Brunswick-Glynn County
Joint Water and Sewer Commission

RFI No. 20-006
Request For Information

Metering System and
Meter Data Management System
for the
Brunswick-Glynn County Joint Water and Sewer Commission

Wednesday, August 21, 2019

Responses Due by:

12:00 NOON, EDT Tuesday, October 1, 2019 to:

Purchasing Division
Joint Water and Sewer Commission
1703 Gloucester Street
Brunswick, Georgia 31520
(912) 261-7127

Submit responses in hard copy only; electronic or fax responses will not be accepted. Responses received after the deadline or at any other locations will not be accepted.

Questions must be directed in writing no later than Friday, September 13, 2019 by 5:00PM (via e-mail) to the Purchasing Director, Pamela Drury-Crosby, email- pcrosby@bgjwsc.org

FOR COMPLETE DETAILS OF THIS SOLICITATION, please visit the BGJWSC website, utilizing the following link:

http://www.bgjwsc.org/departments/procurement/

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METERING SYSTEM AND METER DATA MANAGEMENT SYSTEM

I. Intent and Purpose

The Brunswick-Glynn County Joint Water and Sewer Commission (JWSC) is seeking information from water meter manufacturers regarding the technical capabilities of their water meters and related mobile, drive-by, fixed network meter, Mesh Network AMI, Cellular AMI, cellular automatic meter reading (AMR) and mobile drive-by systems to meet the current and future meter reading needs of the utility. The overall goal of this Request for Information (RFI) is to gather information to assist with the development of bid or proposal specifications that will meet the JWSC's short term and long term goals for meter reading and water system management.

Response to this RFI may be submitted by any meter manufacturer interested in providing the JWSC with information on two way communication mobile AMR with the capability of migrating to a fixed network AMI or cellular based system. The system must integrate with the JWSC's customer information (CIS) and billing system, Innoprise ERP suite by Harris Computer Systems. Any proposer must demonstrate at least five years' experience in the manufacture and delivery of 1.) Mechanical Positive Displacement (PD) meters, Mechanical Multi-Jet meters, and/or solid state (SS) type with absolute encoder registers/meter interface units (MIU), and 2.) Radio frequency (RF) and cellular automatic meter reading (AMI) endpoint modules. RF endpoints must be able to migrate from mobile drive by system for use in a fixed network AMI system.

Responses to this RFI will be reviewed for informational purposes only and will **NOT** result in the award of a contract. However, it is possible that the evaluation team may request a presentation/demonstration in order to have a better understanding of the product described.

Any request for cost information is for the JWSC's **budgetary preparation purposes only and is not binding.**

RESPONSES TO THIS REQUEST FOR INFORMATION (RFI) ARE DUE TO THE JWSC BY TUESDAY, OCTOBER 1, 2019. RESPONSE TO THIS RFI IS A MANDATORY PRE-REQUISITE FOR ANY FUTURE SUBMITTAL OF A PROPOSAL OR BID IN AN UPCOMING JWSC REPLACEMENT METER AND AMR/AMI/CELLULAR SYSTEMS REQUEST FOR PROPOSAL (RFP) OR INVITATION TO BID (ITB).

II. Current System Overview

The JWSC has been upgrading its current AMR "drive by" system, investing in cellular endpoint-based Advance Metering Infrastructure (AMI) and a Meter Data Management (MDM) system for its water utilities for several years. The JWSC serves approximately 30,986 active metered customers throughout Glynn County, Georgia. The service area encompasses approximately 585 square miles of varying population density.

The JWSC currently reads over 3,000 of its AMR meters manually each month. The rate of AMR failure of the remaining 27,000 meters due to batteries reaching the end of their useful life is increasing monthly.

The BGJWSC's 29,519 water meters consist of the following breakdown by size:

No. Meters	**Size Meter**
21,792	⅝" x ¾"
6,162	1"
230	1.5"
518	2"
270	3"
411	4"
120	6"
16	8"

The JWSC's meter department consists of four meter readers, one meter services data analyst, and two supervisors that operate and maintain a hybrid of Badger meter and Metron meters. There are approximately 27,994 Badger, 2,609 Metron, and 3,337 manual read accounts. Fifty-nine meter routes are read and billed on a monthly basis.

