BILL NO. S-19-09-27

SPECIAL ORDINANCE NO. S-120-19

AN ORDINANCE approving AGREEMENT FOR WATER METER REPLACEMENT PROJECT between the CITY OF FORT WAYNE, INDIANA, in connection with the Board of Public Works, and ITRON, INC.

NOW, THEREFORE, BE IT ORDAINED BY THE COMMON COUNCIL OF THE CITY OF FORT WAYNE, INDIANA:

SECTION1. That the AGREEMENT FOR WATER METER REPLACEMENT PROJECT between the CITY OF FORT WAYNE, INDIANA, in connection with the Board of Public Works, and ITRON, INC. is hereby ratified, affirmed, and approved in all respects, respectfully for:

> Labor, insurance, material, equipment, tools, power, transportation, miscellaneous equipment, etc., necessary for replacement of water meters for customers of Fort Wayne City Utilities and related services

involving a cost not-to-exceed EIGHTEEN MILLION SEVEN HUNDRED FOUR THOUSAND TWO HUNDRED NINETY-SEVEN and 54/100 Dollars ($18,704,297.54). A copy of said Contract is on file with the Office of the City Clerk and made available for public inspection, according to law.

SECTION 2. That this Ordinance shall be in full force and effect from and after its passage and any and all necessary approval by the Mayor.

Council Member

APPROVED AS TO FORM AND LEGALITY:

Carol Helton, City Attorney

66789 - Executed
Contractor Agreement

CITY OF FORT WAYNE, INDIANA

Itron Inc
(Vendor Name)

VENDOR DISCLOSURE STATEMENT RELATING TO:
1. **FINANCIAL INTERESTS;**
2. **POTENTIAL CONFLICTS OF INTEREST;**
3. **CURRENT AND PENDING CONTRACTS OR PROCUREMENTS**

Vendors desiring to enter into certain contracts with the City of Fort Wayne, Indiana (the "City") shall disclose their financial interests, potential conflicts of interest and current and pending contract or procurement information as set forth below.

The following disclosures by Vendors are required for all contracts with annual payments by the City in the amount of $50,000 or more. Vendors shall disclose their financial interests, potential conflicts of interest and other contract and procurement information identified in Sections 1, 2 and 3 below as a prerequisite for consideration for a contract awarded by the City. This Disclosure Statement must be completed and submitted together with the Vendor's contract, bid, proposal or offer.

A publicly traded entity may submit its current 10K disclosure filing in satisfaction of the disclosure requirements set forth in Sections 1 and 2 below.

Section 1: Disclosure of Financial Interest in Vendor

a. If any individuals have either of the following financial interests in Vendor (or its parent), please check all that apply and provide their names and addresses (attach additional pages as necessary):

(i) Equity ownership exceeding 5% (__x__)

(ii) Distributable income share exceeding 5% (____)

(iii) Not Applicable (If N/A, go to Section 2) (____)

Name: Scopia Capital Management LP _____ Name: BlackRock, Inc.

Address:152 West 57th Street New York, NY 10019 _____ Address: 40 E 52nd St, 33rd Floor New York, NY10022

Name: Vanguard Group _____

Address:100 Vanguard Blvd. Malvern, PA 19355 _____

b. For each individual listed in Section 1a. show his/her type of equity ownership:

sole proprietorship (___) stock (_x_)
partnership interest (____) units (LLC) (____)
other (explain)_____

c. For each individual listed in Section 1a. show the percentage of ownership interest in Vendor (or its parent): ownership interest:

Name:	Scopia Capital Management LP	13.35%
Name:	BlackRock, Inc.	11.81%
Name:	Vanguard Group	8.74%

Section 2: Disclosure of Potential Conflicts of Interest (not applicable for vendors who file a 10K)

For each individual listed in Section 1a. check "Yes" or "No" to indicate which, if any, of the following potential conflict of interest relationships apply. If "Yes", please describe using space under applicable subsection (attach additional pages as necessary):

a. City employment, currently or in the previous 3 years, including contractual employment for services:
Yes _____ No ___X__

b. City employment of "Member of Immediate Family" (defined herein as: *Spouse, Child, Step Child, Parent or Step Parent, Father-in-law or Mother-in-law, Brother or Sister, Step Brother or Step Sister, Half Brother or Half Sister, Brother-in-law or Sister-in-law, Son-in-law or Daughter-in-law, Grandparent or Step Grandparent, Grandparent or Step Grandparent of Spouse, Grandchild)*
Including contractual employment for services in the previous 3 years:
Yes _____ No _X____

c. Relationship to Member of Immediate Family holding <u>elective</u> City office currently or in the previous 3 years:
Yes _____ No __X___

Section 3: DISCLOSURE OF OTHER CONTRACT AND PROCUREMENT RELATED INFORMATION

a. Does Vendor have **<u>current</u>** contracts (including leases) with the City? Yes _X____ No _____

If "Yes", identify each current contract with descriptive information including purchase order or contract reference number, contract date and City contact below (attach additional pages as necessary).

Services Agreement dated March 5, 2003
Purchase Agreement dated December 4, 2013
Purchase Agreement dated Octoboer 8, 2014
Purchase Agreement dated February 17, 2016
Master Sales Agreement dated February 2,

b. Does Vendor have **<u>pending</u>** contracts (including leases), bids, proposals, or other pending procurement relationship with the City? Yes _____ No __X___

If "Yes", identify each pending matter with descriptive information including bid or project number, contract date and City contact using space below (attach additional pages as necessary).

_____

_____

_____

c. Does vendor have any existing employees that are also employed by the City of Fort Wayne?

Yes _____ No __X___

If "Yes", provide the employee's name, current position held at vendor, and employment payment terms (hourly, salaried, commissioned, etc.).

Name / Position / Payment Terms:

_____

Name / Position / Payment Terms:

_____

Name / Position / Payment Terms:

_____

d. Does vendor's representative, agent, broker, dealer or distributor (if applicable) have any existing employees that are also employed by the City of Fort Wayne? For each instance, please provide the name of the representative, agent, broker, dealer or distributor; the name of the City employee, and the payment terms (hourly, salaried, commissioned, etc.).

Company / Name / Payment Terms: _____

Company / Name / Payment Terms: _____

Section 4: CERTIFICATION OF DISCLOSURES

In connection with the disclosures contained in Sections 1, 2 and 3 Vendor hereby certifies that, except as described in attached Schedule A:

a. Vendor (or its parent) has not, within the five (5) year period preceding the date of this Disclosure Statement, been debarred, suspended, proposed for debarment declared ineligible or voluntarily excluded from any transactions by any federal, state or local unit of government;

b. No officer or director of Vendor (or its parent) or individual listed in Section 1a. is presently indicted for or otherwise criminally or civilly charged by a governmental entity (federal, state or local) with commission of any offense;

c. Vendor (or its parent) has not, within the five (5) year period preceding the date of this Disclosure Statement, had one or more public transactions (federal, state or local) terminated for cause or default;

d. No officer or director of Vendor (or its parent) or individual listed in Section 1a. has, within the five (5) year period preceding the date of this Disclosure Statement, been convicted, adjudged guilty, or found liable in any criminal or civil action instituted by the City, the federal or state government or any other unit of local government; and

e. Neither Vendor, nor its parent, nor any affiliated entity of Vendor, or any of their respective officers, directors, or individuals listed in Section 1a. is barred from contracting with any unit of any federal, state or local government as a result of engaging in or being convicted of: (i) bid-rigging; (ii) bid-rotating; or (iii) any similar federal or state offense that contains the same elements as the offense of bid-rigging or bid-rotating

f. Pursuant to IC 5-22-16.5, Vendor hereby certifies they do NOT provide $20 million dollars or more in goods or services to the energy sector of Iran. Vendor also certifies it is not a financial institution that extends $20 million dollars or more in credit that will provide goods or services to the energy sector of Iran or extends $20 million dollars or more in credit to a person identified on the list as a person engaging in investment activities in Iran.

The disclosures contained Sections 1, 2 and 3 and the foregoing Certifications are submitted by

Itron, Inc.
(Name of Vendor)

2111 N Molter Rd, Liberty Lake WA 99019
Address
(509) 9249900
Telephone
Contract.request@itron.com
E-Mail Address

The individual authorized to sign on behalf of Vendor represents that he/she: (a) is fully informed regarding the matters pertaining to Vendor and its business; (b) has adequate knowledge to make the above representations and disclosures concerning Vendor; and (c) certifies that the foregoing representations and disclosures are true and accurate to the best of his/her knowledge and belief.

Name (Printed) Robert Farrow Title VP Treasury

Signature DocuSigned by: B423AAC508A54AD Date 1/28/2019

NOTE: FAILURE TO COMPLETE AND RETURN THIS FORM WITH YOUR DOCUMENTATION MAY RESULT IN YOUR CONTRACT, OFFER, BID OR PROPOSAL BEING DISQUALIFIED FROM CONSIDERATION.

City Utilities

Memo

Date: September 19, 2019

To: Common Council Members

From: Ben Groeneweg, City Utilities

Re: Water Meter Replacement

Council Districts ALL

City Utilities is requesting approval to an agreement between the City of Fort Wayne and Itron Inc. for replacement of the Utilities older water meters and failing water meter communication devices. Itron was selection, through the Competitive Sealed Proposal or CSP process. Itron scored the highest on qualifications and provided the lowest cost (both initial and lifecycle). The Utility has a long and trusted relationship with Itron. Itron signed the Vendor Disclosure.

Implication of not being approved:

- Water meter radio devices will continue to fail in increasing numbers.

If Prior Approval is being Requested, Justify: n/a

The existing water meter system has exceeded its useful life of ten years by 50% and is failing. The current system was installed in 2003 and 2004. The Utility will be replacing 97,000 water meter communication devices and approximately 70,000 water meters.

Technology has changed significantly since 2002 and the new water meter system will be leading edge. City Utilities customers will have leak and high usage notifications provided daily, empowering the customer to make changes before a large bill occurs.

The project will take approximately three years to complete.

City Utilities recommends, and the Board of Public Works has approved, the agreement with Itron for the Water Meter Replacement Project in an not-to-exceed amount of $18,704,297.54.

Council Introduction Date: September 24, 2019

CC: BOW
Kumar Menon
Diane Brown
File

Water Meter Replacement Pricing Summary (Resolution #106-9-17-19-1)

Item	Category	Description	Extended Price
Meters & Endpoints			
	meter & endpoints	Water meter and Itron endpoint	$10,026,964.93
	meter lid	meter replacement lids	$32,533.33
	remote shut off	5x8"x3/4" remote shut-off	$82,500.00
		Meter & Meter Lid Total	**$10,141,998.26**
Hardware			
	Hardware	Itron Mobile Radio w/USB cable and charger	$29,925.00
	Support and Maintenan	Network support and maintenance	$22,014.00
		Hardware Total	**$51,939.00**
Network Infrastructure and Installations			
	Network	Network and Installation	$694,227.00
		Network Infrastructure Total	**$694,227.00**
Professional Services			
	Services	Itron Implementation Services	$914,347.96
	Expenses	Travel and Expenses	$118,770.00
	Services	FDM Implementation	$98,995.00
	Expenses	**Professional Services Total**	**$1,132,112.96**
Installation			
	Installation	Meter and Endpoint installation	$6,434,020.32
		Installation Total	**$6,434,020.32**
		System Discount	-$250,000.00
		Project Contingency	$500,000.00
		Water Meter Replacement Project	**$18,704,297.54**

Approval of Resolution #106-9-17-19-1, Agreement between the City of Fort Wayne, Indiana and Itron, Inc. Regarding the Water Meter Replacement Project. The not-to-exceed amount is $18,704,297.54

CITY OF FORT WAYNE, INDIANA
BOARD OF PUBLIC WORKS

ABSENT
Shan Gunawardena, Chair

Kumar Menon, Member

Mike Avila
Mike Avila, Member

ATTEST: 9-17-19
Michelle Fulk-Vondran, Clerk

CU 9-17-19

MASTER SALES AGREEMENT
TERMS AND CONDITIONS

This Master Sales Agreement (the "***Agreement***") is made and entered into as of Sept 17th, 2019 (the "***Effective Date***") by and between Itron, Inc., a Washington corporation with a principal place of business at 2111 N. Molter Road, Liberty Lake, Washington 99019 ("***Itron***"), and the City of Fort Wayne, by and through its Board of Public Works, a political subdivision located in the State of Indiana, with a principal place of business at 200 E. Berry St., Fort Wayne, IN 46802 (***"Customer"***). Itron and Customer may each be referred to as a "Party" and together as the "Parties".

1. Scope. This Agreement sets forth the terms governing all Technology & Services Addenda under this Agreement. The attached Transaction Summary identifies which Addenda are made a part of this Agreement. This Agreement is subject to approval by the Fort Wayne Common Council and shall only become binding upon the Parties if such approval is obtained.

2. Technology & Services Addenda. Technology & Services Addenda may set forth additional terms and conditions applicable to specific products and services purchased by Customer. In the event of a conflict between this Agreement and an Addendum, the terms of this Agreement will control to the extent necessary to resolve the conflict.

3 Purchase Orders. All purchase orders will be governed by the terms of this Agreement. Pre-printed terms on a purchase order will be null and void, and no contingency, addition, or conflicting term contained on any purchase order will be binding upon Itron.

4. Fees, Taxes, and Payment.

4.1. Fees. Fees will be specified in a pricing summary made a part of this Agreement. Itron reserves the right to modify the pricing summary from time-to-time during the term of this Agreement upon thirty (30) days' prior written notice to Customer for any new purchase orders.

4.2. Taxes. Prices and charges for products and services are exclusive of taxes, levies, duties and similar governmental assessments ("***Taxes***"), all of which are the responsibility of Customer to pay. Customer is responsible for paying all Taxes applicable to transactions. If Itron has the legal obligation to pay or collect Taxes for which Customer is responsible, the appropriate amount shall be invoiced to and paid by Customer, unless Customer provides a valid tax exemption certificate or direct pay permit authorized by the appropriate taxing authority. Itron is solely responsible for taxes assessable against Itron based on its income, property and employees.

4.3. Payment. All purchase orders are subject to credit approval. Payment terms are net thirty (30) days from the date of invoice. All payments shall be made in US currency. Late payments shall accrue interest from the due date at the rate of 1.0% of the outstanding balance per month, or the maximum rate permitted by law, whichever is lower, until the date paid, and Itron may condition future renewals and purchase orders on payment terms shorter than thirty (30) days.

5. Term and Termination.

5.1. Term. Subject to approval of the Fort Wayne Common Council, the initial term of this Agreement begins on the Effective Date and continues for a period of twenty (20) years ("Initial Term") and shall automatically renew for up to three (3) one (1) year renewal terms (each, a "Renewal Term") unless either Party provides written notice to the other Party of its intent not to renew the Agreement at least ninety (90) days prior to expiration of the Initial Term or the applicable Renewal Term.

5.2. Termination for Convenience. Customer may terminate this Agreement for convenience upon ninety (90) days' prior written notice to Itron. In such case, Customer shall pay Itron for any work or Services provided by Itron up to the date of termination.

5.3. Termination for Cause. Other than Customer's nonpayment which shall constitute a breach of this Agreement if full payment is not received within five (5) days of written notice from Itron, either Party may terminate this Agreement by providing the other Party with written notice to terminate if the other Party (i) becomes insolvent, executes a general assignment for the benefit of creditors or becomes subject to bankruptcy or receivership proceedings; (ii) breaches its obligations related to the other Party's Confidential Information (defined below); or (iii) commits a material breach of this Agreement that remains uncured for thirty (30) days following delivery of written notice of such breach (including, but not necessarily limited to, a statement of the facts relating to the breach or default, the provisions of this Agreement that are in breach or default and the action required to cure the breach or default).

5.4. Surviving Provisions. Any provision of this Agreement that contemplates performance or observance subsequent to termination or expiration of this Agreement shall survive termination or expiration and continue in full force and effect for the period so contemplated.

6. Confidentiality.

6.1. Definitions. (A) "***Confidential Information***" means (1) this Agreement and the discussions, negotiations, and proposals related to this Agreement and (2) information, whether provided directly or indirectly from the other Party in writing, orally, by electronic or other data transmission or in any other form or media or obtained through on-site visits at Itron or Customer facilities and whether furnished or made available before or after the date of this Agreement, that is confidential, proprietary or otherwise not generally available to the public. Confidential Information includes, without limitation, business and marketing information and plans, inventions, products, processes, developments, methods, systems, improvements, know-how, trade secrets, technology, software and/or data, ideas, strategies, financial information, production information, formulations, manufacturing processes, product standards and specifications, and Customer Data (as defined in Section 7). Confidential Information does not include information that is: (a) rightfully known to the Receiving Party (defined below) before negotiations leading up to this Agreement; (b) independently developed by the Receiving Party without relying on the Disclosing Party's (defined below) Confidential Information; (c) part of the public domain or is lawfully obtained by the Receiving Party from a third party not under an obligation of confidentiality; or (d) free of confidentiality restrictions by agreement of the Disclosing Party. (B) "***Receiving Party***" means the Party receiving Confidential Information of the other. (C) "***Disclosing Party***" means the Party disclosing Confidential Information to the other Party.

6.2. Obligations. The Receiving Party will keep Confidential Information of the Disclosing Party strictly confidential and will not disclose it to any third party during the term of this Agreement and for a period of seven (7) years after termination or expiration of this Agreement. These obligations of confidentiality do not apply to any information that is required to be disclosed by any applicable law or regulation; provided, however, that the Receiving Party must provide prior written notice of a request for such disclosure to the Disclosing Party with as much notice as reasonably possible under the circumstances. Customer acknowledges that under Itron's obligations to comply with the U.S. Securities laws, Itron may be required to disclose the execution of this Agreement as part of its reporting requirements to the U.S. Securities and Exchange Commission and hereby consents to such disclosure.

6.3. Permitted Disclosure. The Receiving Party may disclose Confidential Information to its affiliates, agents, contractors, and legal representatives, but only if they have a need to know and an obligation to protect the Disclosing Party's Confidential Information that is at least as restrictive as the confidentiality provisions of this Agreement.

6.4. Return of Confidential Information. The Receiving Party will destroy or return the Disclosing Party's Confidential Information within fourteen (14) days after receipt of the Disclosing Party's written request. With the exception of Customer Data, the Receiving Party may retain a copy of Confidential Information as part of archival records (including backup systems) the Receiving Party keeps in the ordinary course of business, or if required by law or regulation; provided, however, that any Confidential Information so retained will continue to be Confidential Information pursuant to the terms of this Agreement, and the Receiving Party will continue to be bound by the terms of this Agreement with respect to such Confidential Information.

