para 16
807 KAR 5:001, § 15(2)(d)(1)	Maps to suitable scale showing the location or route of the proposed construction or extension, as well as the location to scale of like facilities owned by others located anywhere within the map area with adequate identification as to the ownership of the other facilities	Page 7, Para 10 Exhibit 7

Source Authority	Requirement	Location
807 KAR 5:001, § 15(2)(d)(2)	Plans and specifications and drawings of the proposed plant, equipment, and facilities	Page 10, Para 22 Exhibit 9
807 KAR 5:001, § 15(2)(e)	The manner in detail in which the Applicant proposes to finance the proposed construction or extension.	Page 11, Para 23 Page 12, Para 28
807 KAR 5:001, § 15(2)(f)	An estimated annual cost of operation after the proposed facilities are placed into service	Page 12, Para 27 Exhibit 13
KRS 322.340	Engineering plans, specifications, drawings, plats and reports for the proposed construction or extension prepared by a registered engineer, must be signed, sealed, and dated by an engineer registered in Kentucky	Page 10, Para 22 <b>Not Applicable</b>

# **EXHIBITS**

## **EXHIBIT LIST**

1. Articles of Incorporation (Consolidation)
2. Certificate of Existence (Good Standing)
3. Resolution of SEWA Board of Directors
4. Meter Manufacturer Description of Meters
5. Manufacturer's Warranty
6. Meter Manufacturer Description of Remote Reading System
7. Map
8. Tru-Check Agreement
9. Plans and Specifications for Proposed AMI System Project
10. Project Cost Summary
11. Copy of Advertisement for Bids and Proof of Publication
12. Completed Bid Form Submitted by Allied
13. Annual Cost of Operation
14. Balance Sheet

# **EXHIBIT 1**



041042

ARTICLES OF CONSOLIDATION

ELIHU TATEVILLE WATER ASSOCIATION P.O. BOX 722

NAME

ADDRESS

SOMERSET, KENTUCKY 42502

CITY/STATE/ZIP

AND

HELDON VALLEY WATER ASSOCIATION P.O. BOX 910

NAME

ADDRESS

SOMERSET, KENTUCKY 42502

CITY/STATE/ZIP

RECEIVED & FILED  
\$8.00  
DEC 17 2 07 PM '93  
SHERIFF'S OFFICE  
CLERK OF THE COURT  
KENTUCKY

KNOWN ALL MEN BY THESE PRESENTS:

That we, whose names are to subscribed, acting as incorporators for the purpose of forming a non profit corporation under the provisions of Chapter 273 of the Kentucky Revised Statutes, assuming and claiming all powers, rights, privileges and immunities granted or permitted bodies corporation under said laws, and do hereby adopt the following Articles of Consolidation and set forth the following plan of consolidation.

ARTICLE I

PLAN OF CONSOLIDATION

Pursuant to KRS 74.961, 273.281 and an Order of the Public Service Commission of Kentucky dated February 22, 1988 in Case NO. 9967, the boards of the directors of the corporations enumerated below do hereby set forth their plan of consolidation as required by KRS 273.281 and affirmatively state as follows:

1. The identities of the corporations to be consolidated are: Elihu Tateville Water Association, P.O. Box 722, Somerset, Kentucky 42502, and Nelson Valley Water Association, P.O. Box 910, Somerset, Kentucky 42502.

2. The name and address of the new corporation is to be Southeastern Water Association Inc., P.O. Box 722, Somerset, Kentucky 42502.

3. Pursuant to an Order of the Public Service Commission and after an affirmative vote by the membership of each consolidating corporation, the consolidating corporations shall cease to exist and the new corporation will assume and claim all powers, rights, privileges and immunities granted or permitted by law, and previously held and adopted by the consolidating corporations and subject to all the duties and liabilities of a corporation organized under the provisions of KRS Chapter 273.

4. The assets and liabilities of the consolidating corporations shall be merged to the extent allowed by law with the exception that outstanding obligations of the consolidating corporations which are secured by a pledge of the income and revenues of the systems operated by each of them shall continue to be retired from such money and funds as shall be collected from the users of facilities operated by such consolidated corporations in the original area served in accordance with the terms and provisions of KRS 74.361(5) and the authorizing resolutions or indentures under which the outstanding obligations were issued, until all such obligations have been retired by payment, debt consolidation or re-issuance.

5. The existing board of directors of each consolidating

corporations shall serve on the board of the new corporation until such time as the first annual election of directors to be held no later than 120 days from the filing of these articles. Thereafter, the number and terms of directors shall be governed by the provisions of Articles IX herein.

6. On April 12, 1993, at a annual meeting of the members of Elihu Tateville Water Association, duly held in accordance with KRS Chapter 273 and the Articles of Incorporation and Bylaws of Elihu Tateville Water Association, a quorum having been present and the plan of consolidation receiving two thirds votes of those present or by proxy voting, the above Plan of Consolidation was duly adopted.

7. On March 1, 1993, at a annual meeting of the members of Nelson Valley Water Association, duly held in accordance with KRS Chapter 273 and the Articles of Incorporation and Bylaws of Nelson Valley Water Association, a quorum having been present and the plan of consolidation receiving two thirds votes of those present or by proxy voting, the above Plan of Consolidation was duly adopted.

ARTICLE II

NAME

The name of this corporation shall be SOUTH EASTERN WATER ASSOCIATION INC..

ARTICLE III

REGISTERED OFFICE AND AGENT

The registered office of the corporation shall be at Somerset, County of Pulaski, State of Kentucky; the registered agent at such address is Kenneth D. Morrow Manager

NAME

TITLE

1851 West Hwy. 80 Somerset, Kentucky 42501.

ADDRESS

CITY/STATE/ZIP

## ARTICLE IV

## PURPOSE

The purpose of said corporation shall be to establish, develop and operate a complete water supply and distribution system by purchase, development, or otherwise to construct reservoirs or water towers, erect pumping machinery lay water mains, pipes and hydrants; to furnish and sell water to members of the corporation, public bodies and local businesses, for fire protection, drinking and general farm and domestic use and collect payment for rental or sale of same and doing all things necessary, convenient and incidental thereto.

## ARTICLE V

## SEAL

This corporation shall have a seal, which shall contain the corporate name, Kentucky, and the words "corporate seal."

## ARTICLE VI

## POWERS

The corporation shall have all powers provided by law.

## ARTICLE VII

## MEMBERSHIP

Persons may become members of the corporation as provided in the By-Laws.

## DURATION

The corporation shall be of perpetual duration.

## ARTICLE IX

## BOARD OF DIRECTORS

1. The affairs of this corporation shall be managed by a board of seven directors to be elected by and from the members thereof and shall serve for three years and until their successors are elected. The size of the Board may not be changed except by amendment to these articles. At the first annual election, two directors shall be elected for a term of one year; two directors shall be elected for a term of two years; three directors shall be elected for a term of three years. Thereafter, directors shall be elected for a term of three years.

2. If the office of any director become vacant by reason of death, resignation, retirement, disqualification or otherwise, except removal from office, a majority of the remaining directors thought not less than a quorum shall, by a majority vote, choose a successor who shall hold office until the next annual meeting of the members of the corporation, at which time the members shall elect a director for the unexpired term, or terms.

3. A majority of the Directors must be present at a meeting to conduct the business of the corporation.

4. Until the first annual election and as specified in Article I, paragraph 5, the following persons shall be Directors:

<u>NAME</u>	<u>ADDRESS</u>
Keith Dinsmore	180 Strawberry Rd. Somerset, Ky. 42501
Sam Davis	Box 84 S. Hwy. 27, Tateville, Ky. 42558
Joe Richards II	401 Pole Ridge Rd. Somerset, Ky. 42501
Earnest Stout	1466 Stout Hill Tateville, Ky. 42558
V.C. Wallace	Route 7 Box 96 Somerset, Ky. 42501
Valando Taylor	3572 Hwy. 39 Somerset, Ky. 42501
Leamon Colyer	4765 Hwy. 39 Somerset, Ky. 42501
Joe Crawford	777 Stilesville Rd. Science Hill, Ky. 42553
Bobby Crow	3821 East Coleman Rd. Somerset, Ky. 42501

5. The Board of Directors shall have their annual meeting after the annual meeting of members hereinafter provided for, at a time and place to be designated by the President, and will elected from their own number a President, Vice-President, Secretary and Treasurer.

6. The Board of Directors shall have other meetings as provided in the By-Laws.

ARTICLES X

MEETINGS

1. The annual meeting of the members of this corporation for the purpose of electing directors and transacting such other business as may properly come before it at such time, shall be held on the 2nd Monday in April, of each year at the time and place specified by the Board of Directors, notice of meeting may be by letter sent to each member or published in paper as per notice for special meeting.

2. Special meetings of the members of this corporation may be called by the President at any time or place within the county upon publishing in the newspaper of general circulation for three

consecutive weeks. With the first issue to run not more than 35 days prior to the meeting and the last issue to run not less than 10 days prior to the meeting, and such meeting shall be called by him at any time upon written demand of majority of the directors or of any ten (10) members and in case of his neglect or refusal to call such meeting, which shall be the same as though called by the President. If the purpose of the meeting is to amend the articles then the notice of meetings signed by the Secretary shall set forth the proposed amendment in substance. Articles may be amended by a two thirds vote of the members present at such meeting or voting by proxy.

ARTICLE XI

INCORPORATORS

The names and addresses of the incorporators are:

<u>NAME</u>	<u>ADDRESS</u>
Keith Dinsmore	180 Strawberry Rd. Somerset, Ky. 42501
Sam Davis	Box 84 S. Hwy. 27 Tateville, Ky. 42558
Joe Richards II	401 Pole Ridge Rd. Somerset, Ky. 42501
Earnest Stout	1466 Stout Hill, Tateville, Ky. 42558
V.C. Wallace	Route 7 Box 96 Somerset, Ky. 42501
Joe Crawford	777 Stilesville Rd, Science Hill, Ky. 4255
Bobby Crow	3821 East Coleman Rd. Somerset, Ky. 42501

ARTICLES XII

BY-LAWS

The corporation may make and amend By-Laws at its pleasure through its Board of Directors.

IN WITNESS WHEREOF, we have hereto subscribed our names this the 9<sup>th</sup> day of December, 1993.

Keith Dinsmore

KEITH DINSMORE PRESIDENT

Joe Richards II  
JOE RICHARDS II SECRETARY

STATE OF KENTUCKY

COUNTY OF Pulaski

On this the 9<sup>th</sup> day of December, 1993.

before me the undersigned Notary Public, in and for the said County, personally appeared Keith Dinsmore and Joe Richards II, to me know to be the persons named in and who executed the foregoing instrument and acknowledge that they executed the same as their voluntary act and deed.

Shirley J. Davis

NOTARY PUBLIC

My commission expires: 4-13-96



IN WITNESS WHEREOF, We have hereunto subscribed our names this the

27 day of December, 1993.

Valando Taylor  
VALANDO TAYLOR PRESIDENT

Joe Crawford  
JOE CRAWFORD SECRETARY

STATE OF KENTUCKY  
COUNTY OF Pulaski

On this the 27 day of December, 1993,  
before me the undersigned Notary Public, in and for said County,  
personally appeared Valando Taylor and Joe Crawford,  
to me know to be the persons named in and who executed the foregoing  
instrument and acknowledged that they executed the same as their  
voluntary act and deed.

Willard J. Hansford  
NOTARY PUBLIC

My Commission expires: 4-13-96

DEC 27 1993

STATE OF KENTUCKY COUNTY OF PULASKI, SCT.  
I, Willard Hansford, Clerk of the Pulaski County Court, certify that on the 27 day of Dec,  
1993, the foregoing instrument was produced to me certified as above and filed for record. Whereupon I  
have recorded the same, together with this certificate, this 29 day of Dec, 1993, in  
Art B. Ac. Book 17 Page 665  
Attest: WILLARD HANSFORD, Clerk By Margaret Jane Adams D.C.

076691

ARTICLES OF MERGER OF  
SOUTH EASTERN WATER ASSOCIATION, INC.  
AND  
BARNESBURG WATER ASSOCIATION, INC.

JOHN T. ...  
SECRETARY  
SOUTH EASTERN WATER ASSOCIATION, INC.  
*John T. ...*

NOV 26 9 17 AM '96

RECEIVED & FILED

\*\* \*\* \* \* \* \* \*

This is a Plan of Merger of South Eastern Water Association, Inc., a Kentucky non-profit corporation, and Barnesburg Water Association, Inc., a Kentucky non-profit corporation, prepared pursuant to the provisions of KRS 273.287. Barnesburg Water Association, Inc., is sometimes herein referred to as the "acquired corporation." South Eastern Water Association is sometimes hereinafter referred to as the "surviving corporation."

Neither the surviving corporation nor acquired corporation has members entitled to vote of the merger. The plan of merger as contained in these articles of merger were approved at a meeting of the board of directors of Barnesburg Water Association, Inc., held October 14, 1996 and the merger was approved by the Board of Directors of South Eastern Water Association, Inc., at a board of directors meeting held on October 14, 1996. The plan received the unanimous vote of the directors of both corporations in attendance at the meeting and a quorum of each board was present at the respective meetings.

A. THE PLAN OF MERGER:

1. Names: The names of the corporations proposing to be merged are South Eastern Water Association, Inc. and Barnesburg Water Association, Inc. Barnesburg Water Association, Inc., the acquired corporation, proposes to merge into South Eastern Water Association, Inc., the surviving corporation.

**B. TERMS AND CONDITIONS:**

The terms and conditions of the proposed merger and the mode of carrying it into effect are as follows:

1. The acquired corporation shall merge into the surviving corporation in a manner and with the effect provided by the statutes of Kentucky.
2. The merger shall be effective as of the date of filing of the Articles of Merger with the Kentucky Secretary of State.
3. On the effective date, the acquired corporation shall merge into the surviving corporation, the separate corporate existence of the acquired corporation shall cease, and South Eastern Water Association, Inc., shall continue as the surviving corporation. The address of the surviving corporation of the South Eastern Water Association, Inc., 147 East Somerset Church Road, Somerset, Kentucky 42503.
4. The surviving corporation shall assume all powers, rights, privileges and immunities granted or permitted by law, previously held and adopted by the acquired corporation and subject to the duties and liabilities of the corporation organized under the provisions of KRS Chapter 273.
5. The assets and liabilities of the acquired corporation shall be merge to the extent allowed by law, with the exception that outstanding obligations of the acquired corporation and the surviving corporation shall continue to be retired from such money and funds as shall be collected from the facilities operated by each such corporation in the original area served in accordance with the terms and provisions of KRS 74.361(5) as made applicable by KRS 74.361(9) and the authorizing resolution or indenture under which the outstanding obligations

were issued, until all of the obligations had been retired by payment, debt consolidation or reissuance.

6. The existing Board of Directors of South Eastern Water Association, Inc., along with two (2) directors of Barnesburg Water Association, Inc., being the president and vice president, shall serve on the board of the surviving corporation until such time as the annual election of directors to be held no more than two hundred (200) days from the filing of these articles. Thereafter, the number and term of the directors shall be governed by the provisions of Article VIII of the bylaws upon proper notice as indicated in the bylaws. The bylaws of South Eastern Water Association, Inc. shall be amended accordingly and said amended bylaws shall be the bylaws of the surviving corporation.

**C. BOARD OF DIRECTORS:**

Until the first annual election of the board of directors as specified herein, the following persons shall serve as directors:

Joe Richards, Sr.,	3735 Rush Branch Road, Somerset, Kentucky 42501
Sam Davis,	P. O. Box 320, Tateville, Kentucky 42558
Ernest Stout,	230 Stout Hill, Burnside, Kentucky 42519
Joe Richards, II,	401 Poleridge Road, Somerset, Kentucky 42503
Virgil C. Wallace,	2780 Rush Branch Road, Somerset, Kentucky 42503
Joe Crawford,	751 Stylesville Road, Science Hill, Kentucky 42553
Bobbie Crowe,	209 E. Coleman Road, Somerset, Kentucky 42503
Harvey Phelps,	1271 Old Mt. Vernon Road, Somerset, Kentucky 42503
Wade Bumgardner,	861 Old Mt. Vernon Road, Somerset, Kentucky 42503

Done under our hands on this the 14 day of October, 1996.

BARNESBURG WATER ASSOCIATION, INC.

BY: Harvey Phelps  
Harvey Phelps, President

SOUTH EASTERN WATER ASSOCIATION, INC.

BY: Joe Richards  
Joe Richards, President

E:\WP\WIN60\WPDOCS\CORP\SOUTH\AR2.WPD

STATE OF KENTUCKY COUNTY OF PULASKI, SCT.

I, Willard Hansford, Clerk of the Pulaski County Court, certify that on the 27 day of Nov, 1996, the foregoing instrument was produced to me certified as above and filed for record. Whereupon I have recorded the same, together with this certificate, this 2 day of Dec, 1996, in

Out of Inc Book 20 Page 91

Attest: WILLARD HANSFORD, Clerk By Donnaugh D. Buchanan D.C.

# **EXHIBIT 2**

**Commonwealth of Kentucky**  
**Michael G. Adams, Secretary of State**

Michael G. Adams  
Secretary of State  
P. O. Box 718  
Frankfort, KY 40602-0718  
(502) 564-3490  
<http://www.sos.ky.gov>

**Certificate of Existence**

Authentication number: 247726  
Visit <https://web.sos.ky.gov/ftshow/certvalidate.aspx> to authenticate this certificate.

I, Michael G. Adams, Secretary of State of the Commonwealth of Kentucky, do hereby certify that according to the records in the Office of the Secretary of State,

**SOUTH EASTERN WATER ASSOCIATION INC.**

is a corporation duly incorporated and existing under KRS Chapter 14A and KRS Chapter 273, whose date of incorporation is December 17, 1993 and whose period of duration is perpetual.

I further certify that all fees and penalties owed to the Secretary of State have been paid; that Articles of Dissolution have not been filed; and that the most recent annual report required by KRS 14A.6-010 has been delivered to the Secretary of State.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Official Seal at Frankfort, Kentucky, this 7<sup>th</sup> day of June, 2021, in the 230<sup>th</sup> year of the Commonwealth.



*Michael G. Adams*

Michael G. Adams  
Secretary of State  
Commonwealth of Kentucky  
247726/0324021

# **EXHIBIT 3**



**RESOLUTION NO. 2021-05-01**

**RESOLUTION OF SOUTH EASTERN WATER ASSOCIATION, INC.  
ACCEPTING LOW BID AND AWARDED CONTRACT; AND  
AUTHORIZING THE PRESIDENT TO EXECUTE AND SUBMIT AN  
APPLICATION FOR A CERTIFICATE OF PUBLIC CONVENIENCE  
AND NECESSITY WITH THE PUBLIC SERVICE  
COMMISSION OF KENTUCKY**

**WHEREAS**, South Eastern Water Association, Inc. (“SEWA”) caused to be published in the April 15, 2021 edition of Somerset, Kentucky’s *Commonwealth Journal* an advertisement for bids for furnishing and installing an Advanced Metering Infrastructure System (the “AMI System”) in accordance with the provisions of KRS Chapter 424;

**WHEREAS**, only one (1) firm submitted a bid for furnishing and installing the AMI System in accordance with the terms of the advertisement and the Bid Specifications;

**WHEREAS**, Allied Utility Solutions, LLC submitted a bid in accordance with the terms of the advertisement and Bid Specifications in the amount of \$2,226,241.62 plus applicable sales taxes;

**WHEREAS**, another bidder, Consolidated Pipe & Supply Company, Inc., submitted a bid for furnishing and installing AMR Meters rather than an AMI System as required by the terms of the advertisement and the Bid Specifications. This bid also contained other deficiencies;

**WHEREAS**, representatives of SEWA have negotiated with representatives of Allied Utility Solutions, LLC to lower the cost of the AMI System; and

**WHEREAS**, KRS 278.020(1) prohibits any utility from commencing the construction of any plant or facility or installing any equipment to provide utility service, except in the ordinary course of business, until that utility has obtained a Certificate of Public Convenience and Necessity from the Kentucky Public Service Commission.

**NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE SOUTH EASTERN WATER ASSOCIATION, INC. AS FOLLOWS:**

**Section 1.** The facts, recitals, and statements contained in the foregoing preamble of this Resolution are true and correct and are hereby affirmed and incorporated as a part of this Resolution.

**Section 2.** The Board of Directors hereby finds that the bid submitted by Consolidated Pipe and Supply Company, Inc. does not meet the terms of the advertisement and Bid Specifications and hereby rejects the bid submitted by Consolidated Pipe and Supply Company, Inc.

**Section 3.** The Board of Directors hereby declares the bid in the amount of \$2,226,241.62, plus applicable sales taxes, submitted by Allied Utility Solutions, LLC to be responsive and responsible.

**Section 4.** The negotiated price of \$2,220,000, plus applicable sales tax, offered by Allied Utility Solutions, LLC is hereby declared to be reasonable and is hereby accepted by the Board of Directors of SEWA, contingent upon the Kentucky Public Service Commission granting a Certificate of Public Convenience and Necessity.

**Section 5.** Allied Utility Solutions, LLC is awarded the contract for furnishing and installing an AMI System in the amount of \$2,220,000, plus applicable sales tax, contingent upon the Kentucky Public Service Commission granting a Certificate of Public Convenience and Necessity.

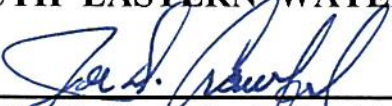
**Section 6.** The President of SEWA is hereby authorized and directed to take any and all actions reasonably necessary to execute and submit an Application for a Certificate of Public Convenience and Necessity with the Kentucky Public Service Commission for deployment of the AMI System and to obtain any other needed approvals.

**Section 7.** The President of SEWA is authorized and directed as follows: (a) to execute the Notice of Award; (b) to execute the Agreement; (c) to execute the Notice to Proceed; and (d) to take any and all other actions reasonably necessary to implement the award of the contract to Allied Utility Solutions, LLC, including the execution of any and all other documents necessary for such purpose.

**Section 8.** This Resolution shall take effect upon its adoption.

**ADOPTED BY THE BOARD OF DIRECTORS OF THE SOUTH EASTERN WATER ASSOCIATION, INC. at a meeting held on May 13, 2021, signed by the President, and attested by the Secretary.**

**SOUTH EASTERN WATER ASSOCIATION. INC.**

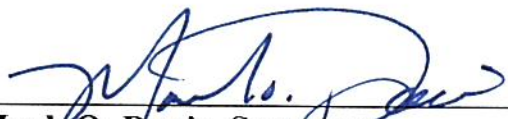
BY:   
\_\_\_\_\_  
**Joe D. Crawford, President**

ATTEST:  
  
\_\_\_\_\_  
**Mark O. Davis, Secretary**

**CERTIFICATION**

The undersigned Secretary of South Eastern Water Association, Inc. (“SEWA”) does hereby certify that the foregoing is a true copy of a Resolution duly adopted by SEWA’s Board of Directors at a meeting properly held on May 13, 2021, signed by the President, attested by the Secretary, and is now in full force and effect.

WITNESS my hand this 13th day of May 2021.

  
\_\_\_\_\_  
**Mark O. Davis, Secretary**

# **EXHIBIT 4**

## Data Sheet

### flowIQ® 2250

- Dual band radio
  - AMR (Walk-by/drive-by)
  - AMI (Fixed network)
- Ultrasonic measurement
- Pinpoint accuracy
- 20 year longevity
- Dual temperature measurement
- IP68 Vacuum sealed construction
- Lead free and certified to NSF/ANSI 61
- Flow measurement in display
- Hourly log



## Contents

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Technical data	4
Material	4
Meter sizes	5
Meter face details	5
Measurement of temperatures	6
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Data registers	8
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Configuration - flowIQ® 2250	12
Dimensional sketches – flowIQ® 2250 (composite)	14
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Accessories	16

## Electronic ultrasonic cold water meter for measurement of cold water consumption in households, multi-unit buildings and industry.

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### Pinpoint accuracy

Ultrasonic flow measurement guarantees pinpoint accuracy and longevity. Ultrasonic flow measurement is based on the transit time method, and all measurements, references, readings, calculations and data communication are controlled by an advanced, specially designed electronic circuit. Thus, the meter includes no moving parts, which makes flowIQ® 2250 less sensitive to wear and tear and impurities in the water.

### Construction

The meter is hermetically closed and vacuum-sealed to prevent humidity from reaching the electronics and avoid condensation between the glass and display. The meter is IP68 (submersible) type tested and suitable for installation in meter pits.

### Installation

flowIQ® 2250 is easy to install in all operating environments, horizontally as well as vertically, independent of piping and installation conditions. Consumption data can be read visually from the display, using an optical eye, and remotely read, either by 912.5, 915 or 918.5 MHz (AMR) and 450-470 MHz (AMI) band RF signal, built into the meter.

### Specific features

flowIQ® 2250 measures the water and environment temperatures and it includes leak detection, securing that water loss is discovered quickly.

The unique combination of all the flowIQ® 2250 features reduces current operating costs to measure water usage and minimizes unexpected expenses in connection with possible leakage.

### Environmentally friendly

The meter has been approved according to Drinking Water Standards in multiple countries, and it is certified to NSF/ANSI 61. The meter housing and measuring part are made of the synthetic material polyphenylene sulfide (PPS) with 40 % fiberglass, which is free from lead and other heavy metals. The environmental report, Carbon Footprint, documents the meter's high reusability and low environmental impact, including recycling of materials.

### Hygiene

To protect the health of the consumers Kamstrup has a hygienic manufacturing process of the water meters. Kamstrup has a highly automated manufacturing process, and only uses materials which are approved for drinking water. Furthermore the products gets disinfected before dispatch. The hygiene is being controlled by external accredited laboratories and by frequent audits.

### General description

flowIQ® 2250 is a hermetically sealed water meter intended for measurement of cold water consumption in residential, multi-unit buildings and commercial applications.

flowIQ® 2250 employ the ultrasonic measurement principle, based on Kamstrup's experience since 1991, with the initial development and production of static ultrasonic meters.

flowIQ® 2250 has been subjected to a very comprehensive set of type tests in order to ensure a long-term stable, accurate and reliable meter. One of flowIQ® 2250's many advantages is the fact that it has no wearing parts, which ensures a high and stable accuracy throughout its lifetime. flowIQ® 2250 complies with all the AWWA C715-18 guideline for Ultrasonic Water Meters.

The flowIQ® 2250 series is fully made in composite, except the largest model, which shares the same platform used in flowIQ® 3250.

flowIQ® 2250 can and must only be opened by Kamstrup A/S. If the meter has been opened and the sealing has thus been broken, the meter is no longer valid for billing purposes and the warranty is void.

flowIQ® 2250 measures the water consumption electronically, as a volume, using a pair of ultrasonic signals. Through two ultrasonic transducers, an audio signal is sent with and against the flow direction. A transducer serves both as a 'speaker' when transmitting and as a 'microphone' when a signal is received. The ultrasonic signal traveling with the flow will be the first to reach the opposite transducer, while the signal running against the flow will be received a little later. The time difference, between the two signals, can be converted into flow velocity, and thereby also into a volume. The measuring principle is a proven, long-term stable and accurate measuring principle.

flowIQ® 2250's display has been specially designed to operate in a wide temperature range, with high contrast, regardless of lighting – and therefore easy to read – and still have long lifetime.

In addition to volume reading, an indication of current flow and a number of other information codes are displayed. All registers are saved daily in the meter data logger (EEPROM) and are kept for 460 days. Furthermore, monthly data for the latest 36 months, hourly data for the latest 100 days and 50 infocode events are saved.

flowIQ® 2250 is powered by an internal lithium battery which can provide up to 20 years operating life.

flowIQ® 2250 is available with a choice of two integrated data communication options:

- 912.5, 915 or 918.5 MHz – Wireless Radio version (RF) for Wireless M-Bus – US localization of European standard for remote reading of meters EN 13757-4
- 450-470 MHz is used in AMI (Fixed network)

The meter is fitted with an optical eye which makes it possible to read saved consumption data and info codes, stored in the meter's data logger. Using an optical reading head, with USB connection, the optical eye, in addition, allows the meter to be configured.

## Technical data

### Electrical data

Battery D-Cell battery, 3.6V, 17Ah. The battery warranty does not apply at meter temperatures above  $t_{BAT} > 95$  °F.

### Mechanical data

Protection class IP68-rated (waterproof/submersible)

Ambient/meter temperature

flowIQ® 2250, composite: 35 °F...130 °F

flowIQ® 2250, 2-part body: 35 °F...130 °F

Water temperature

flowIQ® 2250, composite: 33 °F...120 °F

flowIQ® 2250, 2-part body: 33 °F...120 °F

Storage temp. empty sensor -10 °F...140 °F

Maximum operating pressure 250 PSI (17 bar)

### Accuracy

MPE (maximum permissible error) according to AWWA C715-18.