The meters have been incrementally updated with the most state-of-the-art Metron metrology and meter interface units (MIUs) as meter failures, radio failures, and/or new customers have been added to the system. This approach has resulted in a mix of changes specifically to the endpoint reading technologies attached to brass bodied nutating disk PD meters.

Our meter to cash process is an integration between our AMR systems and our CIS/billing system. The JWSC's customer information system (CIS) and billing system that integrates and reconciles the meter readings is Harris Computer Systems and their contact information can be provided upon request.

Reading Workflow

At the start of each new billing cycle, meter reading files are exported from Harris utility billing system by route and meter manufacturer type. Data is then imported to the meter reading (meter services data analyst) workstation/desktop computer hosting the Badger CONNECT and/or Metron Water-Scope software. Water-Scope is a hosted website. BGJWSC is currently using two different types of meter manufacturers' and reading software. The route files can be divided and exported from Harris billing system by meter manufacturer, which then can be uploaded in to the proper reading software. Once routes are imported into the Badger CONNECT software, routes are then loaded on a thumb drive. The route is then dispatched to a meter service technician to go out and collect the meter reading data via Orion drive by radio read system. Once the technician finishes the route, the data is then brought back and uploaded into the

CONNECT software and is sent back to Harris to be approved for billing. Once routes are imported into the Metron Water-Scope software, the routes are then quickly exported back to Harris to be approved for billing. Due to Metron water meters being cellular meters, this process can be done fairly quickly from anywhere there is an internet connection present. The meter services manager and the meter services data analyst reviews the readings for exceptions and potential meter problems. A service order is generated to go out and repair or reread any potential meter concerns before being posted and released to the billing department.

Meter Replacement and New Installation Workflows

Once a meter is determined to be dead or recording inaccurately, a work order is created and dispatched to a meter service technician. The technician will make the determination whether or not the meter will be replaced and/or upgraded or retrofitted with Metron Cellular meters so that revenue is not a continuous loss. Once a meter change out is completed, the paperwork is brought back to the meter services manager so that the new meter information can be updated and reflected on the customer's account.

BGJWSC is currently installing Metron meters of all approved system sizes for new meter installations. Those meters are currently being installed by BGJWSC Water Distribution crew members.

The BGJWSC Metron Cellular meters have the capability of allowing customers to log-in via the Water-Scope portal. This portal allows customers to receive different notifications such as leaks, high-usage, or intermittent leaks. The Water-Scope portal also gives the customer access to see all of their daily consumption. The data in Water-Scope is uploaded once daily from a cellular embedded chip that is stored inside the meter register's electronics. Some type of Customer Portal would be required for new meters.

III. Goals For Future Water Meter Reading

We are looking to replace or upgrade all current meters. The JWSC change out will be phased over several years beginning with the meters that are failing addressed first. The overall timeline will be evaluated depending on costs. The goal is to purchase a system that will allow for a maximum ten (10) year payback.

The JWSC's goal is to replace 30,496 meters with reading endpoints for all meters less than two inches or less, and 490 greater than two inches. JWSC wants to evaluate available metrology and MIU endpoint solutions that will result in either a complete drive-by read system that is fully capable of migrating to a fixed network system; or if the total installed upfront cost of a fixed network solution can be demonstrated as cost competitive, via cellular or other communication protocol, it will be separately considered on its own in comparison to the desired migratable RF system. These meters will be a mix of radios coupled to the meter and/or wired to an appropriate location separated from the meter. The meter replacement program should be completed within a five year window. The new software must be able to integrate and be compatible with the Harris Innoprise CIS billing software including seamless parallel systems interfacing (import and export file creation) for the entire duration of the meter replacement program to maintain consistent billing and service continuity. The JWSC must maintain the ability to read and bill during the project and once the meter replacement project is completed.