7. Privacy.

7.1. General. If, in the course of providing any services, Itron has or obtains, to any extent and for any reason, any access to Customer Data, then the terms and conditions of this Section 7 will apply.

7.2. Definition of Customer Data. "***Customer Data***" means any information about Customer's existing or prospective customers that Itron acquires, develops, or derives under this Agreement. Customer Data may include, without limitation, any personally identifying information relating to an existing or prospective customer, or any other information that, either individually or when combined with other information could be used to derive information specific to a particular customer or prospective customer, which information is not generally available to the public and which Itron acquires or derives in carrying out its obligations under this Agreement. Customer Data includes, but is not limited to, information regarding a User's identity, social security number, telephone number, credit card number, e-mail address, account information, service purchase and usage information.

7.3. Use of Customer Data. Itron may only collect, access, use, maintain, or disclose Customer Data to fulfill its obligations under this Agreement. Customer exclusively owns all Customer Data and Itron agrees to return, or at the election of Customer, destroy (and confirm in writing the destruction) all Customer Data upon the termination or expiration of this Agreement, or earlier if requested to do so in writing by Customer.

7.4. Reservation of Rights to Customer. Subject to the limited rights granted by Customer hereunder, Itron acquires no right, title or interest from Customer or its licensors under this Agreement in or to Customer Data, including any Intellectual Property (defined below) rights in that Customer Data.

7.5. Safeguards. Itron will employ administrative, physical, and technical safeguards that are reasonably designed to prevent unauthorized collection, access, disclosure, and use of Customer Data while in its custody ("***Safeguards***"). The Safeguards Itron employs must: (1) meet, at a minimum, industry practice; and (2) be reasonably designed to ensure that only Itron personnel with a need to know the Customer Data have access to it. Itron will promptly notify Customer of any known breach of any Safeguards, and Itron and Customer will cooperate to investigate and remedy any such breach and any related dispute, inquiry, or claim.

7.6. Miscellaneous. This Section 7 supplements Section 6 ("Confidentiality"), and the provisions of this Section 7 control if they conflict with Section 6 ("Confidentiality"). A breach of any Customer Data provision may result in irreparable harm to Customer for which monetary damages may not provide a sufficient remedy, and in the event of such breach, Customer may seek both monetary damages and equitable relief.

8. Publicity. Neither Party shall disclose, advertise, or publish the detailed terms and conditions of this Agreement without the prior written consent of the other Party, except as otherwise required by applicable law, including, but not limited to, the Indiana Access to Public Records Act, I.C. 5-14-3-1 *et seq*. Any press release or publication regarding this Agreement or deliverables under it are presumed by the Parties

to contain Confidential Information and is subject to prior review and written approval of the Parties.

9. Warranties.

9.1. Services & Deliverables Warranties. Express warranties for products and services (the "***Express Warranties***") will be stated in the applicable Addenda for the period stated therein (the "***Express Warranty Period***").

9.2. CERTAIN WARRANTY EXCLUSIONS. THE WARRANTIES UNDER THIS AGREEMENT AND THE ADDENDA DO NOT COVER PROBLEMS CAUSED BY EXTERNAL CAUSES, INCLUDING ACCIDENTS, ACTS OF VANDALISM, ABUSE, MISUSE, INADEQUATE MAINTENANCE, UNKNOWN OR UNFORESEEN ELECTROMAGNETIC DISTURBANCES ON THE NETWORK, PROBLEMS WITH ELECTRICAL POWER, ACTS OF GOD, AND SERVICE (INCLUDING INSTALLATION OR DE-INSTALLATION) NOT PERFORMED OR AUTHORIZED BY ITRON.

9.3. DISCLAIMER OF WARRANTIES. WARRANTIES UNDER THIS AGREEMENT, TOGETHER WITH ALL EXPRESS WARRANTIES CONTAINED IN ANY ADDENDUM, STATEMENT OF WORK, OR OTHERWISE INCORPORATED IN THIS AGREEMENT, CONSTITUTE AND EXPRESS THE ENTIRE STATEMENT OF THE PARTIES WITH RESPECT TO WARRANTIES. EXCEPT AS STATED IN THIS AGREEMENT OR IN ANY ADDENDUM, STATEMENT OF WORK, OR OTHER DOCUMENT INCORPORATED INTO THIS AGREEMENT, THE PARTIES DISCLAIM ALL EXPRESS OR IMPLIED WARRANTIES, CONDITIONS OR REPRESENTATIONS INCLUDING, WITHOUT LIMITATION, (I) IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, (II) WARRANTIES OF TITLE AND AGAINST INFRINGEMENT AND (III) WARRANTIES ARISING FROM A COURSE OF DEALING, USAGE OR TRADE PRACTICE. TO THE EXTENT ANY IMPLIED WARRANTY CANNOT BE EXCLUDED, SUCH WARRANTY IS LIMITED IN DURATION TO THE EXPRESS WARRANTY PERIOD DEFINED IN THIS AGREEMENT OR THE APPLICABLE ADDENDUM.

10. Insurance. During the term of this Agreement, Itron will maintain the following minimum levels of insurance (i) workers' compensation insurance for Itron employees equal to applicable statutory limits and an employer's liability policy in an amount not less than $1,000,000.00; (ii) an occurrence form commercial general liability policy or policies in an amount not less than $1,000,000.00 per occurrence and $2,000,000.00 aggregate; (iii) an automobile liability policy or policies in an amount not less than $1,000,000.00 combined single limit; and (iv) a professional liability policy or policies insuring against liability for errors and omissions covering professional activities contemplated under this Agreement in an amount not less than $1,000,000.00. Upon written request, Itron will provide Certificates of Insurance evidencing the coverage described in this Section.

11. Limitation of Liability.

11.1. NO CONSEQUENTIAL DAMAGES. NEITHER PARTY WILL BE LIABLE TO THE OTHER FOR CONSEQUENTIAL, INDIRECT OR PUNITIVE DAMAGES (INCLUDING LOST PROFITS OR SAVINGS) FOR ANY CAUSE OF ACTION, WHETHER IN CONTRACT, TORT OR OTHERWISE, EVEN IF THE PARTY WAS OR SHOULD HAVE BEEN AWARE OF THE POSSIBILITY OF THESE DAMAGES, EXCEPT THAT THE FOREGOING WILL NOT RESTRICT A PARTY'S ABILITY TO RECOVER ACTUAL DAMAGES FOR BREACH OF THIS AGREEMENT, INCLUDING THE COSTS OF OBTAINING REPLACEMENT SERVICES AND DELIVERABLES COMPLYING WITH THE TERMS OF THIS AGREEMENT. THIS LIMITATION SHALL NOT APPLY TO INDEMNIFICATION CLAIMS ASSERTED IN ACCORDANCE WITH SECTION 12 HEREOF.

11.2. LIMITATION. IN NO EVENT SHALL EITHER PARTY BE LIABLE TO THE OTHER FOR DAMAGES IN EXCESS OF THE FEES PAID BY CUSTOMER TO SUPPLIER FOR THE SERVICES OR DELIVERABLES PROVIDED UNDER THE TERMS OF THIS AGREEMENT. THIS LIMITATION SHALL NOT APPLY TO INDEMNIFICATION CLAIMS ASSERTED IN ACCORDANCE WITH SECTION 12 HEREOF.

12. Indemnification Against Third Party Claims.

12.1. General Claims. Itron agrees to defend Customer and Customer's successors and assigns, officers, directors, employees, representatives, and agents ("***Customer Indemnitees***") from and against any and all third-party claims, demands, suits, actions, causes of action, of any kind whatsoever (together a "***Claim***"), and, notwithstanding Section 11 of this Agreement, Itron will indemnify and hold harmless Customer Indemnitees from and against all damages, losses, costs and/or expenses of any kind whatsoever, whether direct, indirect, consequential, or otherwise (including legal fees and disbursements) awarded against Customer in any such Claim, or those costs and damages agreed to by Itron in a monetary settlement of such Claim, to the extent resulting from damages to persons or real or tangible property, bodily injury or death caused by Itron's negligence or intentional misconduct (including that of its employees, agents, and contractors) arising in connection with this Agreement.

12.2. Infringement Claims. Itron shall defend the Customer Indemnitees from and against any and all claims, demands, suits, actions, causes of action, of any kind whatsoever, for damages, losses, costs and/or expenses (including legal fees and disbursements) by an unaffiliated third party to the extent resulting from any allegation that any Itron Deliverables and/or Services constitute a direct infringement, violation or misappropriation of any such third party's Intellectual Property rights. The foregoing does not apply to products that are not manufactured by Itron or to software licensed by third parties.

12.3. Conditions to Infringement Claim Defense. Itron's infringement defense obligations under Section 12.2 are conditioned on Customer's agreement that if the applicable product or service becomes, or in Itron's opinion is likely to become, the subject of such a claim, Itron will have the right, at Itron's sole option and expense, either to procure the right for Customer to continue using the affected product or service or to replace or modify the same so that it becomes non-infringing. Such replacements or modifications will be functionally equivalent to the replaced product or service. If the foregoing alternatives are not available on terms that are commercially reasonable in Itron's sole judgment, Itron shall have the right to require Customer to cease using the affected product or service in which case Itron will refund to Customer the depreciated value of the affected product or the unused portion of the service, as the case may be.

12.4. Exclusions to Infringement Claim Defense. Itron shall have no obligation under this Agreement to the extent any claim of infringement or misappropriation results from: (i) use of a product or service, other than as permitted under this Agreement or as intended by Itron, if the infringement would not have occurred but for such use; (ii) use of any product or service in combination with any other product, equipment, software or data, if the infringement would not have occurred but for such combination; (iii) any use of any release of a software or any firmware other than the most current release made available to Customer, (iv) any claim based on Customer's use of a product after Itron has informed Customer of modifications or changes to the product required to avoid such claims and offered to implement those modification or changes, if such claim would have been avoided or mitigated by the implementation of Itron's suggestions, (v) any modification to a product made by a person other than Itron or an authorized representative of Itron, or (vi) compliance by Itron with specifications or instructions supplied by Customer. Itron shall not be liable hereunder for enhanced or punitive damages that could have been avoided or reduced by actions within the control of Customer.

12.5. Conditions to Defense. As a condition to Itron's defense obligations under this Agreement, Customer will provide Itron with prompt written notice of the Claim, permit Itron to control the defense, settlement, adjustment or compromise of the Claim and provide Itron with reasonable assistance in connection with such defense; however, Itron shall not consent to any judgment or settlement of the foregoing, that creates an obligation on any Customer Indemnitee without first obtaining such Customer Indemnitee's prior written consent. Customer may employ counsel at its own expense to assist it with respect to any such Claim.

12.6. THIRD PARTY CLAIM DISCLAIMER. THIS SECTION CONSTITUTES ITRON'S SOLE AND EXCLUSIVE OBLIGATION WITH RESPECT TO THIRD PARTY CLAIMS BROUGHT AGAINST CUSTOMER.

13. Intellectual Property.

13.1. Definition. "***Intellectual Property***" means intellectual and industrial property rights, and moral rights or similar or analogous proprietary rights, pertaining to a particular invention, work of authorship, symbol or other mark or designation indicative of source or quality, or other particular item of tangible or intangible property, arising under statutory or common law or by contract, in the United States or another country that recognizes such rights, whether or not perfected, now existing or hereafter filed, issued, or acquired, including: (i) patent rights associated with an invention and processes (including business processes), methods and apparatuses entailed by such invention (including, as applicable, the rights to make, use, sell, offer to sell, import, or have made, and the rights to file and prosecute patent applications and provisional patent applications); (ii) rights associated with works of authorship, including copyrights and mask work rights (including the rights to copy, adapt, distribute, display, perform, and create derivative works); (iii) rights relating to the protection of trade secrets and Confidential Information (including the rights to use and disclose); (iv) trademarks, service marks, trade dress, trade names, and design patent rights (including the right to goodwill appertaining thereto); (v) moral rights; and (vi) other rights analogous, similar, or comparable to those described by the foregoing clauses (i) through (v), and other proprietary rights relating to intangible property (including licensing rights and shop rights).

13.2. Reservation of Intellectual Property Rights. Itron reserves all rights, title and interest in and to all of its Intellectual Property. Customer reserves all rights, title and interest in and to all of its Intellectual Property.

13.3. Suggestions. Itron shall have a royalty-free, worldwide, irrevocable, perpetual license to use and incorporate into its products and services any suggestions, enhancement requests, recommendations or other feedback provided by Customer.

14. Change Requests & Change Orders.

14.1. Request. Customer may at any time, and from time to time, propose changes to services or services deliverables or request that Itron perform additional services for Customer (each a "***Change Request***"). Within a reasonable period after receiving a written Change Request from Customer, Itron will prepare and submit a written proposal in the form of a statement of work to Customer that: (i) if applicable, assesses the expected impact of the Change Request on any services or services deliverables being provided at the time of the request; (ii) defines and describes how Itron would fulfill or satisfy the Change Request, and describes any additional services or services deliverables to be provided by Itron in reasonable detail; (iii) sets forth pricing, specifications, implementation plans and time schedules, with appropriate milestone and completion dates, anticipated by Itron in connection with fulfilling the Change Request; (iv) contains proposed completion and acceptance criteria; and (v) sets forth any other information required by this Agreement and any Technology & Services Addendum.

14.2. Response. If Itron timely submits a response to the Change Request, the Parties will attempt in good faith to negotiate a mutually acceptable resolution. Mutually agreed upon Change Requests will take the form of a written order (each a "***Change Order***"). Following the issuance of any Change Request and during any negotiation, Itron will continue to provide the services and services deliverables, unless otherwise agreed to by Itron and Customer in writing.

14.3. Failure to Respond to Change Request. If Itron fails to respond to Customer's Change Request within five (5) business days, the Change Request will be deemed to be rejected.

14.4. Authorized Approvals. No Change Order will be binding upon Customer or Itron unless executed and delivered by an authorized signatory of both Parties. All Change Orders and all statements of work under a Change Order will be governed by the terms and conditions of this Agreement and the applicable Technology & Services Addendum.

15. Dispute Resolution.

15.1. Dispute Resolution Procedure. The Parties will resolve any dispute between the Parties regarding the interpretation of this Agreement or Itron's performance using the procedures in this Section.

15.1.1. Either Party may give the other Party written notice of any dispute not resolved in the normal course of business. Upon delivery of the notice, each of the Parties will appoint a designated representative who does not devote substantially all of his or her time to performance under this Agreement and who, in the case of Customer, will be a deputy director (or more senior corporate officer), and in the case of Itron, a director (or more senior corporate officer), to meet for the purpose of resolving the dispute.

15.1.2. The representatives will discuss the problem and negotiate in good faith to resolve the dispute promptly and without the necessity of any formal proceeding. If either Party intends to have an attorney attend a meeting, it will notify the other Party at least two (2) business days before the meeting to enable the other Party to also be accompanied by an attorney. All negotiations pursuant to this Section are confidential and will be treated as compromise and settlement negotiations for purposes of evidentiary rules.

15.1.3. If the disputed matter has not been resolved by the designated representatives within ten (10) business days after delivery of the written notice by one Party to the other, or such longer period as agreed to in writing by the Parties, each Party will have the right to commence any legal proceeding as permitted by law.

15.2. Agreements in writing. No agreement achieved under this dispute resolution process will be binding on either Party unless set forth in a writing executed by both Parties by duly authorized signatories.

15.3. No Termination or Suspension of Services. During the pendency of any dispute, Itron will not interrupt or delay the provision of Services, disable any Deliverable in whole or in part, or perform any other action that prevents, slows down, or reduces in any way the provision of Services or Customer's ability to conduct its business, unless Customer agrees in writing or terminates this Agreement.

15.4. Injunctive relief. Neither Party will be obligated to follow the procedures set forth in this Section when seeking injunctive relief.

16. Miscellaneous.

16.1. Entire Agreement. This Agreement and any attachments hereto constitute the entire agreement

between the Parties with respect to the subject matter hereof and supersede all previous and contemporaneous agreements pertaining to such subject matter. All prior and contemporaneous agreements, representations, warranties, statements, negotiations, understandings, and undertakings are superseded hereby and Customer represents and acknowledges that it has not relied on any representation or warranty other than those explicitly set forth in this Agreement in connection with its execution of this Agreement. Neither Party shall be bound by terms and conditions imprinted on or embedded in purchase orders, order acknowledgments, statements of work not expressly made a part hereof or other communications between the Parties. In the event terms or conditions in the main body of this Agreement and terms or conditions in any Addendum are in conflict, the terms or conditions of the main body of this Agreement shall prevail. If any terms or conditions in any Addendum and the terms or conditions of in any other Addendum are in conflict, the Addendum most closely related to the subject matter of the conflict (as indicated, in most instances, by the title of the Addendum) shall prevail. To the extent necessary to understand the intent of the parties with respect to an ambiguous term of this Agreement so that this Agreement may be properly interpreted by a mutually agreed upon mediator or a court of competent jurisdiction, either party may rely on and admit all or portions of the following documents into evidence before such court or mediator, copies of which are attached hereto:

16.1.1. Initial Response to Appendix 1 of the RFP—Fort Wayne FWCU Advanced Meter Infrastructure System Resolution No. 105-10-30-18-2 dated December 18, 2018

16.1.2. Best and Final Response to the RFP—Fort Wayne FWCU Advanced Meter Infrastructure System Resolution NO. 105-10-30-18-2 dated March 1, 2019

The Parties agree that the documents identified in this Section 16.1 are attached for reference and do not, by their attachment to this Agreement, create a binding commitment as to the contents.

16.2. Waivers. No delay or failure to require performance of any provision of this Agreement shall constitute a waiver of that provision. No waiver granted under this Agreement as to any one provision herein shall constitute a subsequent waiver of such provision or of any other provision herein, nor shall it constitute the waiver of any performance other than the actual performance specifically waived.

16.3. No Assignment. This Agreement is personal to each Party, and none of the rights of a Party hereunder shall be sold, transferred, assigned or sublicensed by a Party; provided, however, that upon written notice to Customer, Itron shall have the right to assign, by contract or by operation of law, any or all of its rights and obligations under this Agreement to a Itron Affiliate without any requirement that Itron seek or obtain the approval of Customer. "***Itron Affiliate***" means an entity controlled by or under common control with Itron.

16.4. Captions; Section Numbers. Article, section and paragraph numbers and captions are provided for convenience of reference and do not constitute a part of this Agreement. Any references to a particular Section of this Agreement will be deemed to include reference to any and all subsections thereof.

16.5. Neither Party Deemed Drafter. Despite the possibility that one Party or its representatives may have prepared the initial draft of this Agreement or any provision or played a greater role in the preparation of subsequent drafts, the Parties agree that neither of them will be deemed the drafter of this Agreement and that, in construing this Agreement, no provision hereof will be construed in favor of one Party on the ground that such provision was drafted by the other.