± 5 % in extended low flow range

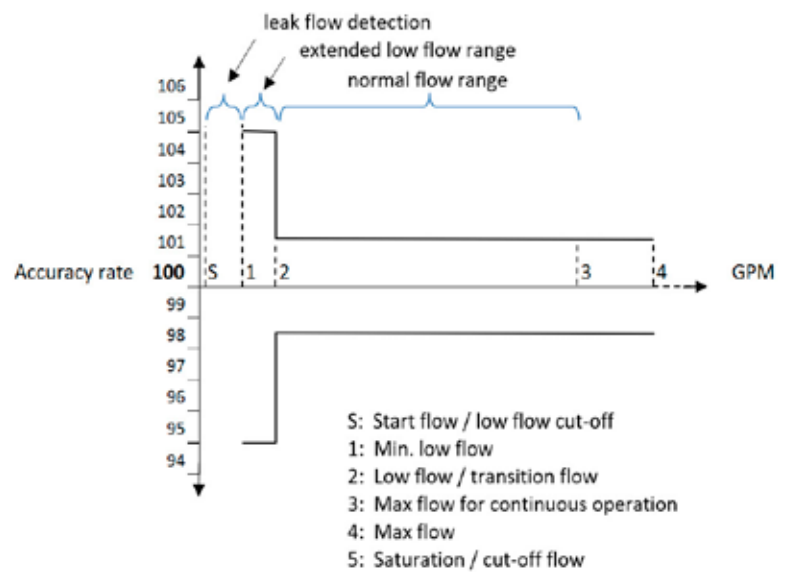
± 1.5 % in 'normal flow' range

### Approvals

Certified to NSF/ANSI 61

Complies to part 15 of the FCC rules

Complies with AWWA C715-18



## Material

### flowIQ® 2250 (Composite model)

#### Wetted parts

Meter housing and flow part Polyphenylene sulfide (PPS) with fiberglass (40 %) reinforcement

Reflectors Stainless steel

#### External meter parts

Top ring (sealing) Polycarbonate (gray)

### flowIQ® 2250 (2-part body model)

#### Wetted parts

Flow part, threaded/flanged Stainless Steel 316L

O-ring/gasket EPDM

Measuring tube PPS with fiberglass

Reflectors Stainless steel

#### External meter parts

Meter housing Polyphenylene sulfide (PPS) – 40 % fibreglass

Cover Glass

Spring ring Stainless steel

Top ring (sealing) Polycarbonate (gray)



## Meter sizes

flowIQ® 2250 is available in these sizes:

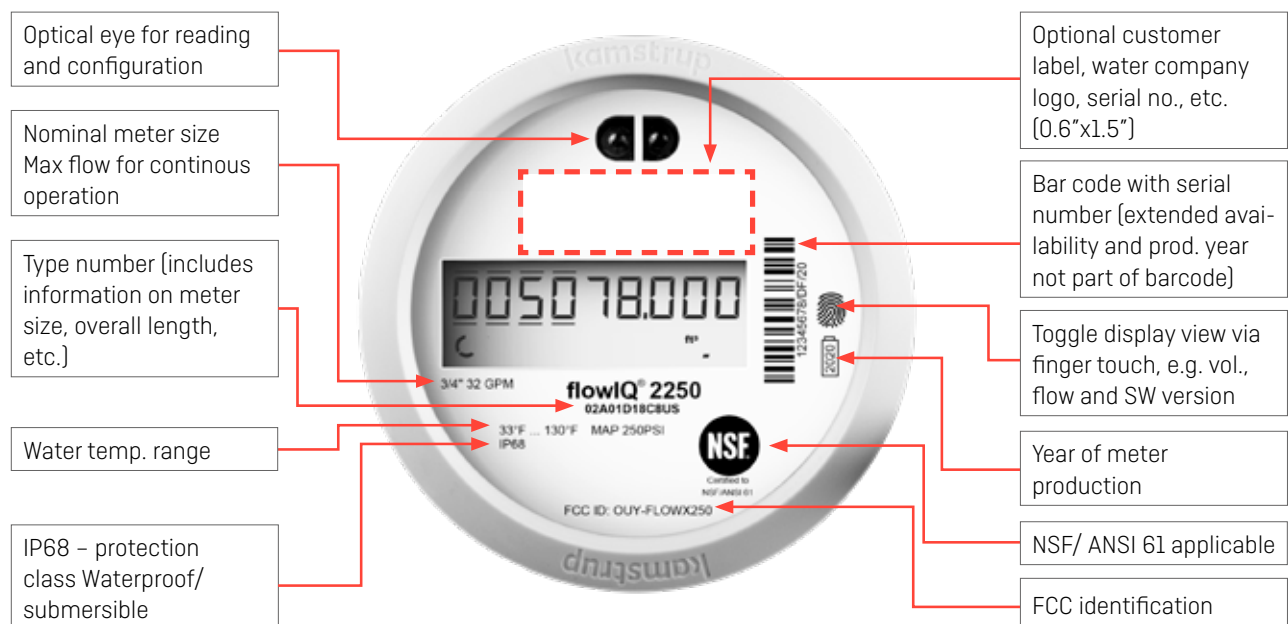
Type number	Meter size	Start flow (S)	Max. flow	Min. flow	Transition flow <sup>1)</sup>	Pressure loss SMOC	Connection on meter	Lay length	Non-return valve	Strainer	Temp. measurement of water
RF version	Inches	GPM	GPM	GPM	GPM	PSI	NPSM thread	Inches			
02-A-01-D-1-8A-8US	5/8"	0.015	25	0.10	0.15	7.1	3/4"	7 1/2"	N/A	Yes	Yes
02-A-01-D-1-8B-8US	5/8" x 3/4"	0.015	25	0.10	0.15	7.1	1"	7 1/2"	Yes	Yes	Yes
02-A-01-D-1-8C-8US	3/4"	0.015	32	0.10	0.15	11	1"	7 1/2" or 9"	Yes	Yes	Yes
02-C-01-D-1-8B-8US	5/8" x 3/4"	0.015	25	0.10	0.15	7.1	1"	7 1/2"	N/A	No	No
02-C-01-D-1-8N-8US	3/4"	0.025	35	0.10	0.15	5.3	1"	7 1/2"	No	No	No
02-C-01-D-1-8D-8US	1"	0.04	55	0.25	0.4	3.3	1 1/4"	10 3/4"	N/A	No	No

**Note!** 02-A-01-D-1-8C-8US can be ordered with a 1 1/2" extension and washer (installed by the customer) to fit 7 1/2" or 9" lay lengths.

<sup>1)</sup> At flows between 'Start flow' and 'Minimum flow' measurement occurs, but accuracy is not warranted.

## Meter face details

Meter information in permanent laser engraved text.



## Measurement of temperatures

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### Temperature monitoring

flowIQ® 2250 measures\* water and ambient temperatures. The measurements can be used to monitor the installation and to give an indication of the temperature of the water when the water reaches the end user. Both temperatures are logged in the daily and monthly records.

Minimum, mean and maximum values are logged daily. The register contains the last 460 days.

On the first day of each month the minimum, maximum and average temperatures, recorded in the past month, are stored in the register. The register stores values from the last 36 months.

Temperature values are referred to in °F and can be read via the optical eye and send by the Wireless RF radio signal. Optional temperature combinations in the radio package are described in the section 'Optional data in data logger'.

### Ambient temperatures

Monitoring the ambient temperature of the installation can be used as a warning of freezing temperatures or unintended high temperatures. The measurement in the meter housing corresponds to the ambient temperature where the meter is installed. The temperature is measured every minute. The maximum and minimum values are calculated based on a 2 minute average value. The average temperature is a time-weighted mean value.

### Water temperatures

Water temperature measurements are made as an indirect measurement of the water using the ultrasound signal. The water temperature is measured every 32 seconds.


The maximum and minimum values are calculated every 2 minutes and is based on an average since the last calculation.

Measurement of water temperature requires that the meter is filled with water. If there is no water within the meter a code will be saved, indicating DRY.

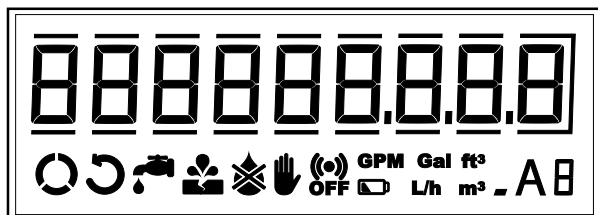
During periods of very low water consumption the water temperature approaches the ambient temperature. In periods where there is no water flow, a code is stored indicating that there is no consumption.










\*Water temperature measurement is not possible on meter type D

## Display and information codes

The meter is fitted with an easily readable LCD-display including 9 digits, a field for measuring units and an information field with info codes. The three rightmost digits can be used to indicate decimals. Flow can be displayed by activating the fingertouch  button to the right of the display.

The display layout is shown in the figure below:



Info code	Icon/symbol	Meaning
FLOW		The three segments will switch on alternately, to indicate water flow in the meter
REVERSE FLOW		An arrow appears if there is reverse flow
LEAK		Symbol is flashing if the water has not been stagnant in the meter during the past 24 hours. This may be a sign of a leaky faucet or toilet.
BURST		Symbol is flashing if the water flow has exceeded a pre-programmed limit for a minimum of 30 minutes, which is a sign of a pipe breakage
DRY		Symbol is flashing if the meter is not water-filled
TAMPER		Icon appears by attempt of fraud. The meter is no longer valid for billing purposes
BATTERY		Icon appears when the expected capacity left is 6 months
ACTIVE METER INDICATION		A small flashing square indicates that the meter is active
METER ADJUSTMENT	<b>A B</b>	This info code will appear if the meter has been dismantled, tested and the basic flow measurement has been adjusted
RADIO OFF		Symbol is flashing if the meter is still in transport mode with the built-in radio transmitter turned off. The transmitter turns on automatically when the first ¼ gallon of water has run through the meter
VOLUME AND FLOW UNIT	<b>GPM Gal ft³</b> <b>L/h m³</b>	Showing the configured volume unit. (Note! 'GPM' icon flashes continuously when the meter is set up to Imperial gallon)

Information codes 'LEAK', 'BURST', 'DRY' and 'REVERSE' switch off automatically, when the conditions that activated them no longer exist. In other words, 'LEAK' disappears when the water is stagnant; 'BURST' disappears when the consumption falls to normal level; 'REVERSE' disappears when the water no longer flows in the wrong direction; and 'DRY' disappears when the meter again is filled with water.

## Data registers

flowIQ® 2250 has a permanent memory (EEPROM), in which the values of various data loggers are saved. Loggers are available over RF (2 way communication) or through the optical eye.

The meter includes the following registers:

Data logging interval	Data logging depth	Logged value
Yearly logger	20 years	9 Standard data logger in the water meter
Monthly logger	36 months	9 Standard data logger in the water meter
Daily logger	460 days	9 Standard data logger in the water meter
Hourly value	2400 hours (100 days)	9 Standard data logger in the water meter
Info logger	50 events	Info code, meter reading and date
Service log, year	25 years	Minimum Ambient temperature
		Maximum Ambient temperature
		Average Ambient temperature
Service log, month	6 months	Minimum Ambient temperature
		Maximum Ambient temperature
		Average Ambient temperature
Tamper log	10 entries	

Standard data logger in the water meter:

Description	Years	Months	Days	Hours
Logger depth	20	36	460	2400
Operating hours	✓	✓	✓	✓
Info codes incl. hour counter	✓	✓	✓	✓
Volume	✓	✓	✓	✓
Volume reverse	✓	✓	✓	✓
Flow max year incl. date	✓	—	—	—
Flow min year incl. date	✓	—	—	—
Flow max month incl. date	—	✓	—	—
Flow min month incl. date	—	✓	—	—
Flow max day incl. timestamp	—	—	✓	—
Flow min day incl. timestamp	—	—	✓	—
Water temp. max year	✓	—	—	—
Water temp. min. year	✓	—	—	—
Water temp. avg. year	✓	—	—	—
Ambient temp. max year	✓	—	—	—
Ambient temp. min. year	✓	—	—	—
Ambient temp. avg. year	✓	—	—	—
Water temp. max month	—	✓	—	—
Water temp. min. month	—	✓	—	—
Water temp. avg. month	—	✓	—	—
Ambient temp. max month	—	✓	—	—

Standard data logger in the water meter (continued):

Description	Years	Months	Days	Hours
Ambient temp. min. month	—	✓	—	—
Ambient temp. avg. month	—	✓	—	—
Water temp. max day	—	—	✓	—
Water temp. min. day	—	—	✓	—
Water temp. avg. day	—	—	✓	—
Ambient temp. max day	—	—	✓	—
Ambient temp. min. day	—	—	✓	—
Ambient temp. avg. day	—	—	✓	—

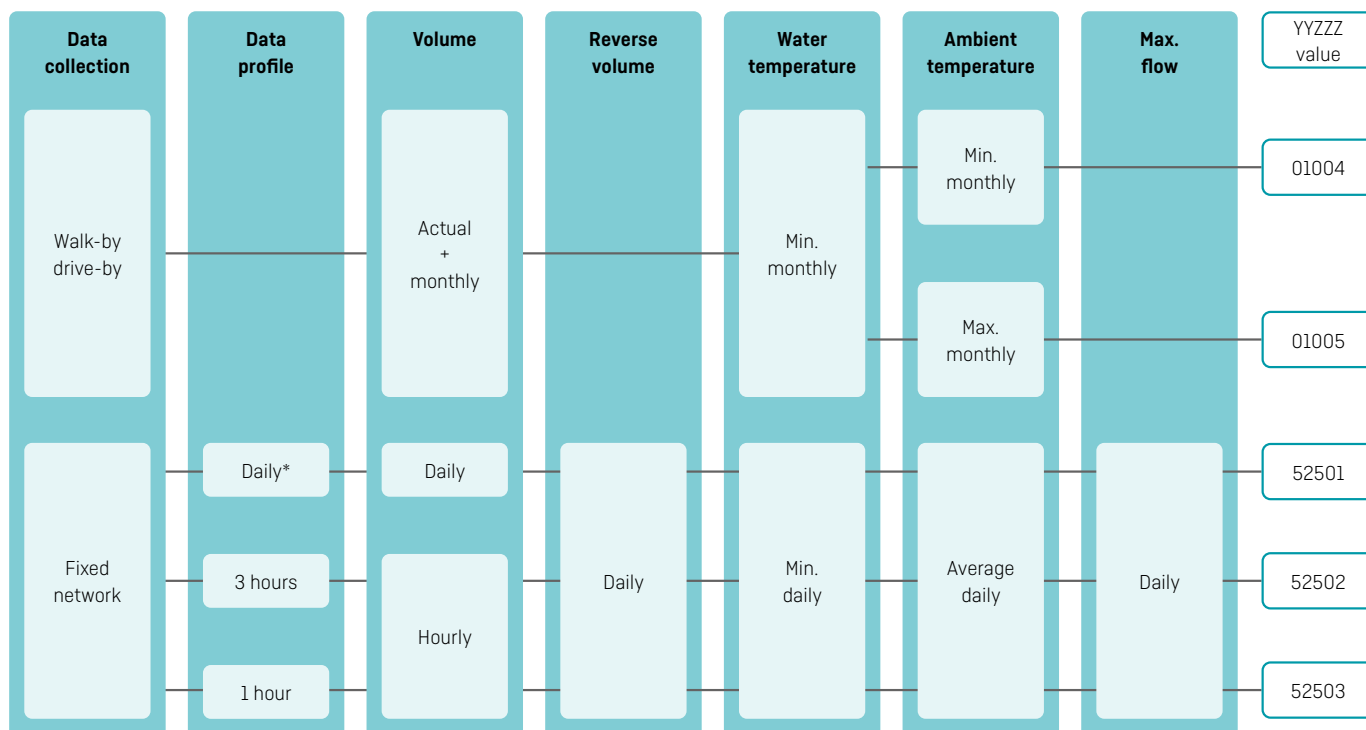
## Radio package options

### Optional RF output

Some of the data sent via a high-power antenna and integrated 912.5, 915 or 918.5 MHz band RF is optional. It is possible to select one of the data packages with content illustrated in the figure below.

The choices are determined by means of the selected YYYY- value when ordering a water meter – shown to the right in the figures.

**Note:** The meters can only be ordered as a walk-/drive-by solution. They can be reconfigured afterwards with READy app. to fit into a fixed network solution.



\*The package is transmitted every 3 hours.

## Wireless radio communication

### Standardized and open communication

902-928 MHz band RF is an open standard, following EN13757-4:2010, which means that while the flowIQ® 2250 can be configured with or without encryption of the transmitted signal, encryption is required in the United States.

Encryption protects personal data against unauthorized monitoring. Furthermore, the encryption file provides easy access to import meter data for reading programs.

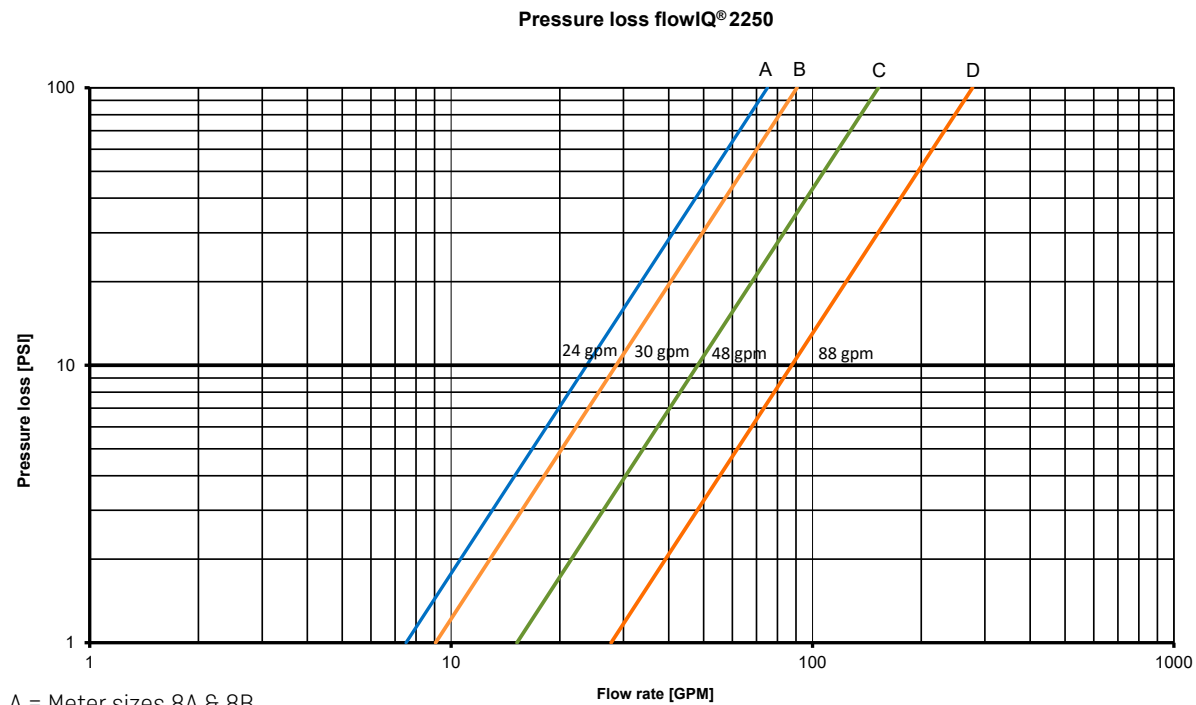
### State of the art meter reader

Kamstrup offers mobile meter reading via either the USB meter reader for wireless platforms or READy for use via android based smart phones and tablets.

## Pressure loss

According to AWWA C715-18 guideline the maximum pressure loss must not exceed 10 PSI at SMOC.

The following graph shows pressure loss with respect to flow rate:



A = Meter sizes 8A & 8B

B = Meter size 8C

C = Meter size 8N

D = Meter size 8D

## Ordering details

Start your order by stating the type number of the selected model of flowIQ® 2250. The type number includes information on meter type - meter version, size, lay length, service connection and time zone.

Subsequently the meter configuration, which determines customer-specific requirements such as number of digits in display etc., is selected. The configuration is completed during programming of the final meter.

Accessories are enclosed separately to be mounted by the installer.

### Meter type - flowIQ® 2250

Type	□□	□	□	□	□	□□	□	□□
<b>Meter generation</b>								
Second generation	02							
<b>Mechanical design</b>								
1-part body, PPS housing, PPS measuring tube		A						
2-part body, st. steel 1.4408 housing, PPS measuring tube		C						
<b>Communication</b>								
AMI, dual-band capable, [2-way]			01					
<b>Power supply</b>								
1xD-cell				D				
<b>Dynamic range</b>								
AWWA C715-18					1			
<b>Meter size</b>								
5/8" x 1/2" [25GPM]; 3/4" NPSM; 7 1/2"							8A	
5/8" x 3/4" [25GPM]; 1" NPSM; 7 1/2"							8B	
3/4" [32GPM]; 1" NPSM; 7 1/2"							8C	
3/4" [35GPM]; 1" NPSM; 7 1/2"							8N	
1" [55GPM]; 1 1/4" NPSM; 10 3/4"							8D	
<b>Meter type</b>								
Cold water							8	
<b>Country code</b>								
North America, FCC and NSF approved								US

Kamstrup recommends 3 mm EDPM rubber gaskets, which can be ordered with all flowIQ® composite meters.

Recommended fiber gaskets can be ordered with flowIQ® 2-part body meters.

The features included in the type number cannot be changed once the meter has been produced.

## Configuration - flowIQ® 2250

Config	DDD	JJ	LLL	MMMM	N	P	S	U	RR	CCC	V	T	YY	ZZZ
	□□□	□□	□□□	□□□□	□	□	□	□	□□	□□□	□	□	□□	□□□
<b>Display views*</b>														
Flow	801													
<b>GMT offset</b>														
Time zone														
USA Eastern (GMT-5)		28												
USA Central (GMT-6)		24												
USA Mountain (GMT-7)		20												
USA Pacific (GMT-8)		16												
<b>Target date</b>														
(Handled as order data)														
<b>Max values averaged over time</b>														
[1..120 min.] 2 minutes														
			002											
<b>Customer label</b>														
Alphanumeric [2060-MMMM]														
				0000										
<b>Leakage message limit</b>														
OFF					0									
Flow continuously > 0.1% of max flow					1									
Flow continuously > 0.25% of max flow					2									
Flow continuously > 0.5% of max flow					3									
Flow continuously > 1.0% of max flow					4									
Flow continuously > 2.0% of max flow					5									
<b>Pipe burst limit</b>														
OFF						0								
Flow > 5 % of max flow for 30 minutes						1								
Flow > 10 % of max flow for 30 minutes						2								
Flow > 20 % of max flow for 30 minutes						3								
<b>Ambient Temperature low limit</b>														
OFF							0							
Ambient temperature < 3 °C / 37 °F							3							
Ambient temperature < 6 °C / 43 °F							6							
<b>Ambient Temperature high limit</b>														
OFF								0						
Ambient temperature > 35 °C / 95 °F								3						
Ambient temperature > 45 °C / 122 °F								6						

To be continued on next page...



## Configuration - flowIQ® 2250

Config	DDD	JJ	LLL	MMMM	N	P	S	U	RR	CCC	V	T	YY	ZZZ
	□□□	□□	□□□	□□□□	□	□	□	□	□□	□□□	□	□	□□	□□□
<b>Data logger profile</b>									01					
Standard (default)														
<b>Display resolution (alphanumeric)</b>														
000000.000 ft³ - 0.01 GPM - Billing in 100s										110				
000000.00 ft³ - 0.01 GPM - Billing in 100s										120				
000000.00 ft³ - 0.01 GPM - Billing in 1,000s										130				
0000000.0 ft³ - 0.01 GPM - Billing in 1,000s										140				
000000.00 USgal - 0.01 GPM - Billing in 100s										210				
000000.00 USgal - 0.01 GPM - Billing in 1,000s										220				
0000000.0 USgal - 0.01 GPM - Billing in 1,000s										230				
00000000 USgal - 0.01 GPM - Billing in 1,000s										240				
<b>Temperature units of measure</b>														
Celcius											0			
Fahrenheit											1			
<b>Encryption level</b>														
No encryption												0		
Encryption with separately forwarded key												3		
<b>System</b>														
AMR (Default)													01	
AMI (Configurable with READy app/manager)													51	
<b>Data packages - AMR</b>														
Actual: Vol, Monthly: Vol, Min water temp**, Min ambient temp														004
Actual: Vol, Monthly: Vol, Min water temp**, Max ambient temp														005
<b>Data packages - AMI (Configurable with READy app/manager)</b>														
Default, Daily - Vol, reverse vol, Min water temp**, Avg ambient temp, Max flow														501
Default, 3 hour - Vol, reverse vol, Min water temp**, Avg ambient temp, Max flow														502
Default, 1 hour - Vol, reverse vol, Min water temp**, Avg ambient temp, Max flow														503

\* Volume and software version are always a part of display views

\*\* Applies only to flowIQ® 2250 (composite)

	DDD	JJ	LLL	MMMM	N	P	S	U	RR	CCC	V	T	YY	ZZZ
Unless otherwise stated in the order, Kamstrup supplies the following:	801	□□	002	000	4	3	3	3	01	220	1	3	01	004

**Note:** JJ (timezone) and target date are not predefined and has to be chosen in the ordering system.

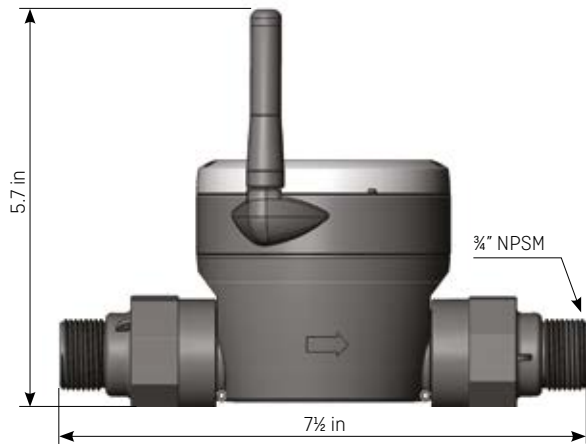
## Dimensional sketches – flowIQ® 2250 (composite)

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NOTE! Same threads for in- and outlet.