The BGJWSC intends to evaluate all possible options to purchase or lease a head-end system with a combined MDMS as a "turn-key" system. All meter sizes currently utilized by the BGJWSC must be available to be read using the same meter system.

The evaluation team would like to consider all costs as part of their final evaluation. To that end, the design and installation of all aspects associated with the system, including but not limited to meters, meter boxes, lids, backflow preventers (up to and including 2" meters), registers, transmitters, and antenna mounts as needed to properly operate the system will need to be included. Piping adjustments necessary due to lay length changes must be accommodated by the eventual service providers. Service providers will work in conjunction with BGJWSC staff to accommodate any needed changes to vaults or setters for all meters 3" and above in size.

Note that the BGJWSC plans to replace all water meter lids with heavy duty, traffic rated, and polymer composite lids with magnetic strips and 1 7/8" transmitter hole to enable better communication.

Key system goals beyond enhancing services to JWSC customers, including improved billing accuracy, faster customer response and more efficient customer service, may include:

- Providing granular usage information to educate consumers using web applications, thereby empowering the JWSC's residential and business customers to control usage and costs
- Monitor leaks and abnormal usage patterns and improve the JWSC's operational efficiency and reduce costs through reliable interval data from water meter reads for prompt notification of leaks, tampering and theft
- Providing on off cycle readings without impacting equipment warranties
- Enabling data use for advanced analytics, including hydraulic modeling, GIS mapping (ESRI or equivalent), among other applications
- On-demand move-in / move-out remote meter reads
- Improved system reliability

We are looking to introduce a meter data management system that can provide vendor neutrality. We expressly must avoid getting locked into a solution that forces utilization of a specific meter manufacturer or AMI-associated technology vendor on an on-going basis or to the detriment of future expansion possibilities.

Some metering products have AMI systems that incorporate an MDM system in their base offering or functionality that is a near equivalent of an MDM system. One of the questions still unanswered is if a separate MDM system is necessary. The ability to fully integrate as separate MDM system and AMI system is a concern. JWSC wants to ensure that the JWSC staff users of the system will have a wide range of control and information available to help them easily and quickly offer the JWSC's internal and external customers every useful feature and service that is practical and affordable.

We are requesting technical information, system capabilities and budgetary costs that will include the following:

- **<u>Meter System</u>**
  1) Provide the name of the product(s) and systems(s) for which information is provided. Attach pertinent product information to your response.

2) Please provide a brief description of your system including network diagrams and all required AMI technologies. Please keep the summary to less than five (5) pages.
3) Provide a list and definitions of any acronyms, trademarks or trade names used to describe your product offering.
4) Describe whether your system could communicate with existing Badger or Metron systems. Describe how your system might be adaptable to existing Badger or Metron meters with either a register or endpoint replacement. If only the endpoint transmitter gets replaced, what information is carried from the meter to the transmitter? Please provide a few reference systems where this has been successfully employed.
5) List some current water systems (over 20,000 meters) using the proposed system. Are any in Georgia? Please provide general project information including:
    - Job Name
    - Contract Amount
    - Number of Meters and Manufacturer
    - Range of Meter Size
    - Number and Types of Transmitters
    - Number of Data Collection Units (DCUs)/Repeaters
    - Date Completed or Percent Completed
    - City, Town, Owner or District
    - Option for a Site Visit (Yes / No)
    - Was an MDM system purchased by the utility initially?
    - Was an MDM system purchased by the utility eventually?
    - If an MDM system was used with a utility's AMI system, which MDM was installed?
6) Can you integrate with our current Harris Computer's CIS and Innoprise ERP billing systems? Please list any utilities that you have successfully integrated using this specific Harris Computer software.
7) With which meter data management systems can you integrate?
8) With which Customer Information Systems can you integrate?
9) Does your system integrate with ESRI-based GIS, SCADA?
10) List the water smart features/technologies that are currently part of your system.
11) List the water smart features/technologies that are on your technology roadmap.
12) Does your system accept drive-by reads for areas outside of the network?
13) If included, what does the cellular, LORA, W-Fi, or other contract cost cover? Include terms of annual software maintenance agreements.
14) Describe the method for correcting performance issues related to issues such as obstructions or underwater/flooded placements.
15) What are reporting capabilities and available exporting formats? What canned reports do you currently offer? Can your system provide the following: meter exceptions, meter reads, meter events, communications, exceptional consumption, and continuous consumption? Are customizable reports available?
16) Does your system have the ability to create different levels of access for users (i.e. – view only vs. full access / ability to change)?