16.6. Expenses. Each Party will be responsible for, and will pay, all expenses paid or incurred by it in connection with the planning, negotiation, and consummation of this Agreement.

16.7. Anti-Corruption. Customer has not received or been offered any illegal or improper bribe,

kickback, payment, gift, or thing of value from an Itron employee or agent in connection with this Agreement.

16.8. Relationship of the Parties. The Parties are independent contractors for all purposes and at all times. This Agreement does not create a partnership, franchise, joint venture, agency, fiduciary, or employment relationship between the Parties. Itron has the responsibility for, and control over, the methods and details of performing services and providing products under this Agreement. Itron will provide all tools, materials, training, hiring, supervision, work policies and procedures, and be responsible for the compensation, discipline and termination of Itron personnel. Neither Party has any authority to act on behalf of, or to bind the other to any obligation.

16.9. Compliance with Law. Itron and Customer will at all times perform their respective obligations under this Agreement in compliance in all material respects with all applicable foreign, domestic, state, and local laws and regulations of all applicable foreign and domestic jurisdictions, and in such a manner as not to cause the other to be in material violation of any applicable laws or regulations including any applicable requirements of any foreign, domestic, state, or local authority regulating health, safety, employment, the environment, consumer protection, security, exportation, information services, or telecommunications.

16.10. Governing Law. This Agreement and performance hereunder will be governed by and construed in accordance with the laws of the State of Indiana without reference to their conflicts of law principles or the United Nations Convention on Contracts for the Sale of Goods.

16.11. Forum Selection. The Parties agree that all actions and proceedings arising out of or related to this Agreement, except as necessary to enforce indemnity or defense obligations, will be brought only in a state court located in Allen County, Indiana or in the United States District Court for the Northern District of Indiana. The Parties hereby consent to such venue and to the jurisdiction of such courts over the subject matter of such proceeding and themselves.

16.12. Intentionally Omitted.

16.13. Notices. Except as otherwise specified in this Agreement, all notices, permissions and approvals hereunder shall be in writing and shall be deemed to have been given upon: (i) personal delivery, (ii) the second business day after mailing, (iii) the second business day after sending by overnight delivery, (iv) the second business day after sending by confirmed facsimile, or (iv), except for legal notices, the first business day after sending by email. All legal notices shall be clearly identified as such.

16.14. Severability. If any provision of this Agreement or its applications to particular circumstances is determined by a court of competent jurisdiction to be invalid or unenforceable, that provision (or its application to those circumstances) will be deemed stricken and the remainder of this Agreement (and the application of that provision to other circumstances) will continue in full force and effect insofar as it remains a workable instrument to accomplish the intent and purposes of the Parties; the Parties will replace the severed provision with the provision that will come closest to reflecting the intention of the Parties underlying the severed provision but that will be valid, legal, and enforceable.

16.15. Force Majeure. Except for the obligation to pay monies due and owing, neither Party shall be liable for any delay or failure in performance due to events outside the defaulting Party's reasonable control, including without limitation acts of God, earthquake, labor disputes, industry wide shortages of supplies, actions of governmental entities, riots, war, terrorism, fire, epidemics, or delays of common carriers or other circumstances beyond its reasonable control. The obligations and rights of the defaulting Party shall be extended for a period equal to the period during which such event prevented such Party's performance.

16.16. No Third Party Rights. This Agreement is entered into only for the benefit of Customer and Itron and no other person or entity shall have the right to enforce any of its terms.

16.17.Authorization. Each Party represents and warrants that the signing, delivery and performance of this Agreement has been properly authorized.

16.18.Counterparts. This Agreement may be executed by facsimile or scan and in counterparts, which taken together shall form one legal instrument.

[Signature Page Follows]

SIGNATURE PAGE
TO
MASTER SALES AGREEMENT
TERMS AND CONDITIONS

APPROVED this 17th day of September, 2019.
BOARD OF PUBLIC WORKS

By: ABSENT
Shan Gunawardena, Chair

By:
Kumar Menon, Member

By: Mike Avila
Mike Avila, Member

Attest:
Michelle Fulk-Vondran, Clerk

Itron, Inc
DocuSigned by:
By:
B423AAC598A54AD...

Printed name and Title: Robert Farrow VP Treasury

Date: 9/16/2019

TRANSACTION SUMMARY
TO
MASTER SALES AGREEMENT

Technology & Services Addendum to Master Sales Agreement

1. Equipment Purchase & Warranty Schedule Addendum ☒
2. Software License Addendum ☒
3. Maintenance & Support Services Addendum ☒
4. Installation/Implementation Services Addendum ☒
5. Cloud Infrastructure Service Addendum ☐
6. Software-as-a-Service Addendum ☒
7. Managed Services Addendum ☒
8. Managed Services In-Field Maintenance Option ☒

Pricing Summary ***(Attached)***

BMR# Click here to enter text.

Software-as-a-Service Term / Managed Services Term / Cloud Infrastructure Service Term

Minimum 3-Year Term Commitment Required unless otherwise indicated below; Minimum Monthly Fee Required

☒ Other: Minimum Commitment Period 1 Year

*[**Important Note Regarding Minimum Commitment:** If Customer terminates the service for convenience prior to the expiration of the minimum commitment period, services fees for the balance of minimum commitment period will be owed by Customer and must be paid within 30 days after the effective date of termination.]*

*[**Renewal:** The initial services term will renew automatically without requirement of notice for additional 1-year periods – not to exceed three renewal periods – until either party provides 90-days prior written notice of intent not to renew.]*

Additional Support Services *(if applicable)*

In addition to standard Maintenance & Support Services:

☐ Advanced Services

*[**Note:** Requires attachment of Advanced Services Addendum.]*

TECHNOLOGY & SERVICES ADDENDUM

– Equipment Purchase & Warranty Schedule –

1. Ordering of Equipment. During the term of the Agreement, Customer shall order quantities of equipment by issuing a purchase order to Itron, with a requested ship date agreeable to both Parties – in each case specifying the type and quantity of equipment, the shipment destination and the requested ship date.

2. Firmware. The purchase of equipment manufactured by Itron includes a perpetual, irrevocable license to use and execute any software embedded in the equipment. The license to any software embedded in third party equipment purchased by Customer through Itron shall be between Customer and the manufacturer of such third party equipment.

3. Equipment Invoicing. Itron will invoice Customer for equipment upon shipment.

4. Ordering Lead Time & Ship Date. The required lead time for equipment manufactured by Itron shall be ninety (90) days between the date Itron receives the purchase order and the ship date, unless (a) otherwise provided in an agreed-upon purchase order, or (b) Itron has notified Customer in advance that a different lead time is required for specific Itron equipment. The required lead time for third party equipment shall be the applicable third party manufacturer's then-current, standard lead time. Itron shall have no obligation to accept any requested ship date that is sooner than the required lead time.

5. Order Cancellation & Rescheduling. Unless otherwise provided in an agreed-upon purchase order, a purchase order for equipment may not be canceled or rescheduled by Customer.

6. Forecasts. Itron may condition the ninety (90) day order lead time or such other lead time required by Itron under Section 4 ("Ordering Lead Time & Ship Date") upon Customer providing binding forecasts, at intervals requested by Itron, of Customer's equipment demand.

7. Delivery & Risk of Loss.

7.1 Delivery. Itron shall cause the equipment to be delivered to Customer (or Customer's authorized agent) at Customer's expense in accordance with the purchase order and by the specified ship date, provided that all purchase order content and lead time requirements have been met.

7.2 Title and Risk of Loss. Title to equipment and risk of loss or damage will transfer to Customer upon delivery to Customer's place of business.

8. Documentation. Itron shall make its standard product documentation available via download. Itron will provide Customer with download instructions.

9. Inspection by Customer. Customer shall inspect a shipment within a reasonable period of time after receiving shipment – and in all events no longer than seven (7) days – to confirm that the items delivered are the equipment ordered and that the quantity received is the same as the quantity ordered.

10. Limited Equipment Warranty.

10.1. Limited Warranty. Itron warrants to Customer that the Itron-manufactured equipment will be free from defects in materials and workmanship and will conform to the applicable specifications for a period of one (1) year from the date of shipment, unless otherwise stated in the attached warranty schedule for Itron-manufactured equipment. For avoidance of doubt, component parts of Itron-manufactured equipment that are provided by third-party manufacturers and developers – and which are integrated into Itron-manufactured equipment – are covered by this Section 10 warranty.

10.2. Repair or Replacement.

10.2.1. Itron reserves the option to repair or replace the Itron-manufactured equipment after Customer has returned non-conforming Itron-manufactured equipment under warranty properly packaged and prepaid to a repair facility designated by Itron in accordance with Itron's then-current Return Materials Authorization ("RMA") procedures. Itron's warranty under this Section does not include freight to the Itron designated facilities; however, it does include return freight to Customer's location in the event that the returned unit of Itron-manufactured equipment is determined to be faulty and under warranty.

10.2.2. Except as set forth in the Order Document attached hereto, Labor costs associated with removal or reinstallation of failed equipment at Customer location, after the initial deployment of equipment, is not included in Itron's warranty under this Section.

10.3. Warranty on Repaired or Replaced Equipment. Repaired and replaced Itron-manufactured equipment will be warranted for the remainder of the original warranty period set forth above, but no less than six (6) months from repair or replacement.

11. Exclusions to Warranty on Itron-Manufactured Equipment. The above Section 10 warranty on Itron-manufactured equipment does not cover damage due to external causes, including accident, abuse, misuse, inadequate maintenance, problems with electrical power, acts of God; service (including installation or de-installation) not performed or authorized by Itron; usage not in accordance with product instructions or in a configuration not approved by Itron; normal wear and tear; and problems caused by use of parts and components that are not supplied by Itron. The warranty provided herein shall be void if the equipment is modified in a way not authorized in writing by Itron.

12. Pass-Through Warranties on Third-Party Equipment. ITRON IS NOT THE MANUFACTURER OF THE EQUIPMENT SPECIFICALLY IDENTIFIED IN THE THIRD PARTY EQUIPMENT WARRANTY SCHEDULE AS THIRD PARTY EQUIPMENT AND MAKES NO REPRESENTATIONS OR WARRANTIES WHATSOEVER, DIRECTLY OR INDIRECTLY, EXPRESS OR IMPLIED, AS TO THE SUITABILITY, DURABILITY, FITNESS FOR USE, MERCHANTABILITY, CONDITION, QUALITY, PERFORMANCE OR NON-INFRINGEMENT OF THE THIRD PARTY EQUIPMENT. WITH RESPECT TO ITRON, CUSTOMER PURCHASES THIRD PARTY EQUIPMENT "AS IS." THIRD PARTY EQUIPMENT SHALL BE SUBJECT TO ANY WARRANTIES PROVIDED BY THE THIRD PARTY EQUIPMENT MANUFACTURER. MODIFICATIONS MAY VOID OR OTHERWISE LIMIT ANY WARRANTY APPLICABLE TO THIRD PARTY EQUIPMENT. See the attached Third Party Equipment Warranty Schedule, if applicable, for an informational use only summary of third party warranties for Third Party Equipment. Itron will act as a liaison with the Third Party Equipment providers in regard to the Third Party Equipment warranties and will make commercially reasonable efforts to assist Customer in enforcing those warranties.

[Warranty Schedule Follows]

Itron Equipment Warranty Schedule
To
Supplemental Equipment Purchase Terms

Product	Warranty Terms
OpenWay Riva Water Module (including battery)	Full warranty consistent with the warranty terms in the Agreement for the first 10 years from shipment. For warranty claims in years 11 through 15, Itron's sole obligation will be to provide Customer with a discount on replacement product equal to 50 percent of its then-current list price for the replacement product. For warranty claims in years 16 through 20, Itron's sole obligation will be to provide Customer with a discount on replacement product equal to 25 percent of its then-current list price for the replacement product. The warranty on Itron water endpoints shall be void if the endpoint is used in connection with a third party reading system that is not approved by Itron.
100W and 100W+ series water endpoints (including battery)	Full warranty consistent with the warranty terms in the Agreement for the first 10 years from shipment. For warranty claims in years 11 through 15, Itron's sole obligation will be to provide Customer with a discount on replacement product equal to 50 percent of its then-current list price for the replacement product. For warranty claims in years 16 through 20, Itron's sole obligation will be to provide Customer with a discount on replacement product equal to 25 percent of its then-current list price for the replacement product. The warranty on Itron water endpoints shall be void if the endpoint is used in connection with a third party reading system that is not approved by Itron.
OpenWay Riva Leak Sensor	Full warranty consistent with the warranty terms in the Agreement for the first 5 years from shipment.
Leak Sensor (Non-OpenWay Riva)	Full warranty consistent with the warranty terms in the Agreement for the first 10 years from shipment. For warranty claims in years 11 through 15, Itron's sole obligation will be to provide Customer with a discount on replacement product equal to 50 percent of its then-current list price for the replacement product. For warranty claims in years 16 through 20, Itron's sole obligation will be to provide Customer with a discount on replacement product equal to 25 percent of its then-current list price for the replacement product.
Upgraded handhelds or Mobile Collectors	90 days from shipment.

TECHNOLOGY & SERVICES ADDENDUM
– Software License –

1. The Licensed Software. The Itron software licensed under this Addendum (the "***Licensed Software***" is identified in the Transaction Summary.

2. Software Maintenance & Support. Note: Customers licensing Licensed Software in connection with Cloud Infrastructure service are required to purchase software Maintenance & Support Services for the term of the Cloud Infrastructure service.

3. License Grant. Itron hereby grants to Customer a non-exclusive, non-transferable, non-assignable, non-sublicensable, revocable right and license – within the Territory (defined below) and for the Software License Term (identified in the Transaction Summary), subject to payment of license fees and compliance with the terms and conditions of this Addendum and the Agreement – to: (i) use, make, execute, display, and perform the Licensed Software in object code form for Customer's own internal business purposes and only in connection with the number of specified endpoints. The "***Territory***" shall be the United States of America – or Canada, if Customer is a Canadian company that will be operating the Licensed Software in Canada.

4. Third-Party Software. All software developed by a third-party and sublicensed by Itron is subject to the licensing terms of the third-party developer, a copy of which terms shall be given to Customer. Such third-party software does not include software incorporated or embedded into hardware and software manufactured or developed by Itron.

5. Restrictions. In addition to those restrictions, terms, and conditions set forth in the Agreement – and as a condition to the license grant under Section 3, above – Customer shall not (a) modify or create any derivative works from the Licensed Software or the documentation provided with the Licensed Software ("***Documentation***"), (b) include or combine the Licensed Software with any software or with any equipment or hardware other than as authorized by Itron, (c) use the Licensed Software to provide processing services to third-parties or on a service bureau basis, (d) reverse assemble, decompile, reverse engineer the Licensed Software or otherwise attempt to derive its source code, (e) transfer any copy of the Licensed Software from the authorized system to any other computer hardware or system, except in case of malfunctioning or defective computer hardware or system – and then only temporarily and with the consent of Itron; or (f) export the Licensed Software or any copy or direct product thereof out of the United States except in compliance with applicable export laws and regulations. Customer may only make copies of Documentation as reasonably necessary for the use contemplated under the Agreement; provided, however, that Customer may not copy the Licensed Software other than to make one machine readable copy for disaster recovery or archival purposes. Installation of the Licensed Software shall be limited to one production environment and one test environment. The Licensed Software and Documentation is the Confidential Information of Itron. Customer recognizes and agrees that any breach of the preceding restrictions by Customer shall constitute a material breach of this Addendum by Customer, and, at the option of Itron, shall result in revocation and immediate termination of all rights and licenses granted hereunder. Customer further recognizes and agrees that nothing in this Section shall be construed as prohibiting Itron from pursuing any and all remedies in the event of such breach or violation, and Itron hereby expressly reserves such rights and remedies.

6. Reservation of Intellectual Property Rights by Itron. Itron (and third party developer in the case of sublicensed software) retains all right, title and interest, and all ownership, in and to the Licensed Software and Documentation, including but not limited to all patent, copyright, trade secret, proprietary and other intellectual property rights in the Licensed Software and Documentation and in any modifications and derivative works. Itron (and third party developer in the case of sublicensed software)

reserves the sole right to modify and update the Licensed Software. Customer will not take any action that might impair or challenge in any way any right, title or interest of Itron (or the applicable third party developers in the case of sublicensed software) in any such intellectual property rights. Customer must not alter or remove trade names, trademarks, services marks, or copyright notices and any other proprietary notices or trademarks on any Licensed Software or Documentation.

7. Software Delivery. Licensed Software will be delivered on the date and in the manner agreed to by the Parties.

8. Limited Warranties. The following warranties are the sole and exclusive warranties offered by Itron in connection with the Licensed Software.

8.1. Itron Software. Itron represents and warrants that for a period of ninety (90) days from the date of delivery to Customer, the Itron Software will operate substantially in conformance with the applicable Specifications. Customer's sole remedy for a breach of this warranty – if Itron has failed to cure the breach of warranty within in a reasonable period – will be the refund of license fees for the Licensed Software. Itron Software that is repaired or replaced pursuant to this Section will be warranted for the remainder of the original warranty period or thirty (30) days, whichever is longer. Customer's license to Itron Software for which it has received a refund hereunder shall terminate upon its receipt of a refund. The foregoing warranty does not cover third party software.

8.2. Third Party Software. ITRON IS NOT THE OWNER OF THE THIRD PARTY SOFTWARE AND MAKES NO REPRESENTATIONS OR WARRANTIES WHATSOEVER, DIRECTLY OR INDIRECTLY, EXPRESS OR IMPLIED, AS TO THE SUITABILITY, DURABILITY, AND FITNESS FOR USE, MERCHANTABILITY, CONDITION, QUALITY, PERFORMANCE OR NON-INFRINGEMENT OF THE THIRD PARTY SOFTWARE. WITH RESPECT TO ITRON, CUSTOMER IS PROVIDED THIRD PARTY EQUIPMENT "AS IS." THIRD PARTY SOFTWARE SHALL BE SUBJECT TO ANY WARRANTIES PROVIDED BY THE THIRD PARTY SOFTWARE LICENSOR. MODIFICATIONS MAY VOID OR OTHERWISE LIMIT ANY WARRANTY APPLICABLE TO THIRD PARTY SOFTWARE.

Itron agrees to act as a liaison with the third party software licensors in regard to the third party software warranties, if any, and will use its commercially reasonable efforts to assist Customer in enforcing those warranties.