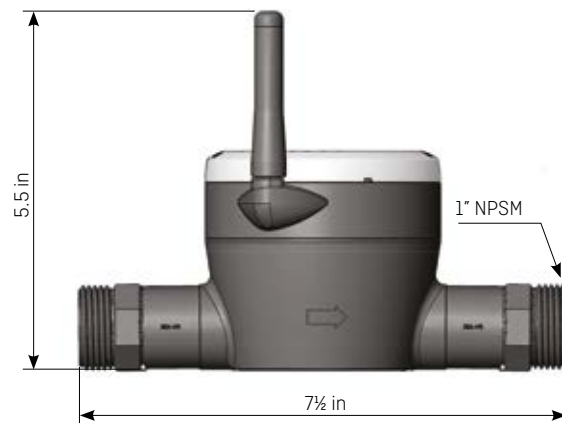
Type: 8A

Size: 25 GPM  $\frac{5}{8}$ " x  $\frac{1}{2}$ " x  $7\frac{1}{2}$ "



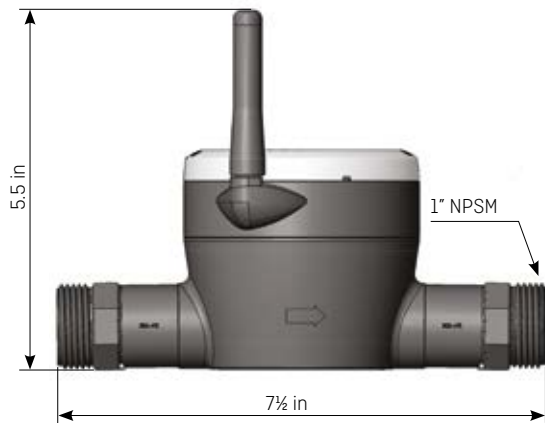
Type: 8B

Size: 25 GPM  $\frac{5}{8}$ " x  $\frac{3}{4}$ " x  $7\frac{1}{2}$ "



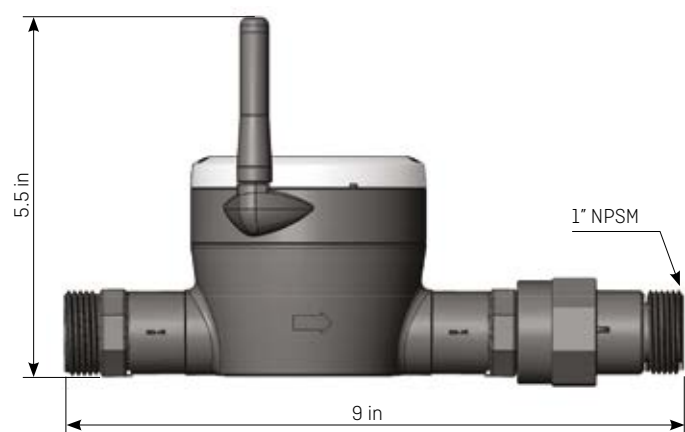
Type: 8C

Size: 32 GPM  $\frac{3}{4}$ " x  $\frac{3}{4}$ " x  $7\frac{1}{2}$ "



Type: 8C+

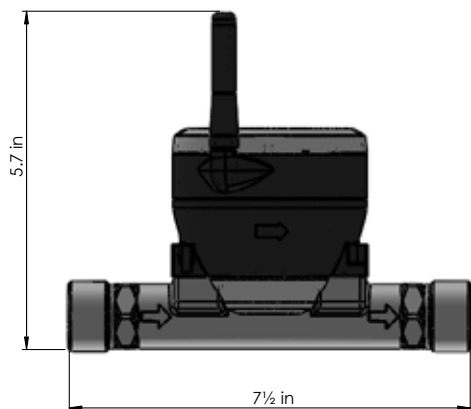
Size: 32 GPM  $\frac{3}{4}$ " x  $\frac{3}{4}$ " x 9"



## Dimensional sketches – flowIQ® 2250 (2-part body)

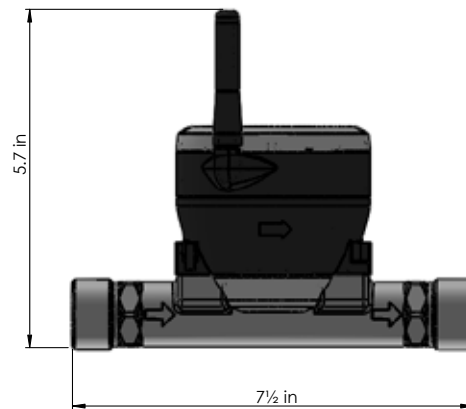
Type: 8B

Size: 25 GPM  $\frac{5}{8}$ " x  $\frac{3}{4}$ " x  $7\frac{1}{2}$ "



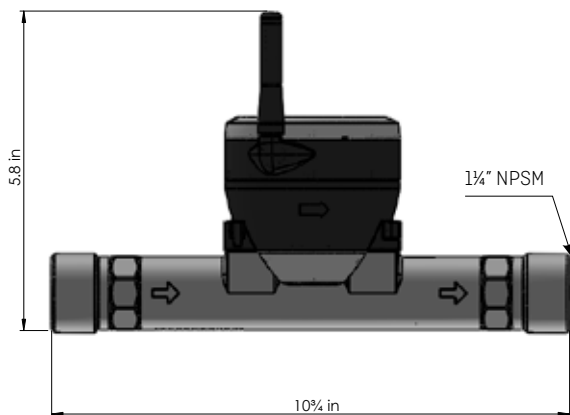
Type: 8N

Size: 35 GPM  $\frac{3}{4}$ " x 1" x  $7\frac{1}{2}$ "



Type: 8D

Size: 55 GPM 1" x  $1\frac{1}{4}$ " x  $10\frac{3}{4}$ "



Mechanical design	Meter type	GPM	NPSM thread	L	H	øD	Weight approx. [Lbs]
				[Inch]			
PPS	8A	25	$\frac{5}{8}$ " x $\frac{1}{2}$ "	$7\frac{1}{2}$ "	5.7"	3.6"	1.07
PPS	8B	25	$\frac{5}{8}$ " x $\frac{3}{4}$ "	$7\frac{1}{2}$ "	5.5"	3.6"	1.02
PPS	8C	32	$\frac{3}{4}$ "	$7\frac{1}{2}$ "	5.5"	3.6"	1.02
PPS	8C+	32	$\frac{3}{4}$ "	9"	5.7"	3.6"	1.11
Steel	8B	25	$\frac{5}{8}$ " x $\frac{3}{4}$ "	$7\frac{1}{2}$ "	5.5"	3.6"	1.02
Steel	8N	35	1"	$7\frac{1}{2}$ "	5.7"	3.6"	2.2
Steel	8D	55	$1\frac{1}{4}$ "	$10\frac{3}{4}$ "	5.8"	3.6"	4.1

## Accessories

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See Accessories for Water Meters: [58101743\\_US](#).

[Accessories are ordered separately in BOS (Kamstrup ordering system) and will be delivered as single parts in the packaging.]

## Data sheet

### flowIQ® 3250

- Dual band radio
  - AMR (Walk-by/drive-by)
  - AMI (Fixed network)
- Ultrasonic measurement
- Pinpoint accuracy
- 20 year longevity
- Dual temperature measurement
- IP68 Vacuum sealed construction
- Lead free and certified to NSF/ANSI 61
- Flow measurement in display
- Hourly log



## Contents

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## Electronic ultrasonic cold water meter for measurement of cold water consumption in households, multi-unit buildings and industry.

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### Pinpoint accuracy

Ultrasonic flow measurement guarantees pinpoint accuracy and longevity. Ultrasonic flow measurement is based on the transit time method, and all measurements, references, readings, calculations and data communication are controlled by an advanced, specially designed electronic circuit. Thus, the meter includes no moving parts, which makes flowIQ® 3250 less sensitive to wear and tear and impurities in the water.

### Construction

The meter is hermetically closed and vacuum-sealed to prevent humidity from reaching the electronics and avoid condensation between the glass and display. The meter is IP68 (submersible) type tested and suitable for installation in meter pits.

## Installation

flowIQ® 3250 is easy to install in all operating environments, horizontally as well as vertically, independent of piping and installation conditions. Consumption data can be read visually from the display, using an optical eye, and remotely read, either by 912.5, 915 or 918.5 MHz (AMR) and 450-470 MHz (AMI) band RF signal, built into the meter.

## Specific features

flowIQ® 3250 measures the water and environment temperatures and it includes leak detection, securing that water loss is discovered quickly.

The unique combination of all the flowIQ® 3250 features reduces current operating costs to measure water usage and minimizes unexpected expenses in connection with possible leakage.

## Environmentally friendly

The meter has been approved according to Drinking Water Standards in multiple countries, and it is certified to NSF/ANSI 61. The meter housing and measuring part are made of the synthetic material polyphenylene sulfide (PPS) with 40 % fiberglass, which is free from lead and other heavy metals. The environmental report, Carbon Footprint, documents the meter's high reusability and low environmental impact, including recycling of materials.

## Hygiene

To protect the health of the consumers Kamstrup has a hygienic manufacturing process of the water meters. Kamstrup has a highly automated manufacturing process, and only uses materials which are approved for drinking water. Furthermore the products gets disinfected before dispatch. The hygiene is being controlled by external accredited laboratories and by frequent audits.

## General description

flowIQ® 3250 is a hermetically sealed water meter intended for measurement of cold water consumption in residential, multi-unit buildings and commercial applications.

flowIQ® 3250 employ the ultrasonic measurement principle, based on Kamstrup's experience since 1991, with the initial development and production of static ultrasonic meters.

flowIQ® 3250 has been subjected to a very comprehensive set of type tests in order to ensure a long-term stable, accurate and reliable meter. One of flowIQ® 3250's many advantages is the fact that it has no wearing parts, which ensures a high and stable accuracy throughout its lifetime. flowIQ® 3250 complies with the AWWA C-715-18 guideline for Ultrasonic Water Meters.

In the flowIQ® 3250 series a composite housing is mounted on a stainless steel meter body. Thus, the electronics are fully protected against internal or external penetration of water.

flowIQ® 3250 is suitable for measurement in multi-unit apartments and light commercial premises. The meter is suitable for mounting in pump stations or wellheads, as it will also function in fully submerged conditions.

flowIQ® 3250 can and must only be opened by Kamstrup A/S. If the meter has been opened and the sealing has thus been broken, the meter is no longer valid for billing purposes and the warranty is void.

flowIQ® 3250 measures the water consumption electronically, as a volume, using a pair of ultrasonic signals. Through two ultrasonic transducers, an audio signal is sent with and against the flow direction. A transducer serves both as a 'speaker' when transmitting and as a 'microphone' when a signal is received. The ultrasonic signal traveling with the flow will be the first to reach the opposite transducer, while the signal running against the flow will be received a little later. The time difference, between the two signals, can be converted into flow velocity, and thereby also into a volume. The measuring principle is a proven, long-term stable and accurate measuring principle.

flowIQ® 3250's display has been specially designed to operate in a wide temperature range, with high contrast, regardless of lighting – and therefore easy to read – and still have long lifetime.

In addition to volume reading, an indication of current flow and a number of other information codes are displayed. All registers are saved daily in the meter data logger (EEPROM) and are kept for 460 days. Furthermore, monthly data for the latest 36 months, hourly data for the latest 100 days and 50 infocode events are saved.

flowIQ® 3250 is powered by an internal lithium battery which can provide up to 20 years operating life.

flowIQ® 3250 is available with a choice of two integrated data communication options:

- 912.5, 915 or 918.5 MHz – Wireless Radio version (RF) for Wireless M-Bus – US localization of European standard for remote reading of meters EN 13757-4
- 450-470 MHz is used in AMI (Fixed network)

The meter is fitted with an optical eye which makes it possible to read saved consumption data and info codes, stored in the meter's data logger. Using an optical reading head, with USB connection, the optical eye, in addition, allows the meter to be configured.

## Technical data

### Electrical data

Battery D-Cell battery, 3.6V, 17Ah. The battery warranty does not apply at meter temperatures above  $t_{BAT} > 95\text{ }^{\circ}\text{F}$ .

### Mechanical data

Protection class IP68-rated (waterproof/submersible)  
 Maximum operating pressure flowIQ® 3250, 2-part body: Flange mounted 300 PSI  
 Ambient/meter temperature flowIQ® 3250, 2-part body: 35 °F...130 °F  
 Water temperature flowIQ® 3250, 2-part body: 33 °F...120 °F  
 Storage temp. empty sensor -10 °F...140 °F

### Accuracy

MPE (maximum permissible error) according to AWWA C715-18.

± 5 % in extended low flow range  
 ± 1.5 % in 'normal flow' range

### Approvals

Certified to NSF/ANSI 61  
 Complies to part 15 of the FCC rules  
 Complies with AWWA C715-18

### Material

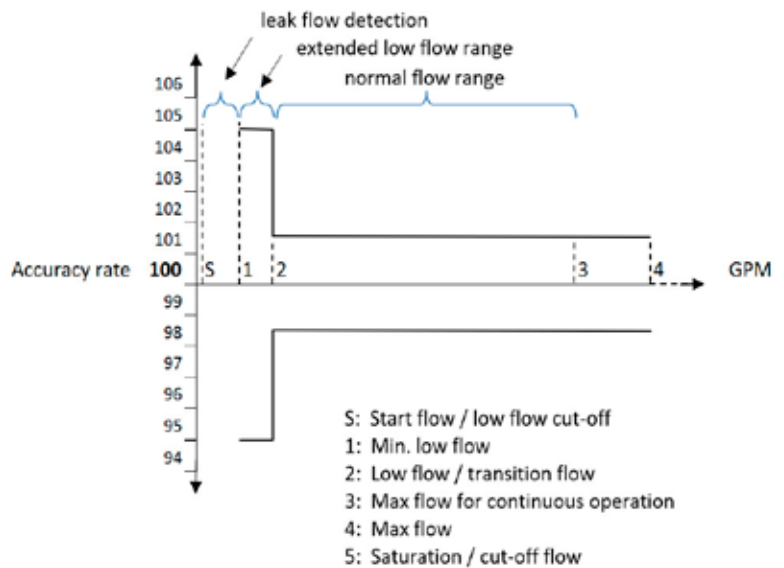
## flowIQ® 3250 (2-part body model)

### Wetted parts

Flow part, threaded/flanged Stainless Steel 316L  
 O-ring/gasket EPDM  
 Measuring tube PPS with fiberglass  
 Reflectors Stainless steel

### External meter parts

Meter housing Polyphenylene sulfide (PPS) – 40 % fibreglass  
 Cover Glass  
 Spring ring Stainless steel  
 Top ring (sealing) Polycarbonate (gray)





## Meter sizes

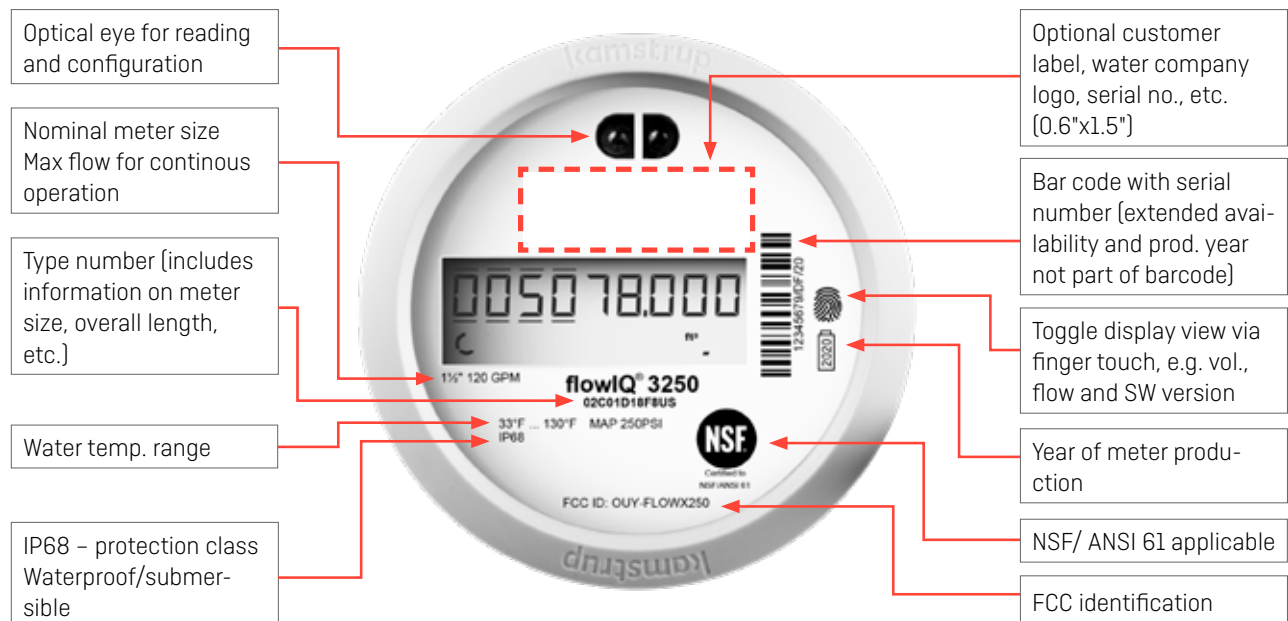
flowIQ® 3250 is available in these sizes:

Type number (stainless steel)		Meter size	Start flow (S)	Max. flow	Min. flow	Transition flow <sup>1)</sup>	Pressure loss SMOC	Connection on meter	Lay length	Temp. measurement of water
RF version	Fire Meter Service	Inches	GPM	GPM	GPM	GPM	PSI	ASME flange	Inches	
02C-01D1-8F-8US	N/A	1½"	0.06	120	0.4	1.2	6.0	1½"	13"	No
02C-01D1-8H-8US	02C-01D1-8H-8UA	2"	0.1	160	0.5	1.5	2.0	2"	17"	No
02C-01D1-8M-8US	N/A	2"	0.1	160	0.5	1.5	2.0	2"	15¼"	No
02C-01D1-8K-8US	N/A	3"	0.15	350	2.5	7.5	3.5	3"	12"	No
02C-01D1-8P-8US	N/A	4"	0.35	700	3.5	5	3.6	4"	14"	No

<sup>1)</sup> At flows between 'Start flow' and 'Minimum flow' measurement occurs, but accuracy is not warranted.

## Meter face details

Meter information in permanent laser engraved text.



## Measurement of temperatures

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### Temperature monitoring

flowIQ® 3250 measures ambient temperatures. The measurements can be used to monitor the installation and to give an indication of the temperature of the water when the water reaches the end user. Both temperatures are logged in the daily and monthly records.

Minimum, mean and maximum values are logged daily. The register contains the last 460 days.

On the first day of each month the minimum, maximum and average temperatures, recorded in the past month, are stored in the register. The register stores values from the last 36 months.

Temperature values are referred to in °F and can be read via the optical eye and send by the Wireless RF radio signal. Optional temperature combinations in the radio package are described in the section 'Optional data in data logger'.


### Ambient temperatures

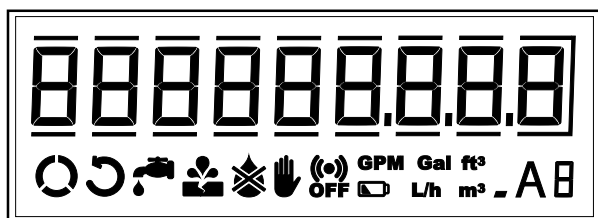
Monitoring the ambient temperature of the installation can be used as a warning of freezing temperatures or unintended high temperatures. The measurement in the meter housing corresponds to the ambient temperature where the meter is installed. The temperature is measured every minute. The maximum and minimum values are calculated based on a 2 minute average value. The average temperature is a time-weighted mean value.

### Water temperatures










Water temperature measurement is not supported on flowIQ® 3250.

## Display and information codes

The meter is fitted with an easily readable LCD-display including 9 digits, a field for measuring units and an information field with info codes. The three rightmost digits can be used to indicate decimals. Flow can be displayed by activating the fingertouch  button to the right of the display.



The display layout is shown in the figure below:

Info code	Icon/symbol	Meaning
FLOW		The three segments will switch on alternately, to indicate water flow in the meter
REVERSE FLOW		An arrow appears if there is reverse flow
LEAK		Symbol is flashing if the water has not been stagnant in the meter during the past 24 hours. This may be a sign of a leaky faucet or toilet.
BURST		Symbol is flashing if the water flow has exceeded a pre-programmed limit for a minimum of 30 minutes, which is a sign of a pipe breakage
DRY		Symbol is flashing if the meter is not water-filled
TAMPER		Icon appears by attempt of fraud. The meter is no longer valid for billing purposes
BATTERY		Icon appears when the expected capacity left is 6 months
ACTIVE METER INDICATION		A small flashing square indicates that the meter is active
METER ADJUSTMENT	<b>A B</b>	This info code will appear if the meter has been dismantled, tested and the basic flow measurement has been adjusted
RADIO OFF		Symbol is flashing if the meter is still in transport mode with the built-in radio transmitter turned off. The transmitter turns on automatically when the first ¼ gallon of water has run through the meter
VOLUME AND FLOW UNIT	<b>GPM Gal ft³</b> <b>L/h m³</b>	Showing the configured volume unit. [Note! 'GPM' icon flashes continuously when the meter is set up to Imperial gallon]

Information codes 'LEAK', 'BURST', 'DRY' and 'REVERSE' switch off automatically, when the conditions that activated them no longer exist. In other words, 'LEAK' disappears when the water is stagnant; 'BURST' disappears when the consumption falls to normal level; 'REVERSE' disappears when the water no longer flows in the wrong direction; and 'DRY' disappears when the meter again is filled with water.

## Data registers

flowIQ® 3250 has a permanent memory (EEPROM), in which the values of various data loggers are saved. Loggers are available over RF (2 way communication) or through the optical eye.

The meter includes the following registers:

Data logging interval	Data logging depth	Logged value
Yearly logger	20 years	See Standard data logger in the water meter below
Monthly logger	36 months	See Standard data logger in the water meter below
Daily logger	460 days	See Standard data logger in the water meter below
Hourly value	2400 hours (100 days)	See Standard data logger in the water meter below
Info logger	50 events	Info code, meter reading and date
Service log	Service log Year depth = 25 Service log Month depth = 6 Config log depth = 26 Adjust Log depth = 10 Tamper Log depth = 10 Software download progress depth = 100 Software download success log depth = 10	Minimum Ambient temperature for the year Maximum Ambient temperature for the year Average Ambient temperature for the year

Standard data logger in the water meter:

Description	Years	Months	Days	Hours
Logger depth	20	36	460	2400
Operating hours	✓	✓	✓	✓
Info codes incl. hour counter	✓	✓	✓	✓
Volume	✓	✓	✓	✓
Volume reverse	✓	✓	✓	✓
Flow max year incl. Date	✓	—	—	—
Flow min year incl. Date	✓	—	—	—
Flow max month incl. Date	—	✓	—	—
Flow min month incl. Date	—	✓	—	—
Flow max day incl. Timestamp	—	—	✓	—
Flow min day incl. Timestamp	—	—	✓	—
Ambient temp. Max. Year	✓	—	—	—
Ambient temp. Min. Year	✓	—	—	—
Ambient temp. Avg. Year	✓	—	—	—
Water temp. Max. Month	—	✓	—	—
Water temp. Min. Month	—	✓	—	—
Water temp. Avg. Month	—	✓	—	—
Ambient temp. Max. Month	—	✓	—	—
Ambient temp. Min. Month	—	✓	—	—
Ambient temp. Avg. Month	—	✓	—	—
Ambient temp. Max. Day	—	—	✓	—
Ambient temp. Min. Day	—	—	✓	—
Ambient temp. Avg. Day	—	—	✓	—

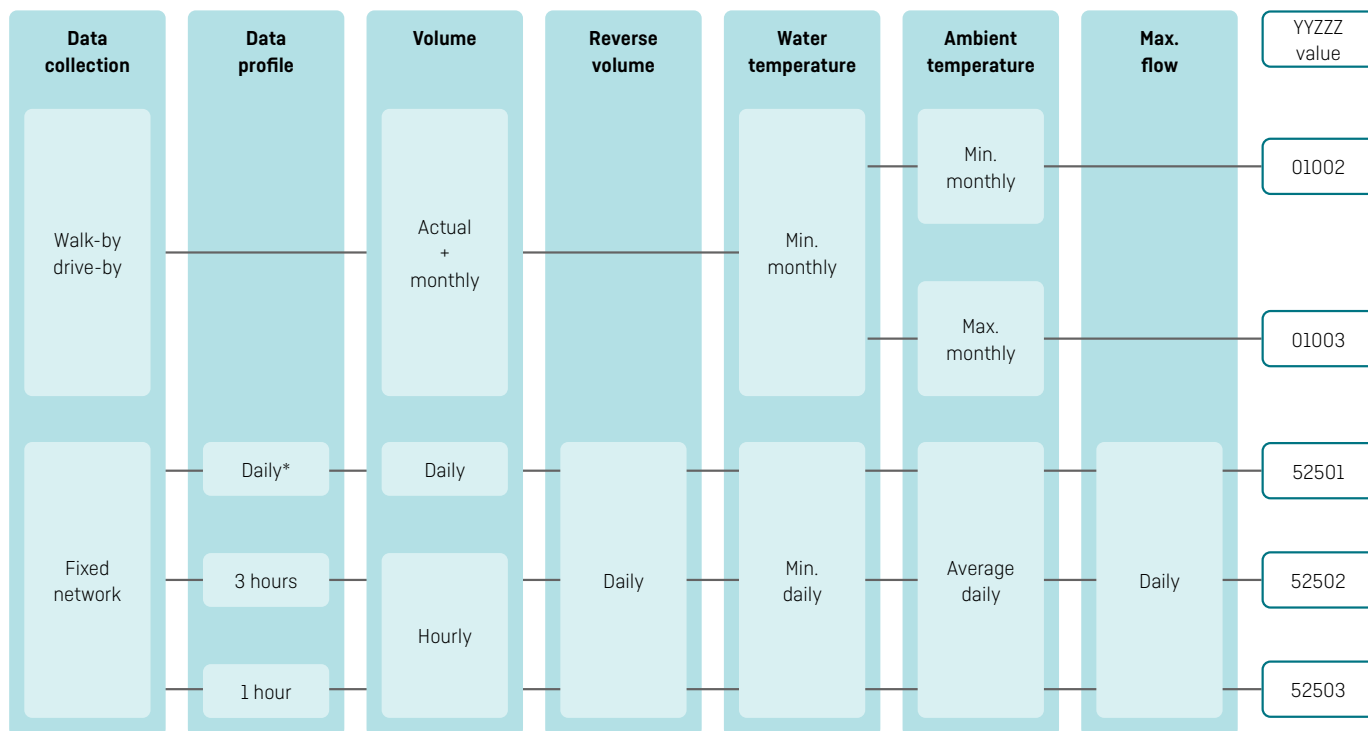
## Radio package options

### Optional RF output

Some of the data sent via a high-power antenna and integrated 912.5, 915 or 918.5 MHz band RF is optional. It is possible to select one of the data packages with content illustrated in the figure below.

The choices are determined by means of the selected YYYY- value when ordering a water meter – shown to the right in the figures.

**Note:** The meters can only be ordered as a walk-/drive-by solution. They can be reconfigured afterwards with READy app. to fit into a fixed network solution.



\*The package is transmitted every 3 hours.

## Wireless radio communication

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### Standardized and open communication

902-928 MHz band RF is an open standard, following EN13757-4:2010, which means that while the flowIQ® 3250 can be configured with or without encryption of the transmitted signal, encryption is required in the United States.

Encryption protects personal data against unauthorized monitoring. Furthermore, the encryption file provides easy access to import meter data for reading programs.

### State of the art meter reader

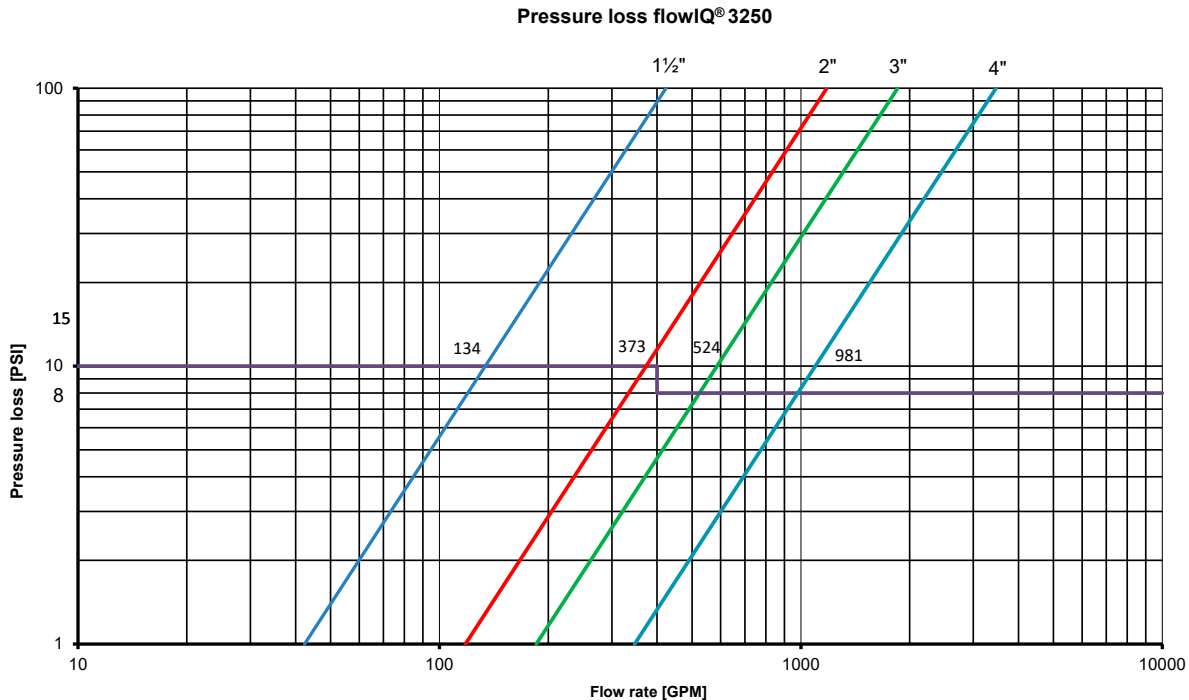
Kamstrup offers mobile meter reading via either the USB meter reader for wireless platforms or READy for use via android based smart phones and tablets.

## Pressure loss

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According to AWWA standards the maximum pressure loss for 1½" and 2" must not exceed 10 PSI at SMOC, and for 3" and 4" it must not exceed 8 PSI at SMOC.

The following graph shows pressure loss with respect to flow rate:



## Ordering details

Start your order by stating the type number of the selected model of flowIQ® 3250. The type number includes information on meter type - meter version, size, lay length, service connection and time zone.

Subsequently the meter configuration, which determines customer-specific requirements such as number of digits in display etc., is selected. The configuration is completed during programming of the final meter.

Accessories are enclosed separately to be mounted by the installer.