17) How granular are the reads?
18) Does your system allow for the ability to look at data in various phases (i.e., - raw, processed and validated)?
19) Can your system identify and present problematic data to operators for resolution before it reaches the JWSC billing system?
20) How long does your system retain hourly usage data?
21) Does your system have the ability to manually insert raw register read or perform validation for a given meter? Describe data validation in the system including automated reading estimation, gap filling extrapolation, and manual read editing.
22) Do you offer a SaaS? If so, please provide details. Do servers undergo annual penetration testing?
23) Does your system meet the latest standards of AWWA related to security?
24) What is your system's AES encryption level? Please provide information on configuring authentication / authorization / logging and encryption on all components. List all IEEE and ANSI standards that the components that satisfy compliance.
25) Describe your system's host intrusion detection system to detect attempted unauthorized access. Does it alert administrators of the AMI system to these attempts?
26) Detail the type of customer portal/app of your system.
27) What type of training do you provide users at time of implementation? Is it onsite? If not, is that possible and what cost structure and rates would apply?
28) Do you have annual or regional conferences for the user group for your service?
29) What is your ongoing support technical plan? Is there a cost associated with this? What are your service hours of operation?
30) Do you offer a lease/purchase or finance option for your product?
31) Do you offer a pilot program? If so, what are its general costs if any?
32) Can you give an overview of your implementation process?
33) Do you have a staff member who is PMP certified to manage the implementation of the project?
34) State how long you have been in business under the same business name and owner/management structure. State how long the described meter and system products have been on the market.
35) Does your system have any known "critical flaws"?
36) Does your system have any "unique features" not available in other systems? If so, explain how that might be advantageous to the JWSC.
37) Are there any ongoing enhancements planned for your system within the next three (3) years?
38) Have you ever been terminated on an awarded contract or otherwise failed to complete any work awarded? If "yes", describe the circumstances.
39) Describe how the module and system software accommodates compound meters
40) Describe how the module and system software accommodates billing of multiple meters on one account.

- **<u>Network</u>**
  1) What percentage of coverage will you guarantee on a service level agreement?
     - What are the terms and minimums of the SLA for the current failing meters?
     - What are the terms and minimums of the SLA for the planned area replacements?
  2) Provide installation expectations. Describe local network, server and operating system

requirements.

3) Define your network type (mesh, fixed, etc.).
4) Do you provide a NaaS?
5) Is your network capable of switching cellular providers or is it proprietary in some way as to be a barrier to change in the future?

- **Meters**

1) What meter type are you proposing for the JWSC? Attach pertinent product information to your response.
2) What is the accuracy guarantee of these meters? Describe compliance with industry manufacture standards and lead regulation for each type and size of water meter described. Describe meter accuracy at all flow ranges and head loss performance relative to the applicable AWWA standards for all sizes. Include data related to accuracy and meter age.
3) Is the endpoint compatible with multiple meter manufacturers?
4) Are there any environmental limitations of the meters/endpoints (extreme heat or cold, submersion in water, etc)?
5) Can a retrofit program be created using your register on our current Badger brass bodies?
6) What are the smart capabilities (pressure sensor, utility side leak detection, customer side leak detection, remote cutoff) of your meters?
7) What is the expected life of your registers, bodies and batteries?
8) Are secondary batteries included in your solution?
9) Are batteries separately replaceable? If yes, will the replacement need to recalibrate any sensing capability? If battery dies, is the memory maintained or retrievable?
10) Are batteries field replaceable? Are the batteries potted? Does the module transmit a low-battery alarm? How soon before failure is the alarm transmitted? What type of usage would impact validity of battery warranty? Please explain when the warranty begins relative to the date of manufacture or the date of install.
11) What is your initial warranty? Please provide a copy.
12) What is your ongoing warranty? Please provide a copy.
13) Are there any ongoing enhancements planned for your product within the next three (3) years? If so, please provide a brief description of these additions or changes that are planned.
14) Do you have annual or regional conferences for the user group for your product?
15) Do you make all components used in the proposed system? If not, identify all other suppliers and manufacturing locations for the products that they offer and if there is an affiliation with the supplier. Please include company name, contact, address, phone, fax, e-mail and website.
16) Describe the installation process steps and timeframe to make a new installation or replacement.
17) If meter register is battery powered will the meter continue to record flow and can it be manually read if the battery dies? Describe if the reading display is manual or electronic.
18) Describe product delivery including the timing of the date of order and product arrival. Include any circumstances that could have an effect on lead time.