9. Exclusions from Liability. Itron shall have no obligation to Customer to the extent any Licensed Software is adversely affected by: (i) use of the Licensed Software in combination with any equipment, computer hardware and peripheral devices, operating system software, device drivers, third party software programs, computer graphic elements, and the like that are not authorized by Itron; (ii) any modification, fix, update or upgrade to the Licensed Software that is made other than by Itron; (iii) the use of a version of Licensed Software that is not supported by Itron; (iv) Customer's failure to implement a fix, update, or upgrade to Licensed Software provided by Itron; (v) the maintenance or support of Licensed Software other than by Itron; (vi) viruses introduced through no fault of Itron; or (vii) Customer's failure to follow installation, set up, and configuration instructions as described in the Documentation.

10. Effect of Termination for Cause. Upon termination of this Addendum for cause, Customer shall immediately discontinue use of the Licensed Software and Documentation and will destroy or return to Itron any and all copies of the Licensed Software and Documentation and certify to Itron in writing within fourteen (14) days after such termination that Customer has destroyed or has returned to Itron the Licensed Software and Documentation. This requirement applies to copies in all forms, partial and complete, in all types of media and computer memory, and whether or not modified or merged into other materials. Termination of this Addendum for cause will not restrict either Party from pursuing any other

remedies available to it, including injunctive relief, nor will such termination relieve Customer of its obligation to pay all fees that accrued prior to such termination. Upon termination of this Addendum for cause, Itron will have no further obligations to Customer in any respect whatsoever with respect to the Licensed Software. For avoidance of doubt – notwithstanding the foregoing, upon termination of this Addendum for cause no license, express or implied, is granted to Customer to any Itron intellectual property rights in the Licensed Software and Documentation.

11. Open Source. In the event that Itron identifies open source components within the Itron Software and provides Customer with the applicable license(s), Customer is required to accept and will comply with all such licenses.

12. License Compliance Verification.

12.1. Records. Customer agrees to create, retain, and provide to Itron and its auditors accurate written records, system tool outputs, and other system information sufficient to provide auditable verification that Customer's use of all Licensed Software is in compliance with the license terms and conditions of this Addendum and the Agreement, including, without limitation, all of Itron's applicable licensing and pricing terms. Customer is responsible for 1) ensuring that it does not exceed its authorized use, and 2) remaining in compliance with the license terms and conditions of this Addendum. Customer, at Itron's request, will provide records and other information to demonstrate compliance with license terms and conditions of this Addendum and the Agreement.

12.2. Verification Process. Upon reasonable notice, Itron may verify Customer's compliance with the license terms and conditions of this Addendum at all sites and for all environments in which Customer uses (for any purpose) Licensed Software. Such verification will be conducted in a manner that minimizes disruption to Customer's business and may be conducted on Customer's premises, during normal business hours. Itron may use an independent auditor to assist with such verification, provided Itron has a written confidentiality agreement in place with such auditor.

12.3. Resolution. Itron will notify Customer in writing if any such verification indicates that Customer has used any Licensed Deliverable in excess of its authorized use or is otherwise not in compliance with the licensing terms and conditions of this Addendum or the Solution Document. Customer agrees to promptly pay directly to Itron the charges that Itron specifies in an invoice for 1) any such excess use, 2) support for such excess use for the lesser of the duration of such excess use or two years, and 3) any additional charges and other liabilities determined as a result of such verification.

12.4. No Restriction on Seeking Injunctive Relief. Nothing in this Section 12 in any way limits or restricts Itron's right to seek injunctive relief for Customer's non-compliance with licensing terms and conditions of this Software License Agreement Document.

13. Invoices. Itron will invoice Customer one hundred percent (100%) of the license fees for the Licensed Software upon delivery to Customer in the manner agreed upon.

14. Surviving Provisions. In addition to the Sections identified in the survival provisions of the Agreement, the following sections of this Addendum will survive expiration and termination of this Addendum and the Agreement: 6 ("Reservation of Intellectual Property Rights by Itron"), 9 ("Exclusions from Liability"), 10 ("Effect of Termination"), 12 ("License Compliance Verification").

[End of Addendum]

TECHNOLOGY & SERVICES ADDENDUM

– Maintenance & Support Services (Hardware & Software) –

1. Additional Definitions. The following defined terms are in addition to those defined in the Agreement:

"**Annual Adjustment**" means Itron's standard annual price increase.

"**Annual Fee**" means the annual fee identified on Attachment A to this M&S Addendum (Maintenance and Support Services Pricing) for each category of Covered Product plus the Annual Adjustment, if any. The Annual Fee for any partial Maintenance Year (i.e., for Covered Products with a Maintenance Commencement Date that falls after the beginning of the Maintenance Year) shall be prorated based on the applicable number of months Customer is to receive Services under this Addendum during such Maintenance Year.

"**Contact Documents**" means the "Itron Support Services Contacts" document, which can be obtained by calling (877) 487-6602, including for example, the Itron Equipment Repair Table and Working Effectively with Itron Client Services documents.

"**Covered Product**" means Covered Software and Covered Equipment.

"**Covered Software**" means the software identified in the Transaction Summary and/or the pricing summary to this Agreement.

"**Covered Equipment**" means the equipment identified in the pricing summary to this Addendum which is Itron Equipment. (Itron Equipment is distinguished from equipment manufactured by a third-party that Customer may purchase through Itron under an Equipment Purchase Agreement Document or other commercial sales agreement.

"**End of Support**" means a commercial decision by Itron to discontinue maintenance and support services for specific Covered Products or to discontinue offering a particular Covered Product to Itron customers in general, along with that Covered Product's associated maintenance and support.

"**Error**" means a failure of the Covered Software or Covered Software platform to substantially comply with the applicable Specifications.

"**Fix**" means a correction of an Error, including a work-around, in order for Covered Software to function in accordance with the applicable Specifications.

"**Improvement**" means an update, modification, enhancement, extension, new version (regardless of name or number), new module, or other change to Covered Software that is developed or otherwise provided by Itron.

"**M&S Commencement Date**" means the date upon and after which a Covered Product is entitled to receive Services under this Addendum in accordance with the terms of this Addendum, which – unless otherwise stated in the pricing summary – is (a) for Covered Software that is an Itron product, the first day of the month following delivery by agreed-upon method of the Covered Software (e.g., electronic or physical medium), except that the Maintenance Commencement Date for MV-RS Software is the warranty expiration date; and (2) for Covered Equipment that is Itron Equipment, the warranty expiration date.

"M&S Services Option" means the maintenance and support services option for Covered Equipment or Covered Software, including Service Levels, as set forth in Attachment B-1.

"**Maintenance Year**" means, for each Covered Product, a period of one (1) year beginning on the Effective Date, any anniversary thereof, or agreed-upon coverage start date.

"**Mandatory Revision**" means a software revision that Customer is required to accept in order to correct or address any one of the following issues: a material Error or a material security breach; or third party infringement claim.

"**Operating Condition**" means that the Covered Equipment performs in accordance with the applicable Specifications.

"Principal Services Contacts" means the Customer personnel that Customer is required to designate to serve as Customer's principal relationship contacts for all Services under this Addendum.

"Loaned Mobile/Handheld Equipment" means Mobile Collector and/or Handheld units loaned by Itron to Customer, under the terms of this Addendum while Services are being performed on Customer's Mobile Collector and/or Handheld.

"Service Levels" means, with respect to this Addendum, the response time, effort level, and escalation path procedures and guidelines described in Attachment B to this M&S Addendum (Software Maintenance & Support Service Levels).

"**Software Release**" means a collection of Fixes or Improvements made available to Itron customers (either via physical media or electronic download access).

"Service Request" means a request initiated by Customer for a technical support service within the scope of the applicable maintenance and support Services option purchased by Customer.

"Technical Support Services" means Itron technical support services provided by technical representatives by telephone, email or other remote means to assist Customer's Principal Service Contacts with questions related to the operation of the Covered Products.

2. Effect of Termination.

2.1. Effect of Termination of Agreement. Except as otherwise provided in Section 2.1.2 below, Itron shall not be obligated to provide any Services under this Addendum upon termination of the Agreement.

2.1.1. If Customer terminates the Agreement as a result of a breach by Itron, Customer shall be entitled to a prorated refund of the applicable Fee. If Itron terminates the Agreement as a result of a breach by Customer or if Customer terminates the Agreement for convenience, Customer shall not be entitled to a prorated refund of the applicable Fee.

2.1.2. Unless Itron terminates the Agreement for breach or default by Customer, Itron will continue to provide Services under this Addendum that were purchased by Customer prior to the termination date – and the terms and conditions of this Addendum will continue to govern such Services for the life of the term as described in Section 5 of the Agreement.

2.2. End of Support. Itron may discontinue Services for any Covered Product, effective as of the end of the current Maintenance Year, by giving Customer written notice of such discontinuance no less than ninety (90) days prior to the end of such Maintenance Year. If the End of Support date is scheduled within a subsequent Maintenance Year, Fees for that subsequent term will be pro-rated through the appropriate End of Support date. At Customer's request, Itron shall provide support for products for which Maintenance Services have been discontinued at Itron's then-current rates. Unless otherwise agreed by the Parties in accordance with the foregoing sentence, Itron shall have no obligation to provide

Services under this Addendum with respect to Covered Products for which Itron has discontinued Services pursuant to this Section.

3. Principal Services Contacts.

3.1. Designation by Customer. Customer shall designate no more than two (2) Principal Services Contacts for each Covered Product, as identified in the Contract Documents, to serve as administrative liaisons for all matters pertaining to the Services provided under this Addendum for such Covered Product line, and shall provide their contact information to Itron's customer account representative. Principal Services Contacts shall report problems with Covered Products (each such report, a "***Service Request***") as soon as practicable for entry into Itron's support tracking system. Although it is Customer's sole right to choose its Principal Services Contacts, Customer and Itron acknowledge that each Principal Services Contact should have the appropriate technical skills and training for the position. If Customer replaces a Principal Services Contact, Customer will provide updated contact information to Itron, and the new Principal Services Contact will undergo the same initial training as described in Section 3.2.

3.2. Training of Principal Services Contacts. Before a Principal Services Contact interfaces with Itron, the Principal Services Contact must attend training sessions offered by Itron, an Itron approved trainer, or Customer's training program approved by Itron to ensure that the Principal Services Contact is (a) knowledgeable about the operation of the Covered Products, and (b) qualified to perform problem determination and remedial functions with respect to the Covered Products. Such training sessions will be at Itron's then-current rates. Customer will be solely responsible for all travel and other expenses incurred in connection with each Principal Services Contact's attending the training sessions. The Principal Services Contact should have the skills and capabilities to train other Customer personnel on Covered Products ("train-the-trainer").

3.3. Additional Training. If Itron notifies Customer that additional training of a Principal Services Contact is necessary, Customer will promptly ensure that the Principal Services Contact receives such training.

4. Technical Support Services & Service Requests.

4.1. Support Services. Itron will provide Technical Support Services during its then-current normal business hours. Technical Support Services include troubleshooting, problem diagnosis, release or system management, and recommendations for fully utilizing the Covered Products. Customer acknowledges and agrees that Technical Support Services are not intended as a substitute for training of Customer personnel, field support, or Itron professional services – all of which can be purchased separately. Nor will Customer use Technical Support Services in lieu of having qualified and trained support personnel of its own. Itron's current Technical Support Services contact and support hours are described in the Contacts Document.

4.2. Service Request Process. Customer shall submit Service Requests in the manner required by the Contact Documents and Service Levels.

4.3. Field Support. Upon mutual agreement of the Parties, Itron will dispatch support personnel to Customer's location to provide technical support. Such support will be billed at Itron's then-current hourly rates (with reasonable travel and living expenses invoiced at Itron's cost without markup), unless the cause of the reported problem is found to be the fault of Itron.

4.4. Issue Severity Level Definition. Refer to Attachment B to Maintenance & Support Services Addendum – Software Maintenance & Support Service Levels.

5. Software Maintenance.

5.1. Fixes. Itron shall make commercially reasonable efforts to provide a Fix in accordance with the Service Levels. Itron's obligations with respect to Service Levels are contingent upon Customer (i) devoting the same level of effort to resolving the Error as is required of Itron, (ii) responding to requests made by Itron within the applicable Response Time, and (iii) assigning its most qualified personnel to help Itron address the Error.

5.2. Documentation. Itron will make an electronic copy of the Documentation available to Customer at no additional charge via physical media or download access. Itron will maintain a copy of its most recent supported version of the executable Covered Software to be made available to Customer as necessary in the event of corrupted or inoperative Covered Software.

5.3. Improvements. Itron shall provide Improvements, if any, at its then-current price for such Improvements (or at no charge if such Improvements are made available to Itron customers generally at no charge).

5.4. Software Releases.

5.4.1 Release Numbering Convention. Fixes and/or Improvements are made available to customers through periodic Software Releases. For informational purposes, Itron's current typical practice (which may be changed at any time in Itron's discretion) is to provide Software Releases using the numbering convention "XX.YY.ZZ."

- The "XX" in Itron's numbering convention refers to a "***System Release***," which is a new version of the item of Covered Software. A System Release may include Fixes, Improvements or interfaces to new functional modules or platforms not previously supported by Itron.
- The "YY" in Itron's numbering convention refers to a "***Service Pack Release***," which is an update to a System Release. Service Pack Releases may include Fixes or Improvements and are provided to Itron customers generally on a periodic basis.
- The "ZZ" in Itron's numbering convention refers to a "***Hot Fix Release***," which is an un-scheduled release provided to one or more customers as a short-term, temporary fix to a Severity Level 1 Error. While not utilized by all Itron software product lines, Hot Fix Releases are not made available to Itron customers generally but may be included in the next scheduled Service Pack for general release.

5.4.2 Support for Releases of Itron Enterprise Edition and Openway Software. This Section 5.4.2 applies only to Covered Software that are Itron Enterprise Edition or OpenWay software products. Services for Itron Enterprise Edition and OpenWay software products under this Addendum shall be limited to the most recent System Release and the prior System Release (and the most current Service Pack Release associated with such System Release). Customer will test and install Service Pack Releases associated with the System Release in use by Customer within twelve (12) months of such Service Pack Releases being made available to Customer. Customer will fully test and upgrade to the latest System Release at least every twenty-four (24) to thirty-six (36) months.

5.4.2.1 Itron may elect to provide Services under this Addendum for an unsupported Software Release of Covered Software at its then-current rates for customer support.

5.4.3 Support for Releases of all Other Covered Software. This Section 5.4.3 applies to all Covered Software *other than* Itron Enterprise Edition and OpenWay Software products. Services

under this Addendum for all Covered Software other than Itron Enterprise Edition and OpenWay software products shall be limited to the most recent System Release and the two prior Service Pack Releases. Customer will test and install System Releases and Service Pack Releases within twelve (12) months of such Releases being made available to Customer. Itron may elect to provide Services under this Addendum for an unsupported Software Release of Covered Software at its then-current rates for customer support.

5.4.4 Installation Services for Software Releases. This Section 5.4.4 applies to all Covered Software. Installation services under this Addendum will include limited, remote phone support for all Covered Software on Itron certified server configurations for one production server and one non-production server owned (test, training, or back-up – for example) / operated by the Customer. At Customer's request, Itron may provide Software Release installation services for install of System Releases or Service Packs on additional production or non-production servers at Itron's then-current hourly rates.

5.4.4.1 Itron may elect to provide Services under this Addendum for installation of System Release of Covered Software on uncertified server configurations at its then-current rates for customer support.

5.5 Mandatory Revision. In the event that Itron, in its sole reasonable discretion, determines that any Covered Software is, or may (as applicable) be: (i) subject to a material Error; (ii) the subject of a material security breach; or, (iii) be subject to a third party infringement claim or suit of any kind, Itron may issue a Mandatory Revision.

5.6 DISCLAIMER OF LIABILITY. ITRON DISCLAIMS ALL LIABILITY AND OBLIGATIONS THAT ARISE DUE TO, OR ARE RESULT OF, CUSTOMER'S FAILURE TO TEST AND INSTALL A MANDATORY REVISION IN A TIMELY FASHION.

5.7 Interoperability. Itron makes no representation or warranty regarding the ability of the Covered Software to interoperate with third party hardware or software other than software or hardware identified as compatible with the Covered Software in Itron's Documentation for the applicable Covered Software.

5.8 Restoring Software to Maintenance Services. If Customer declines Services under this Addendum after the end of warranty or discontinues Services under this Addendum for any Covered Software, and thereafter wishes to resume such Services for the most recent Software Release of that Covered Software, Customer shall, prior to receiving Services, notify Itron in writing of its request for Services and pay Itron's then-current re-initiation fee.

5.9 Exclusions. Itron shall have no obligation to Customer for any Services under this Addendum to the extent any Covered Software is adversely affected by: (i) use of the Covered Software in combination with other software, equipment or communications networks that are not referenced in the Documentation; (ii) any modification to the software, operating environment, system installation, operating instructions, scripts, or database configuration that is made other than by Itron; (iii) the use of a version of the Covered Software that is not supported by Itron; (iv) Customer's failure to implement a Fix provided by Itron; (v) the maintenance and/or support of the Covered Software other than by Itron; (vi) viruses introduced through no fault of Itron; (vii) use of the Covered Software other than as authorized by Itron and the applicable license, including Covered Software operated on Covered Equipment that has been serviced or repaired by a third party that is not Itron certified; or (viii) Customer's failure to perform Customer responsibilities in accordance with this Addendum.

5.10 Customer Software Responsibilities.

5.10.1 Support Tools. Customer will support remote access to the Covered Software by Itron Personnel assigned to provide Services under this Addendum for purposes of remote diagnosis and troubleshooting of the Covered Software.

5.10.2 System Configuration and Administration. Customer will ensure that its equipment, system peripherals, operating system, and data communications environment associated with the Covered Software is configured, operated, and maintained in accordance with the Documentation and any applicable third party documentation. These administrative activities shall include but not be limited to: checking audit logs, clearing discovered exceptions, and performing daily, weekly, and monthly operational tasks and system responsibilities. Customer is responsible for any change they make to the software system, operating system, database or network configuration or change to installation procedures, scripts, and provisions that may affect the usability or operation of the Software or Data. Customer will consult with Itron prior to making changes that may affect the operation of the Covered Software.

5.10.3 Network Administration. Customer will monitor and maintain, repair, replace and upgrade its local, and wide area network components (if any)—including network servers, network clients, network hubs, routers, modems, and other software components necessary for efficient and reliable network operations associated with the Covered Software—to ensure continued conformance with the Documentation and any applicable third party documentation. In addition, Customer will administer related host names, Internet Protocol addresses, network interfaces, access, security, communications, and equipment and software version control.

5.10.4 Database Administration. Customer will administer the agreed upon database(s) associated with the Covered Software, including hardware and software components, in accordance with the Documentation or any applicable third party documentation, which administration shall include, monitoring the database server, backing up electrical power sources, and configuring and administering of database schema, application interfaces, networking operating system, communications, and file transfer software. Customer will maintain database files (e.g., truncate, cleanup, and delete files consistent with industry standard practices) and perform regular data backup and data archiving.