### Meter type - flowIQ® 3250

Type	□□	□	□	□	□	□□	□	□□
<b>Meter generation</b>								
Second generation	02							
<b>Mechanical design</b>								
2-part body, st. steel 1.4408 housing, PPS measuring tube		C						
<b>Communication</b>								
AMI, dual-band capable, [2-way]			01					
<b>Power supply</b>								
1xD-cell				D				
<b>Dynamic range</b>								
AWWA C715-18					1			
<b>Meter size</b>								
1½" [120GPM]; 1½" Flange; 13"							8F	
2" [160 GPM]; 2" Flange; 17"							8H	
2" [160 GPM]; 2" Flange; 15¼"							8M	
3" [350 GPM]; 3" Flange; 12"							8K	
4" [700 GPM]; 4" Flange; 14"							8P	
<b>Meter type</b>								
Cold water								8
<b>Country code</b>								
North America, FCC and NSF approved								US
Fire Service Meters								UA

Fibre gaskets can be ordered with flowIQ® 2-part body meters.

The features included in the type number cannot be changed once the meter has been produced.

## Configuration - flowIQ® 3250

Config	DDD	JJ	LLL	MMMM	N	P	S	U	RR	CCC	V	T	YY	ZZZ
	□□□	□□	□□□	□□□□	□	□	□	□	□□	□□□	□	□	□□	□□□
<b>Display views*</b>														
Flow	801													
<b>GMT offset</b>														
Time zone														
USA Eastern (GMT-5)		28												
USA Central (GMT-6)		24												
USA Mountain (GMT-7)		20												
USA Pacific (GMT-8)		16												
<b>Target date</b>														
(Handled as order data)														
<b>Max values averaged over time</b>														
(1..120 min.) 2 minutes			002											
<b>Customer label</b>														
Alphanumeric (2060-MMMM)				0000										
<b>Leakage message limit</b>														
OFF					0									
Flow continuously > 0.1% of max flow					1									
Flow continuously > 0.25% of max flow					2									
Flow continuously > 0.5% of max flow					3									
Flow continuously > 1.0% of max flow					4									
Flow continuously > 2.0% of max flow					5									
<b>Pipe burst limit</b>														
OFF						0								
Flow > 5 % of max flow for 30 minutes						1								
Flow > 10 % of max flow for 30 minutes						2								
Flow > 20 % of max flow for 30 minutes						3								
<b>Ambient Temperature low limit</b>														
OFF							0							
Ambient temperature < 3 °C / 37 °F							3							
Ambient temperature < 6 °C / 43 °F							6							
<b>Ambient Temperature high limit</b>														
OFF								0						
Ambient temperature > 35 °C / 95 °F								3						
Ambient temperature > 45 °C / 122 °F								6						

To be continued on next page...



## Configuration - flowIQ® 3250

Config	DDD	JJ	LLL	MMMM	N	P	S	U	RR	CCC	V	T	YY	ZZZ
	□□□	□□	□□□	□□□□	□	□	□	□	□□	□□□	□	□	□□	□□□
<b>Data logger profile</b>														
Standard (default)									01					
<b>Display resolution (alphanumeric)</b>														
000000.000 ft³ - 0.01 GPM - Billing in 100s										110				
0000000.00 ft³ - 0.01 GPM - Billing in 100s										120				
0000000.00 ft³ - 0.01 GPM - Billing in 1,000s										130				
00000000.0 ft³ - 0.01 GPM - Billing in 1,000s										140				
0000000.00 USgal - 0.01 GPM - Billing in 100s										210				
0000000.00 USgal - 0.01 GPM - Billing in 1,000s										220				
00000000.0 USgal - 0.01 GPM - Billing in 1,000s										230				
000000000 USgal - 0.01 GPM - Billing in 1,000s										240				
<b>Temperature units of measure</b>														
Celcius											0			
Fahrenheit											1			
<b>Encryption level</b>														
No encryption												0		
Encryption with separately forwarded key												3		
<b>System</b>														
AMR (Default)													01	
AMI (Configurable with READY app/manager)													51	
<b>Data packages - AMR</b>														
Actual: Vol, Monthly: Vol, Min water temp**, Min ambient temp														002
Actual: Vol, Monthly: Vol, Min water temp**, Max ambient temp														003
<b>Data packages - AMI (Configurable with READY app/manager)</b>														
Default, Daily - Vol, reverse vol, Min water temp**, Avg ambient temp, Max flow														501
Default, 3 hour - Vol, reverse vol, Min water temp**, Avg ambient temp, Max flow														502
Default, 1 hour - Vol, reverse vol, Min water temp**, Avg ambient temp, Max flow														503

\* Volume and software version are always a part of display views

\*\* Applies only to flowIQ® 2250 (composite)

	DDD	JJ	LLL	MMMM	N	P	S	U	RR	CCC	V	T	YY	ZZZ
Unless otherwise stated in the order, Kamstrup supplies the following:	801	□□	002	000	4	3	3	3	01	220	1	3	01	002

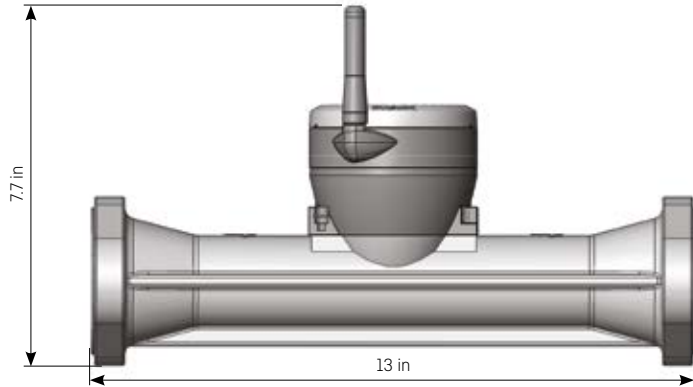
**Note:** JJ (timezone) and target date are not predefined and has to be chosen in the ordering system.

## Dimensional sketches – flowIQ® 3250 (2-part body)

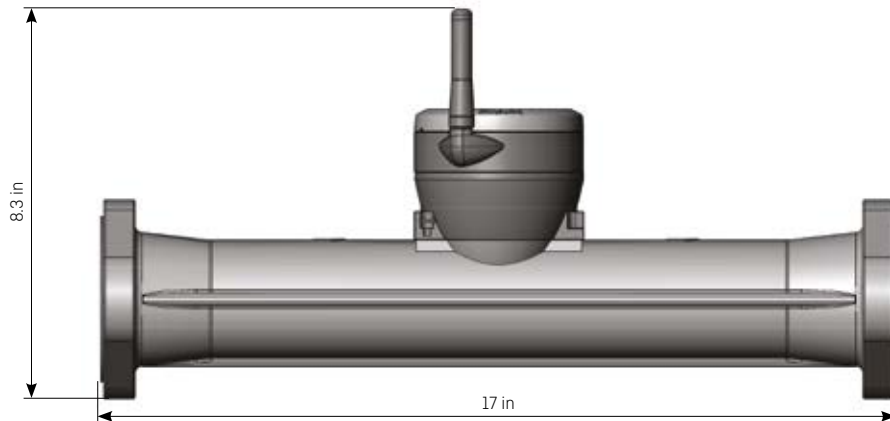
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NOTE! Same flanges for in- and outlet.

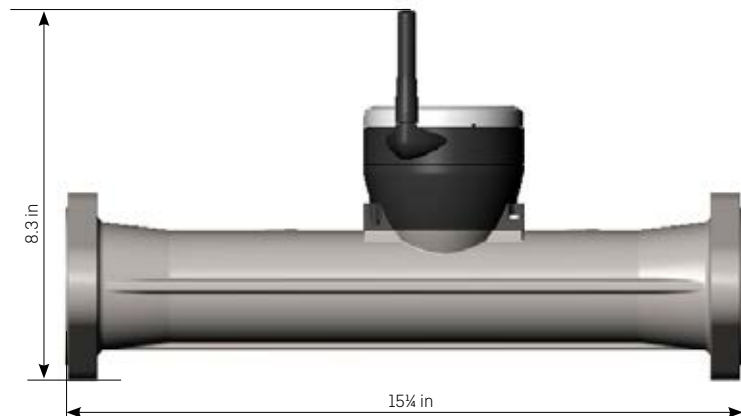
Type: 8F  
Size: 120 GPM 1½" x 1½" x 13"



Type: 8H  
Size: 160 GPM 2" x 2" x 17"

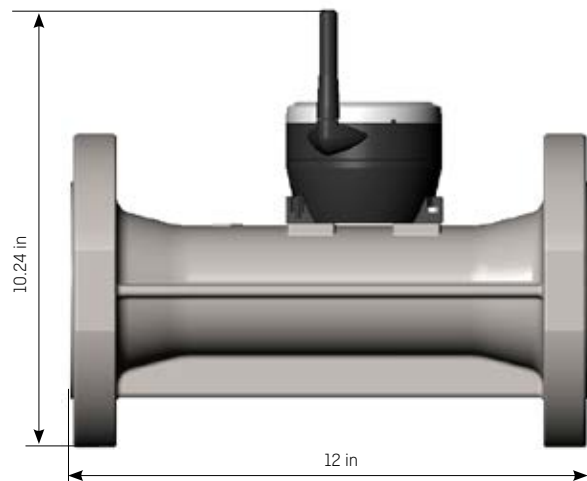


Type: 8M  
Size: 160 GPM 2" x 2" x 15¼"

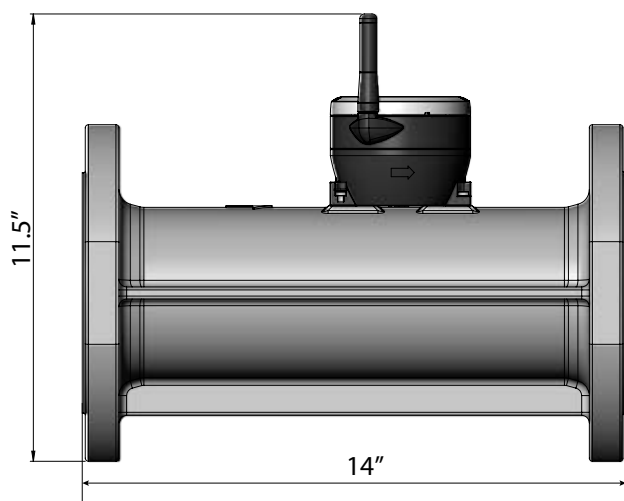


## Dimensional sketches – flowIQ® 3250 (2-part body)

Type: 8K  
 Size: 350 GPM 3" x 3" x 12"



Type: 8P  
 Size: 700 GPM 4" x 4" x 14"

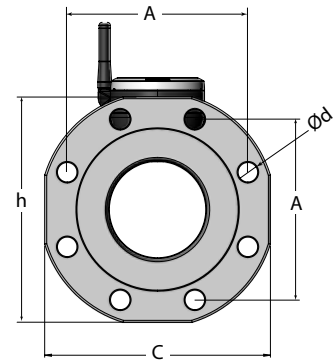
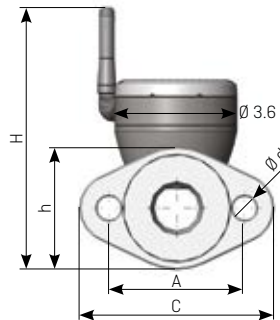
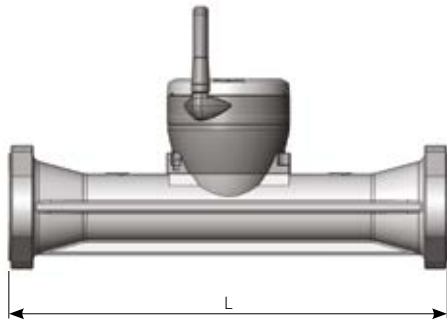


## Dimensional sketches – flowIQ® 3250 (2-part body)

Meter type	GPM	Connection	L	H	h	A	C	d	Weight approx. [Lbs]
			[Inch]						
8F	120	1½" flange	13"	7.7"	3.6"	4.0"	5.7"	0.79"	13
8H	160	2" flange	17"	8.3"	4.13"	4.49"	6.54"	0.79"	19
8M	160	2" flange	15¼"	8.3"	4.13"	4.49"	6.54"	0.79"	17
8K	350	3" flange	12"	10.24"	7.24"	4.24"	7.24"	0.75"	31
8P	700	4" flange	14"	11.5"	8.66"	6.93"	8.66"	0.75"	43

Type: F, H & M

Type: K & P



## Accessories

See Accessories for Water Meters: [58101743\\_US](#).

[Accessories are ordered separately in BOS (Kamstrup ordering system) and will be delivered as single parts in the packaging.]

**Kamstrup Water Metering, LLC**  
 245 Hembree Park Drive, Ste. 110  
 Roswell, GA 30076, USA  
 T: +1 (404) 835-6716  
[info-us@kamstrup.com](mailto:info-us@kamstrup.com)  
[kamstrup.com](http://kamstrup.com)

# **EXHIBIT 5**

# US PRODUCT WARRANTY MODEL

## 1.0 Limited Warranty

- 1.1. Material and workmanship  
 Seller warrants that the Products shall be free from defects in Materials and Workmanship for a period (the "Warranty Period") of:  
 (a) for 5/8"x1/2" – 1" Products, twenty (20) years from the date of delivery to Buyer; and  
 (b) for 1½" and larger Products, ten (10) years from date of delivery to Buyer.  
 During the relevant Warranty Period, Seller shall, at its sole discretion, repair or replace any defective Products at no cost or refund the purchase price for the defective Products.
- 1.2. Accuracy
- 1.2.1. Seller warrants that the Products (except for those covered in 1.2.2. below) will perform to the accuracy as defined in AWWA C715-18 (section 4.2.8) and to AWWA M6 manual (chapter 5, Testing new meters and table 5-3 defining test rates in accordance with AWWA C715).
- 1.2.2. Seller warrants that the flowIQ® 2100/3101 AMR and 2100/3101 Encoded/TRPL (Module 21 & 22) Output Products will perform to the accuracy as defined in AWWA C708-11 (section 4.2.8) and to AWWA M6 manual (chapter 5, Testing new meters and table 5-3 defining test rates in accordance with AWWA C708).
- 1.2.3. In case the Products do not comply with the warranties set out in 1.2.1 or 1.2.2, Seller shall, at its sole discretion, repair or replace any defective Products at no cost or refund the purchase price of such defective Products:  
 (a) for year one (1) through year twenty (20) following the date of delivery for the defective Products in the size range of 5/8" x 3/4" – 1"; and  
 (b) for year one (1) through year ten (10) following the date of delivery for the defective Products in the size range of 1½" and larger.
- 1.2.4. Any meter accuracy claims shall be subject to verification - initiated by Seller - through testing by a NIST Traceable laboratories or ISO 17025 accredited laboratories.
- 1.3. Battery Life
- 1.3.1. Based on operation of the Products with either communication via the three wire encoded output or with communication via the embedded radio at an ambient operating temperature not higher than stated in the technical documentation, the warranty on the system battery in the Products shall be for a period of (a) for 5/8" x 3/4" – 1" Products, twenty (20) years from date of delivery to Buyer and (b) for 1½" and larger Products, ten (10) years from date of delivery to Buyer. Seller shall, at its sole discretion, (i) replace any Products that contain defective batteries at no cost for year one (1) through year ten (10) following the date of delivery or (ii) refund the purchase price for the meters that contain defective batteries.  
 For 5/8"x1/2" – 1" Products only, during the period commencing with year eleven (11) through year twenty (20) following the date of delivery to Buyer, Seller shall, at its sole discretion, replace any Products that contain defective

batteries at a cost to Buyer equal to the price set out in the price list valid at the time of return of the Product, minus the discount according to the following schedule:

Year	Discount	Year	Discount
11	75%	16	40%
12	75%	17	30%
13	50%	18	20%
14	50%	19	10%
15	50%	20	10%

- 1.3.2. The warranty related to battery life for the Products is void if the Products at any time have been configured into priority mode.

## 1.4. WARRANTY EXCLUSIONS

ALL WARRANTIES SHALL NOT APPLY IN ANY OF THE FOLLOWING CASES: (A) PRODUCTS THAT ARE DEFECTIVE OR DAMAGED BY NEGLIGENCE OR ACCIDENT OR BY OTHER CIRCUMSTANCES BEYOND SELLER'S REASONABLE CONTROL; (B) PRODUCTS THAT HAVE BEEN IMPROPERLY STORED, COMMISSIONED, INSTALLED, USED OR MAINTAINED BY BUYER OR A THIRD PARTY, OR THAT HAVE BEEN USED OR MAINTAINED NOT IN ACCORDANCE WITH ANY INSTRUCTIONS, MANUALS, SPECIFICATIONS OR OTHER DOCUMENTATION, OR IN THE ABSENCE OF SUCH DOCUMENTATION, GENERALLY ACCEPTED INDUSTRIAL PRACTICES; (C) PRODUCTS WHICH HAVE BEEN USED (I) WITH WATER WHICH CONTAINS LEVELS OF FOREIGN MATTER, INCLUDING WITHOUT LIMITATION, DIRT, SAND, MINERALS, DEBRIS, DEPOSITS, BIOFILMS, CHEMICAL SUBSTANCES OR OTHER IMPURITIES WHICH INTERFERES WITH OR DEGRADES THE PRODUCT OR IS NOT IN ACCORDANCE WITH MINIMUM POTABLE WATER STANDARDS REQUIRED BY APPLICABLE LAW; (II) IN OTHER UNUSUAL ENVIRONMENTAL CONDITIONS (INCLUDING SUBMERSION IN DIRT OR WATER); (D) PRODUCTS WHERE ANY SERIAL NUMBER OR SECURITY SEAL HAS BEEN INTERFERED WITH; (E) NORMAL WEAR AND TEAR, WHICH DOES NOT AFFECT ITS FUNCTIONALITY; (F) PRODUCTS THAT ARE EXPERIMENTAL, DEVELOPMENTAL, PROTOTYPE, OR PILOT; OR (G) PRODUCTS WHICH HAVE BEEN USED AFTER DISCOVERY OF THE DEFECT.

## 1.5. Product Return

- 1.5.1. IF, WITHIN THE APPLICABLE WARRANTY PERIOD, (I) BUYER DISCOVERS ANY DEFECTS IN MATERIALS OR WORKMANSHIP, AND (II) NOTIFIES SELLER IN WRITING OF SUCH DEFECTS, AND (III) RETURNS THE DEFECTIVE PRODUCTS TO SELLER, SELLER SHALL, AT SELLER'S SOLE DISCRETION, REPAIR OR REPLACE THE DEFECTIVE PRODUCTS, OR REFUND THE PURCHASE PRICE FOR THE DEFECTIVE PRODUCTS. NO WARRANTY CLAIMS WILL BE PROCESSED IF RECEIVED AFTER THE WARRANTY PERIOD. REJECTED PRODUCTS MAY BE RETURNED ONLY WITH SELLER'S PRIOR EXPRESS WRITTEN CONSENT AND AT BUYER'S COST AND RISK. IF PRODUCTS ARE RETURNED WITHOUT SELLER'S PRIOR CONSENT, SELLER MAY REFUSE TO ACCEPT THE RETURNED PRODUCTS AND MAY RETURN THEM TO SELLER AT BUYER'S COST AND EXPENSE.

1.6. Set-Off

1.6.1. IN NO CASE WHATSOEVER, INCLUDING JUSTIFIED WARRANTY CLAIMS, IS THE BUYER ENTITLED TO RETAIN ANY MONIES OWED TO SELLER, EXCEPT UPON THE WRITTEN CONSENT OF SELLER. FURTHER, THE WARRANTIES PROVIDED FOR HEREIN SHALL NOT APPLY IN THE EVENT BUYER HAS FAILED TO REMIT PAYMENT IN FULL FOR SUCH PRODUCTS.

1.7. WARRANTY DISCLAIMER

1.7.1. WARRANTY DISCLAIMER. THE FOREGOING LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR NON-INFRINGEMENT, ALL OF WHICH ARE HEREBY EXPRESSLY DISCLAIMED.

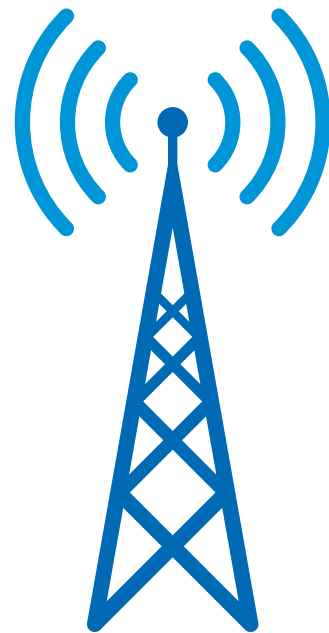
# **EXHIBIT 6**



Solution description

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## **Kamstrup AMR and AMI**



# Contents

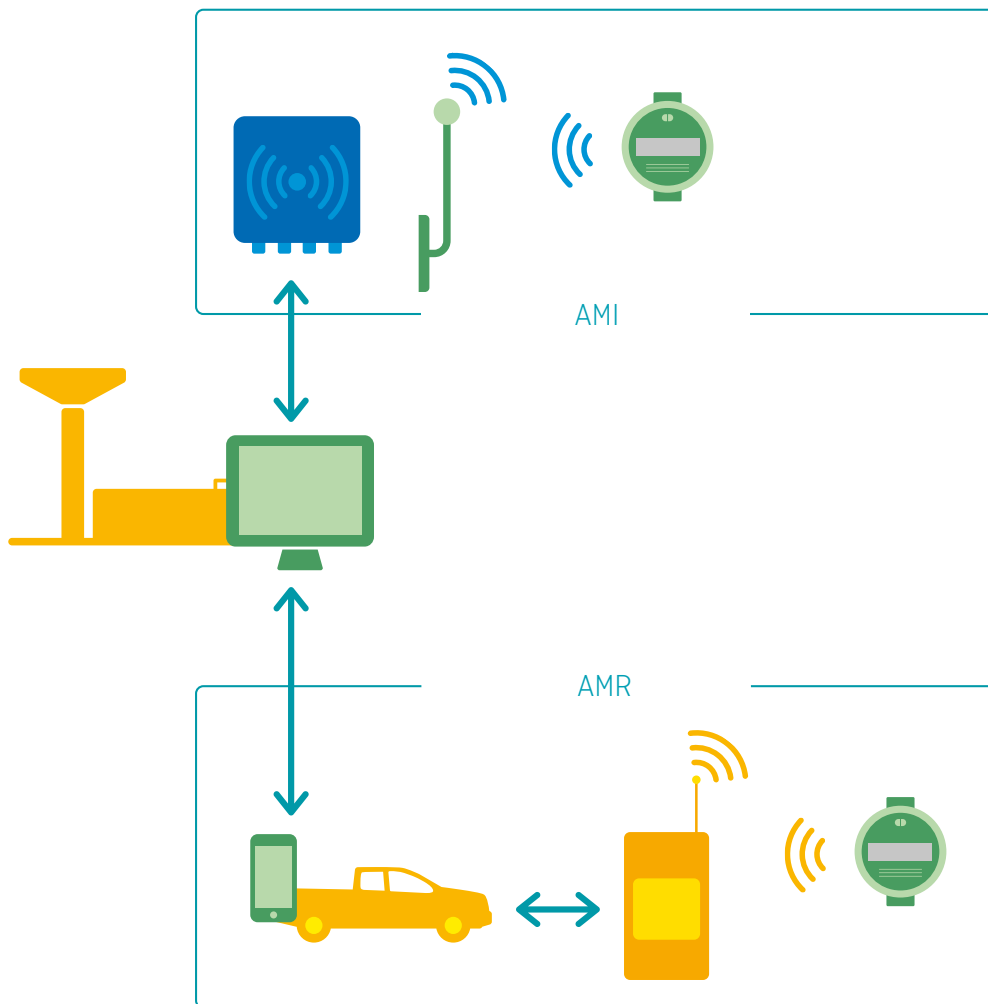
The AMR/AMI Solution	3
Reading meters in an AMI solution	7
Configuring meters in an AMI solution	8
Reading of logged data from AMI meters	8
Remote configuring and firmware upgrade of AMI meters	9
Intelligent operation ensures high performance	10
AMI Fall-back options	10
Ready Manager	11
Data security and hosting	15



## The AMR/AMI Solution

Kamstrup's solution for reading water meters can be used for both drive-by meter reading (AMR) or remote reading via a radio network without leaving the utility (AMI).

The solution is modular, meaning the system offers standardized components that can fit together in a variety of ways. Therefore, your water system can start with AMR and seamlessly progress to AMI – by implementing the system either at one time or in steps. Both the AMR and AMI components are designed for simple installation and commissioning, making it easy to build your own network.



## AMR and AMI – Solution description

### Accurate ultrasonic meters

Kamstrup flowIQ® ultrasonic water meters are based on the transit time method, in which flow is measured by the time it takes for an ultrasonic signal to pass from one transceiver to another. Transit time meters have no moving parts, so they have no risk of wear and tear to the internal components or damage from water impurities. This secures that meters will maintain their accuracy with no drift for the life of the meter.

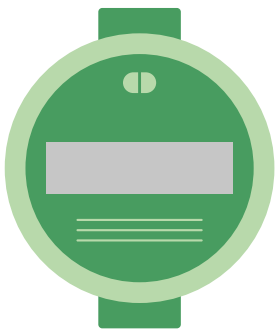
A specially designed electronic circuit controls all measurements, references, readings, calculations and data communication. The meters are hermetically closed and vacuum-sealed to prevent humidity from reaching the electronics and avoid condensation between the glass and display. The meters is IP68 (submersible) type tested and suitable for installation in meter pits.

### Meter and communication unit in one

Combining the communication unit and meter in one compact unit significantly reduces installation costs and time. By eliminating the need for fragile wires between the meter and communication unit, water systems can prevent unplanned budget dollars in maintenance costs due to animals, vandalism, flooding, etc. This adds predictability to future planning.

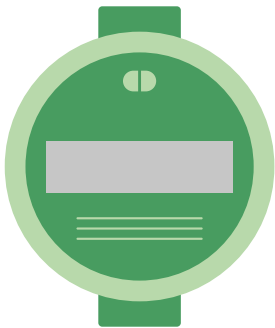
### AMR and AMI meters

The meters are available in two different categories with different communication possibilities. AMR meters are optimized for drive-by operation, while AMI meters can be used for both AMR and AMI meter reading.



#### AMR meter

- Perfect for drive-by
- Daily values logged and available via IR



#### AMI meter

- Perfect for drive-by and AMI
- Hourly values logged and available via remote reading
- Upgradable firmware
- Remote configuring of alarm limit

## Reading meters in an AMR Solution

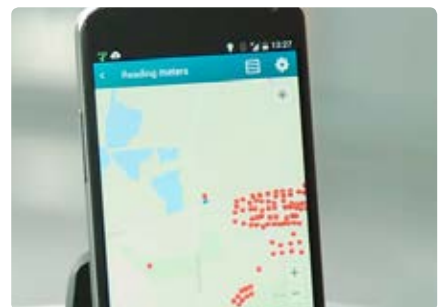
With AMR, meters are read by driving around the supply area with an Android mobile unit (smartphone or tablet) and a small reading unit (READY Converter). Meter data is collected within the READY App. When the reading is complete, meter data is transferred to READY Manager, which is the program on your computer that tracks and stores your meter data.



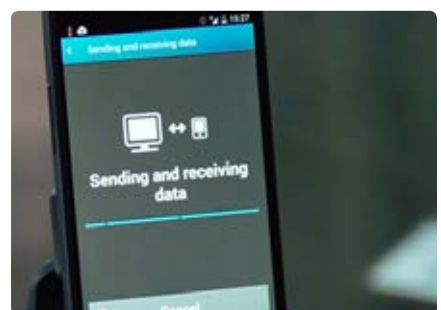
READY App is intuitive, making it easy to use. To start, press the “Send/Receive” button to synchronize data wirelessly between the READY App and READY Manager. Then, simply press “Read meters” on the start screen before starting your route.



During the meter reading process, READY App uses an integrated Google Maps module to show meters that have not yet been read, in order to maximize the efficiency of your route. As soon as the meters are read, they disappear from the map, which provides the meter reader with a clear picture of the remaining meters' locations. The map functions both as an indicator of the remaining meters and as navigation help during the reading. The reading continues during phone calls, but can also be put on hold and continued later.



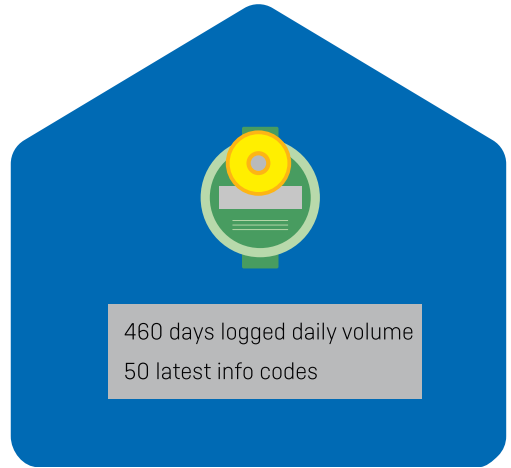
When the meters have been read, a single push on the button “Send/Receive” makes the data available in READY Manager. This module ensures that the meter reader can continue with other tasks without having to return to the office to transfer data.