- **MDM System**

1) Provide the name of the product(s) and systems(s) for which information is provided. Attach pertinent product information to your response.
2) Do you offer a SaaS?
3) List some current water systems (over 20,000 meters) using the proposed system? Are any in Georgia?
4) Can you integrate with our current Harris Innoprise CIS billing systems? List any utilities with which you have successfully integrated using Harris Innoprise CIS billing systems.
5) Will your deployed technology be changeable and interoperable with future systems and with new technologies?
6) Describe the process for synchronizing customer name, address and other account information between the billing system and the MDM system. Identify manual and automatic portions of the process. Identify whether you have automated synchronization of account data with Harris software.
7) Are there any Cellular/AMR systems with which do not integrate?
8) With which Customer Information Systems can you integrate?
9) Can your MDM system integrate with GIS, SCADA?
10) List the water smart features/technologies that are currently part of your system.
11) List the water smart features/technologies that are on your technology 'build plan'.
12) What are the systems reporting capabilities and available exporting formats?
13) How granular can the meter reads be input and displayed?
14) Do you have a customer portal/app? If yes, what are the associated costs for both JWSC and our external customers?
15) Do you have customer conservation features?
16) Do you have customer notification capabilities?
17) What internal customer service facing capabilities does your software provide?
18) What operational facing capabilities does your system provide?
19) Have you ever been terminated on an awarded contract or otherwise failed to complete any work awarded? If "yes", describe the circumstances.

Include any additional information not already included elsewhere in your response that you consider relevant to the JWSC. Based on the goals listed above, your response should provide the following:

Supplier Background

Provide a brief history of your company including the year organized, locations, affiliated companies, and the total number of employees.

1) Describe your company's market presence in the United States. Where are the components manufactured? Explain how dynamic trade provisions might impact equipment availability and pricing.
2) Is the proposed system wholly owned or do you partner with other suppliers to supply the completed system? Identify any such affiliations.
3) Discuss your company's experience in implementing various metering solutions. What is the expertise level of the project team that would be assigned to this project?

4) Has your company ever been terminated on an awarded contract or failed to complete any awarded work within the contract timelines? If yes, explain.

Product Overview

1) Describe your understanding and approach to accomplishing the items described in the previous sections.
2) Describe your suggested solution; emphasizing SaaS and integration capabilities. Explain why this solution was recommended.
3) Describe the capability to customize both visual and data elements in the solution.
4) Describe reporting current capabilities and possibilities.
5) What is the percent failure rate or downtime of your system?

Product Components

Provide a list of products that will be necessary to support the JWSC's needs, to include system requirements for any necessary:

1) Software, including licensing and licensing structure(s);
    - Explain functional capabilities;
    - Explain how preventative maintenance, prioritization, failure, and condition alerts are handled
2) Hardware, if any, required onsite at the JWSC;
3) Proposed geographical location for data and document storage and the availability of data particularly during non-business hours
4) Third party products, both required and/or optional;
5) Warranty;
6) On-going maintenance & support;
7) Disaster recovery and redundancy issues and
8) How long (in years) will system components be fully supported and replacement parts be available?