5.10.5 Data Review. If Itron determines that it is necessary to evaluate Customer data in order to reproduce error conditions not reproducible with Itron's standard test data sets, Customer will provide Itron with access to such data. Itron will manage such data in a secure manner while in use and delete the data from Itron systems upon completion of the investigation. Itron shall not be liable for any delay or failure to resolve the problem if access to such production data is denied to Itron.

6. Equipment Maintenance.

6.1. Preventive and Corrective Maintenance. Upon receipt of an item of Covered Equipment, Itron shall (i) perform the preventive Services under this Addendum that Itron determines are reasonably necessary to maintain the Covered Equipment in Operating Condition, and (ii) diagnose and correct any failure in such Covered Equipment as necessary to meet Operating Condition (excluding minor cosmetic deficiencies such as blemishes, dents or scratches).

6.2. Maintenance Procedures. Customer shall initiate a request under this Addendum for Services for Covered Equipment by delivering the item in question to the applicable Itron address identified on the Itron Equipment Repair Table (the "***Repair Table***"), which can be obtained by calling (877) 487-6602. Return of the Covered Equipment shall be at Customer's expense and in accordance with the applicable

Return Material Authorization ("***RMA***") procedures. Upon receipt of Covered Equipment (with the required information) under Itron's RMA procedures, Itron shall assess the item to determine (a) whether it is in fact Covered Equipment and (b) whether the maintenance requested is included within the Services ordered by Customer and not otherwise excluded from coverage as provided herein. If the returned equipment is determined to be Covered Equipment and the maintenance requested is in fact included in the Services ordered by Customer, Itron shall then provide the applicable Services and shall make commercially reasonable efforts to return the item of Covered Itron Equipment to Customer at Itron's expense within the applicable turnaround time identified on the Repair Table. Returned equipment that is found not to be Covered Equipment, or if maintenance or support that is requested is determined not to be included in the Service ordered by Customer, then Itron will provide a quote to Customer under Section 6.4, below.

6.3. Exclusions. The Services described herein do not include repairs related to: (i) damage due to external causes, including accident, abuse, misuse, inadequate maintenance, problems with electrical power, acts of God; usage not in accordance with product instructions or in a configuration not approved by Itron; (ii) service or repair processes (including installation or de-installation of equipment, parts, or firmware/software) not performed or authorized by Itron; (iii) use of parts, configurations or repair depots not certified by Itron; or (iv) Customer's failure to perform Customer responsibilities in accordance with this Addendum, including caring for Products in accordance with System Documentation.

6.4. Estimation Fees. Itron will provide Customer with a price quote for the estimated cost, including labor, materials and shipping, for any repairs that are requested, but not included under this Addendum (whether because the item is not covered or because the nature of the repair is not included). If Customer elects to have Itron proceed with the requested maintenance on any such item, Itron shall provide such services at Itron's then-current rates. If Customer elects not to proceed with the requested repair, Itron will return the item of equipment at Customer's expense. Itron may charge Customer its then-current handling, inspection and shipping fees for any such returned equipment.

6.5. Adding/Restoring Equipment to Maintenance Services. Following the effective date of this M&S Addendum, additional Covered Equipment purchased by Customer, of a similar type and model already covered by Services under this Addendum, shall automatically be deemed to be Covered Equipment following expiration of the warranty for such equipment. If Customer declines coverage after the end of warranty, discontinues Services for any Covered Equipment or has Covered Equipment serviced or repaired by a third party that is not Itron certified, and thereafter wishes to add such equipment as Covered Equipment, Itron may, prior to such equipment being included as Covered Equipment,(i) inspect such equipment at its then-current rates to determine whether it is in Operating Condition and/or (ii) charge its then-current re-certification fee, in addition to the Covered Equipment's first term maintenance fee.

6.6. Customer Equipment Responsibilities. Itron shall make available, and Customer shall obtain, a copy of Itron's user documentation for Covered Equipment and Customer shall perform regular preventive maintenance for each such item in accordance with such documentation. Customer shall also keep accurate records of Covered Equipment serial numbers and locations to assist Itron with the Services.

6.7. Loaner Equipment Program. Subject to the requirements below, Itron shall make commercially reasonable efforts to provide Customer Loaned Mobile/Handheld Equipment for the Customer to use while a Mobile Collector or Handheld unit that is Covered Equipment is receiving Services under this Section. Itron shall provide Loaned Mobile/Handheld Equipment if all the following criteria are satisfied:

6.7.1. Customer has maintained an inventory of spare Mobile Collectors or Handheld units equal to at least the mutually agreed upon inventory stocking levels and such inventory has been depleted;

6.7.2. Itron has provided preventive Maintenance Services for each of Customer's Mobile Collectors or Handheld Devices (as applicable) that are Covered Equipment in the 12-month period prior to Customer's request for Loaned Mobile/Handheld Equipment; and

6.7.3. Itron is unable to return the Mobile Collector or Handheld Devices, as applicable, receiving Services within the applicable turnaround time set forth in the Repair Table.

6.7.4. Loaned Mobile/Handheld Equipment will remain the property of Itron and shall be returned to Itron promptly upon receipt of the corresponding item of Covered Equipment. For Loaned Mobile/Handheld Equipment that is not returned within fourteen (14) days from shipment of the corresponding item of Covered Equipment, Itron may charge a late fee equal to ten (10) percent of the then-current list price for the item of Loaned Mobile/Handheld Equipment for each thirty (30) day period during which the item of Loaned Mobile/Handheld Equipment remains unreturned. Itron shall pay the cost of delivering Loaned Mobile/Handheld Equipment to Customer and Customer shall pay the cost of returning Loaned Mobile/Handheld Equipment to Itron.

7. **Fees and Invoicing.** As compensation for the Services under this Addendum, Customer shall, in advance, pay to Itron the Annual Fee for each Maintenance Year in which it receives Services under this Addendum. Itron shall invoice Customer for Services to be provided during the first Maintenance Year as soon as practicable following the Effective Date. For Services provided during any subsequent Maintenance Year, including Services for newly purchased or licensed Covered Products, Itron shall provide Customer with a renewal notice at least one-hundred twenty (120) days prior to the commencement of each Maintenance Year. Customer may discontinue Maintenance Services for a Product by providing Itron with written notice of non-renewal for such Product no less than ninety (90) days prior to the commencement of any subsequent Maintenance Year. Approximately twenty (20) days prior to the commencement of any subsequent Maintenance Year, Itron shall provide Customer with an invoice for the Annual Fee payable by Customer for the forthcoming Maintenance Year (including the Annual Adjustment). Itron may, in its discretion, invoice Customer for Services for a Covered Product that is added during the course of any Maintenance Year as soon as such Covered Product has been added or at the beginning of the next Maintenance Year.

8. **Support For Third Party Products.** For any Covered Product that is a "Third-Party Product" (each, a "***Third Party Covered Product***") Itron shall provide first-tier Customer support by handling all initial Customer inquiries, identifying the component involved in the problem and obtaining appropriate documentation of such inquiry or problem. In addition, Itron shall make commercially reasonable efforts to facilitate Customer's receipt of maintenance and support for such Third Party Products consistent with the maintenance terms identified on the Order Document for such Third Party Products. Notwithstanding anything else to the contrary, Itron's sole obligation with respect to maintenance and support for Third Party Products shall be as set forth in this Section.

[Attachment A and B Follow]

Attachment A to the Maintenance & Support Services Addendum

– Software Maintenance and Support Service Pricing

Attachment B to Maintenance & Support Services Addendum

– Software Maintenance & Support Service Levels –

Severity Level	Response Times	Effort Level and Escalation Path
Severity Level 1. Critical Business Impact / System Down: An Error for which there is no work-around, which causes the Product / Software or a critical business function / process of the Itron system to be unavailable. System use and operation cannot continue. *Severity 1 errors must be reported by phone to initiate the Severity 1 response process. SRs initiated by email or web interface are logged as a Severity 3 until reviewed by Itron Technical Support Services and validated as a higher priority.	During after-hour periods, Itron will respond to a critical support voice messages within 15 minutes by a return call to Customer, which will validate receipt of the critical support call and begin the SR process. During regular business-hours Itron will begin the SR process during Customer's initial call. Following the start of the SR process Itron will respond to Customer's SR within 2 business hours with an investigation response. Following the investigation response, Itron will update Customer at three hour intervals during each day the SR remains unresolved, or as otherwise agreed by the Parties. Customer will respond to an Itron inquiry or request within three hours.	Itron will make diligent efforts on a 24x7 basis*, or as otherwise agreed by the Parties. A SR shall be escalated to Itron's TSS Management Team if a Fix is not provided within 1 business day of Itron's receipt of the Customers call and creation of the SR. *24X7 support for Severity Level 1 Errors is not currently available for Itron Meter Products, Energy Forecasting and Load Research Products, and Distribution Products.

Severity Level	Response Times	Effort Level and Escalation Path
Severity Level 2. Moderate Business Impact / Degraded Operation: An Error other than a Severity Level 1 Error, for which there is no work-around, which limits access or use of the software or a business function, causing the system to miss required business interface or deadlines. The system remains available for operation but in a restricted fashion. *Severity 2 errors must be reported by phone to initiate the Severity 2 response process. SRs initiated by email or web interface are logged as a Severity 3 until reviewed by Itron Technical Support Services and validated as a higher priority.	Itron will respond to Customer SR within 1 business day and will update the SR at least every other day. Customer will respond to an Itron inquiry or request within 1 business day.	Itron will make diligent efforts during normal business hours. SRs shall be escalated to Itron's TSS Management Team if a Fix is not provided within 3 business days of Itron's receipt of Customer's call and creation of the SR.
Severity Level 3. Minor Business Impact / Compromised Operation: An Error other than a Severity Level 1 or Severity Level 2 Error that has an inconvenient use of or aces to a software function. (e.g., a feature is not working as documented but a work-around is available and significant business functions are not materially impaired).	Itron will respond to Customer SR within 2 business days.	Itron technical representatives will make diligent efforts during normal business hours.
Severity Level 4. No Business Impact / Standard Operation: An Error other than a Severity Level 1, Severity Level 2 or Severity Level 3 Error. Generally a cosmetic Error or an Error which does not degradate Customer's use of the system.	Itron will respond to Customer SR within 3 business days, or as otherwise agreed by the Parties.	Itron support representatives will devote commercially reasonable efforts during normal business hours.
Severity Level 5. Customer SR for an enhancement or new functionality.	N/A	The SR will be evaluated as a potential, future product enhancement. If the enhancement or new functionality requires more immediate attention for Customer, Itron will engage Itron's Professional Services Group to create a customized proposal for Customer, at Itron's then-current services rates.

TECHNOLOGY & SERVICES ADDENDUM

– Installation/Implementation Services –

1. Scope. This Addendum applies where: (a) Customer is purchasing installation services for Equipment, or (b) Customer is purchasing implementation services for the set-up, configuration, and validation of Licensed Software, Software-as-a-Service, Managed Services, or Cloud Infrastructure Service.

2. Invoicing. Itron will invoice Customer for Services as set forth in the applicable SOW or pricing summary. Services performed on a time and materials basis will be invoiced at the end of the calendar month in which they are performed. Services performed on a fixed fee basis will be invoiced as set forth on the applicable SOW or, if not set forth on a SOW, upon completion.

3. Authorized Services. Customer will not pay for, and Itron is not required to provide any services, for which both a statement of work and purchase order have not been issued by Customer and accepted by Itron. All changes to scope of work must be approved pursuant to the change request procedures of the Agreement or applicable statement of work.

4. Customer Responsibilities. Customer shall timely perform all of its assigned, implied or assumed responsibilities under each statement of work using qualified personnel. Customer shall also provide Itron with reasonable cooperation in connection with the services, including for example, by providing Itron with reasonable access to Customer's facilities, service territory, personnel, systems, and information.

5. Reference Information. If Customer provides Itron any reference information, designs, technical information, or other information required to be provided by Customer in connection with the services (collectively, the "***Reference Information***"), Itron shall be entitled to rely on the accuracy of such Reference Information.

6. Delays. To the extent Customer's failure to adhere to Section 4 or Section 5 results in any delay or increases Itron's cost of performing the services, the delay shall be excused, and Itron reserves the right to increase its fees as necessary to offset its increased costs of performing the services. Itron will provide Customer with reasonable evidence of its increased costs of performing the services and will make commercially reasonable efforts to minimize such costs to the extent practicable under the circumstances.

7. Express Warranties for Professional Services. The warranty period for services provided is ninety (90) days beginning from the completion date of the services. Unless otherwise expressly provided in a statement of work or other document expressly incorporated into the Agreement, as the sole and exclusive warranties offered by Itron in connection with this Addendum and each statement of work under it, Itron warrants to Customer that:

7.1. Services. Services will be provided in a timely, professional, and workmanlike manner.

7.2. Itron Personnel. Itron personnel will have the requisite experience, skills, knowledge, training and education to perform Services in a professional manner and in accordance with this Addendum and applicable statement of work.

7.3. Remedies. As Itron's sole and exclusive liability and Customer's sole and exclusive remedy for any material noncompliance by Itron with the warranties provided under this Section, Itron shall correct

the noncompliance within a reasonable period of time under the circumstances, if Customer gives Itron written notice (which notice must describe the noncompliance in sufficient detail to enable Itron to provide the required corrective action) within the applicable notice period. If Itron, in its sole discretion, is unable to correct the noncompliance, its sole obligation will be to refund to Customer the amount paid for the services.

[End of Addendum]

SOFTWARE-AS-A-SERVICE ADDENDUM

1. **Relationship to General Terms and Conditions**. This Addendum is governed by the Agreement and applicable Order Document.

2. **Software-as-a-Service Descriptive Overview.** Itron provides customers with an application client or with web browser access to Itron applications running in a shared environment on a Software-as-a-Service Platform. Itron controls, operates, and maintains the Software-as-a-Service Platform, including application management, data, runtime, middleware, operating systems, virtualization, services, storage, and internal networking, for example.

3. **Additional Definitions**. The following defined terms are in addition to those defined in the Agreement:

   "Availability Downtime" means the total number of seconds in a Measurement Month of Software-as-a-Service Platform Severity Level 1 Conditions.

   "Availability Exclusions (Minutes)" means the total number of minutes in a billing month of Software-as-a-Service Platform downtime due to (a) Software-as-a-Service Platform downtime due to (i) scheduled maintenance and unscheduled, emergency maintenance and updates, (b) conditions beyond Itron's reasonable control, such as (i) failure of any backhaul between the Software-as-a-Service Platform and the meters, endpoints, or other devices; (iii) failures in external Internet or VPN configurations not managed by Itron; (iv) a Force Majeure event; (v) false reports of unavailability as a result of outages or errors of any Itron measurement system; (vi) an act or omission of Customer or third parties (other than Itron's contractors, subcontractors or suppliers), including security incidents caused by such act or omission; (vii) incident investigation or computer failures that could not reasonably have been prevented by Itron; and (viii) failures of third-party equipment, hardware, software or services not provided by Itron, and (c) suspension or restriction of service under Section 12.

   "Maximum Available Minutes" means the total number of minutes in a Measurement Month minus Availability Exclusions (Minutes).

   "Measurement Month" means the then-current calendar month of the Software-as-a-Service Subscription Term.

   "Minimum Software-as-a-Service Subscription Term" means the minimum length of time that Customer is required to subscribe to Software-as-a-Service, which shall be one (1) year from the Software-as-a-Service Commencement Date unless otherwise stated in the applicable Order Document or Pricing Summary.

   "Software-as-a-Service Commencement Date" means the earlier of (1) validation of Software-as-a-Service implementation by Itron pursuant to the applicable Statement of Work, or (2) sixty (60) days after completing application system setup.

   "Software-as-a-Service Platform Severity Level 1 Condition" means that the Software-as-a-Service Platform is in a System-Down Condition or Critical Business Impact Condition for which there is no work-around. **"System-Down Condition"** means a condition under which Software-as-a-Service Platform use and operation cannot continue. **"Critical Business Impact Condition"** means a condition under which a critical business function or process of the Itron system cannot be used by Customer.

"Software-as-a-Service Platform" means the software applications, and software and hardware systems and platforms operated and maintained by Itron to provide Software-as-a-Service to Customer.

"Software-as-a-Service Subscription Fee" means the annual fee to subscribe to an Itron application (identified in an Order Document of Pricing Summary) operated and maintained by Itron on its Software-as-a-Service Platform for use by Customer.

"Software-as-a-Service Subscription Term" means an annual subscription to an Itron Software-as-a-Service application.

4. Software-as-a-Service Subscription.

4.1. **Annual Subscription.** Software-as-a-Service is offered as an annual subscription, payable in advance each year during the Software-as-a-Service Subscription Term. The Software-as-a-Service Subscription Fee will be charged on the number of meters, endpoints, or other devices registered in the head end software or activated by the cellular carrier.

4.2. **Identification of Software-as-a-Service Applications.** The Software-as-a-Service applications to which Customer is subscribing are identified in the Order Document or Pricing Summary to the Agreement.

4.3. **Software-as-a-Service Subscription Term.**

4.3.1 Minimum Software-as-a-Service Subscription Term. Customer is required to subscribe to Software-as-a-Service for the Minimum Software-as-a-Service Subscription Term.

4.3.2 Fees. Software-as-a-Service Subscription Fee is identified (by application) in the applicable Order Document or Pricing Summary.

4.3.3 Commencement of Subscription Term. The Software-as-a-Service Subscription Term begins upon the Software-as-a-Service Commencement Date. The Software-as-a-Service Subscription Term will renew automatically for one-year terms, unless Customer notifies Itron of Customer's intent not to renew ninety (90) days prior to the expiration the then-current one-year term, or Itron notifies Customer within that same time period of Itron's intent not to renew. The original Subscription Term plus renewal terms may not exceed five (5) years in total, unless otherwise expressly stated in an Order Document.

4.3.4 Effect of Not Meeting Minimum Software-as-a-Service Subscription Term. In the event that Customer does not subscribe to Software-as-a-Service for the Minimum Software-as-a-Service Subscription Term, Itron will invoice Customer an amount equal to unpaid Software-as-a-Service Subscription Fees through the end of the Minimum Software-as-a-Service Subscription Term. Customer must pay that amount within thirty (30) days from receipt of invoice.

4.3.5 Return of Stored Customer Data. Upon termination of Software-as-a-Service for any reason, Itron and Customer will mutually determine the process for returning all stored information in the Software-as-a-Service to Customer within thirty (30) days of termination. If additional time is needed by Customer, Itron will invoice Customer from month-to-month at the then current annual Software-as-a-Service fees, prorated monthly, until such time as Customer is ready to take possession of Customer Data, but not to exceed six (6) months from the date of termination.