## AMR and AMI – Solution description

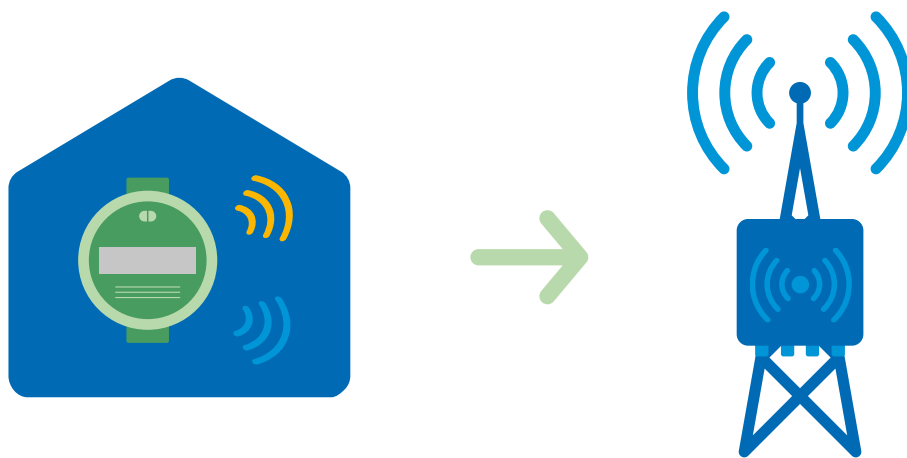
### Reading of logged data from AMR meters

In addition to reading meters, the READy App allows for manual reading of the meter's data logger. By placing the Bluetooth®-enabled optical eye on the infrared connection port of the meter, the READy App can access daily consumption and info codes. Meter data can also be made available in READy Manager by synchronizing it in the same way as data read via a mobile unit. This information makes the READy App a useful tool for you to quickly answer questions and solve billing disputes.



## Reading meters in an AMI Solution

By installing one or more fixed data collectors in a supply area, the meters can be read remotely from the utility and the readings are automatically available in REAdy Manager.



A data collector consists of one or two antennas, a topbox and a base station.

The antennas are installed as high as possible to pick up signals from as many meters as possible. Typically, the antennas are installed on the roof of buildings in the area.

The topbox is installed as close to the antennas as possible. The antennas are connected to the topbox via coaxial cables; reducing the length of the cable increases the range of the antenna.

From the topbox the signal is digitally sent to the base station via a cable connection. The base station contains a internet modem that can either be based on a wired connection to the internet or use the build in 4G or CDMA connection. The base station is placed at ground level making it easy to change internet connection options (i.e. simcards) without the need for special equipment.

### Automatic configuration of data collectors

To ensure the highest reading performance, Kamstrup AMI operates in dedicated frequencies between 450 – 470 MHz. Having a dedicated frequency in the geographical area where the meters are placed is comparable to having the highway for yourself. It ensures a high reading performance with a minimum number of collectors to install and maintain.

The collectors have built-in intelligence, meaning that as soon as the data collector is connected to power and internet, it automatically configures itself to the right frequency and connects to REAdy Manager. This means that no special IT knowledge is required to install a data collector and in a case where a collector is broken, it can be replaced with any un-configured collector from stock.

### Installing AMI meters

The installation function within the REAdy App ensures the meter is installed correctly while minimizing installation costs and time. The installation function automatically configures the meter to the right frequency and verifies the meter's connection to the data collectors, thus minimizing the need for revisits during the rollout of meters.



## Configuring meters in an AMI Solution

The meters can be individually configured to communicate according to different communication schemes. The communication schemes can be changed remotely via AMI.

### Communication Schemes

Daily values	With daily readings, the meter is read once a day at midnight.
Hourly values - updated every third hour	Every third hour, the meter transmits a data package containing the hourly values and historical info codes from the last three hours.
Hourly values - updated every hour	Every hour, the meter transmits a data package containing value and info codes from the past hour. NOTE: When a meter is set to this communication scheme, the battery warranty of the meter is voided.

No matter which communication scheme is used, info codes are transmitted instantly, so that they can be responded to quickly to reduce consequential damage.

## Reading of logged data from AMI meters

With an AMI meter, no matter if the meter is operating in AMR or AMI mode, the logged data can be read from the street using the READY App. Meters with abnormal consumption patterns can be investigated immediately and without the need to wait for the consumer to make an appointment.



### Logged Data

### Logged Values

100 days	Hourly values for Volume and Reverse Flow Volume
460 days	<ul style="list-style-type: none"><li>• Daily Volume</li><li>• Max &amp; Min daily flows</li><li>• Max, Min &amp; Avg temperature</li></ul>





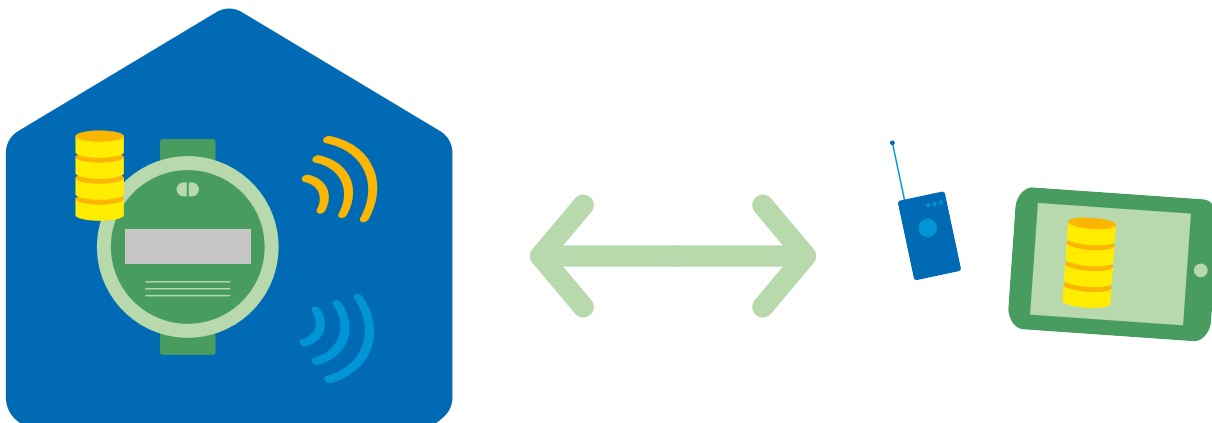
# Remote configuring and firmware upgrade of AMI meters

AMI meters with built-in two-way communication can be configured from the street via the READY App or remotely via AMI. This means it is possible to update the meters with new settings from the street without waiting for the consumer to be home or facing logistical issues in accessing the meter.

## Settings that can be changed from the street or remotely via AMI

Communication scheme	With daily readings, the meter are read once a day at midnight.
Transmitted register values	Every third hour, the meter transmit a data package containing the hourly values and historical info codes from the last three hours.
Limit adjustments	AMI meters can trigger events in case certain limits are exceeded. These limits can be adjusted.

Technology is always evolving. Firmware upgrades to Kamstrup meters protect your AMI investment by updating the “brains” of the meter with the latest firmware versions without making any hardware changes. Firmware upgrades can be made from the street via the READY App, without accessing the meter.



# Intelligent operation ensures high performance

Kamstrup AMI is designed for high reading performance with a minimum number of network components. This is achieved by adding intelligent radio control functions to the network.

Function	Description	Advantage
Automatic power optimizing	When a large number of radio transmitting devices are placed within a small geographical area, the collective “radio-noise” will normally reduce the performance level and result in meters not being read from time to time. Kamstrup AMI continuously monitors the signal strength of which data packages from the meters are received in the collector. By lowering the transmission power of meters received with unnecessarily high signal strength (often meters close by), other meters that would normally not be read due to “radio-noise” can be read. All of this is automatically controlled by the AMI solution.	<ul style="list-style-type: none"> <li>Higher reading performance with less network components</li> <li>Longer battery lifetime on meters close by</li> </ul> <p>Note: All meters are designed for operating at maximum transmission power, so lowering the power on nearby meters will potentially extend the life of the meter battery.</p>
Automatic path optimization	In case of a network with more than one collector, the system automatically selects the most optimal collector to read each meter. In cases where a collector is out of operation, other collectors will automatically take over the reading of meters within its range.	<ul style="list-style-type: none"> <li>Higher reading performance with less network components</li> </ul>
Acknowledgement & retransmission	When a meter transmits a data package with meter readings, it will receive an acknowledgement when the package is received in the collector. If the meter does not receive the acknowledgement it will automatically include the meter readings in the next data package sent. This will continue for up to 18 hours or until the meter receives an acknowledgement for a received data package. This means that a data package can contain up to 18 hourly values.	<ul style="list-style-type: none"> <li>Higher reading performance with less network components</li> </ul>

## AMI Fall-back options

Kamstrup AMI is designed to be durable and provide a high reading performance. In cases of unforeseen or planned downtime of the AMI, meters can still be read from street using the REAdy App and a Bluetooth® converter. Data from AMI meters read via the App and converter become available in REAdy Manager when synchronizing the App. Data can then be utilized in exactly the same way as if it was read via AMI.

In cases where the AMI is unavailable for a longer period, i.e. if meters are installed in areas not yet covered by the AMI, the meters can be configured to work as an AMR meter. The meters can then be read via drive-by until the AMI is available in that area.

As a final layer of fall-back protection, the internal log stores the daily readings 460 days back in time and hourly values 100 days back in time. The log can be retrieved either from the street via the converter or from the meter via the optical eye.

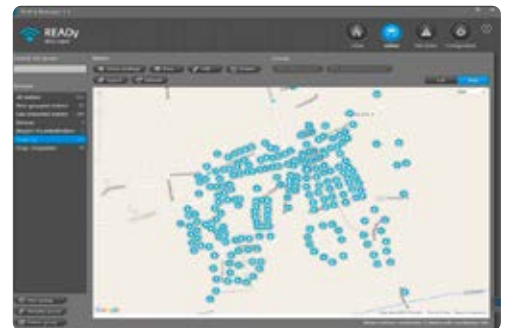
## READY Manager

The handling of meters and meter data takes place in READY Manager. READY Manager opens with a start page and icon-based navigation, making the interface intuitive and easy to use. Basic how-to help can be found by clicking the help icon on the start page.

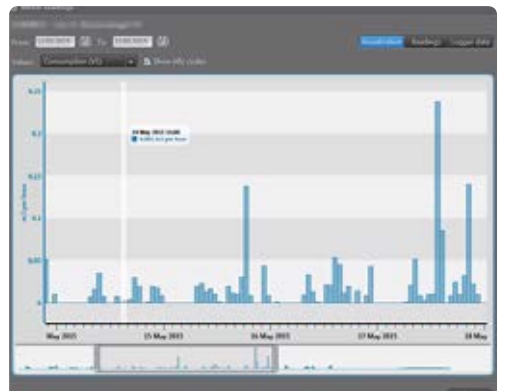


### READY Manager – Visualization of meters

The location of each meter is shown directly on a map in READY Manager to ensure the best overview of the installed meters. By clicking a meter on the map, further information about that meter is shown. The map is based on Google Earth, and therefore, it is possible to use the street view function to see physical features and other details about the installation sites.



READY Manager uses bar charts to visualize historical consumption for individual meters. This provides straightforward data from which your water system can make informed decisions about maintenance. In the same chart, info codes are also shown, making it easy to see possible correlations between consumption and info codes. READY Manager also makes it possible to compare multiple meters in the same graphical chart. The comparison includes data from either pressure sensors, district meters or consumption meters. By comparing pressure and flow in one section, it is possible to discover dimensioning errors and/or assess the need for pressure boosters or pressure reducing valves in parts of the network.



### READY Manager - Export of data

To simplify the integration with third-party billing systems, READY Manager makes it possible to export data in flexible export formats. It is possible to generate most formats by selecting the data to export, the order and the separator.

Data can be either exported ad hoc or by creating an automatic job, which exports data to a user-defined FTP/FTPS server in selected intervals. Alternatively, you can set up READY Manager to automatically send out the read data via email in certain intervals.

The handling of meters and meter data takes place in READY Manager. READY Manager opens with a start page and icon-based navigation, making the interface intuitive and easy to use. Basic how-to help can be found by clicking the help icon on the start page.



### READY Manager – Info codes and notifications

All meters with alarms and other meter notifications (info codes) are shown in the overview menu “Info codes”. Here, alarms can be sorted quickly so the newest and most important info codes can easily be found.

Available Info codes	Description	AMR meters	AMI meters
Leak	By monitoring the consumption pattern, the meter is able to identify leaks in the installation. With information about leaks, the utility can warn the consumer before the water bill escalates. Consequential damage from leaking pipes can be reduced when the leak is discovered early.	X Trigger level is configurable via the IR interface on the meter	X Trigger level is configurable from the AMI network or from the street via app and converter.
Burst	If the consumption in a predefined interval exceeds a certain limit, this is registered as a burst. Quickly being aware of bursts can dramatically decrease water loss and the cost of consequential damage.	X Trigger level is configurable via the IR interface on the meter	X Trigger level is configurable from the AMI network or from the street via app and converter.
Tamper	If forced access to the meter is detected, this is registered as tamper. When tamper is registered, the meter will continue to operate and measure, but an indication in the display and the data package will indicate that tampering has been attempted.	X	X
Dry	If the meter is not filled with water, it will trigger the info code “dry”. Meters can be dry either because the supply is interrupted, or because the meter has been taken out of the installation i.e. with the purpose of stealing water.	X	X
Reverse	If the water is flowing in the wrong direction in the meter, it is either because the meter is installed in the wrong direction, or because the water is flowing back into the distribution network. In either case it is valuable information for the utility in order to secure revenue or avoid contamination.	X	X

Available Info codes	Description	AMR meters	AMI meters
Low Batt	Some meters might live significantly longer on the battery than specified. Knowing which meters are close to the end of their lifetime makes it possible to improve asset management and lower the lifecycle cost of the meters.		X
Ambient temperature limits	Knowing the ambient temperature of the meter is especially important in areas with temperatures below freezing. The info code "Ambient temperature Low" can warn you of meters that are at risk of frost bursting thus avoiding water loss and consequential damage. The info code "Ambient temperature high" can warn you of risk of bacteria growth and gives you the opportunity to flush water in the system to lower the temperature.		X Trigger level is configurable directly from the AMI network or from the street via app and converter
V1 above Qmax	If a meter is operating outside its flow range, this will result in an info code, giving the utility the chance to change the meter to a suitable size. Right-sizing meters is crucial for reducing non-revenue water and managing pressure.		X

With the notification feature in READy Manager, the system can automatically forward selected info codes via text message and/or email to a user-defined number of recipients. It is possible to determine which meters and which kind of info codes should trigger a text message/email.

**Automatic notification of active info codes**  
 Configuration of automatic emails/SMS regarding active info codes to be sent at specific intervals

New Edit Delete

Recipient	Active	Subject	Group	Frequency	Immediately	Last sent	Status	
+45 51449281	True	READY Testutility-Notification	Group 5	Daily (12:20)	True	7/29/2016 11:49 AM +02:00	Failed	The connection to the SMS service failed.
+45 51449281	True		All meters	Daily (12:20)	True		Failed	ServiceUnavailable
+45 60185500	True		All meters	Daily (12:00)	False	8/3/2016 3:00 PM +02:00	Success	The SMS was delivered.

## AMR and AMI – Solution description

### READY Manager - Advanced search functions

Being able to easily navigate data collected from AMI is key to harvesting the value of the system. READY Manager has intelligent search functions, where you can combine different categories of meters with freely definable search words.

Examples include:

- Choosing to only search among meters that have a certain consumption within a specified period
- Finding all meters with final reads within a specific time period
- Finding all meters where the registers have wrapped the last day

### READY Manager – Final read function

With Kamstrup AMI, a final read for consumers moving out can be completed without visiting the meter. The AMI system marks the reading as final for that consumer, indicating the time of vacancy, and is used for final billing. It is possible to search for final reads with the advanced search functions and export all final reads with the export functionality.

### READY Manager - Reading performance reporting and visualization

For AMI networks, the demand for high performance is more and more evident. Having the right tool to validate and document the data collection success is important for your operations, as well as other stakeholders, such as city officials. With the performance reading reporting and visualization module, you have access to an overview of the network performance of meters selected. Based on pre-defined performance indicators, you can verify the quality of your network's performance.

Meters available in READY Manager are listed for an easy overview. Each meter is shown within a user-defined area, with its percentage of data messages received. It is possible to create a report that shows the reading performance of a group of meters according to user-defined parameters.

Address	Postal code	City	Serial number	Last missing reading in period	Average performance
...	37064	FRANKLIN	...	...	100.00 %
...	37064	FRANKLIN	...	...	100.00 %
...	37064	FRANKLIN	...	...	100.00 %

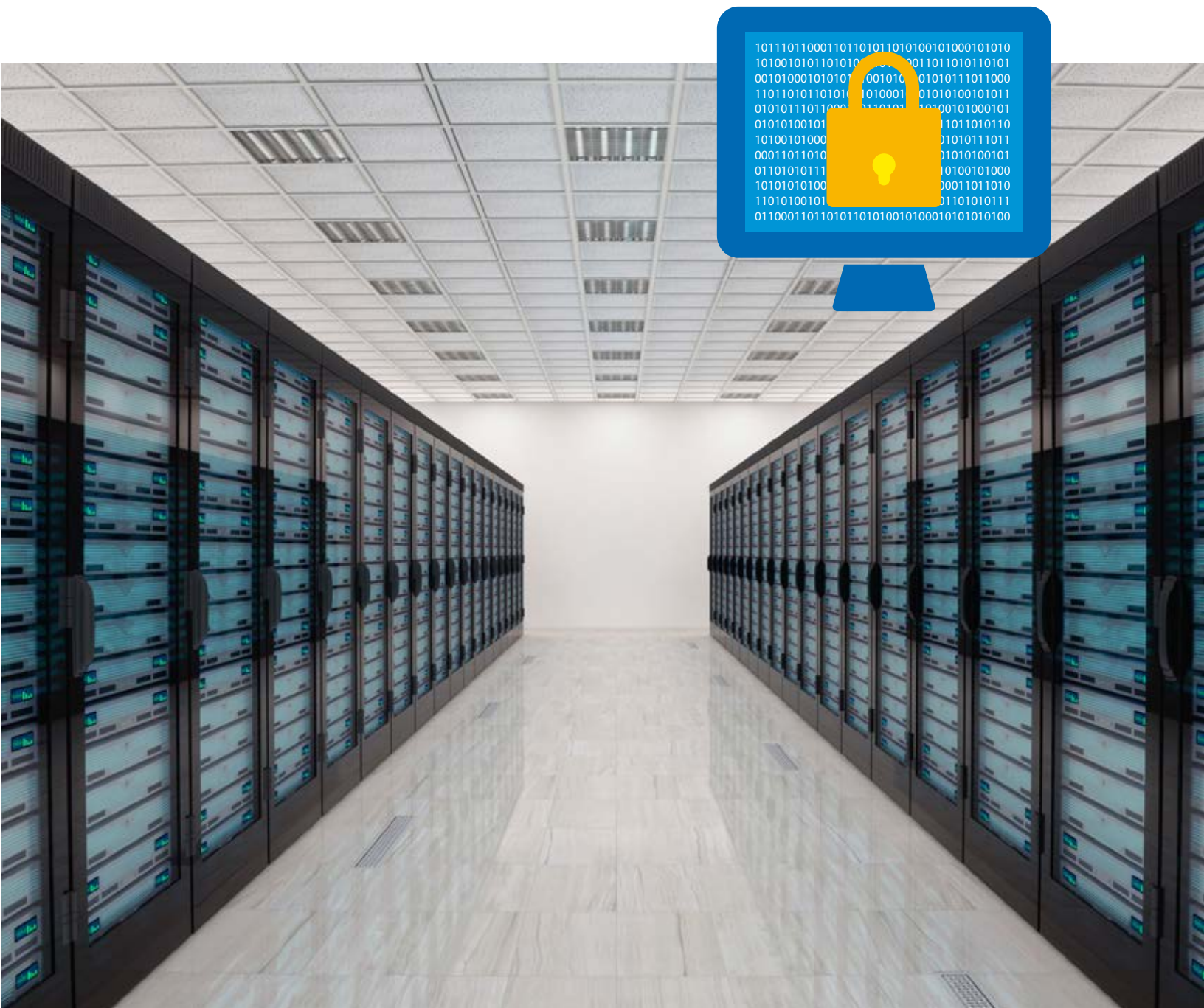


## Data security and hosting

Kamstrup AMI is end-to-end encrypted using multiple data security levels. This ensures your consumers' data is protected. Data communication from each meter is individually encrypted using AES 128-bit encryption. This means consumption data from the meter can only be decrypted by the associated READY Manager and by the mobile units authorized by READY Manager.

Before meters are installed, encryption keys are automatically loaded into READY Manager via direct connection to My Kamstrup portal. Therefore, new meters are automatically available in READY Manager shortly after purchasing them; this automated process eliminates the potential for human error when importing new meters into READY Manager. Furthermore, meter and reading data are stored safely via Kamstrup's secured hosting solution.

Kamstrup is certified to ISO 27001:2013, Information Security Management Systems, which is among the most stringent security certifications.



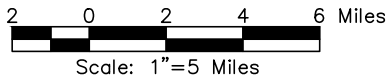
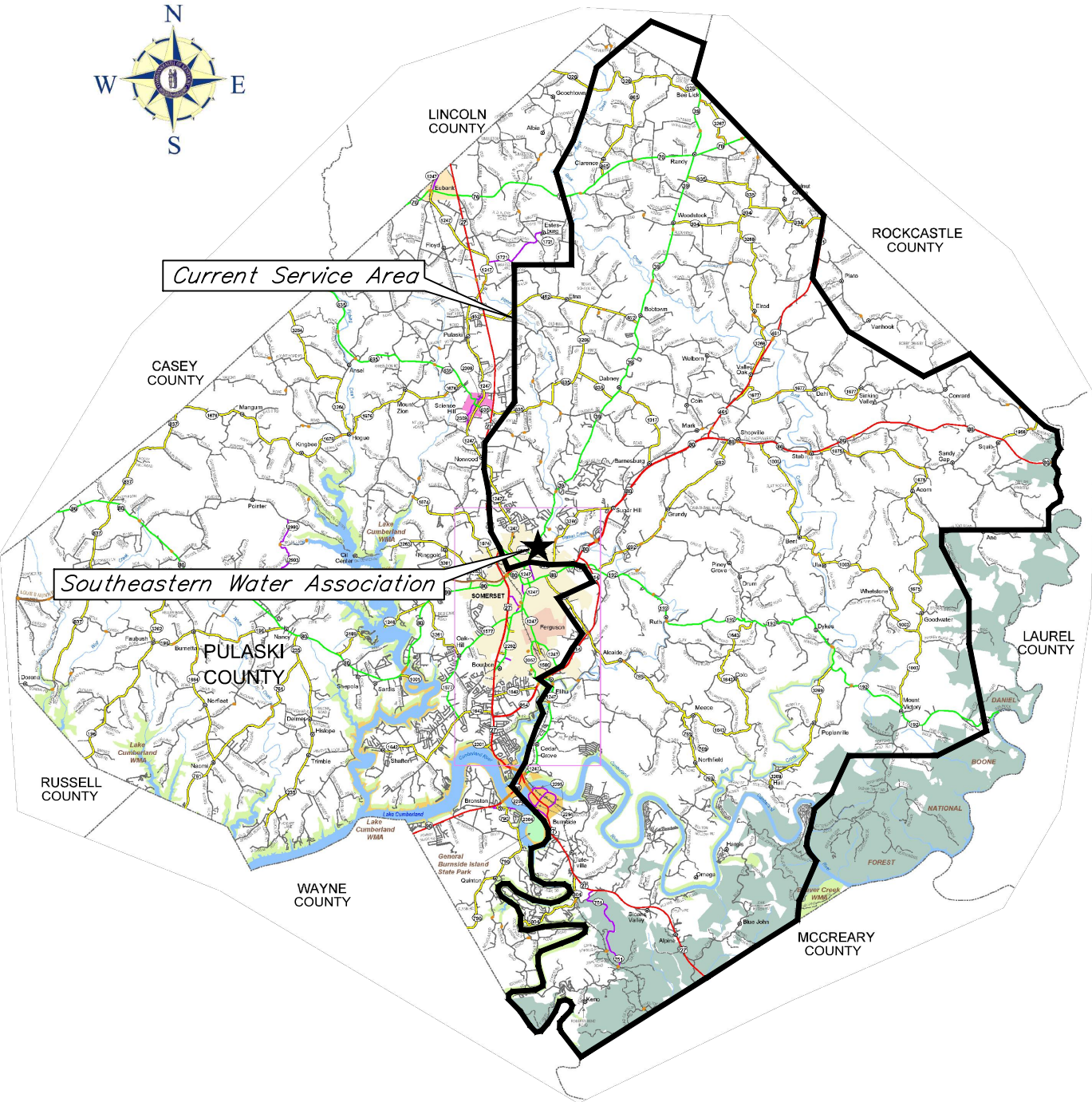
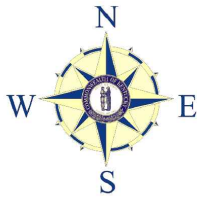
Think forward

---

**Kamstrup Water Metering, LLC**  
245 Hembree Park Drive, Ste. 110  
Roswell, GA 30076, USA  
T: +1 (404) 835-6716  
info-us@kamstrup.com  
kamstrup.com



# **EXHIBIT 7**



**KENVIRONS, INC.**  
FRANKFORT, KENTUCKY

**FIGURE 1**  
**SOUTHEASTERN WATER ASSOCIATION**  
**LOCATION MAP**

# **EXHIBIT 8**

THIS AGREEMENT MADE AND ENTERED INTO THIS FIRST DAY OF OCTOBER, 2012, BY AND BETWEEN SOUTH-EASTERN WATER ASSOCIATION (HEREINAFTER CALLED "THE UTILITY" ) OF SOMERSET, KENTUCKY AND TRU-CHECK METER SERVICE, INC. (HEREINAFTER CALLED "TRU-CHECK" ) OF SOMERSET, KENTUCKY,

WITNESSETH:

WHEREAS TRU-CHECK IS AN INDEPENDENT CONTRACTOR ACTIVELY ENGAGED IN THE BUSINESS OF READING ELECTRIC, GAS AND WATER UTILITY METERS (A SERVICE NEEDED BY THE UTILITY), AND

WHEREAS THE PARTIES HERETO DESIRE TO ENTER INTO A CONTRACT PURSUANT TO A PROPOSAL FROM TRU-CHECK MADE TO AND ACCEPTED BY THE UTILITY, NOW, THEREFORE, IN CONSIDERATION OF THE MUTUAL PROMISES AND CONDITIONS AND OBLIGATIONS AND STIPULATIONS OF SAID PROPOSAL AND FOR GOOD AND VALUABLE CONSIDERATION HEREIN SET FORTH AND ACKNOWLEDGED, THE PARTIES AGREE AS FOLLOWS:

1. TRU-CHECK SHALL TRULY AND ACCURATELY READ AND WITH FIDELITY REPORT TO THE UTILITY THE READING ON ALL METERS ASSIGNED TO IT WITHIN TWO (2) WORKING DAYS BEFORE AND OR AFTER THE DATES SPECIFIED BY THE UTILITY UNLESS WEATHER CONDITIONS SHALL MAKE SAME IMPOSSIBLE. ANY METERS WHICH TRU-CHECK FINDS IMPOSSIBLE OR UNSAFE TO READ SHALL BE DOCUMENTED, WITH REASON FOR NOT READING THE METER CLEARLY INDICATED.
2. THE UTILITY SHALL PAY TRU-CHECK \$0.952 FOR EACH METER READ PER METER PER MONTH BY TRU-CHECK AND ACCURATELY REPORTED TO THE UTILITY DURING THE FIRST YEAR OF THE FIVE-YEAR CONTRACT. PER METER INCREASES FOR THE REMAINING FOUR YEARS OF THE CONTRACT WILL BE DETERMINED BASED UPON THE CONSUMER PRICE INDEX (CPI-U) AT THE ANNIVERSARY DATE OF THE CONTRACT EACH YEAR.
3. TRU-CHECK AGREES TO PERFORM RE-READING OF METERS AS REQUESTED BY THE UTILITY FOR \$ 5.00 PER METER PLUS APPLICABLE MILEAGE AT THE RATE OF 30 CENTS PER

MILE WHEN RE-READS ARE FOUND TO BE ACCURATE AS FIRST READ. TRU-CHECK AGREES NOT TO CHARGE THE UTILITY FOR RE-READING OF METERS WHEN RE-READS ARE FOUND TO INACCURATE AS FIRST READ.