Reporting

Describe the types of canned reports available to the JWSC and to individual employees. Provide sample reports for those typically used by employers and employees. Describe the ability to create customized reports and any limitations associated with doing so in the base system. Describe any available external reports available.

Cost

Provide an **estimated lump sum** cost range of the base proposed solution for **budgeting purposes only**. Using the following list, identify the modules or functionalities that are part of the proposed based system and which will incur an additional cost:

1) List of each module/functionality;
2) Installation, implementation and configuration;
3) Data ingestion, migration, conversion and/or storage;
4) Training for CSRs, Finance, Metering, Information Technology and other End Users;
5) Maintenance & support for the term of a contract;
6) Frequency of recurring subscriber costs and how they are broken down; and
7) Are there any additional anticipated consulting or other costs not listed above?

Proposed Implementation/Maintenance

8) Provide an overview of the implementation process and its' complexity.
9) Describe the contribution/commitment level needed from BGJWSC staff during implementation
10) Describe the timeline and level of effort to implement the system as proposed including how data from our current system would be transferred to the new system.
    - How much historical data will be transferred?
11) Describe the training your company would provide in using this solution for our employees. The JWSC prefers on-site, classroom-based hands-on training in labs with content tailored to use elements from our data environment. We have training facilities on site.
12) Provide a technical explanation of information technology security controls including:
    - User authentication;
    - Access roles and division of duties;
    - System generated audit trails and reporting;
    - Historical data retention; and
13) Describe the parameters of the Service Level Agreement, description of change management controls and release schedule(s) for security patches, bug fixes, maintenance and enhancements.
14) Describe your business continuity and/or disaster recovery plans and any additional costs associated with these plans.

Proprietary Information

Any portion of the submitted response which is asserted to be exempt from disclosure under OCGA § 50-18-72, shall be clearly marked "exempt", "confidential", or "trade secret" (as applicable) and shall also contain the statutory basis for such claim on every page.

Designating material simply as "proprietary" will not necessarily protect it from disclosure under Chapter 50-18 of the Open Records Act.

IV. Submission Requirements and Response Format

1. Company name, mailing address, contact name, telephone number, fax number, and email address.

2. Projects and References - Provide descriptions of at least three meter installation programs utilizing the referenced products completed, under construction, or planned within the past five years, listing location, size, ownership entity, date of implementation, current status, date of completion (if not completed at present), contact name and telephone number. Projects included shall be for water meters and radio transmission units where the number of units provided ranges between 5,000 and 20,000.

3. Response to the questions contained in Section III. Please respond to each question in a numbered list. Attach backup information as required.

4. Provide ten (10) copies of all submitted materials and one (1) electronic USB or CD copy.

5. Faxed and e-mailed responses will not be accepted.

V. Subsequent Steps

At the JWSC's discretion, oral presentation and interviews may be scheduled with all respondents, some respondents or none. If interviews are held, respondents will be contacted by the JWSC.

The JWSC will only recognize future RFP responses or bids from companies who have responded to this RFI. The information collected during the RFI process will be used to assist in determining the specification requirements considered for the JWSC's systems.

The evaluation team will not only be reviewing the features the different systems have to offer, it will also have the primary input in deciding what features have the best value for the JWSC. The evaluation team will review and use this information to invite selected suppliers to participate in the subsequent Request for Proposal (RFP) or Invitation To Bid (ITB).

VI. Anticipated Schedule of Events

Listed below is the tentative schedule of events associated with this project:

Date	Event
08/21/2019	Request For Information Released
09/13/2019 – 5:00 p.m.	Questions Due; email to pcrosby@bgjwsc.org
10/1/2019 12:00 NOON	RFI Due
10/1/2019 – 11/30/2019	Development of RFP by JWSC Staff
12/03/2019	RFP Released
Mid-December	Mandatory Pre-proposal Meeting
Early January	Proposals Due
No later than 2/20/2020	Proposal Evaluation – Pilot Test Recommendation
Spring 2020	Award and Beginning of Pilot Test