4.4. **Invoicing & Payment.** Itron will invoice Customer the Software-as-a-Service Subscription Fee for the first year of service upon the Software-as-a-Service Commencement Date. Thereafter, Itron will invoice Customer the annual Software-as-a-Service Subscription Fee upon the anniversary of the Software-as-a-Service Commencement Date. The Subscription Fee is identified in the Order Document or Pricing Summary identified with this Agreement.

5. **Software License Option.** A Software License Option, if purchased by Customer, will be identified and priced in the Order Document or Pricing Summary. If Customer has purchased a Software License Option, Customer shall have the right at any time during the Software-as-a-Service Subscription Term to license the Itron software applications under Customer's Software-as-a-Service subscription. There shall be no charge to Customer to license the Itron Software applications. The software license terms in the Software License Addendum to the General Terms and Conditions shall apply.

Customer and Itron shall agree upon a statement of work to migrate the software applications and data from Itron's Software-as-a-Service environment to an operating environment located on Customer's premises or to a third-party environment in which the Itron software applications can be operated. Itron is under no obligation, however, to customize or modify its software applications to perform in Customer's operating environment or that of a third-party, or to provide any middleware, operating systems, virtualization, services, storage, or networking required for the applications to perform in Customer's operating environment or that of a third-party.

The Software-as-a-Service Subscription Term shall cease upon completion of the migration of the software applications and data from Itron's Software-as-a-Service environment to an operating environment located on Customer's premises or to a third-party environment, as otherwise agreed upon between Itron and Customer under the migration statement of work. Customer will not be required to pay any amounts under Section 4.3.4 in the event Customer exercises its Software License Option prior to the end of the Minimum Software-as-a-Service Subscription Term.

6. **Monthly Availability % Service Level.**

6.1. **Service Level.** The Monthly Availability % service level for the Software-as-a-Service Platform will meet or exceed 99.5%. Monthly Availability % will be individually measured and calculated for each Software-as-a-Service application each Measurement Month. Itron records and data will be the sole basis for all Monthly Availability measurements and calculations.

6.2. **Service Level Formula.** Monthly Availability % is the total number of Maximum Available minutes less Availability Downtime divided by Maximum Availability minutes for a Measurement Month. Monthly Availability Service Level Percentage is reflected by the following formula.

$$\text{Monthly Availability \%} = \frac{\text{Maximum Available Minutes} - \text{Availability Downtime}}{\text{Maximum Availability Minutes}} (100)$$

6.3 **Service Level Credits.** Customer will be entitled to credits for Itron's failure to meet the foregoing target for the production environment only, as follows:

Application Availability (Production Environments Only)	
Monthly Availability Performance	Credit

	(% of monthly Subscription Fee)
≥99.0% and <99.5%	2%
≥98.0% and <99.0%	4%
≥96.5% and <98.0%	10%
≥95.0% and <96.5%	12.5%
<95.0%	30%

6.4 Service Level Report. Itron will deliver a monthly service level report that identifies daily performance and monthly average. Upon Customer request, if Itron does not meet the Application Availability service level, the report will give the reason the service level was not achieved and describe the corrective actions taken.

6.5 Performance Services Level Remedy.

6.5.1 Corrective Action. In addition to the Service Level Credits discussed in Section 6.3 above, in the event that Itron fails to meet the Application Availability Service Level in any given month, Itron shall (1) provide Customer with an incident report, and (2) bring the Software-as-a-Services into compliance with the Application Availability Service Level by the conclusion of the next measurement month. **Termination Option: Three Consecutive Failures.** In the event Itron does not meet the Application Availability Service Level for three consecutive months, the Customer may terminate its Software-as-a-Service subscription upon seven (7) days' prior written notice to Itron without any liability whatsoever, with the exception of fees for Software-as-a-Service rendered through the termination effective date, which shall reduced in proportion to average failure rate across the three consecutive failure months. By way of illustration, if Service Levels average 90% across 3 months, a downward adjustment equal to 9.5% of the unpaid fees rendered through the termination effective date would be made.

7. **Documentation.** Itron will provide Customer with a standard set of Documentation for the Software-as-a-Service, such as user manuals and training materials.

8. **Sizing of Software-as-a-Service.** Itron will size its applications, platforms, and systems for Customer's specific system deployment of Software-as-a-Service. System sizing depends on the application and types of devices and sensors – and may be a factor in determining Software-as-a-Service subscription fees. Sizing criteria may include: number of system endpoints, number of collectors, number of repeaters or range extenders, residential meter configuration, commercial and industrial meter configuration, desired data collection intervals, storage duration for historical data, and the number of concurrent and total users of the application. Sizing changes during the Software-as-a-Service subscription term will require a Change Order and may result in a change in subscription fees.

9. **Application Upgrade & Fixes.** Itron usually releases application upgrades annually, if available, containing new features and functions to the latest general release. Application hot fixes will be performed as needed, as determined by Itron.

10. **Conditions on Use of Service.** Customer will use of the Software-as-a-Service only in accordance with Itron user guides, these Software-as-a-Service terms, the General and Special Terms and Conditions, and applicable laws and government regulations. The rights of any user to access and use the Software-as-a-Service cannot be shared or used by more than one individual (unless such license is reassigned in its entirety to another authorized user), and Customer shall make every reasonable

effort to prevent unauthorized third-parties from accessing the Software-as-a-Service.

11. **Restrictions.** Customer is not permitted to (1) remove or modify any program markings or any notice of Itron's or its licensors' proprietary and intellectual property rights, (2) modify, make derivative works of, disassemble, reverse compile, or reverse engineer any part of the Software-as-a-Service, (3) access or use the Software-as-a-Service in order to build or support, and/or assist a third-party in building or supporting, products or services competitive to Itron, (4) use the Software-as-a-Service on a service bureau basis, except under formal written agreement with Itron, or (5) combine the Software-as-a-Service with any application, software, hardware, equipment, product, or service, except as contemplated by these Software-as-a-Service terms or as expressly authorized by Itron in advance, in writing.

12. **Suspension or Restriction of Service.** Itron may suspend or restrict all or part of the Software-as-a-Service at any time until further notice to protect the integrity and functionality of Software-as-a-Service applications, platform, and systems – or for a material violation of the "Restrictions" or "Conditions on Use of Service" sections that is not promptly cured.

13. **Technical Support Services.** Itron will make technical representatives available to answer questions related to the use of Software-as-a-Service, including assisting Customer with problems experienced with using the Software-as-a-Service; Itron will provide Customer with contact and process documentation. Training and professional services are not within the scope of technical support services.

14. **Customer Technical Responsibilities.** Customer is responsible for selecting, acquiring, securing and maintaining all equipment and ancillary services needed to connect to, access, or otherwise use and maintain compatibility with the Software-as-a-Service, at Customer's sole expense.

15. **User IDs & Passwords.** Itron shall provide Customer with user identifications and passwords ("User IDs") to access the Software-as-a-Service applications. Customer shall be solely responsible for all use of Customer's subscriptions and accounts. Customer shall maintain the confidentiality of all User IDs assigned to Customer. User IDs may not be shared or used by more than one user.

16. **Planned Maintenance.** Planned maintenance, whenever reasonably practicable, will be performed during off-business hours between 6:00 p.m. to 12:00 a.m. Customer's local time, with as little disruption to Customer's use of the Software-as-a-Service as possible, and unplanned maintenance, whenever reasonably practicable, shall also be performed during off-business hours between 6:00 p.m. and 12:00 a.m., Customer's local time.

17. **Unplanned Maintenance.** Itron will provide Customer with notice of unplanned maintenance as soon as reasonably practical; Itron will endeavor to minimize Software-as-a-Service disruptions.

18. **Business Continuity**. Itron has architected and operates a high availability and scalable infrastructure to facilitate virtualized customer environments with various fault tolerant components. Fault tolerance and failover methodologies allow Itron to maximize system availability and confidently uphold our uptime SLAs. Business Continuity is intended for component failures, not for the catastrophic loss of an entire datacenter. Itron will conduct daily backups of back office application configuration files and associated data. These backups are for operational purposes only and are not a disaster recovery solution or a solution to be used by the Customer for testing or analysis purposes. Itron will periodically test the restore capability of its business continuity solution. System and database backups are performed via a schedule to provide for a full weekly backup and daily differential backups. System backups and snapshots are also taken prior to any system change that has been

approved via the Itron Global Managed Services Change Control Board. The system can be recovered from the backup in an event of a failure. The RPO for business continuity is 72 hours. The RTO for business continuity is five business days. "**RPO**" means the maximum tolerable time period which data might be lost from production Software applications due to a service interruption event. "**RTO**" means the duration of time allowing for the execution of all failover processes required to return access, connectivity, functionality, and operation of production Software applications to Customer following declaration of a disaster event.

All incidents requiring system recovery will be required to adhere to Itron's incident management policy and related standard operating procedures.

19. **SaaS Roles & Responsibilities.** The table below lists the respective responsibilities of Customer and Itron to ensure reliable operation of the Software-as-a-Service.

P=Primary responsibility
S=Support responsibility

Description of service or deliverable	Itron	Customer
Submit user access requests for new users and deletion notifications for users no longer involved with the Software-as-a-Service.		P
Provide immediate notification in the event of an employee termination for those with access to the Software-as-a-Service .		P
Maintain skill sets necessary to properly support the Software-as-a-Service.	P	
Administer and monitor servers including but not limited to utilization of CPU, memory, IOPs, and disk space.	P	
Manage and troubleshoot the secure Software-as-a-Service components and processes (if applicable).	P	
Administer associated Linux, Unix, and Windows operating systems.	P	
Apply Operating System and other third party security patches and critical updates as appropriate.	P	
Maintain and troubleshoot third party software issues required for Software-as-a-Service operations, work with third party to troubleshoot as required.	P	
Maintain anti-virus on all windows based servers.	P	
Monitor communications and support communications troubleshooting activities for the Software-as-a-Service.	P	
Support Software upgrade activities if required.	P	
Maintain and administer the Software-as-a-Service server databases.	P	
Manage Software-as-a-Service interfaces; work with Itron when problems are identified.		P
Provide and maintain a Secure FTP or equivalent.	P	
Perform regular system, database, and custom component backups in	P	

accordance with selected service level.		
Develop and Maintain Itron related Standard Operating Procedures.	P	

[End of Addendum]

TECHNOLOGY & SERVICES ADDENDUM
- Itron Mobile -

1. **Annual Subscription Term Commitment.** Itron Mobile requires a minimum one-year commitment. The initial Itron Mobile Subscription Term begins upon completion of Itron Mobile set-up, as validated by Itron. The Itron Mobile Subscription Term will renew automatically for one-year terms, unless either party gives the other 90 days' prior written notice of its intent not to renew.

2. **Relationship to Licensed FCS Software and Maintenance & Support.** In order to ensure full functionality of Itron Mobile, Customer may be required to update or upgrade its licensed FCS software. In the event of termination or expiration of Customer's FCS software license, Customer's subscription and right to use Itron Mobile will terminate.

3. **Fee Adjustments.** The Itron Mobile Subscription Term fee is subject to annual adjustment. In addition, because the Itron Mobile Subscription Term fee is charged on the number of provisioned meters or endpoints in Customer's system (i.e., a tier limitation), any increase in that number during an Itron Mobile Subscription Term will result in additional charges. The additional charges will be invoiced to Customer, normally within thirty to sixty days depending on when the provisioning occurs.

4. **Compatible Mobile Devices.** Itron Mobile is designed to work in connection with mobile devices that meet Itron specifications. Itron will provide those specifications to Customer. Itron is not required to make Itron Mobile work with any other mobile devices.

5. **Customer's Obligation to Protect Customer Information On Mobile Devices.** Customer must take steps to protect customer information stored on Mobile Devices including secure access to Mobile Devices, whether purchased through Itron or a third-party. User identification codes, passwords, and any information provided to Customer as part of Itron's security procedures must be treated as confidential and must not be disclosed to any third party. Customer is at all times responsible for its employees' and subcontractors' use of Itron Mobile. Itron has the right to disable any user identification codes or passwords if, in Itron's opinion, Customer or its employees and contractors have failed to comply with any of the provisions of the Contract Documents.

6. **Internet Connectivity.** Itron Mobile requires Internet connectivity. Customer is solely responsible for obtaining and paying for Internet connectivity.

7. **Disclaimer of Liability.** ITRON ACCEPTS NO RESPONSIBILITY FOR ANY INTERNET SERVICES FAILURE, MOBILE DEVICE FAILURE, OR ITRON MOBILE SERVICE FAILURE, OR FOR ANY LOSS OR DAMAGE OF ANY KIND CAUSED BY SUCH FAILURE.

8. **Itron Mobile Set-Up.** Itron Mobile set-up is an activity separate and distinct from FCS software installation. In all cases where a Customer subscribes to Itron Mobile, Itron will perform Itron Mobile set-up, for which Itron will charge a one-time set-up fee.

[End of Addendum]

ORDER DOCUMENT

– [City of Fort Wayne Riva AMI Deployment] –

This Order Document for City of Fort Wayne's AMI Project ("***Order Document***") is issued under the Master Sales Agreement dated as of Sept 17th, 2019 (the "***Agreement***") between City of Fort Wayne ("***Customer***") and Itron, Inc. ("***Itron***") and is made effective as of the date last signed below ("***Order Effective Date***"). The terms and conditions of the Agreement and all of the attached Addenda are incorporated into and made a part of this Order Document. Capitalized terms used in this Order Document and not otherwise defined herein will have the meaning assigned to such term in the Agreement or applicable Addenda.

1. ATTACHMENTS

The following documents are attached to and made a part of this Order Document for the AMI Project:

Attachment 1 – Pricing Summary

Attachment 2 – Third-Party Covered Product Maintenance Terms

Attachment 3 – Cisco EULA

Attachment 4 – Statement of Work

2. TERM

This Order Document shall begin upon the Order Effective Date and expire or terminate in accordance with Section 5 ("Term and Termination") of the Agreement.

3. PRICING

3.1 Pricing Summary. Pricing for the AMI Project shall be as set forth in Pricing Summary (BMR#16143-18 Ver3 dated [Date of Pricing Summary], 2019) attached hereto as Attachment 1 ("***AMI Pricing Summary***"). Customer may purchase products and services described on the AMI Pricing Summary at the Fees set forth therein following the Order Effective Date and until expiration of the applicable Pricing Period set forth in the table below, subject to any increases permitted under the Agreement, including the Addenda thereto, and also subject to earlier expiration of all Pricing Periods in accordance with Section 5.3 (Retroactive Price Adjustments) of this Order Document.

Category	Pricing Period
Endpoints	12/31/2022
Hardware	12/31/2022
Network Devices	12/31/2022
Software	12/31/2022
Meters	12/31/2022
Registers	12/31/2022
Pit Lids	12/31/2022
Remote Shutoff Devices	12/31/2022
Professional Services (including installation services)	12/31/2022
Cloud Services	First 10 years at no more than PPI or 2% increase per year for first 10 years
Supplemental Maintenance Services	End of initial 10-year pricing period specified in AMI Pricing Summary
Itron Endpoints, Hardware, and Network Devices	Itron shall not increase cost more than the annual Producer Price Index (PPI) through 2032.

4. INVOICING AND PAYMENT TERMS

Itron will invoice Customer for fees in connection with the Project, and Customer will pay such Fees, in accordance with Section 4 ("Fees, Taxes and Payment") of the Agreement.

4.1 Invoicing. Itron will invoice Customer fees for products and services, and related freight,in accordance with this Section.

4.1.1 Equipment. Itron's project manager shall secure confirmation regarding equipment orders from Customer's project manager prior to shipment. Itron and Customer will mutually agree on the appropriate inventory stocking levels. Itron will invoice Customer for equipment and related freight costs, as follows:

- *Endpoints*: upon shipment.
- *Network Devices*: upon shipment.
- *Meters, Registers, Pit Lids and Remote Shutoff Devices*: upon shipment.
- *All Other Equipment*: upon shipment.

4.1.2 Services. Itron will invoice Customer for services and related expenses, as follows:

- ***Installation Services:*** upon Acceptance of Installation. For purposes of Installation Services, Acceptance of Installation means the products/services have been properly installed and are working in accordance with the following:
    - For meter and endpoints, Acceptance of Installation happens after 5 successful days of reading under the network.

- For Network equipment, Acceptance of Installation happens when the network devices properly communicate with the network software and can accurately read endpoints.

- ***Maintenance Services***: in accordance with Section 7 ("Fees and Invoicing") of the Maintenance & Support Services (Hardware & Software) Technology & Services Addendum;
- ***Supplemental Maintenance Services (NMaaS)***: annually in advance with respect to each Network Device that has achieved Acceptance pursuant to Section M.2.2 (CGR Acceptance) of **Attachment 4 – Statement of Work – AMI Project**;
- ***Software-as-a-Service***: in accordance with Section 4 ("Subscription Service") of the Software-as-a-Service Technology & Services Addendum; and
- ***Professional Services and Related Expenses***: in accordance with Section N ("Service Fees and Related Details") of the Statement of Work attached hereto as Attachment 4.

5. EQUIPMENT

5.1 Itron and Third-Party Equipment. The AMI Pricing Summary and following table identifies Itron Equipment and Third-Party Equipment that Itron shall provide for the Project (related adders, accessories, and services are described on the AMI Pricing Summary):

Itron Equipment	Third Party Equipment
Itron Mobile Radio	Cisco Connected Grid Routers ("CGRs")
Itron 500W ERT	Neptune Water Meters
Itron ERT mounting accessories	
Itron ERT Gateway Star	Smart Earth Technology Shut-off Valve
	Kamstrup Meters (for shut-off Valve)
	Nicor Meter Box Lids

5.1.1 Itron will provide Customer the 500W Cellular endpoint at the same price as the 500W ERT module for use in covering any gaps in network coverage. Further, Itron shall not require any additional monthly recurring expense for up to 5,000 cellular endpoints. Beyond 5,000 cellular endpoints, Customer will be responsible for $0.30 per endpoint per month.

5.1.2 The network shall be designed and deployed using mutually agreeable locations with emphasis on existing City light locations and infrastructure poles will be limited 40' AGL unless there is prior mutual agreement.

5.1.3 Itron will provide a fixed fee for network poles, collectors, and installations. Customer will pay for additional costs if a metal/decorative pole is required by the City or County.