4. IN ADDITION TO ITS OTHER DUTIES HEREIN PROVIDED FOR AND WITH OUT ANY ADDITIONAL CONSIDERATION, TRU-CHECK SHALL EXAMINE THE EXTERIOR OF THE METERS VISITED BY IT ALONG SUCH ROUTES ASSIGNED TO IT AND SHALL REPORT OBVIOUS ABNORMALITIES.

(EXAMPLES: BROKEN METER SEALS, POSSIBLE TAMPERING INDICATIONS, ETC.) IN SUCH METERS TO THE UTILITY IN THE NORMAL COURSE AND TIMING OF REPORTING SUCH READINGS. CONTRACTOR SHALL NOT SUFFER ANY LIABILITY IF IT FAILS TO REPORT SAID ABNORMALITIES.

5. TRU-CHECK SHALL STRIVE TO SUSTAIN GOOD PUBLIC RELATIONS FOR THE UTILITY AND ITSELF WITH ALL THE UTILITY MEMBERS IN THE COURSE OF ITS METER READING ACTIVITIES.

6. TRU-CHECK SHALL MAINTAIN ONE OR MORE GENERAL PUBLIC LIABILITY INSURANCE POLICIES IN TOTAL AMOUNT NOT LESS THAN \$5,000,000.00, WHICH MUST INCLUDE NOT LESS THAN \$ 300,000. /\$1,000,000. BODILY INJURY BENEFITS AND \$ 100,000. PROPERTY DAMAGE BENEFITS. BEFORE BEGINNING ITS DUTIES UNDER THIS AGREEMENT, TRU-CHECK SHALL DELIVER TO THE UTILITY CERTIFICATES OF INSURANCE EVIDENCING THAT SUCH INSURANCE COVERAGE IS IN FULL FORCE AND EFFECT AND SHALL OBLIGATE THE INSURERS TO PROMPTLY NOTIFY THE UTILITY IN THE EVENT OF DEFAULT OR LAPSE OF THE POLICY AT NO ADDITIONAL COST TO THE UTILITY. CONTRACTOR SHALL ALSO PROVIDE FULL WORKERS' COMPENSATION INSURANCE COVERING ALL EMPLOYEES WORKING UNDER THIS AGREEMENT.

7. TRU-CHECK FURTHER AGREES TO INDEMNIFY AND HOLD THE UTILITY HARMLESS FROM ANY AND ALL CLAIMS AND LIABILITIES INCLUDING COURT COSTS AND REASONABLE ATTORNEY FEES CAUSED BY TRU-CHECK OR ANY OF ITS OFFICERS, AGENTS AND EMPLOYEES. THE UTILITY MUST GIVE TRU-CHECK REASONABLE NOTICE OF ANY CLAIMS AND ALLOW TRU-CHECK REASONABLE TIME TO INVESTIGATE WHETHER OR NOT TRU-CHECK IS INDEED RESPONSIBLE AND, IF SO, REMEDY THE SAME

8. TRU-CHECK SHALL NOT COLLECT MONIES FOR THE UTILITY AND SHALL NOT ACCEPT ANY PAYMENT FOR SERVICES OR ENERGY FURNISHED BY THE UTILITY TO ITS MEMBERS, CUSTOMERS OR ANY OTHER PERSON.

9. THE PARTIES AGREE THAT TRU-CHECK, AFTER COMPLETING THE LAST READING DAY OF THE BILLING CYCLE, SHALL GIVE TO THE UTILITY AN INVOICE CONTAINING THE NUMBER OF METERS READ IN THAT MONTH. PAYMENT WILL BE MADE ON A PER METER BASIS AT THE RATES SET FORTH ABOVE IN PARAGRAPH 2. TRU-CHECK WILL EXPECT PAYMENT NO LATER THAN TEN (10) WORKING DAYS AFTER INVOICE IS RECEIVED BY THE UTILITY.

10. THE METER READING SERVICES OF TRU-CHECK ARE RETAINED BY THE UTILITY ONLY FOR THE PURPOSES AND TO THE EXTENT SET FORTH IN THIS AGREEMENT. TRU-CHECK SHALL BE FREE TO DETERMINE ALL CONTROL OF ITS TIME, ENERGY AND SKILL DURING TRU-CHECK'S REGULAR BUSINESS HOURS AND IS NOT OBLIGATED TO DEVOTE THE SAME HEREUNDER TO THE UTILITY. IT IS THE PURPOSE AND INTENTION OF THE PARTIES HERETO THAT TRU-CHECK SHALL NOT BE AN EMPLOYEE OF THE UTILITY FOR ANY PURPOSE. IN THE EVENT TRU-CHECK SHOULD BE JUDGED NOT TO BE AN INDEPENDENT CONTRACTOR, TRU-CHECK WILL INDEMNIFY THE UTILITY FOR ANY ADDITIONAL EXPENSES RESULTING FROM SUCH RULING.

11. IF DURING THE TERM OF THE CONTRACT, THE PRICE PER GALLON OF REGULAR UNLEADED GASOLINE SHOULD EXCEED \$ 3.50 PER GALLON; TRU-CHECK WILL RECEIVE A DOLLAR FOR DOLLAR REIMBURSEMENT BASED ON MILES DRIVEN AND THE AVERAGE FUEL COST FROM THE AREA READ. IF THE PRICE PER GALLON DECLINES BELOW THESE LIMITS, THE INCREASES WILL BE DECLARED NULL AND VOID.

12. THIS AGREEMENT MAY BE TERMINATED BY EITHER PARTY FOR JUST CAUSE, WHICH IS DEFINED AS BEING THE UTILITIES FAILURE TO COMPENSATE TRU-CHECK FOR SERVICES RENDERED OR TRU-CHECKS FAILURE TO ACCURATELY READ AND REPORT THE UTILITIES METER READINGS ACCORDING TO THE DATES AND CONDITIONS SPECIFIED ABOVE, OR FAILURE TO OTHERWISE COMPLY WITH THIS AGREEMENT. SAID TERMINATION IS TO BE MADE ONLY AFTER SIXTY (60) DAYS WRITTEN NOTICE TO EITHER PARTY.

IN WITNESS WHEREOF THE PARTIES HAVE HEREUNTO SET THEIR HANDS  
THE DAY AND YEAR FIRST ABOVE WRITTEN.

Marta Yarnor  
WITNESS

Bridget Stewart  
WITNESS

Wesley C. Wiley  
WITNESS

JRS  
WITNESS

TRU-CHECK METER SERVICE INC.

BY: TERRY W. RAY  
TERRY W. RAY VP

SOUTH-EASTERN WATER ASSOCIATION

BY: W. H. Phelps  
JOE RICHARDS, PRESIDENT  
HARVEY P#5235

# **EXHIBIT 9**



# **REQUEST FOR BIDS**

**REQUEST NUMBER 2021-AMI**

**FURNISHING AND INSTALLING  
AMI SYSTEM FOR WATER UTILITY**

**APRIL 13, 2021**

**SOUTH EASTERN WATER ASSOCIATION, INC.**

**147 East Somerset Church Road**

**Somerset, Kentucky 42504**

**(Phone) 606-678-501 \*(Fax) 606-677-9664**

**Email address: [sewater@yahoo.com](mailto:sewater@yahoo.com)**

**ATTENTION: Morris Vaughn, General Manager**

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# **SECTION ONE**

## **ADVERTISEMENT FOR BIDS**

## ADVERTISEMENT FOR BIDS

Sealed bids will be received by the South Eastern Water Association, Inc. (the "Water Association") until Tuesday, May 4, 2021 at 1:00 pm EDT at the Water Association office located at 147 East Somerset Church Road, Somerset, Kentucky 42503 for furnishing and installing the following:

Advanced Metering Infrastructure (the "AMI") System including water meters, AMI Software and Hosted Service, and FCC Licensed AMI Reading System

Project plans, specifications, contract documents, and bid forms may be examined at, or obtained from, the Water Association office located at 147 East Somerset Church Road, Somerset, Kentucky 42503. Phone: 606-678-5501 – Attention Morris Vaughn, General Manager or Email: [sewawater@yahoo.com](mailto:sewawater@yahoo.com)

Sealed bids shall be submitted on the bid forms provided and clearly marked on the outside of the envelope as follows:

"Sealed bid for AMI System Contract. Not to be opened until 1:00 pm EDT on Tuesday, May 4, 2021."

No bids may be withdrawn for a period of 90 days after the bid opening date. Any bid received after the time and date specified herein shall be returned unopened to the bidder.

Work to be performed by contractors involved in this project is **not** subject to the minimum wage rates established by the U.S. Department of Labor under the provisions of the Davis-Bacon Act.

The Water Association reserves the right to accept any bid, to reject any or all bids, to waive any informalities or irregularities, and to accept the best evaluated bid as determined by the Board of Directors of the Water Association.

South Eastern Water Association, Inc.

# **SECTION TWO**

## **INSTRUCTIONS TO BIDDERS**

## INSTRUCTIONS TO BIDDERS

- 1. General Information.** The South Eastern Water Association, Inc. ("SEWA") is located in Somerset, Pulaski Count, Kentucky. It currently has approximately 8,000 water meters located throughout its service area in Pulaski County. A map of SEWA's service area is provided under Section 6 as part of the Request for Bids.
- 2. Project Scope.** This project is designated as the 2021 AMI Project. It includes furnishing and installing an Advanced Metering Infrastructure (the "AMI") System, including meters, AMI Software and Hosted Service, and FCC Licensed AMI Reading System for its entire service area.
- 3. Kamstrup Meters.** Only cold water meters which use solid state measuring technology with no moving parts will be considered. Kamstrup FlowIQ 2250 meters for 5/8 x 3/4-inch and 2-inch meters and Kamstrup FlowIQ3250 for 3-inch and larger meters meet these requirements.
- 4. Acceptance of Bids.** SEWA reserves the right to accept the best evaluated bid as determined by its Board of Directors. An Evaluation form detailing the evaluation criteria and the relative importance of each criteria is provided in Section 3 of this Request for Bids. SEWA reserves the right to waive any informalities or minor defects in a bid, to accept any bid, or to reject any or all bids. The award of a contract to the best evaluated bidder is contingent upon the Kentucky Public Service Commission (the "PSC") granting SEWA a Certificate of Public Convenience and Necessity for the proposed AMI System Project.
- 5. Bid Hold Period.** No Bidder may withdraw its bid for a period of **90 days** after the date set for the bid opening. This will provide sufficient time for SEWA to apply to the PSC for a Certificate of Public Convenience and Necessity to install the proposed AMI System and obtain an Order from the PSC granting the required Certificate of Public Convenience and Necessity.
- 6. Retainage.** SEWA will withhold five percent (5%) of each monthly pay request as retainage until the AMI System Project is completed.
- 7. No Wage Rates.** Work to be performed by contractors involved in this AMI System Project is **not** subject to the minimum wage rates established by the U.S. Department of Labor under the provisions of the Davis-Bacon Act.

(Continued on page 6A)

- 8. Use of Bid Form Mandatory.** All bidders shall use the Bid Form included in Section 7 of this Request for Bids. Bids which are submitted on other forms will not be considered. A Word version of the Bid Form and attachments will be provided upon request to all prospective Bidders.
  
- 9. Estimated Quantities.** The quantities shown in the Bid Form are only estimates. SEWA does not guarantee that it will purchase the number of meters and other items listed in the Bid Form. The quantities listed in the Bid Form are solely for the purpose of comparison of Bids. Final payment will be based on the actual quantity of each item that is purchased and on each item that is installed.

# **SECTION THREE**

## **GENERAL INFORMATION AND TECHNICAL SPECIFICATIONS**



## 1. INTRODUCTION:

South Eastern Water Association, Inc. ("SEWA") intends to convert its water meter infrastructure from standard meters to AMI capable meters at residential and small commercial locations throughout its service area.

SEWA is seeking the solution that best satisfies its needs. The remainder of this document provides additional information that will allow a provider to understand the scope of the Request for Bids ("RFB") and develop a bid in the format desired by SEWA.

Any questions regarding bid format must be directed to:

**SOUTH EASTERN WATER ASSOCIATION, INC.**  
**147 East Somerset Church Road**  
**Somerset, Kentucky 42504**  
**(Phone) 606-678-501 \*(Fax) 606-677-9664**  
**Email address: [sewawater@yahoo.com](mailto:sewawater@yahoo.com)**  
**ATTENTION: Morris Vaughn, General Manager**

All bids are due before **1:00 p.m. EDT on Tuesday, May 4, 2021**. Any bid received at the designated location after the required time and date specified for receipt shall be considered late and non-responsive and will not be evaluated for award. Bids must be delivered in a sealed envelope clearly marked "**Bid for AMI System Contract.**"

SEWA reserves the right to accept or reject any or all bids in whole or in part and to waive informalities and/or technicalities in the bids. Conflicts of interest, gratuities, and kickbacks as defined and provided for in K.R. S. 45A.455 are absolutely prohibited.

**Faxed or emailed responses will not be evaluated for award.**

### **DEFINITIONS (as used herein):**

- a. The term "solicitation" means Request for Bids (RFB).
- b. The term "offer" means "bid."
- c. "Bidder" shall refer to a person or entity responding to an RFB.

## 2. BACKGROUND:

SEWA serves approximately 8,000 customers. SEWA intends to own and read all new water meters remotely utilizing the utility owned FCC licensed and secure 450 MHz AMI remote meter reading system. All water meters shall be new and in full verified compliance with all of SEWA's water meter standards and technical specifications herein. SEWA's water meters are generally located in shallow meter boxes usually near the property line by the street or highway, all of which may on occasion be periodically subject to flooding. Typical meter box settings within the utility may all be subject to harsh environmental issues such as corrosive soil conditions, occasional or continuous submersion in water, low water pressures, occasionally excessively high water pressures, and periodic wide temperature changes. It should also be noted that meter boxes may be located in driveways, roadways and locations with varying elevation change.

### 3. PREPARATION OF BIDS:

- a. Bidders shall examine the specifications, schedule, and all instructions. Failure to do so shall be at the Bidder's risk.
- b. Offers shall set forth full, accurate, and complete information as required by the solicitation. Offers that contain a Bidder's own special terms and conditions in conflict with the terms of the solicitation or state statutes and regulations may be rejected.
- c. Each bid shall furnish the information required by the solicitation on the forms included herein. Sign the solicitation in ink and type or print in ink name, firm, address, telephone number, and date. Erasures or other changes shall be initialed in ink by the person signing the offer. Approved electronic format may also be accepted.
- d. Any explanation or statement which the vendor wishes to make concerning the bid shall be written separately and independently of the bid, attached to the bid form, and placed in the envelope with the bid. Any such statement or explanation must refer to the bid submitted and shall also be signed by the vendor.
- e. Unit price for each unit offered shall be shown and such price shall include packing and delivery to SEWA unless otherwise specified within the Bid Form. Fuel Surcharges and any other miscellaneous charges should be included in the unit price. A total shall be entered in the amount column of the schedule for each item offered. In case of discrepancy between a unit price and extended price, the unit price shall govern.
- f. Cash discounts shall not be considered in making the award of the contract. However, if vendor offers discounts for payment net 10 or net 15, please indicate so in your submittal.
- g. Trade discounts shall be deducted by the vendor in calculating the unit price quoted, unless otherwise stated.
- h. Offers for supplies or services other than those specified shall not be considered unless authorized by the solicitation.
- i. Time, if stated as a number of days, shall include Saturdays, Sundays, and Holidays. One day is 24 hours; One week is 7 days; One month is 28 days.

### 4. CLARIFICATION – REQUEST AND RESPONSE:

Any explanation desired by a bidder regarding the meaning or interpretation of the solicitation specifications, etc., **shall be requested in writing to the General Manager as outlined in the Bid Documents**. Oral explanations or instructions given before the award of the contract shall not be binding. Any clarifying information given to a prospective Bidder concerning a solicitation shall be furnished to all prospective Bidders through a clarification, or as an amendment of the solicitation which would also include an amended bid form.

### 5. ACKNOWLEDGEMENT OF ADDENDA TO SOLICITATIONS:

Receipt of an addendum to a solicitation shall be acknowledged by the Bidder and the Bid shall be submitted on the bid form which is noted as AMENDED. Verbal acknowledgement shall not be accepted. Failure to acknowledge addenda may cause the Bid to be considered non-responsive.

### 6. SUBMISSION OF BIDS:

- a. Bids and modifications thereof shall be enclosed in sealed envelopes and addressed to the office specified in the solicitation. The Bidder shall show the opening hour and date

specified in the solicitation, the solicitation number, and the name and address of the Bidder on the face of the envelope(s).

- b. Telegraphic or facsimile offers shall not be considered unless authorized by the solicitation; however, offers may be modified by telegraphic or facsimile notice, if such notice is received prior to the hour and date specified for receipt. Telegraphic or facsimile modifications shall not mention unit prices or total price; but shall only refer to percentage change or numerical change (i.e., reduce unit price of item 1 by \$1.00).
- c. Samples of items, if required, shall be submitted within the time specified, and not unless otherwise specified, at no expense to SEWA. If not destroyed by testing, samples shall be returned at the Bidder's request and expense, unless otherwise specified by the solicitation. Unless a request for their return is made within thirty (30) days of award of contract, all samples shall become property of SEWA.

**7. MODIFICATION OR WITHDRAWAL OF BIDS:**

Bids may be modified or withdrawn by written notice received prior to the exact hour and date specified for receipt of bids. A bid may also be withdrawn in person by a Bidder or his authorized representative, if his identity is made known and he signs a receipt for the bid, but only if the withdrawal is made prior to the exact hour and date set for receipt of offers. Withdrawn bids may be resubmitted, but only in the manner in which the bid was originally submitted.

**8. LATE BIDS AND MODIFICATIONS:**

Bids and modifications of Bidders received at the office designated in the solicitation after the exact hour and date specified for receipt shall not be considered for an award of contract, unless:

- a. No bids are received other than the late bid; and
- b. The need of SEWA is determined to preclude the re-solicitation of bids.

**9. MULTIPLE AND ALTERNATE BIDS:**

Bidders shall submit one response only to the solicitation and shall not propose more than one price, model, and brand for each bid item. Multiple or alternate bids offering more than one bid price in total (or by line-item) shall be cause for rejection unless specifically called for in special provisions provided elsewhere in the solicitation.

**10. AWARD OF CONTRACT:**

- a. Criteria for award are listed in the "Evaluation Criteria" section below.
- b. The bidder, if awarded an order or contract, agrees to protect, defend, and save harmless SEWA against any demand for the use of any patented materials, process, article, or device, that may enter into the manufacture, construction, or form a part of the work covered by either order or contract and he further agrees to indemnify and save harmless SEWA from suits or actions of every nature and description brought against it, for or on account of any injuries or damages received or sustained by any party or parties, by or from any of the acts of the contractor, his servants, or agents.

**11. KENTUCKY SALES AND USE TAXES:**

SEWA is **not tax exempt**. Sales of tangible personal property to SEWA are subject to state sales or

use taxes.

Any sales taxes or other taxes incurred by the Bidder remain the responsibility of the Bidder. It is assumed that all such costs incurred by any Bidder are included in its price.

**12. COMPLIANCE WITH FEDERAL, STATE, AND LOCAL LAWS:**

Any contracts or orders placed because of the offer shall be governed by the laws of the Commonwealth of Kentucky. The rights and obligations of the parties thereto shall be determined in accordance with these laws. Any offer conditioned upon governance by the laws of a state other than Kentucky shall not be considered.

Conflicts of interest, gratuities, and kickbacks as defined and provided for in K.R.S. 45A.455 are absolutely prohibited. Bidder acknowledges and certifies by submission of his bid that all the provisions of K.R.S. 45A.455 are complied with fully.

**13. CONFLICTS OF INTEREST – Gratuities and kickbacks – Use of confidential information (KRS 45A.455)**

- a. It shall be a breach of ethical standards for any employee with procurement authority to participate directly in any proceeding or application; request for ruling or other determination; claim or controversy; or other particular matter pertaining to any contract, or subcontract, and any solicitation or bid therefore, in which to his knowledge:
  - i) He, or any member of his immediate family has a financial interest therein; or
  - ii) A business or organization in which he or any member of his immediate family has a financial interest as an officer, director, trustee, partner, or employee, is a party; or
  - iii) Any other person, business, or organization with whom he or any member of his immediate family is negotiating or has an arrangement concerning prospective employment is a party. Direct or indirect participation shall include but not be limited to involvement through decision, approval, disapproval, recommendation, preparation of any part of a purchase request, influencing the content of any specification or purchase standard, rendering of advice, investigation, auditing or in any other advisory capacity.
- b. It shall be a breach of ethical standards for any person to offer, give, or agree to give any employee or former employee, or for any employee or former employee to solicit, demand, accept, or agree to accept from another person, a gratuity or an offer of employment, in connection with any decision, approval, disapproval, recommendation, preparation of any part of a purchase request, influencing the content of any specification or purchase standard, rendering of advice, investigation, auditing, or in any other advisory capacity in any proceeding or application, request for ruling or other determination, claim or controversy, or other particular matter pertaining to any contract or subcontract and any solicitation or bid therefore.

- c. It is a breach of ethical standards for any payment, gratuity, or offer of employment to be made by or on behalf of a subcontractor under a contract to the prime contractor or higher tier subcontractor or any person associated therewith, as an inducement for the award of a subcontract or order.
- d. The prohibition against conflicts of interest and gratuities and kickbacks shall be conspicuously set forth in every local public agency written contract and solicitation therefore.
- e. It shall be a breach of ethical standards for any public employee or former employee knowingly to use confidential information for his actual or anticipated personal gain, or the actual or anticipated personal gain of any other person.

**14. CONTRACT MODIFICATIONS:**

During the period of the contract, no modification shall be permitted in any of its conditions and specifications unless the contractor receives written approval from the General Manager.

If the contractor finds at any time that existing conditions make modification in requirements necessary, he shall promptly report such matter to the General Manager for consideration and decision.

**15. SELLER'S INVOICES:**

Invoices shall be prepared and transmitted to SEWA at the provided address.

SEWA is a water association and invoices are processed for payment not less than once per month. Regardless of any stipulations attached by vendor, SEWA's terms are net 30 after:

- a. Receipt of appropriately documented invoices.
- b. The invoice, when received, must have the correct pricing, or have a credit memo issued. SEWA will not process any invoices "short-paid."

**16. PRECEDENCE OF PROVISIONS:**

In the event of an inconsistency between provisions of the solicitation, the inconsistency shall be resolved by giving precedence in the following order:

- a. Addenda and Clarifications issued prior to bidding;
- b. Instructions to Bidders;
- c. General Conditions;
- d. Other provisions of the contract, whether incorporated by reference or otherwise; and
- e. Detailed specifications.

**17. BIDDER QUALIFICATIONS:**

Due to the sensitive nature of the equipment and system being installed and with consideration of the safety and security concerns for the SEWA ratepayers, only submissions to this solicitation which meet the following requirements will be evaluated for award.

Entities providing bids as a result of this solicitation must in its current form;

- Have a minimum of 10 years' experience installing and initiating AMI meters and communication devices.
- Have a minimum of 20 similar size projects installing and initiating AMI meters and communication devices.

**18. WARRANTIES:**

SEWA will have the right to stop any part of Bidder's work if SEWA determines Bidder is conducting its work unsafely or in a way that does not meet SEWA's customer service requirements. Bidder is required to provide a workmanship installation warranty on all meter installations. Installation warranty shall be for 365 days from date of installation of new meter.

**19. PAYMENTS FOR MATERIALS AND SERVICES:**

- A. SEWA will provide payment within thirty (30) days of receipt of acceptable invoice.
- B. Payments will be based on prices submitted by the Bidder.
- C. Please provide a sealed package containing one (1) hard copy and one (1) electronic copy (flash drive or CD) to SEWA at the address shown on the cover page of this RFB prior to the deadline noted herein or by addendum. The package shall be clearly marked "Bid for AMI System Contract."
- D. Please deliver the Bid(s) and other materials in a three-ring binder or in bound form. Each Bid should have a distinguishing cover or cover page, which identifies the Vendor, business partners or joint ventures (if any), and a table of contents. Bids can include Vendor's brochures as exhibits.
- E. The outline of your Bid should include the following:
  - 1) Resume' for Contract Manager, Project Manager and relative experience of each Installation Technician.
  - 2) Comparable projects (Including contact names and phone numbers for each of the minimum 5 projects).
  - 3) Project Approach, addressing the Scope of Work and Requirements
  - 4) Term and Conditions Signature Page Attachment A.
  - 5) Bid Form
  - 6) Business Profile and Customer References Attachments B and Attachment C.
  - 7) Evidence of ability to provide required insurance coverage.
  - 8) List of additional present and future services available from the Bidder and the proposed system.

**20. BUSINESS PROFILE AND CUSTOMER REFERENCES**

Include in the response a business profile of the Vendor and any partnerships or joint venture firms or individuals; and, a description of the training and experience of the Vendor's professional and technical staff assigned to the project.

1. Describe the firm's previous experience related to residential solid-meter water meter projects in the last five (5) years.
2. Describe other relevant experience of the firm.

3. Provide references from 5 previous customers for whom you have installed similar water meters and reading system to those requested in this RFB. Please include the company name, contact name, title, address, email, and telephone number.
4. Note: SEWA may contact others outside the referenced companies.

**21. EVALUATION PROCESS**

The method of award will be the best evaluated bid as determined by the Board of Directors of SEWA.

Evaluations will be conducted utilizing the following matrix:

<p><b>Base Price for specified services</b></p> <ul style="list-style-type: none"> <li>• Scores for cost calculated using 40 points for the low bid and 40 X (low bid / actual bid) for other bids.</li> </ul>	<p><b>40 Points</b></p>
<p><b>Adherence to Bid Guidelines</b></p> <ul style="list-style-type: none"> <li>• Inclusion of all required documents</li> <li>• Use of required forms</li> <li>• Proper use of designated procedures</li> <li>• Compliance with AMI water meter specifications</li> </ul>	<p><b>10 Points</b></p>
<p><b>Training of Employees</b></p> <ul style="list-style-type: none"> <li>• On-site training of SEWA employees</li> <li>• Availability for future on-site training</li> </ul>	<p><b>10 Points</b></p>
<p><b>Technical and Service Support</b></p> <ul style="list-style-type: none"> <li>• Ability to provide timely local technical and service support</li> <li>• Readily available for remote troubleshooting assistance</li> </ul>	<p><b>10 Points</b></p>
<p><b>Experience</b></p> <ul style="list-style-type: none"> <li>• Scores for experience will be calculated using 30 points for the Bidder with the greatest length of high quality proven manufacturing experience of the specified precise measurement ultrasonic type solid-state water meters.</li> </ul>	<p><b>30 Points</b></p>

**100 Total Points**

**Award will be made based on the resulting score.**

**22. PROJECT SCHEDULE**

<b>Event</b>	<b>Date</b>
1. RFB Distribution to Vendors	April 13, 2021
2. Bid Opening	May 4, 2021
3. Anticipated decision and selection of Vendor	May 13, 2021
4. Notice to Proceed	August 2, 2021
5. Term of awarded Contract	12 months from Notice to Proceed

**23. TECHNICAL SPECIFICATIONS:**

**23.1 Water Meters and FCC Licensed AMI Reading System:**

1. All water meters shall contain internal dual transmitters, both 450MHz and 900MHz concurrently, and equipment necessary to read the water meters shall be the property of and be operated by the Utility.
2. The Utility shall be the FCC authorized owner and listed user of its secure and FCC protected 450MHz licensed communications frequency.
3. All water meters shall be new and certified to be AWWA-C715 solid-state ultrasonic type with no internal moving parts.
4. All water meters shall be designed for 20 years of service life, and shall retain its water measurement accuracy throughout the full life of the water meter.
5. All meters shall be manufactured by a company with a certified minimum history of 20-years of proven experience manufacturing residential size ultrasonic type water meters specifically designed for utility billing of residential customers.

Residential sizes are 5/8" through 1.5" sizes.

Commercial meter sizes are 2" through 6".

6. All water meter sizes shall be designed for precise water measurement and will be used in municipal billing applications where measurement accuracy is essential.
7. The vendor shall provide certified test results for each water meter's accuracy testing and pressure. Test results shall be delivered to the utility for file record at the utility.



8. All water meters shall be accuracy tested and certified by an accredited testing facility. Accuracy test results shall be delivered by the vender to the utility for all water meter shipments.

### **23.2 COMMUNICATIONS:**

1. All water meters shall have an internal FCC licensed 450 MHz transceiver radio communication board installed inside the water meter and all electronics shall be factory sealed and certified compliant to IP68 standard for complete submersion in wet meter pits, meter vaults, basements and crawl spaces which occasionally may become flooded.
2. All water meters shall additionally contain a secondary redundant non-licensed two-way radio meter transmitter unit within the water meter for backup redundancy, field programming and programmable for mobile drive-by meter reading.
3. The meters internal transceiver device shall be tested and listed in full compliance with Federal Communications Commission (**FCC**) **Part 90** testing as required for radio products falling into a licensed band as defined in **FCC Part 2.106**.
4. The meter's internal RF transmitters shall be two-way type designed to communicate directly with Utility owned Wireless AMI meter reading system and shall not require wired, cabled, or remotely mounted radio meter transmitter unit (MTU) which may be subjected customer tamper, lawn mower and/or snow plow abuse, moisture infiltration, harsh roadway traffic conditions, severe temperature variances and rodents, insects, and harsh soil conditions which periodically exist in meter set locations.
5. Meters shall have additional multiple secure and redundant reading output capabilities to communicate and retrieve the meter's internal meter readings, logs, tamper codes, and notification event alert logs. Specifically each of the following four types of utility owned redundant reading devices shall be capable of receiving and retrieving above listed data information: (A.) Utility owned FCC 450 MHz AMI fixed location Collector mounted on Utility structure. (B.) Utility owned smartphone/tablet with utility owned RF converter unit for field acquisition of meter readings, logged data and visual display of each meter's GPS location. (C.) Utility owned Bluetooth type Optical Reader, with Bluetooth smartphone or tablet (D.) utility owned USB Optical Reader for USB direct connection to laptop PCs.
6. Each water meter shall log and store for retrieval the last 50 Alarm Event notifications.
7. Additionally each water meter shall log and store for field retrieval and customer service use each of the following Meter Reading History Logs: 460-days of daily meter reads, 100-days if hourly meter readings, 3-years of monthly meter readings, 3-years of yearly meter readings.
8. All meters shall be capable of transmitting immediately to the utility it's Utility defined Priority Alert Notifications of the following types: (1.) Reverse Flow; (2.) Leak detection; (3.) Burst Pipe flow condition; (4.) Air-Dry Pipe event notification; (5.) Utility defined Minimum Temperature & Maximum Temperature alert (for notification of critical descending or ascending event alarms); (6.) Daily log of meter's minimum flow rate and maximum flow rate.
9. All data transmissions from the water meter and Collector concentrator unit(s) shall be individually encrypted using AES 128 bit encryption minimum to protect the utility and customer's information. Unsecured group/utility encryption is not acceptable and shall not be allowed.
10. All meters shall be capable of communicating directly to the Collector(s) with transmission

range capability of up to 18 miles and have a meter transmission range of 2 to 5 miles typical without use of repeaters.

11. Water meter RF transmitter and any external RF antenna shall be FCC compliant.

### **23.3 COMPLIANCE STANDARDS & PHYSICAL CHARACTERISTICS:**

All meters shall be new and fully meet or exceed all requirements of AWWA C715-18 Standard, and all utility specified standards herein.

All meters shall be NSF 61 listed as Lead Free and shall be certified in full compliance with NSF 61 annex F and annex G lead free standard

1. Meters shall be IP68 rated for full submersion in wet meter pits, meter vaults and basement set applications.
2. Water meter Pressure Rating shall be 250psi minimum, and burst pressure which exceeds 1,700psi.
3. Meters shall have a 20-year designed battery life and shall be guaranteed for 10 full years, and have an additional prorated 10-year warranty for year-11 thru year-20.
4. Granular particulate matter, sand, and industry standard water processing fluids within the drinking water shall not affect the water meter's operational accuracy.
5. All residential type water meters (sizes 5/8" thru 3/4") shall have a low flow starting point capability of 0.015 gallons per minute (gpm). All commercial water meters (sizes 1.5" & 2") shall have a low flow starting point of 0.1 gpm.
6. All meters shall have a visual gallons per minute rate of flow monitor viewable on the water meter's register face for utility and customer verification of flow rate.
7. All meters shall maintain New Meter Accuracy per AWWA C700 standard for the full life of the water meter.
8. All water meters shall clearly and permanently display the following stamps is compliance and approval: FCC, IP68, NSF 61, 250psi Minimum Pressure Rating, Year of Manufacture, and Meter Serial ID#. Each of these stamps of identification and compliance shall be clearly stamped or laser engraved on the meter's face for utility and/or authority verification of compliance.

### **23.4 AMI Software and Hosted Services**

**The AMI System, Software and Components shall provide each of the following:**

1. Customer selectable view of numerical volumes (Gal./CF/Meters).
2. Option to view consumption intervals in (Hours/Days/Months/Years).
3. View interval volume consumption readings in (Numerical List View/Graphed View (GUI)) option.
4. AMI software provides management and customer service representatives with selectable water audit NRW in both (monthly, annual) totalized views.
5. Options are dropdown selectable and available for utility personnel to: (view/save/export email).
6. At the meter lower interval reads are available such (15-minute and more granular,

Histogram view of totalized rate of Flow volumes) read via meter reading app and IR Interface. This data shall be field retrievable and viewable via 2-way RF converter unit and smart phone app software running on Android smartphone or tablet. This data shall also be field exportable to head end] and Management review.

7. Head-end Software shall allow for office re-configuration of AMI meter's log and alarm configuration settings
8. The water meters transmission interval rate can be changed from head-end software in the office. Present available transmission setting are: (Daily transmission of 24 hourly reads)/Every 3 hours (each contains 3 hourly reads)/Hourly Read Transmission). 24- hour and 3-hour setting options can be set to allow auto backfill of estimated average of missing read.
9. Real time monitoring and Alarm & Event Notifications while the events they are occurring throughout the utility's metered water system. This data selected to view as Critical Alerts, which can also be auto scheduled for transmission to specific utility selected personnel such as Customer Service Representatives/Field Operations Managers/Maintenance Person for further evaluation, pinpointing trouble areas, scheduling field investigations, field maintenance, etc. such alarms can be (Reverse flow/Leak/Burst/Temperature Alert/ Dry pipe). These Priority alert alarm notifications can be pushed daily/Monthly/etc via scheduled text or email.
10. Rate Of Flow monitoring in GPM.
11. The hosted Data Center is a carrier grade, Tier-3 data center providing redundant internet, cooling, power, and security. The facility maintains an annual SSAE-16 audit as well as HIPAA and PCI audits to ensure all current security measures are met. This facility provides hosting and added value API configurable and exportable cloud services.
12. Consumer Engagement export of utility defined data points can be made available for export for consumer viewing via API service to end user web portals such as H2O Analytics, AquaHawk, WaterSmart, eButler, etc.
13. CIS and other integration options are available and auto schedule.
14. Distribution water mains metering and monitoring is available option in mapped and charted views. District meters are typically are large diameter mag flow meters with flow monitoring capability. Bi-directional flow monitoring requires dual-channel Encoder Output and/or pulse output counting MTUs for monitoring directional flow and, Rate of Flow in GPM and, in Cubic feet per second (FPS) would be nice option too. Mapped view of district meters. This grouping of District Meters should also show and include Supply Meters (well house meters, pump station meters, City/Utility interconnection meters, water tower meters, etc.)
15. Irrigation Meters TOU monitoring. Mapped view of Irrigation Meters (requires creation of a sub-category for this meter type).
16. Line breaks and general outage management area can be detected by Reverse and Dry Alert events.
17. Theft detection via Dry and Reverse meter events.
18. Water balance and nonrevenue water report generation for management review and reporting applications.

### **23.5 System Upgrade Option Items:**

1. District Pressure Monitors for alert notifications
2. Residential auto disconnect control valves
3. Turbidity monitoring
4. Security alert notifications
5. System overview map view of meters, collectors, leak alerts, etc.
6. Acoustical leak detection meters
7. Consumer engagement API FTP export of customer daily consumption, etc. with meter readings, alerts to possible customer leak & burst pipe condition flows, temperature alerts, etc.
8. FTP API import export to/from third parties for additional manufactures/3rd party Analytics platforms for monitoring of: Pressure, tower water levels, district metering, consumer engagement web portals, apps, etc.
9. Paperless workforce meter installation "Meter Exchange App Tool" to provide ability to go paperless recording meter installation address, barcode scan meter serial ID#, capture meter GIS location, photograph outbound meter with filial reading, photograph new meter installation, etc.

### **23.6 Additional Requirements:**

All vendors shall provide signed certification of compliance with each and all Utility specifications as stated above and below herein.

All vendors shall submit a certified statement of full compliance with each of the above specifications. If a deviation of full compliance with any of the these and utility stated specification requirements is present the vendor must fully disclose the point of non-compliance and explain in writing each and all deviations in full detail.

# **SECTION FOUR**

## **AMI SYSTEM SPECIFICATIONS**

## AMI System Specification

### Meter Specification

#### Solid state meters

All cold water meters must use solid state measuring technology with no moving parts. The meter should be resistant to wear and impurities in the water. All sensors and electronics should be designed so that no direct exposure is made with fluid. The meters should be hermetically and vacuum-sealed to prevent humidity from entering the electronics and avoid condensation between the glass and display. Meters should be produced in an ISO 9001C facility.

#### Accuracy

Maximum permissible error should fall in accordance to AWWA C715-18 in extended low flow range and  $\pm 1.5\%$  in normal and high flow range. The minimum start flow range should measure at .015 GPM for 5/8", 5/8"X3/4", 3/4" meter sizes. The minimum start flow range should be .04 GPM for 1" meter size, .06 for 1.5" meter size and .1 for 2", .15 for 3" and .35 for 4" meter size.

#### RF communications module

The meter and RF communication module should be one single integrated unit hermetically sealed for easy installation reducing labor cost and time. The meter should be IP68 rated and submersible suited for installation in flooded meter pits.

The meter should be capable of two communication modes operating within an unlicensed frequency FCC part 15 for the 902-928 MHz band for mobile drive-by operation and support a licensed frequency FCC part 90 within the 450-470 MHz band.

#### Data Storage

The meter data will store data loggers in the EEPROM, retrievable via Bluetooth converter. It will provide 20 years of annual data, 36 months of monthly data, hourly values for 100 days and the last 50 event codes such as leak, reverse, burst, dry, tamper, and battery capacity. Logged hourly and daily usage data may be viewed on the mobile device or on the headend server. The meter should have the ability to log total usage over various flow rates for historical analysis for right sizing and low flow analysis. Daily max and min flow rate values should be available.

#### Data options

To support technology changes, feature enhancements, configuration changes and transmission intervals the meter should be programmable. Firmware updates should be permissible over RF without having to gain physical access to the meter and implemented in groups.

Standard data communication intervals will be every 3 hours or up to 8 times a day delivering the past three hourly values.

If the transmissions are not acknowledged by the collector, the meter will accumulate and resend hourly data for up to 24 hours.

The meter shall be capable of delivering near real time events such as;

Leak: Continuous flow for the past 24 hours based on a configurable limit of greater than 0.1%, 0.25%, 0.5%, 1.0% and 2.0% of maximum flow for meter size.

Reverse Flow: Indicating water is running in the opposite direction of normal flow. Reverse flow should be logged in a separate internal register.

Burst: Indicating 30 minutes of flow based on a configurable limit of 5.0%, 10.0% or 20.0% of maximum flow.

Dry: Indication of air in the pipe and no water through the meter.

Tamper: Indication that electronics or meter has been compromised.

Low ambient temperature: Temperature lower than configurable limit of 37 °F or 43 °F to indicate possible freezing.

High ambient temperature: Temperature higher than configurable limit of 95 °F or 122 °F to indicate high temperatures.

## LCD and Register Face

The meter should include an easily readable LCD display including nine digit resolution, unit of measure, billable digits for reference, all active information codes and flow rate. Meter serial number will be barcoded and visible on the register face, as well as meter size, FCC identification, NSF compliance, production year, maximum operating pressure, type number and configuration code.

## Time Synchronization

All meters are time synchronized with the network to allow for water balancing analysis.

## Security

Data must be encrypted using AES 128-bit encryption.

## Installation

The meter may be mounted at any angle and position with no minimum straight pipe to meet applicable AWWA accuracy standards.

When the meter is installed, the use of a mobile application should confirm that the meters signal is being received by one or more data collectors and verify the signal strength to determine whether the installation is good before leaving the installation site.

## Material

The meter housing will be made from either a polyphenylene sulfide (PPS) with fiberglass reinforcement, stainless steel or lead free brass. The carbon footprint should document the meter's high reusability and low environmental impact including the recycling of materials. The threads shall not be susceptible to cross threading and tightened to a maximum of 11 FT Lbs.

## Certifications/Standards

NSF 61 certified. Applies to all applicable AWWA standards. Complies to RF Exposure compliance Part 15 of FCC rules. The manufacturing and testing process should be highly automated and only use materials approved for drinking water. Meters should be disinfected before dispatch and hygienically controlled by frequent audits from external accredited laboratories.

## Battery

The battery is an internal lithium battery which can provide up to 20 years of operating life. The meter will provide a low battery warning when battery life reaches 6 months remaining.

## Operation

The meter should be able to operate accurately under a maximum pressure of 250 PSI for meter sizes 5/8", 5/8"x3/4", 3/4" and 300 PSI for 1", 1.5" and 2", 3" and 4" meter sizes.

## Data Collectors Specification

Data collectors should consist of a base box and top box to maximize performance based on link budget. The bottom base box provides the network backhaul communication method whether cellular modem or Ethernet and supplies power to the top box. The base box should allow up to four top box connections for maximum performance if the collector site installation requires.

## Installation and Configuration

The collector should be plug and play without requiring programming of the base box alleviating the necessity of IT resources.

## Built in Network Intelligence

The AMI system will be able to automatically adjust the output power of the meter to extend battery life on the meter. The system will select the optimal collector to read the meter, but in the event the collector is taken out of operation, other collectors will provide redundancy.

## Data Storage

The collector must support up to 25,000 meters and be able to store 10 days of hourly data.

## Communication

Collector communication backhaul options should include either cellular modem or Ethernet network.

## Security

The data collector will follow TLS 1.2 protocol with AES 256 bit encryption to the head end system.



## Physical

Collector must be rugged, high enclosure class with built-in lightning protection.

## Operation

Collector should operate within -22°-158° F. Power input 110-230 VAC 50/60 Hz. Power output 24 VDC /10A.

## System Software AMI Specification

The host software should be an intuitive easy to use solution, with icon-based navigation. It should include online help describing all menus and feature sets with step-by-step tutorials. The software will be a cloud-based solution, based on tiers to support the number of meters as required.

## Data Storage

Historical reading data will be kept up to ten years. Hourly data for all meters is saved for 13 months, daily values are saved for 5 years, and monthly values are saved for ten years.

## CIS Billing Integration

The software interface to and from CIS should be flexible supporting with single record fixed width or delimited file formats that can be customized to easily integrate to the CIS system.

## Features

The software should have search capabilities to search all or specific fields such as address, meter serial number, account number, customer name, etc. The software should be able to filter on meter rollovers and final readings. The software should provide hourly readings, bar graph chart visualization of average flow per hour and hourly, daily, monthly, yearly, consumption over a user defined date range.

The software should be able to prioritize between high and normal priority codes and be able to schedule the frequency and time when the notifications are delivered, or be able to send notifications when they are detected.

The software should allow the creation of meter groups automatically through imports or manually.

Allow user to perform meter exchanges, so that historical data may be referenced under the account with associated meter data history.

The software should have consumption reporting capabilities by group and custom date range with filters higher or lower than configurable thresholds.

The software should provide meter data set comparisons by a defined date range.

The software should allow import and display of custom fields which also may be exported back to the CIS.

## Language Support

The software should support multiple languages including English.

## Hybrid system: Mobile drive by reading

The AMI software should include the ability to read meters via mobile drive by without installing additional PC software or add on module components. The mobile application should support Android devices (smart phones or tablets). Data may be synchronized from the mobile app and host software at any time via Wi-Fi or cellular network without the loss of captured data.

In addition, if readings were missed by the fixed network system, it will be possible to data log the meter and send data back so that it may be viewed in the host software.

## Mapping Visualization

The software should have the ability to import GIS coordinates or be able to geocode by address, city and zip code via Google Maps. The meter may be viewed graphically in the host software and in the mobile application when in the field.

## Scheduled jobs

User defined custom data imports and exports should have the ability to be scheduled as automatic jobs to an FTP/FTPS/SFTP server or email.

## Performance reporting

The software should provide performance analytics to recognize data collection success of all meters or meter groups on user defined parameters such as daily or hourly reads as a percentage or number to monitor the health of the system.

## Data Security

Data communication from the meter should be encrypted using AES 128 bit encryption. Meter encryption keys should only allow the utility end-user to access reading data through their individual utility portal which may be automatically imported to the meter reading platform. The import of meter data should prevent human data entry errors of meter serial numbers. Data sent to the host software should use TLS 1.2 protocol with AES 256 bit encryption.

The system should allow the utility to assign their own roles and permissions to users and have various levels of users, (Administrators, Super User, and User).

# **SECTION FIVE**

## **METER INSTALLATION SPECIAL CONDITIONS**

## METER INSTALLATION SPECIAL CONDITIONS

### PART I INFORMATION SPECIAL CONDITIONS

#### 1.01. Purpose

The South Eastern Water Association, Inc. ("SEWA") is actively seeking bids from qualified bidders, hereinafter referred to as the Contractor, **for the purpose of replacing existing water meters with a new AMI System.** The successful bidder agrees to furnish all necessary labor, tools, equipment and services required to perform and complete all work required for the installation of water meters at locations provided by SEWA, in full accordance with the specifications, terms, and conditions contained in this Request for Bid ("RFB").

#### 1.02. Information or Clarification

For information concerning procedures for responding to this RFB, contact Morris Vaughn, General Manager, SEWA at (606) 678-5501. Such contact is to be for clarification purposes only. Material changes, if any, to the technical specifications or bidding procedures will only be transmitted by written addendum.

#### 1.03. Questions and Addendum

Any questions that bidders wish to have addressed and which might require an addendum must be submitted to SEWA in writing at least 7 days prior to bid date.

#### 1.04. Site Visit

There is no pre-bid conference or mandatory site visit scheduled. However, it is recommended that bidders inspect the locations to be serviced prior to submission of a bid. No variation in price or conditions shall be permitted based on a claim of ignorance. Submission of the bid is evidence that the bidder has familiarized himself with the nature and extent of the work and any conditions that may, in any manner, affect the scope of the work and/or materials required.

#### 1.05. Qualification of Bidders

Bids shall be considered only from firms that have been continuously engaged in providing services of installing residential and commercial water meters for a minimum of 10 years. Three references must be provided to show bidder has installed a minimum of 5,000 meters for a single utility. Bidder must presently be engaged in the provision of these services.

#### **1.06. Performance**

It is the intention of SEWA to obtain the services as specified herein from a source of supply that will give prompt and convenient service. The awarded Contractor must be able to perform as required under the Scope of Services below. Any failure of a successful bidder to comply with these conditions may be cause for terminating any resulting contract immediately upon notice by SEWA. SEWA reserves the right to obtain these services from other sources, when necessary, should a successful bidder be unable to perform on a timely basis.

#### **1.07. Contract Term**

The initial term of this contract shall be 365 days and is estimated to begin on or about August 2, 2021. SEWA reserves the right to extend the contract for additional periods, providing both parties agree to the extension; all the terms, conditions and specifications remain the same; and such extension is approved by SEWA.

#### **1.08. Cost Adjustments**

The installation cost for all items as quoted herein shall remain firm the entire length of the contract. There shall be no cost adjustments.

#### **1.09. Price**

Bidder will quote a firm, fixed cost for each Item listed on the Bid Form. Pricing shall include all costs associated with the project including labor, equipment, management, etc. Payment will be made on a per item basis.

#### **1.10. Insurance**

The Contractor shall furnish proof of Workers' Compensation Insurance, General Liability Insurance and Comprehensive Automobile Liability Insurance. The coverage is to remain in force at all times during the contract period. The following minimum insurance coverage is required. SEWA is to be added as an "Additional Insured" with relation to Commercial General Liability and Automobile Insurance. Any costs for adding SEWA as "Additional insured" will be at the Contractor's expense.

Any firm performing work on behalf of SEWA must provide Worker's Compensation insurance.

#### **A. Commercial General Liability insurance**

This coverage must include; premises-operations, products-completed operations, independent contractors, and contractual liability.

Limits: Combined Single Limit Bodily Injury/Property Damage \$1,000,000.

This coverage must include:

1. Coverage for the liability assumed by the contractor under the indemnity provision of the contract.
2. Coverage for hazards commonly referred to as "Explosion, Collapse and Underground" exclusions - on construction contracts only.

#### **B. Automobile Liability Insurance**

Covering all owned, hired and non-owned automobile equipment. Limits are as follows:

1. Bodily Injury: \$250,000 each person and \$500,000 each occurrence
2. Property Damage: \$100,000 each occurrence
3. Single Limit: \$1,000,000 (Bodily Injury and Property Damage Combined)

#### **C. Workers Compensation Insurance**

Workers' Compensation insurance in statutory amounts covering the legal liability of the Contractor under the applicable worker compensation and occupational disease laws of Kentucky for claims for personal injuries including death resulting there from to the contractor and its employees. Contractor shall obtain a minimum of \$1,000,000 of Employees Liability Insurance.

#### **D. Excess Umbrella Liability**

Coverage shall be written with a minimum of \$5,000,000 per occurrence \$ 5,000,000 aggregate limit of liability.

**In the event that you are the awarded contractor, you will be required to provide an original Certificate of Insurance naming SEWA as an "Additional Insured" for General and Automobile Liability.**

**PART II**  
**TECHNICAL SPECIFICATIONS AND SCOPE OF SERVICE**

**2.00. Meter Installation**

**2.01.** The contractor will be responsible to coordinate the new meter installation at a time that is convenient for SEWA.

**2.02.** A meter ID sticker, seal, or similar attachment may be provided by SEWA to be installed on the meter to assist SEWA with asset management and inventory control.

**2.03.** Where there is not a working stop to shut off water to the meter, SEWA may assist in turning off water at the curb. However, for the purpose of this bid, contractor should assume that it will be Contractor's responsibility to shut off water at each meter location. Installation contractor will be expected to operate shut off valves in the manner directed by SEWA personnel when replacing water meters. Contractor will be responsible for leaks within two (2) feet from the center of meter, if fault of Contractor.

**2.04.** Contractor to notify SEWA of inoperable valves, pre-existing leaks, broken meter box/lid, and/or deteriorated service pipes etc. prior to attempting installation.

**2.05.** All repair work and parts furnished by the contractor shall be warranted against leaks for a minimum of 365 days and the Contractor shall respond to warranty issues within forty-eight (48) hours of notification.

**2.06.** Contractor's Employees will have visible ID badge, branded uniforms, and vehicles with signage.

**2.07. Call Center**

- 1) The Contractor shall provide a 24-hour 7-day per week phone number for SEWA staff and customers to contact the Contractor concerning installation, with adequate voice messaging to ensure that all incoming customer calls are received and responded to. Contractor will provide weekly reports of call center activity including customer complaints and problem resolution.
- 2) The call center should also field calls regarding general customer questions on installation issues and should have the ability to answer most general questions or forward specific calls to designated SEWA personnel for resolution. Customer complaints must be given high priority and a written incident report must be prepared and forwarded to SEWA personnel for follow up. An after-hours voice mail system should be set up to take customer messages and to provide the working hours and other pertinent information required for Installation contractor to provide an effective follow-up during normal business hours.
- 3) The Contractor will print the door hangers to SEWA's specifications and distribute.

## 2.08. Contractor's Responsibilities

- A. The Contractor shall be responsible for disconnecting and removing the old water meter. Once this is done, the Contractor shall install a new Radio Read Water Meter. The Contractor shall take the old water meter and deliver it to the SEWA's office or other designated location.
- B. Upon removal of the old meter for each site, the Contractor, with their handheld device, shall record and submit to the General Manager the following information:
  - 1. Site address
  - 2. Old meter serial number
  - 3. Final reading on old meter at time of removal
  - 4. New meter serial number recorded by UPC scanner for accuracy
  - 5. New Transmitter serial number recorded by UPC scanner for accuracy
  - 6. Digital pictures of before and after meter change out, taken to assure quality of work, and picture of the old register to clearly show the out reading.
  - 7. Initial reading of new meter at time of installation
  - 8. All data is uploaded electronically and audited for accuracy
  - 9. Data collected is uploaded to utility customer service electronically
  - 10. Contractor will be responsible for integrating with SEWA's billing software.
- C. Contractor must offer SEWA 24/7 access to a secure site for production reports and information.
- D. Contractor must have capability to customize reports to meet SEWA's requirements.
- E. Test for leaks and flush the new piping to remove any debris from the piping.
- F. All plumbing fixtures and systems in the residence and on the property shall provide water flow and pressure from the above new installation equal to or better than the original installation.
- G. Restore the site to its original (or better) condition, including, but not limited to: restoration of lawns, gardens, patios, driveways, swales and concrete sidewalk.
- H. The Contractor will be responsible to protect any and all underground utilities both in SEWA's easements and rights-of-way and on private property. Any damage to underground utilities shall be repaired by the Contractor at their expense. The Contractor is responsible for obtaining all necessary line locations for locating underground utilities.
- I. The Contractor shall schedule a pre-construction meeting with SEWA one week prior to commencing work.
- J. The Contractor shall have 365 calendar days from the issuance of the



Notice to Proceed to complete all work specified in the specifications. SEWA must approve any changes to this schedule in writing.

- K. Any loss of materials and/or equipment due to theft, vandals, etc., shall be the total responsibility of the Contractor. Such losses shall be replaced or repaired by the Contractor with no additional charges to SEWA.
- L. The Contractor shall keep the premises free from an accumulation of waste material or rubbish caused by his operations. At the completion of the work, the Contractor shall remove all waste materials and rubbish from the work areas as well as all tools, equipment, machinery and surplus materials and provide final clearing and return the space to its original condition.

### **2.09. Contractor to Provide**

- A. New Water Meters to be installed.
- B. AMI devices.
- C. AMI Software System.
- D. All assorted parts required to complete task.
- E. Contractor will house the new water meters.
- F. Utility does not have adequate work space for Contractor's project management team. Therefore, Contractor must provide its own office work space.

### **2.10. Utility to Provide**

- A. Work orders of locations for meters to be replaced.
- B. Replacement meter boxes if existing meter box is damaged before Contractor arrives at meter location.
- C. Replacement setters if existing setter is damaged before Contractor arrives at meter location.
- D. Replacement shut-off valves if shut-off valve is not working before Contractor arrives at meter location.

### **2.11. Warranty**

The Contractor shall guarantee workmanship for a period of 365 days.