5.2 Equipment Warranties.

5.2.1 Third Party Equipment. Customer acknowledges receipt of the manufacturer's warranty for all Third-Party Equipment.

Third Party Equipment	Manufacturer Warranty Period
Cisco Connected Grid Routers	Five (5) Years from shipment by Cisco
Neptune Water Meters	5/8 & 5/8"x ¾" 1/8 US gpm @ 95% 5 years or 500,000 gallons ¾" ¼ US gpm @ 95% 5 years or 750,000 gallons 1" 3/8 US gpm @ 95% 5 years or 1,000,000 gallons ProCoder has a full 10-year warranty
Kamstrup Water Meters	flowIQ 2100 Water Meters and flowIQ 3101 Water Meters will perform to the accuracy as defined in applicable AWWA standards for a period of twenty (20) years from date of delivery to Buyer
SET Shut-off Valves	10-YEAR LIMITED WARRANTY 0-5 Years 100% replacement 5-6 Years 70% replacement 6-7 Years 60% replacement 7-8 Years 50% replacement 8-9 Years 40% replacement 9-10 Years 30% replacement
Nicor Meter Box Lids	1 Year from shipment 100% replacement

5.2.2 Itron Equipment. The 20-year Endpoint warranty period set forth in the Itron Equipment Warranty table to the Equipment Purchase & Warranty Schedule Technology & Services Addendum is divided as follows:

- OpenWay Riva Water Module full warranty is consistent with the warranty terms in the Agreement for the first 10 years from date of shipment.
- For warranty claims in years 11 through 15, Itron's sole obligation will be to provide Customer with a discount on replacement product equal to 50 percent of its then-current list price for the replacement product.
- For warranty claims in years 16 through 20, Itron's sole obligation will be to provide Customer with a discount on replacement product equal to 25 percent of its then-current list price for the replacement product.

5.3 Excessive Failures Itron-Manufactured Equipment

An "Excessive Failure" means the failure of two percent (2%) or more installed Endpoints within any rolling twelve (12) month period, as verified by Itron. An Excessive Failure shall not include any Endpoints that are outside the applicable Warranty Period at the time of failure or that are excluded from warranty coverage pursuant to Section 11 ("Exclusions to Warranty on Itron-Manufactured Equipment") of the Equipment Purchase & Warranty Schedule Technology & Services Addendum. In the event of an Excessive Failure, Customer shall promptly notify Itron. Upon receipt of such notice, Itron will develop a plan to eliminate the problem in all continuing production and to correct the problem in all affected Endpoints that

are covered by and not excluded from the warranties set forth in Section 10.1 ("Limited Warranty") of the Equipment Purchase & Warranty Schedule Technology & Services Addendum. If the plan requires that the affected Endpoints be de-installed for repair or replacement, then Itron will, at its expense, (a) provide qualified field labor to de-install defective and accessible Endpoints within Customer's service territory that are exhibiting failure in excess of the Excessive Failure threshold and install conforming replacements for such equipment pursuant to a mutually agreed upon statement of work, or (b) reimburse Customer's actual, documented and necessary costs of performing such work using its own resources in the form of a credit against amounts due by Customer under the Agreement, not to exceed $29.20 per affected Endpoint. The additional remedies for Excessive Failures under this Section will only be available if Customer: (i) promptly investigates all potentially defective Endpoints identified on Customer's most recent system performance and maintenance reports, (ii) promptly returns all Endpoints that fail to satisfy the warranties set forth in Section 10.1 ("Limited Warranty") of the Equipment Purchase & Warranty Schedule Technology & Services Addendum below the Excessive Failure threshold to Itron in accordance with Itron's then-current RMA process, (iii) promptly notifies Itron in writing once Customer believes, acting reasonably, that an Excessive Failure has occurred or is likely to occur, (iv) maintains all system performance and maintenance reports for a period of no less than twenty-four (24) months, and (v) provides Itron with access to such reports and other relevant Customer records as necessary for Itron to confirm Customer's compliance with the investigation, return and reporting requirements of this Section. The remedies set forth in this Section, when combined with the remedies set forth in Section 10.2 ("Repair or Replacement") of the Equipment Purchase & Warranty Schedule Technology & Services Addendum, shall be Customer's sole remedy in the event of an Excessive Failure.

5.4 Excessive Failures Neptune

An "Excessive Failure" means the failure of two percent (2%) or more installed Meters, water meters and encoder registers within any rolling twelve (12) month period, as verified by Neptune. An Excessive Failure shall not include water meters and encoder registers that are outside the applicable Warranty Period at the time of failure or that are excluded from warranty coverage pursuant to Neptune's Standard Warranty Terms and Conditions. In the event of an Excessive Failure, Customer shall promptly notify Neptune. Upon receipt of such notice, Neptune will develop a plan to eliminate the problem in all continuing production and to correct the problem in all affected water meters and encoder registers that are covered by and not excluded from Neptune's Standard Warranty Terms and Conditions (Attachment X). If the plan requires that the affected water meters and encoder registers be de-installed for repair or replacement, then Neptune will, at its expense, (a) provide qualified field labor to de-install defective and accessible water meters and encoder registers within Customer's service territory that are exhibiting the same failure mode in excess of the Excessive Failure threshold and install conforming replacements for such equipment pursuant to a mutually agreed upon statement of work, or (b) reimburse Customer's actual, documented and necessary costs of performing such work using its own resources in the form of a credit against amounts due by Customer under the Agreement, not to exceed $48.31 per affected water meter or encoder registers. The additional remedies for Excessive Failures under this Section will only be available if Customer: (i) promptly investigates all potentially defective water meters and encoder registers identified on Customer's most recent system performance and maintenance reports, (ii) promptly returns all water meters and encoder registers that fail to satisfy the warranties set forth in Neptune's Standard Warranty Terms and Conditions (Addendum X) below the Excessive Failure threshold to Neptune in accordance with Neptune's then-current RMA process, (iii) promptly notifies Neptune in writing once Customer believes, acting reasonably, that an Excessive Failure has occurred or is likely to occur, (iv) maintains all system performance and maintenance reports for a period of no less than twenty-four (24) months, and (v) provides Neptune with access to such reports and other relevant Customer records as necessary for Neptune to confirm Customer's compliance with the investigation, return and reporting requirements of this Section. The remedies set forth in this Section, when combined with the remedies set forth in Section 10.2 ("Repair or Replacement") of the

Equipment Purchase & Warranty Schedule Technology & Services Addendum, shall be Customer's sole remedy in the event of an Excessive Failure.

6. SOFTWARE

6.1 Itron and Third-Party Software. The following table identifies Third Party Software that Itron will deliver as part of the AMI Project:

Itron Software	Third Party Software
N/A (SaaS only)	Cisco IoT Device Manager Application

6.2 Licensing Terms for Third Party Software. Third Party Software described in Section 6.1 of this Order Document that is Cisco software ("***Cisco Software***") shall be licensed to Customer pursuant to the terms of the Cisco End User License Agreement attached hereto as Attachment 3 to this Order Document (the "***Cisco EULA***"). Customer shall comply with the terms and conditions set forth in the Cisco EULA with respect to Cisco Software and shall only use Cisco Software in connection with the number of Endpoints (including with Endpoint types not specified in the AMI Pricing Summary, so long as compatible with the Cisco Software), and the number and type of CGRs, specified in the AMI Pricing Summary.

7. MAINTENANCE & SUPPORT SERVICES

7.1 Covered Products. Itron shall provide maintenance and support services for the Covered Products described below, in accordance with the Maintenance & Support Services (Hardware & Software) Technology & Services Addendum, starting upon the date of delivery, which shall be considered the M&S Commencement Date for each such Covered Product.

Covered Equipment	Third Party Covered Products
Itron Mobile Radio	Cisco Connected Grid Router
	IoT Device Manager Application

8. PROFESSIONAL SERVICES

8.1 Scope. Itron shall provide professional Services under this Order Document as specified in the Statement of Work – Openway Riva AMI SAAS Project ("***AMI Project***") attached hereto as Attachment 4. Applicable fees and payment terms for such Services are specified in the Statement of Work.

8.2 Installation Warranty. Upon completion of an installation, Itron warrants that the end user's property will be restored to substantially the same condition as it was before the installation. Further, Itron guarantees against defects in installation workmanship and damages caused by installation for a period of 1 year from the date of installation for all Work, including materials used in the installation and work performed by Itron or its third-party agent under the Agreement. This section covers damage to end user property caused during the installation process, such as damage to siding, drywall, and ceilings, as well as any other defects in the installation and shall be in addition to any other warranties provided by Itron in this Order Document, the Agreement, or any of the attached Addenda. In the event of a complaint relating to an

installation, whether by Customer or an end user, Itron agrees to promptly investigate the complaint and, to the extent the damage or defect was caused by Itron or its third-party installer, make all necessary repairs to resolve the complaint at its sole cost and expense. Failure to comply with this Section shall constitute a material breach of this Order Document and the Agreement.

8.3 Damage to Equipment . Any damage to a water meter or ERT discovered during the 1 year period following installation which is found to be directly caused by the installation performed by Itron or by Tribus Field Installers shall be resolved by Itron or by Tribus at Itron's or Tribus's expense.

8.4 Issue Resolution. If an issue arises during the Project which is either not adressed or not fully addressed in the Agreement, Order Document, attached Addenda or the Statement of Work, the Parties may rely on Itron's Initial Response to Appendix 1 of the RFP—Fort Wayne FWCU Advanced Meter Infrastructure System Resolution No. 105-10-30-18-2 dated December 18, 2018 or the Request for Proposal dated December 18, 2018 or Best and Final Response to the RFP—Fort Wayne FWCU Advanced Meter Infrastructure System Resolution NO. 105-10-30-18-2 dated March 1, 2019, copies of which are attached to the Agreement, for additional context to interpret the terms of the Agreement, Order Document, attached Addenda, or the Statement of Work. If the issue is not addressed by any of the foregoing documents, then the Parties will work together in good faith to resolve the issue in accordance with Section 15 of the Agreement.

8.5 Retention of Fees. Customer will retain up to fifteen percent (15%) of fees for Itron Professional Services ("Retainage") until Final System Acceptance, as defined in Section G.6 Final System Acceptance Test in the Statement of Work, has been achieved. Upon Final System Acceptance, Customer will pay Itron the Retainage as follows:

System Acceptance Level	Criteria	Payment
Itron meets all coverage thresholds specified in Section G.6 (Final System Acceptance Test) of the Statement of Work	99% daily reads 99.5% over a 3-day window 99% interval reads	100% of Retainage
Itron meets coverage thresholds specified in Section 1.11 (Read Performance) of RFP—Fort Wayne FWCU Advanced Meter Infrastructure System Resolution No. 105-10-30-18-2	95% daily reads over 24 hours 98.5% reads over a 72 hours 97.5% reads over 48 hours	33% of Retainage
Itron fails to meet the coverage thresholds specified in Section 1.11 (Read Performance) of RFP—Fort Wayne FWCU Advanced Meter Infrastructure System Resolution No. 105-10-30-18-2		0% of Retainage plus Itron must continue to work with Customer to identify and implement solutions until the performance levels specified in Section 1.11 of RFP—Fort Wayne FWCU Advanced Meter Infrasctructure Resolution No. 105-10-30-18-2 have been achieved.

9. SOFTWARE-AS-A-SERVICE

9.1 System Sizing Criteria

Sizing Criteria	Design Value
Itron Solution Application(s) *(name)*	Collection Manager, IoT-FND, Itron Security Manager, Itron Analytics (Theft Detection, District Metering Analysis)
System Endpoints (#)	Not to exceed 110,000 Endpoints
System Collectors (#)	55 CGRs and 13 ERT Gateways
Residential Meters	104,114
C&I Meters 1.5" and larger	3,092
Historical Data (#)	Five years of hourly storage in Itron Analytics

Sizing Criteria is a baseline assumption of the scope of Software-as-as-Service agreed to by Customer and Itron – and upon which the agreed-upon pricing is dependent. Modifications to Sizing Criteria may require an amendment to the Pricing Summary. If Customer desires to increase subscriptions, Customer will be required to issue an additional purchase order. Additional fees will be required for exceeding the specified endpoint count, in accordance with Itron's then current price list.

9.2 Application Upgrades and Hot Fixes.

1.1.1. Application upgrades containing new features and functions will be performed annually back to the latest Change Control Authorization provided by Customer.

1.1.2. Application Hot Fixes will be performed at the discretion of Itron.

1.1.3. Change Control Authorization will be required for all Application upgrades and Hot Fixes.

9.3 KPI Reporting. KPI reporting will be made available to the Customer monthly and will include the following:

- Application Availability.
- System Changes and Updates that require Change Control Authorization.
- Incident reporting, including root cause analysis, resolution and preventive measures.

9.4 Minimum SaaS Period. Itron will make Software-as-a-Service available for purchase by Customer under this Order Document for a period of no less than 20 years from the commencement of such services (the "Minimum SaaS Period") in accordance with the Agreement and subject to the following conditions: (i) Customer must purchase Software-as-a-Service and comply with all applicable terms and conditions, including payment terms, throughout the Minimum SaaS Period, (ii) Itron shall have the right to modify or replace the Software-as-a-Service applications; provided, however, that all such modifications and replacement shall be backwards compatible with the Itron Endpoints and no such modification or replacement shall eliminate key functionality contained in the prior version of the applicable

Software-as-a-Service application, and (iii) Itron may require Customer to refresh all the network devices at its expense; provided, however, that replacement network devices shall be backwards compatible with the Software-as-a-Service and Itron Endpoints and Customer shall not be required to refresh the network devices at its expense more than once during the Minimum SaaS Period. No less than 360 days prior to the date upon which the refresh must be completed, Itron will provide Customer with a technology refresh plan, which shall include a proposed schedule and scope of work to refresh existing network devices with alternative network devices, along with associated fees and costs.

[Signature Page Follows]

SIGNATURE PAGE
TO
ORDER DOCUMENT

APPROVED this 17th day of September, 2019.
BOARD OF PUBLIC WORKS

By: ABSENT
Shan Gunawardena, Chair

By:
Kumar Menon, Member

By: Mike Avila
Mike Avila, Member

Attest:
Michelle Fulk-Vondran, Clerk

Itron, Inc.

By: DocuSigned by:
B423AAC598A54AD...

Printed name and Title: Robert Farrow VP Treasury

Date: 9/16/2019

Attachment 1 to AMI Order Document

Pricing Summary

Water Meter Replacement Pricing Summary (Resolution #106-9-17-19-1)

Item	Category	Description	Extended Price
Meters & Endpoints			
	meter & endpoints	Water meter and Itron endpoint	$10,026,964.93
	meter lid	meter replacement lids	$32,533.33
	remote shut off	5x8"x3/4" remote shut-off	$82,500.00
		Meter & Meter Lid Total	**$10,141,998.26**
Hardware			
	Hardware	Itron Mobile Radio w/USB cable and charger	$29,925.00
	Support and Maintenan	Network support and maintenance	$22,014.00
		Hardware Total	**$51,939.00**
Network Infrastructure and Installations			
	Network	Network and Installation	$694,227.00
		Network Infrastructure Total	**$694,227.00**
Professional Services			
	Services	Itron Implementation Services	$914,347.96
	Expenses	Travel and Expenses	$118,770.00
	Services	FDM Implementation	$98,995.00
	Expenses	**Professional Services Total**	**$1,132,112.96**
Installation			
	Installation	Meter and Endpoint installation	$6,434,020.32
		Installation Total	**$6,434,020.32**
		System Discount	-$250,000.00
		Project Contingency	$500,000.00
		Water Meter Replacement Project	**$18,704,297.54**

Itron

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www.itron.com

Pricing Summary for

City of Fort Wayne, IN

BMR# 16143-18 Ver4 Jul
September 13, 2019

Remote to Exterior Configuration

Item	Category	Description	Qty	Unit Price	Extended Price	Notes
Meters & Meter Lids						
Third-Party						
1	Meter	5/8" Pro Coder meter (with 20' lead wire)	11,085	$65.56	$726,683.33	
2	Meter	5/8" x 3/4" Pro Coder meter (with 20' lead wire)	54,195	$65.56	$3,552,783.33	(1)
3	Meter	3/4" SL T-10 Pro Coder meter (with 20' lead wire)	2,423	$105.56	$255,761.11	
4	Meter	1" T-10 Pro Coder meter (with 20' lead wire)	2,704	$138.89	$375,555.56	
5	Meter	flowIQ 2100, 25GPM, 5/8" x 3/4" x 5.118" (130mm), composite , Encoder Output with 5' length cable	500	$110.99	$55,494.44	
6	Meter Lid	Nicor 21.25PWAT	500	$47.78	$23,888.89	
7	Meter Lid	Nicor 12.25PWAT Type A	500	$17.29	$8,644.44	
		Meter & Meter Lid Total			**$4,998,811.11**	
Remote Shut Off Valve						
Third-Party						
8	Remote Shut Off	5/8x"3/4" Smart Valve w/Itron In-Line connector (20-Year Limited Warranty) Female/Female	500	$165.00	$82,500.00	
		Remot Shut Off Valve Total			**$82,500.00**	
Endpoints						(2,3)
9	Endpoint	OpenWay Riva Water Module-Remote	102,206	$52.50	$5,365,815.00	
10	Endpoint Accessories	OpenWay Riva Mounting Kit for Remote Installations	102,206	$2.50	$255,515.00	
11	Endpoint	OpenWay Riva Water Module-Pit	TBD	$51.50	TBD	
12	Endpoint Accessories	OpenWay Riva Through Lid Mount Kit	TBD	$2.50	TBD	
13	Endpoint Accessories	Standard 5' cable with In-Line connector with .167" diameter	TBD	$10.00	TBD	
14	Endpoint Accessories	Standard 25' cable with In-Line connector with .167" diameter	TBD	$15.00	TBD	
15	Endpoint Accessories	OpenWay Riva Through-the-Lid remote mount antenna Kit	TBD	$39.00	TBD	
16	Endpoint Accessories	OpenWay Riva Rod Mounting Kit	TBD	$3.00	TBD	
		Endpoint Total			**$5,621,330.00**	
Hardware						
17	Hardware	Itron Mobile Radio w/USB cable and charger	15	$1,995.00	$29,925.00	
18	Hardware	Panasonic 7" Toughpad FZ-M1, Use for FDM Work Orders, GPS, Barcode, 3 Year Warranty	TBD	$3,210.00	TBD	
		Hardware Total			**$29,925.00**	
Network Infrastructure and Installations						(4,5)
Third-Party						
19	Network	Connected Grid Router - CGR 1240 4G, w/ 4 module slots,2 GE,2 serial,4 FE LAN,Wi-Fi,GPS	55		$330,550.00	
20	Installation	Install 55 CGRs and remote antennas (includes power run of 50'): - 15 CGRs/remote antennas installed on customer owned 25' streetlights - 6 CGRs/remote antennas installed on water tank - 34 CGRs/remote antennas installed on new 45' Class 4 wood poles * includes price to deliver/purchase/install 34 new poles			$254,579.00	
21	Network	OpenWay Riva Routing Node - ERT Gateway Star	13	$2,510.00	$32,630.00	
22	Installation	Install 13 ERT Gateways (includes power run of 50'): - 9 ERT Gateways installed on customer owned 25' streetlights - 4 ERT Gateways intstalled on new 30' Class 4 wood poles	13	$5,714.00	$74,282.00	
23	Installation	Purchase/deliver/install wood poles for ERT Gateways	4	$545.00	$2,180.00	
24	Installation	Power run beyond 50' - per foot	TBD	$21.00	TBD	
25	Installation	LMR 400 Coax - per foot	TBD	$6.00	TBD	
		Network Infrastructure Total			**$694,227.00**	
Professional Services						(6-7)
26	Services	Itron Implementation Services			$808,970.00	
27	Expenses	Travel and Expenses			$110,720.00	
28	Services	FDM Implementation			$98,995.00	
29	Expenses	Travel and Expenses			$8,050.00	
		Professional Services Total			**$1,026,735.00**	