### **2.12. Indemnity / Hold Harmless Agreement**

The Contractor agrees to protect, defend, indemnify, and hold harmless SEWA and its officers, directors, employees and agents from and against any and all losses, penalties, damages, settlements, claims, costs, charges for other expenses, or liabilities of every and any kind including attorney fees, in connection with or arising directly or indirectly out of the work agreed to or performed by Contractor under the terms of any agreement that may arise due to the bidding process. Without limiting the foregoing, any and all such claims,

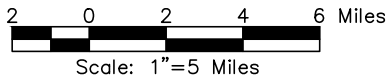
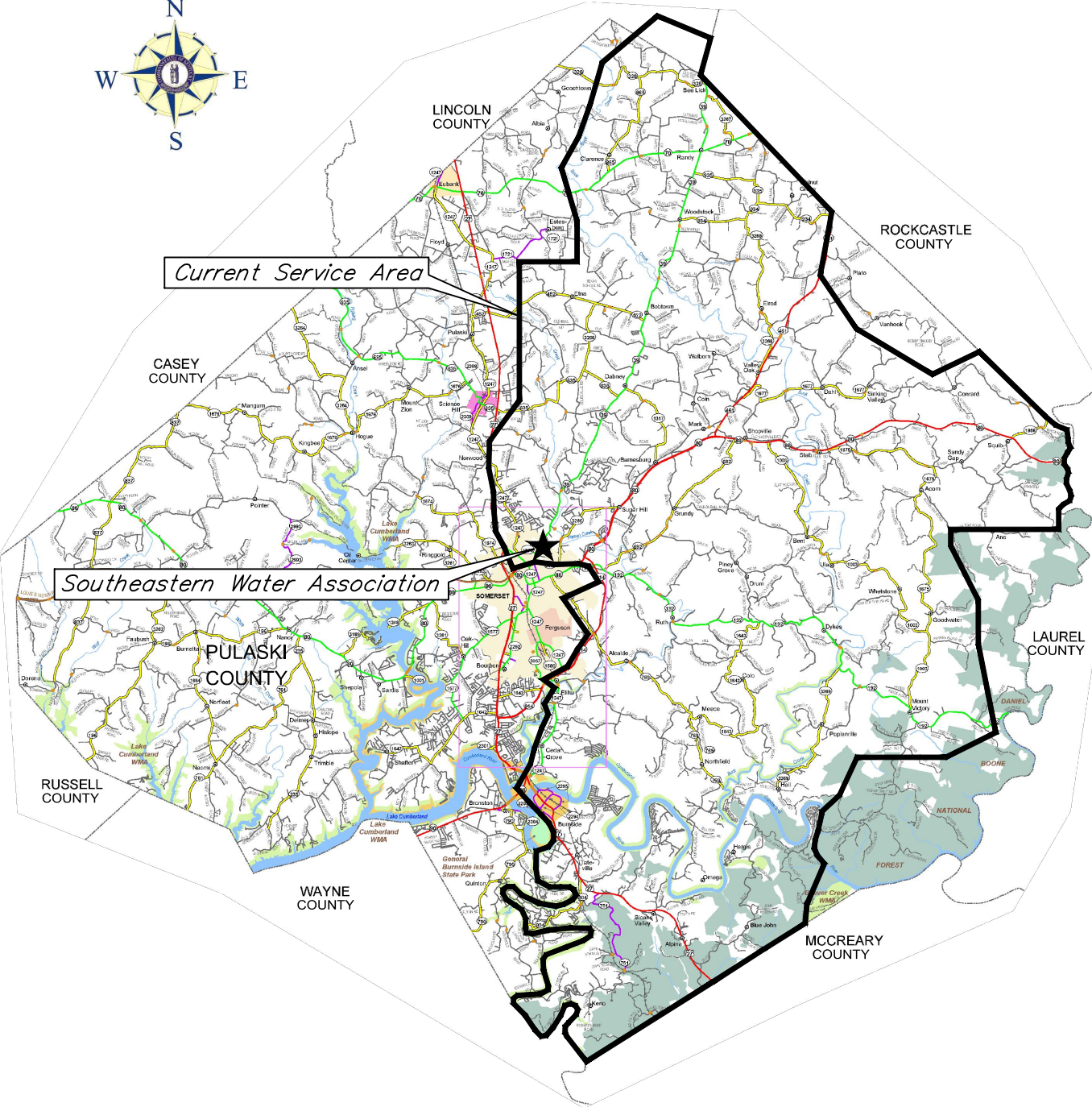
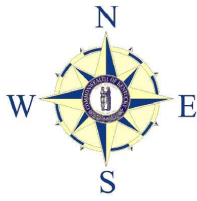
suits, or other actions relating to personal injury, death, damage to property, defects in materials or workmanship, actual or alleged violations of any applicable Statute, ordinance administrative order, rule or regulation, or decree of any court shall be included in the indemnity hereunder.

### **2.13 Laws and Ordinances**

The Contractor shall observe and comply with all Federal, state, local and municipal laws, ordinances, rules, and regulations that would apply to this contract.

# **SECTION SIX**

## **MAP OF SERVICE AREA**



**KENVIRONS, INC.**  
FRANKFORT, KENTUCKY

**FIGURE 1**  
**SOUTHEASTERN WATER ASSOCIATION**  
**LOCATION MAP**

# **SECTION SEVEN**

## **BID FORM**

**BID FORM  
WATER METERS AND AMI SYSTEM CONTRACT  
REQUEST NUMBER 2021-AMI**

**WATER METERS & SYSTEM ITEMS**

ITEM	DESCRIPTION	QUANTITY	UNIT PRICE	TOTAL
1	5/8 X 3/4-inch meter	8,000		
2	1-inch meter	10		
3	2-inch meter	5		
4	3-inch meter	1		
5	4-inch meter	1		
6	6-inch meter	1		
7	External Antenna	400		
8	Polymer Pit Lid	100		
9	HANDHELD RF DEVICE	4		
10	OPTICAL HEAD READER, Bluetooth	1		
11	OPTICAL HEAD READER, USB	1		
12	COLLECTOR, complete assembly including power supply transceiver, antennas, antenna mounting hardware, all cables	11		
13	AMI Software for total quantity of utility's water meters (<10,000 meters)			
14	Annual Software Licensing, Hosting Services and Support (<10,000 meters) (Price per year)			
15	Meter Exchange Software for specified total quantity of meters, (<10,000 meters)			
16	Annual Meter Exchange Licensing, Hosting and Support Services (<10,000 meters)			
17	Project Management Rollout: General support, billing interface, FCC license, onsite Kick-off meeting, systems acceptance testing, on-site system installation support commissioning, onsite installer/operator training for software & hardware			
18	Installation of Collector & Antenna Mounting	11		

**Sub-Total** \_\_\_\_\_

### Water Meter Installation

1	Installation of 5/8 X 3/4-inch meter	8,000		
2	Installation of 1-inch meter	10		
3	Installation of 2-inch meter	5		
4	Installation of 3-inch meter	1		
5	Installation of 4-inch meter	1		
6	Installation of 6-inch meter	1		
7	Installation of External Antenna	400		
8	Installation of Polymer Pit Lid	100		

**Sub-Total** \_\_\_\_\_  
**Grand Total** \_\_\_\_\_

Bidding Company \_\_\_\_\_

Representative \_\_\_\_\_

Signature \_\_\_\_\_

**ATTACHMENT A**

**SPECIFIC TERMS AND CONDITIONS**

*These Specific Terms and Conditions provided herein do not waive the General Terms and Conditions, but shall rule in the case of any contradiction with the General Terms and Conditions.*

- 1 SEWA will make the final decision for selection of the Vendor as a result of the comparison of services offered, and need not accept the lowest price. SEWA reserves the right to select the Bids(s) that best fits the needs of SEWA. No contract is formed as a result of the selection. A contract between SEWA and the Vendor occurs only after a negotiated final Agreement, and must include prior acceptance by the Board of Director
- 2 SEWA may withdraw this RFB at any time without explanation or comment. SEWA is under no obligation to accept any of the Bids submitted.
- 3 SEWA is not liable for any cost incurred by any Vendor as a result of participating in the RFB, formulating a Bid, the evaluation process, or the negotiations prior to the final Agreement.
- 4 The Bidder will be expected to enter into a final written contract to govern the terms of service.
- 5 SEWA's insurance requirements must be met consistent with requirements herein.
- 6 Any resulting contract must include provisions requiring compliance with Kentucky Statutes relating to prohibition against employment discrimination.
- 7 Any resulting contract will have a termination clause.
- 8 Please include a copy of any contracts or other written material you wish to incorporate in your Bid as required.

\_\_\_\_\_  
Name of Company Representative

\_\_\_\_\_  
Name of Company

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date



**ATTACHMENT B**

**BIDDER INFORMATION FORM**

(REQUIRED)

(IF APPLICABLE)

BIDDING COMPANY (DBA)

PARENT COMPANY

ADDRESS

ADDRESS

TELEPHONE

TELEPHONE

TELEPHONE #2

TELEPHONE #2

FAX

FAX

BIDDER'S B ADDRESS (IF ANY)

BIDDER'S B ADDRESS

YEAR ESTABLISHED AS CURRENT BUSINESS

YEAR ESTABLISHED AS CURRENT BUSINESS

EXPERIENCE WITH PRODUCTS OR SERVICES OFFERED

**FOR PRODUCT SELLERS:**

AMOUNT OF GENERAL LIABILITY INSURANCE MAINTAINED. \$2,000,000 MINIMUM

**FOR SERVICE CONTRACTORS:**

KENTUCKY WORKER'S COMPENSATION INSURANCE IN ACCORDANCE WITH THE REQUIREMENTS OF KRS 45A.480 AND KRS CHAPTER 342 (MAINTAINED; **YES/NO**)

REPRESENTATIVE (PRIMARY CONTACT)

TELEPHONE (DIRECT)

EMAIL ADDRESS

FAX



# **EXHIBIT 10**

# **PROJECT COST SUMMARY**

## **AMI System Project**

### **South Eastern Water Association, Inc.**

#### **PROJECT EXPENSES**

1. Equipment Purchase & Installation <sup>1</sup>	\$ 2,220,000
2. Kentucky Sales Tax <sup>2</sup>	103,461
3. Advertising and Miscellaneous	2,000
4. Contingency (Approx. 5% of Bid Amount)	<u>111,000</u>

**TOTAL PROJECT COST** **\$ 2,436,461**

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<sup>1</sup> Based upon actual bids received on May 4, 2021, but reduced by negotiation to \$2,220,000.

<sup>2</sup> Kentucky Sales Tax is based on material cost of \$1,724,350 (Bid Items 1-13) that will be subject to Kentucky Sales Tax of 6%.

# **EXHIBIT 11**

AFFIDAVIT OF PUBLICATION

I, Bethany Dawes, OF THE COMMONWEALTH JOURNAL, A LEGAL NEWSPAPER HOLDING A SECOND-CLASS PERMIT, PUBLISHED DAILY EXCEPT FOR SUNDAYS AND MONDAYS IN SOMERSET, COUNTY OF PULASKI, COMMONWEALTH OF KENTUCKY DO SWEAR THAT THE ATTACHED PROOF OF PUBLICATION OF A

X LEGAL NOTICE, AS REQUIRED AND PRESCRIBED BY KRS

X PAID ADVERTISEMENT

WAS PUBLISHED IN SAID NEWSPAPER IN THE ISSUE OF April 15, 2021  
FOR WHICH THE SUM \$ 177.<sup>00</sup> IS DUE AND PAYABLE

SIGNED: Bethany Dawes

TITLE: Classified Clerk

SUBSCRIBED AND SWORN TO BEFORE ME, A NOTARY PUBLIC FOR THE COUNTY OF PULASKI, COMMONWEALTH OF KENTUCKY THIS 21 DAY OF April 2021.

Brenda Wackmy  
MY COMMISSION EXPIRES Sept. 4, 2022

125 Community News



CAN I MAKE CHANGES TO MY MEDICARE ADVANTAGE COVERAGE AFTER DECEMBER 31? January 1 - March 31 each year, you can make these changes during the Medicare Advantage OPEN ENROLLMENT PERIOD!

Medicare Advantage Prescription Drug Plans Dual Eligible "Special Needs Plans" John L. Harmon Certified Senior Advisor First Insurance Group 2520 S Hwy 27 Somerset, Ky 42501 Call: 606-305-3087 Office: 606-479-3570 Please call to schedule appointment w CDC guidelines

225 General Help Wanted

World Bible School Free Bible Studies Send request to: BIBLE STUDY P.O. Box 44 Science Hill, KY 42553 Call or text: 1-931-227-6764 also: Email to: dgmcmullin@gmail.com Leave name and address with zip code

310 Homes for Rent

Woodson Bend Resort Condo for rent, Second Floor. Furnished 2 br 1 ba. New Stainless steel Refrigerator, large newer kitchen & bath room, all appliances and w/d included, screened in porch, sun deck and patio. Wood burning fireplace, golf cart storage. Nice View, Close to pool, tennis court, and golf course 24/7 Security. Pets considered \$850 / mo plus deposit and utilities. 1 yr lease Call 615-235-0535 Now Available

310 Homes for Rent

2nd bedroom brick, 2 ba laundry room, 2 car garage, new flooring, 1 mile from boat ramp, 4531 State Branch rd \$1200/month + deposit Call 606-305-4334

310 Homes for Rent

Gold Star Child Care Now hiring crew members including servers. Apply in person at stop light 20 Somerset Ky. Now Hiring School Parter. Must have current drivers license. Competitive pay Call/text 910-434-3373

310 Homes for Rent

LPN/RN with management skills for a 48 bed personal care facility. EOE. Apply in person at 220 Wortham in Monticello 42533 Call 606-348-9541 or 606-348-6201

310 Homes for Rent

Waste Connections of Kentucky 606-451-1838 DR 606-451-1810 > Hiring Class A or B CCL Residential Driver > NEW pay package (paid weekly) > Home every night > 401 K Match > Affordable Insurance > Vacation > Sign on Bonus > Quarterly Bonus

310 Homes for Rent

Weekend On Call RN Work 88 hours per paid for 40. Must have two years of RN experience to qualify for this position. We have two Weekend On Call RN positions available. One will work Friday Saturday and Sunday and the other will work Saturday Sunday and Monday. This schedule will be three, 12 hour shifts from 8am to 8pm. Please see our website www.hospice.org for more detailed info. Email resumes to drickery@hospice.org No phone calls please. Thank You!

225 General Help Wanted



Phlebotomist Somerset Mobile Hours: Flexible schedules with irregular hours (late nights & early mornings) including weekdays & some weekends. \$11 - \$13 per hour, based on education and experience, plus \$1 per hour mobile differential (additional .50 after Morris). Get paid while you train! Seeking Phlebotomist to screen and draw blood from volunteer blood donors. Travel with a team of phlebotomist by van or bloodmobile to sites in Kentucky. Requires excellent customer service skills, high professional standards, and the ability to learn new skills quickly. Must work well with others and have a desire to work with the public. Job appropriate (non-certification) training provided. Advancement opportunities available. This position is located in Somerset, but training will be approximately 10 - 12 weeks at our Beaumont location in Lexington (this time may not be consecutive) HealthyDentistAssociat Short Term Disability/ Long Term Disability/ Cancer Insurance/ Accident Insurance/Flexible Spending Account/ Health Savings Account/Paid Time Off/Paid Holidays/Employee Assistance Program/Retirement Savings Plan How to apply: Apply online at http://ky-bloodcenter.org/about-us/employment/ click on our current openings. Busy medical practice is currently seeking clinical assistants with positive attitudes. Job duties include but are not limited to: Prepare treatment and patient rooms for examinations by keeping a clean and neat environment. Chart the patient's care throughout the examination process both manually and electronically. Room patient and prepare them for the provider. Assist with patient contact, including patient phone calls and medications prior to authorization. Obtain medical record information from the patient such as vital, medications and prior health history. Check patient's vitals at the end of their visit by scheduling appointments, sending in medicines, etc. Follow up with referrals. Job Types: Full-time, 2 job Benefits: Paid time off, 401K Medical Specialty: Pulmonary, Sleep Medicine and Critical Care Schedule: 8 hour shift Day shift Monday to Friday Experience: Worked in a medical office 1 year (Preferred) EOE. Systems: 1 year (Preferred) Only full-time employees eligible Send resumes to: jobhunting2021@gmail.com

225 General Help Wanted

Full time RN for cancer center in Somerset, Kentucky. Full time, no weekends or holidays. Exc pay/benefits. Send resume to Jana Guffey @ Commonwealth Cancer Center. jguffey@coccy.com

225 General Help Wanted

Hiring OTR Truck Drivers Must live with in a 150 miles radius of Somerset, KY. Have 10 years work history and 5 years accident free history. Must pass background and drug test. 10 to 14 days on road. Will pay mileage or percentage. Call 606-341-0985 For more info

225 General Help Wanted

330 Rooms & LR. Free Bible Studies Send request to: BIBLE STUDY P.O. Box 44 Science Hill, KY 42553 Call or text: 1-931-227-6764 also: Email to: dgmcmullin@gmail.com Leave name and address with zip code

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225 General Help Wanted

Advanced Metering Infrastructure (the "AMI") System including water meters, AMI Software and related Service, and FCC Licensed AMI Reading System. Project plans, specifications, contract documents, and bid forms may be examined at, or obtained from, the Water Association office located at 147 East Somerset Church Road, Somerset, Kentucky 42503. Phone: 606-678-8501 - Attention: Moria Vaughn, General Manager or Email: sawan@wasa-w.com

225 General Help Wanted

Sealed bids shall be submitted on the bid forms provided and clearly marked on the outside of the envelope as follows: \*Sealed bid for AMI System Contract. Not to be opened until 1:00 pm EST on Tuesday, May 4, 2021. \*Sealed bids may be withdrawn for a period of 90 days after the bid opening date. Any bid received after the time and date specified herein shall be returned unopened to the bidder. Work to be performed by contractors involved in this project is not subject to the minimum wage rates established by the U.S. Department of Labor under the provisions of the Davis-Bacon Act. The Water Association reserves the right to accept any bid, to reject any or all bids, to waive any irregularities or irregularities, and to determine the bid evaluated for as determined by the Board of Directors of the Water Association. South Eastern Water Association, Inc.

345 Mobile Homes For Rent



1, 2, or 3 bedroom 650 - 750 per month Great for elderly/retirees. In Bronston/ Burnside area. Newly remodeled Call 606-872-8555

345 Mobile Homes For Rent

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BUSINESS and SERVICE MARKETPLACE

Grid of various service advertisements including: CONSTRUCTION (All Season Construction & Remodeling), GARAGE DOORS (Garage Doors, Opener Installation), HOME IMPROV. (Floor Leveling, Structural Repair, Termites, Crawlspace Repair), PAINTING (Interior/Exterior Painting), PLUMBING (Greg Hamm Plumbing Inc.), ROOFING (All Season Construction & Remodeling), ELECTRICAL (Epperson Electric), HOUSE CLEANING (House Cleaning), GUTTERS (Gutters), LAWN SERVICE (Green Acres Lawn Care), HANDYMAN SVCS (Handyman), INSURANCE CLAIMS SPECIALISTS (Insurance Claims Specialists), ELDER CARE (Elder Care), TREE SERVICE (Sam's Tree Stump Grinding), LUMBER (Band Sawed Lumber), and TREE SERVICE (Johnson's Tree Service).

PUBLIC NOTICES

Public Notice regarding Kabanjura LLC (the Poppa's Legacy) hereby declares its intention to apply for a Quick Retail Package License and Big Retail Mail Services Franchise License no later than Monday, April 19, 2021. The licensed premises will be located at 4233 E HWY 91, Monticello, Kentucky 42031. The sole owner and president is Parvathana Patel, 44 Hickory Ln, Somerset KY 42504. Any person, association, corporation, or body politic may protest the granting of the license(s) by writing the Department of Alcoholic Beverage Control, 520 West 25233 Franklin, Kentucky, 40502, within thirty (30) days of the date of legal publication.

INVITATION TO BID The City of Somerset Sanitation Department will be accepting sealed bids for 8 additional # 3/4 Compactors and 8 Special # 3/4 Compactors in open bids. Bids must be received by 10:00 am on April 29, 2021 and should be addressed as follows: Mr. & Mrs. Donnie Miller, City of Somerset, 306 E. Mt. Vernon St, Somerset, KY 42501

ADVERTISEMENT FOR BIDS Sealed bids will be received by the South Eastern Water Association, Inc. (the "Water Association") until Tuesday, May 4, 2021 at 1:00 pm EST at the Water Association office located at 147 East Somerset Church Road, Somerset, Kentucky 42503. Phone: 606-678-8501 - Attention: Moria Vaughn, General Manager or Email: sawan@wasa-w.com

Sealed bids shall be submitted on the bid forms provided and clearly marked on the outside of the envelope as follows: \*Sealed bid for AMI System Contract. Not to be opened until 1:00 pm EST on Tuesday, May 4, 2021. \*Sealed bids may be withdrawn for a period of 90 days after the bid opening date. Any bid received after the time and date specified herein shall be returned unopened to the bidder. Work to be performed by contractors involved in this project is not subject to the minimum wage rates established by the U.S. Department of Labor under the provisions of the Davis-Bacon Act. The Water Association reserves the right to accept any bid, to reject any or all bids, to waive any irregularities or irregularities, and to determine the bid evaluated for as determined by the Board of Directors of the Water Association. South Eastern Water Association, Inc.

Let people know about your business or service by advertising in the Commonwealth Journal Classifieds Marketplace! Call 606-678-8191 or email to classifieds@somerset-kentucky.com

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# **EXHIBIT 12**



**BID FORM  
WATER METERS AND AMI SYSTEM CONTRACT  
REQUEST NUMBER 2021-AMI**

**WATER METERS & SYSTEM ITEMS**

<b>ITEM</b>	<b>DESCRIPTION</b>	<b>QUANTITY</b>	<b>UNIT PRICE</b>	<b>TOTAL</b>
1	FlowIQ 2250 5/8 X 3/4-inch meter	8,000	\$ 205.32	\$1,642,560.00
2	FlowIQ 2250 1-inch meter	10	\$ 258.23	\$ 2,582.30
3	FlowIQ 3250 2-inch meter	5	\$ 802.40	\$ 4,012.00
4	FlowIQ 3250 3-inch meter	1	\$ 1,621.78	\$ 1,621.78
5	FlowIQ 3250 4-inch meter	1	\$ 2,326.90	\$ 2,326.90
6	Siemens MAG8000 + MTU 6-inch meter	1	\$ 3,830.45	\$ 3,830.45
7	External Antenna	400	\$ 32.50	\$ 13,000.00
8	Polymer Pit Lid	100	\$ 25.50	\$ 2,555.00
9	READY Converter Advanced- HANDHELD RF DEVICE	2	\$ 2,151.60	\$2,151.60
10	OPTICAL HEAD READER, Bluetooth	1	\$ 552.60	\$552.60
11	OPTICAL HEAD READER, USB	1	\$ 285.75	\$ 285.75
12	COLLECTOR, complete assembly including power supply transceiver, antennas, antenna mounting hardware, all cables	11	\$ 6,500.00	\$ 6,500.00
13	AMI Software for total quantity of utility's water meters (<10,000 meters)		\$ 42,371.00	\$ 42,371.00
14	Annual Software Licensing, Hosting Services and Support (<10,000 meters) (Price per year)		\$ 19,369.00	\$ 19,369.00
15	Meter Exchange Software for specified total quantity of meters, (<10,000 meters)		\$ 3,463.00	\$3,463.00
16	Annual Meter Exchange Licensing, Hosting and Support Services (<10,000 meters)		\$ 1,747.00	\$ 1,747.00
17	Project Management Rollout: General support, billing interface, FCC license, onsite Kick-off meeting, systems acceptance testing, on-site system installation support commissioning, onsite installer/operator training for software & hardware		\$ 40,060.00	\$ 40,060.00
18	Installation of Collector & Antenna Mounting	11	\$ 3,500.00	\$ 38,500.00

**Sub-Total \$ 1,856,139.62**

### Water Meter Installation

1	Installation of 5/8 X 3/4-inch meter	8,000	\$ 39.00	\$ 312,000.00
2	Installation of 1-inch meter	10	\$ 39.00	\$ 390.00
3	Installation of 2-inch meter	5	\$ 215.00	\$ 1,075.00
4	Installation of 3-inch meter	1	\$ 425.00	\$ 425.00
5	Installation of 4-inch meter	1	\$ 625.00	\$ 625.00
6	Installation of 6-inch meter	1	\$ 825.00	\$ 825.00
7	Installation of External Antenna	400	\$ 35.85	\$ 14,340.00
8	Installation of Polymer Pit Lid	100	\$ 19.22	\$ 1,922.00

**Sub-Total**     \$ 370,102.00  
**Grand Total**   \$ 2,226,241.62

- **\*Pricing above does not include 6% Kentucky State Tax. This will be added to each individual invoice .**

Bidding Company                     Allied utility Solutions, LLC                    

Representative                     Brooke Bates                    

Signature                     *B. Bates*

# **EXHIBIT 13**

**Estimated Annual Cost of Operation**  
**AMI System Project**  
**South Eastern Water Association, Inc.**

**Description**

1. Annual Software Licensing, Hosting Services and Support Fee	\$ 19,369
2. Annual Meter Exchange Licensing, Hosting and Support Services	<u>1,747</u>
<b>ESTIMATED TOTAL ANNUAL COST OF OPERATION</b>	<b>\$ 21,116</b>

# **EXHIBIT 14**

**36150 South Eastern Water Association, Inc. 01/01/2020 - 12/31/2020**

**Balance Sheet - Assets and Other Debits (Ref Page: 7)**

	Previous Year	Current Year
<b>UTILITY PLANT</b>		
Utility Plant (101-106)	\$36,468,890.00	\$38,133,439.00
Less: Accumulated Depreciation and Amortization (108-110)	\$15,730,235.00	\$16,629,438.00
Net Plant	\$20,738,655.00	\$21,504,001.00
Utility Plant Acquisition Adjustments (Net) (114-115)		
Other Utility Plant Adjustments (116)		
<b>Total Net Utility Plant</b>	<b>\$20,738,655.00</b>	<b>\$21,504,001.00</b>
<b>OTHER PROPERTY AND INVESTMENTS</b>		
Nonutility Property (121)		
Less: Accumulated Depreciation and Amortization (122)		
Net Nonutility Property		
Investment in Associated Companies (123)		
Utility and Other Investments (124-125)		
Sinking Funds (126)		
Other Special Funds (127)		
<b>Total Other Property and Investments</b>		
<b>CURRENT AND ACCRUED ASSETS</b>		
Cash (131)	\$2,035,198.00	\$3,734,608.00
Special Deposits (132)		
Other Special Deposits (133)		
Working Funds (134)		
Temporary Cash Investments (135)	\$4,105,430.00	\$2,500,118.00
Accounts and Notes Receivable, Less Accumulated Provision for Uncollectible Accounts (141-144)	\$322,987.00	\$389,832.00
Accounts Receivable from Associated Companies (145)		
Notes Receivable from Associated Companies (146)		
Materials and Supplies (151-153)	\$118,766.00	\$157,733.00
Stores Expense (161)		
Prepayments (162)	\$38,724.00	\$56,015.00
Accrued Interest and Dividends Receivable (171)		
Rents Receivable (172)		
Accrued Utility Revenues (173)		

**36150 South Eastern Water Association, Inc. 01/01/2020 - 12/31/2020**

**Balance Sheet - Assets and Other Debits (Ref Page: 7)**

	Previous Year	Current Year
<b>Misc. Current and Accrued Assets (174)</b>		
Total Current and Accrued Assets	\$6,621,105.00	\$6,838,306.00
<b>DEFERRED DEBITS</b>		
Unamortized Debt Discount and Expense (181)		
Extraordinary Property Losses (182)		
Preliminary Survey and Investigation Charges (183)		
Clearing Accounts (184)		
Temporary Facilities (185)		
Misc. Deferred Debits (186)		
Research and Development Expenditure (187)		
Total Deferred Debits	\$0.00	
<b>TOTAL ASSETS AND OTHER DEBITS</b>	<b>\$27,359,760.00</b>	<b>\$28,342,307.00</b>

**36150 South Eastern Water Association, Inc. 01/01/2020 - 12/31/2020**

**Balance Sheet - Equity Capital and Liabilities (Ref Page: 9)**

	Previous Year	Current Year
<b>EQUITY CAPITAL</b>		
Appropriated Retained Earnings (214)	\$2,248,033.00	\$2,660,137.00
Retained Earnings From Income before contributions (215.1)	\$1,507,423.00	\$1,944,364.00
Donated Capital (215.2)	\$13,020,560.00	\$13,025,680.00
<b>Total Equity Capital</b>	<b>\$16,776,016.00</b>	<b>\$17,630,181.00</b>
<b>LONG-TERM DEBT</b>		
<b>Bonds (221)</b>		
Reaquired Bonds (222)		
Advances from Associated Companies (223)		
Other Long-Term Debt (224)	\$10,228,085.00	\$10,372,365.00
<b>Total Long Term Debt</b>	<b>\$10,228,085.00</b>	<b>\$10,372,365.00</b>
<b>CURRENT AND ACCRUED LIABILITIES</b>		
Accounts Payable (231)	\$156,253.00	\$136,540.00
Notes Payable (232)		
Accounts Payable to Associated Co. (233)		
Notes Payable to Associated Co (234)		
Customer Deposits (235)	\$118,335.00	\$122,360.00
Accrued Taxes (236)	\$16,608.00	\$15,513.00
Accrued Interest (237)	\$56,228.00	\$57,113.00
Matured Long-Term Debt (239)		
Matured Interest (240)		
Tax Collections Payable (241)		
Misc. Current and Accrued Liabilities (242)	\$8,235.00	\$8,235.00
<b>Total Current and Accrued Liabilities</b>	<b>\$355,659.00</b>	<b>\$339,761.00</b>
<b>DEFERRED CREDITS</b>		
Unamortized Premium on Debt (251)		
Advances for Construction (252)		
Other Deferred Credits (253)		
<b>Total Deferred Credits</b>		
<b>OPERATING RESERVES</b>		
Accumulated Provision For:		
Property Insurance (261)		



36150 South Eastern Water Association, Inc. 01/01/2020 - 12/31/2020

Balance Sheet - Equity Capital and Liabilities (Ref Page: 9)

	Previous Year	Current Year
Injuries and Damages (262)		
Pensions and Benefits (263)		
Miscellaneous Operating Reserves (265)		
Total Operating Reserves		
Total Equity Capital and Liabilities	\$27,359,760.00	\$28,342,307.00