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Pricing Summary for

City of Fort Wayne, IN

BMR# 16143-18 Ver4 Jul
September 13, 2019

Remote to Exterior Configuration

Installation						*(8)*
30	Installation	Meter Replacement and Module installation, inside meter, 5/8" –	71,658	$48.31	$3,461,797.98	
31	Installation	Meter Replacement and Module installation, pit meter, 5/8" – 1"	2,249	$38.75	$87,148.75	
32	Installation	Module Retrofit, inside meter (access required), 5/8" – 1"	27,993	$44.64	$1,249,607.52	
33	Installation	Module Retrofit, inside meter (access required), 1.5" – 10"	2,736	$52.65	$144,050.40	
34	Installation	Module Retrofit, pit set meter, 5/8" – 1"	2,214	$29.20	$64,648.80	
35	Installation	Module Retrofit, pit set meter, 1.5" – 10"	356	$76.96	$27,397.76	
36	Installation	Adder to run wire to exterior of premise when inside access	99,387	$9.25	$919,329.75	
37	Installation	6 Strand Wire	1,988,000	$0.20	$397,600.00	
38	Installation	Pit lid replacement	1,000	$13.96	$13,960.00	
39	Installation	Hourly Rate for additional work	TBD	$52.36	TBD	
40	Installation	Module Retrofit Credit for Units Already Installed, 5/8" - 1"	(5,130)	$44.64	($229,003.20)	
41	Installation	Printing / Postage	106,850	$1.25	$133,562.50	
42	Installation	Pre-Shutoff letter printing and mailing (1 page color letter)	16,500	$4.10	$67,650.00	
43	Installation	Pre-shutoff door tag printing (color)	8,250	$0.15	$1,237.50	
44	Installation	Pre-shutoff door tag hanging (labor to hang to door tags)	8,250	$8.43	$69,506.25	
45	Installation	Post-shutoff door tag printing (color)	2,475	$0.15	$371.25	
46	Installation	Labor to disconnect service at curb stop and hang post-shutoff door tag	2,475	$28.26	$69,943.50	
47	Installation	Additional AMI installation labor and travel time for out of sequence upgrades (shutoff customers)	2,475	$28.09	$69,516.56	
48	Installation	Labor to replace sutoff valve (stop and waste valve) directly upstream of meter. Includes turning off curb stop at the street.	1,500	$106.00	$159,000.00	
		Installation Total			**$6,707,325.32**	
Itron Cloud Services						*(9)*
49	One-Time	One-Time Setup			$31,000.00	
		Software as a Service - up to 107,206 Endpoints			Annual	
50	Operations	OpenWay Operation Center			$153,347.00	
51	Operations	Itron Analytics			$32,597.89	
		Itron Cloud Services Total			**$216,944.89**	
		System Discount			**($250,000.00)**	
		Project Contingency			**$500,000.00**	
		OpenWay Riva System Total			**$19,627,798.33**	
Annual Hardware Support and Maintenance						
52	Maintenance	Itron Mobile Radio w/USB cable and charger	15	$144.00	$2,160.00	*(10)*
53	Maintenance	OpenWay Riva Routing Node - ERT Gateway Star	13	$60.00	$780.00	
Third-party						
54	Support	Connected Grid Router Support	55	$346.80	$19,074.00	
		Annual Maintenance Total			**$22,014.00**	
Optional						
55	Warranty	OpenWay Riva Water Module Extended Warranty Years 11-15	102,206	$5.00	$511,030.00	
Additional Installation						
		Service Line Repair per Incident, up to 10 feet of pipe				
56	Installation	5/8"	TBD	$231.94		
57	Installation	3/4"	TBD	$240.69		
58	Installation	1"	TBD	$256.94		

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Notes and Assumptions

(1) Assumes approximately 3,500 meters are being purchased separately from Neptune.

(2) OpenWay Riva Water Module full warranty is consistent with the warranty terms in the Agreement for the first 10 years from date of shipment.
For warranty claims in years 11 through 15, Itron's sole obligation will be to provide Customer with a discount on replacement product equal to 50 percent of its then-current list price for the replacement product.
For warranty claims in years 16 through 20, Itron's sole obligation will be to provide Customer with a discount on replacement product equal to 25 percent of its then-current list price for the replacement product.

(3) The full population of 107,206 endpoints has been reduced by the existing 500W and 100W endpoints.

(4) Network design will include 55 CGRs on a combination of 40' AGL planted poles and existing City Streetlights or towers. 500W Cellular ERTs will be purchased for any final field mitigation beyond the coverage provided by the 55 CGRs. Cellular 500Ws are priced at the same price as standard 500Ws when used as mitigation for network completion

(5) Customer will be responsible for any ongoing lease fees for third-party sites. The actual agreement for placement of the equipment will be between the Utility and the third-party owner.
Basic site restoration included.

(6) Itron's professional services estimates are based on a 10 month project duration. Itron is responsible for site surveys and field installation of CGRS. Utility responsible for field mitagation. Itron will provide remote support to operate and maintain the proof of concept for a period of 4 months.

Itron's pricing assumes the customer will be responsible for testing with Itron in a support role. Itron has included a total of 60 hours for remote support.

Itron has included 80 hours of software training. Itron will hold 2 Sessions for up to 20 individuals.
Itron services will provide one week (40 hrs) of specialized training on installation, troubleshooting, and field mitigation for the CGR appliance. A second week onsite (40 hrs) will be utilized to ensure that the City's field workers are comfortable in real world scenarios of mitigating communication problems between endpoints and CGR. Itron can provide optional T&M training remote or on-premise should that be required.
Section 15.3 Testing- Itron will provide one (1) additional session for 8 hours for the testing of personnel on training materials.
Interface:
Interface with the existing utility billing software:
Itron has included: 16 hours for assessment, 1 week duration of design support (40 hours), 1 week duration for build support (40 hours), 1 week duration of testing support (40 hours), and 1 week duration of go live support (40 hours).

(7) Implementation pricing includes one standard workflow that supports the Installation, maintenance, and Quality Audit business process. Changes to the Standard Workflow will be evaluated and managed through the Change Order process.
Changes to Standard Workflow or File Layouts are not included.
One Business Unit will be developed on an Itron Hosted system.
Includes one hosted Production System
A test system is recommend for the duration of the project, but is not included in this pricing
Implementation pricing assumes Customer will perform data mapping and transformation of the host files(s) to the Itron file specification
No Custom Route Sheets, or reports
FDM workflows will be created using the current Standard workflow
Includes training and support for one production go-live event

(8) Meter and module installation prices are budgetary and are based on the following assumptions:
No prevailing wages or requirements for use of union labor.
No state or federally mandated change to employee benefits or minimum wage laws occurs during the project implementation period. If changes occur, Itron reserves the right to modify pricing accordingly.
Work will not be performed at locations where it is reasonable to assume damage will occur to the customer's property without damage waiver and prior consent of the utility and/or the customer.
Itron will only be responsible for the repair of damages caused directly by Itron services.
All meters are located in geographically contiguous routes within selected areas and Itron will have the flexibility to route technicians in what we consider to be the most efficient order
Pricing assumes that the City will provide:
Safe access to all meters, including any keys necessary to access meters, and assistance on unsafe or other special situations.
Current address information and maps of all services.
Data mapping and transformation of the work order system host file(s) to the Itron file specification.
Labor to replace shutoff valves assumes 3/4" and 1" valves only. If larger sized valve are replaced, additional costs may apply.
Hardware for shut off valves will be purchased locally at Fort Wayne's local price plus 15%.

(9) Software as a Service:
Includes the following applications: Collection Manager, Itron Security Manager, Cisco IoT FND and Itron Analytics.
System priced to support up to 107,206 endpoints.
Software as a Service pricing is based on a 5 year contract.
Minimum of $1000 per month for cloud services. After the monthly meter cost exceed $1000, the extra charge will add at a per meter per month basis.
Itron Cloud Services invoicing commences once the system becomes available.
Invoicing will be based on the total meter population, rather than the current number of meters installed.
Cloud Services to be provided from Itron's Cloud Services Data Center or Partner Data Center (TierPoint or Microsoft Azure).
One major software upgrade is included in annual SaaS fees. During this major software upgrade should the customer require training, extended integration testing support, and project management Itron can provide services and it would be addressed via a SOW if required by customer. "
Itron to perform server administration, database administration, local area network administration, monitoring software administration, security administration.
Pricing includes all hardware, labor, 3rd party software and maintenance in accordance with Itron's standard terms and SLAs for use of Itron application software.
Includes one production environment.
Up to 1 VPN tunnel is supported.
Includes use of Oracle database as needed.

Where Microsoft SQL Server Standard edition or BI is required, it is provided for up to 5 users.
Standard Disaster recover for this bid RPO - 48 hours and RTO - 3 weeks.
Additional environments for Development or Test are not included.
Monthly wireless communications fees included for WAN backhaul.
Under a SaaS or Cloud Infrastructure Services offering, the City will be responsible the day-to-day operation of the system and applications.
SaaS fees will be invoiced as a percentage of the total meters read through the system during the project adjusted on a quarterly basis for the upcoming quarter beginning with a 20% base fee when the software is configured and made available to the project staff.

(10) Itron Mobile Radio has a one year warranty, annual maintenance will begin in year two.
(11) Pricing is based on existing agreements or Itron's standard terms and conditions.
(12) Freight, taxes, duties, and tariffs are not included. Prices are in US dollars.

Attachment 2 to AMI Order Document

– Third Party Covered Product Maintenance Terms –

A. Cisco Products. The following terms apply to Cisco products that are Third Party Covered Products provided by Itron under the Agreement:

1. **Definitions**

"***Approved Source***" means (a) Cisco Systems, Inc., (b) Cisco Systems Canada Co., or (c) a distributor that is authorized by Cisco to redistribute Products and Services within the Territory to Integrator, as they are from time to time identified at http://tools.cisco.com/WWChannels/LOCATR/jsp/distributor_locator.jsp or as otherwise provided by Cisco from time to time.

"***Cisco***" means Cisco Systems, Inc. and Cisco Systems Canada Co.

"***End User***" is City of Fort Wayne.

"***End User License Agreement***" means the End User License Agreement attached as Order Document Attachment 3 (Cisco EULA).

"***First Call***" means the initial call made by the End User when requesting assistance with a Product.

"***Integrator***" means Itron, Inc. and Itron Canada, Inc.

"***Integrator Agreement***" means the Special Purpose Systems Integrator Agreement between Cisco and Integrator.

"**Other Products**" means Products which an End User acquired from sources other than Integrator.

"**Price List**" is the price list(s) published at Cisco.com applicable to the relevant Cisco entity to which each Purchase Order is issued by Integrator.

"***Products***" means Cisco Connected Grid Router ("***CGR***") and Cisco Connected Grid Network Management System ("***NMS***").

"***Purchase Order***" is a written or electronic order issued by Integrator to Cisco for Products or Services to be purchased, licensed or provided under the Integrator Agreement.

"***Service***" means the Cisco brand Services available for resale by Integrator, which can be found at www.cisco.com/go/servicedescriptions/.

"***Service Description***" means a description of the Services, as of the purchase date of such Services, to be made available by Cisco to End Users through Integrator, and the terms and conditions under which Cisco provides those Services. Each available Service has its own Service Description, which can be found www.cisco.com/go/servicedescriptions/.

"***Software***" means the Cisco Connected Grid Network Management System and any other software identified on and described in Exhibit G to the Integrator Agreement.

"***Territory***" means Canada and the United States of America, excluding Puerto Rico, unless otherwise mutually agreed in writing by the parties.

2. **Maintenance and Support Terms**

For each Service purchased by Integrator, Cisco will make available to End User, on Integrator's behalf, the Services described in the applicable Service Description. Services are subject to the description set forth in the applicable Service Description. For NMS, the Service Description is found under Software Application Services located at: http://www.cisco.com/legal/Cisco_SAS-SASU.pdf. For CGR, the Service Description is found under SMARTnet and SMARTnet On-site located at:

http://www.cisco.com/web/about/doing_business/legal/service_descriptions/docs/Smartnet_Onsite_Exhibit.pdf. Upon Cisco's acceptance of a Purchase Order for Services, the then-current Service Description shall apply to such Services.

In order to be eligible to receive the Services as set out herein for (a) Products that have not been previously supported, (b) Products for which support has lapsed, or (c) Other Products, the following will apply:

(i) Cisco may charge an inspection fee for Products and Other Products in accordance with Cisco's standard fee schedule on the Price List in effect at the time of inspection (any related upgrades, replacements, repairs, or troubleshooting are excluded); and

(ii) Integrator shall provide Cisco with such information as Cisco may require to ensure that a valid Software license exists for Software to be supported. If a valid Software license does not exist, Integrator shall pay Cisco the Software license fee for the Software.

Cisco reserves the right to survey an End User for use in ensuring End User's satisfaction with (a)the Services, and (b)Integrator's and/or Cisco's support. From time-to-time, no more than once per calendar year, provided that Cisco follows End User security requirements, and with reasonable notice, Cisco will be entitled to perform an inventory review of an End User's installed base and review serial numbers and other records (upon reasonable advance notice) to validate entitlement at Cisco's sole cost and expense. Upon notice to Integrator, Cisco will be entitled to suspend any portion of a Service with respect to a specific End User in instances when it is prevented by Integrator or such End User from performing an inventory review or otherwise verifying End User's entitlement to the Service.

End User acknowledges the contents of the relevant Service Descriptions located at www.cisco.com/go/servicedescriptions/.

Integrator may take the First Call from the End User and may open a case with Cisco on behalf of the End User using the applicable Maintenance Contract Number or other contract number(s) and Cisco serial number(s). End User may call Cisco directly for support, provided that Integrator may require the End User to place the First Call with Integrator and allow Integrator to open a case with Cisco on behalf of the End User in accordance with this Section provided that Integrator shall not delay opening a case.

At least thirty (30) calendar days advance Written Notice to Cisco is required for Product relocations (outside End User's then-current service territory) and Service level/Product configuration changes, when applicable.

If Integrator elects not to support a Product at the time of a Product purchase or if, for any reason, a Product becomes unsupported at some point after the Product's initial deployment, End User authorizes Integrator to and Integrator shall, at Cisco's written request, provide Cisco with the contact information, including but not limited to name, address, and phone number of the End User who has purchased the unsupported Product from Integrator, within 30 calendar days of Integrator's receipt of written request from Cisco. Integrator and End User authorize Cisco to contact the End User for the express purpose of contracting directly with End User for support Services for the unsupported Product identified by Integrator.

Prior to expiration of a Service contract: (a) Cisco, or its authorized agents, will send reminders to Integrator or as directed by Integrator; (b) Integrator will, upon request by Cisco, reconfirm the End User's identity and Service contract numbers of the expiring Service contract(s); and (c) Integrator will (i) initiate the renewal process with its End User and forward to Cisco the completed renewal with Purchase Order or (ii) notify Cisco of Integrator's intent to cancel Services. If, upon the expiration date of Cisco Services for the Product, Cisco has not received a Purchase Order for the renewal, Cisco, or its authorized agents, may contact the End User to arrange for the renewal of Cisco Services for the Product either directly with Cisco or with another Cisco-authorized reseller.

3. Warranty

NOTHING IN THIS SECTION 3. WILL AFFECT THE WARRANTIES PROVIDED WITH ANY HARDWARE PURCHASED OR

SOFTWARE LICENSED BY INTEGRATOR AND/OR END USER. ANY AND ALL SERVICES PROVIDED HEREUNDER WILL BE PERFORMED IN ACCORDANCE WITH INDUSTRY STANDARDS OF PROFESSIONAL SKILL, CARE AND DILIGENCE. EXCEPT AS SPECIFIED IN THIS SECTION, ALL EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS, AND WARRANTIES INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE (EVEN IF THE PURPOSE IS KNOWN TO CISCO), SATISFACTORY QUALITY, AGAINST INFRINGEMENT OR ARISING FROM A COURSE OF DEALING, USAGE, OR TRADE PRACTICE, ARE HEREBY EXCLUDED TO THE GREATEST EXTENT ALLOWED BY APPLICABLE LAW. INTEGRATOR MUST NOTIFY CISCO PROMPTLY OF ANY CLAIMED BREACH OF ANY WARRANTIES. INTEGRATOR'S SOLE AND EXCLUSIVE REMEDY FOR BREACH OF WARRANTY WILL BE PROMPT RE-PERFORMANCE OF THE SERVICES; OR IF CISCO DETERMINES, ACTING REASONABLY, THAT IT IS UNABLE TO RE-PERFORM SUCH SERVICES IN ACCORDANCE WITH THE ABOVE WARRANTY, TERMINATION OF THE APPLICABLE SERVICE ON THE PRODUCT LIST AND RETURN OF THE FEES PAID TO CISCO BY INTEGRATOR FOR SUCH NON-CONFORMING SERVICES. THIS DISCLAIMER AND EXCLUSION WILL APPLY EVEN IF THE EXPRESS WARRANTY AND LIMITED REMEDY SET FORTH ABOVE FAILS OF ITS ESSENTIAL PURPOSE. THE WARRANTY PROVIDED IS SUBJECT TO THE LIMITATION OF LIABILITY SET FORTH IN THIS EXHIBIT. EXCEPT AS EXPRESSLY PERMITTED IN THIS SECTION B, INTEGRATOR SHALL NOT MAKE ANY WARRANTY COMMITMENT, WHETHER WRITTEN OR ORAL, ON CISCO'S BEHALF.

Cisco reserves the right to make changes to the scope and content of the Service terms currently set forth in this Section 3 (with the exception of the warranty term and this Section 3) to be consistent with a change in Cisco's then-current general support program, including terminating the availability of a given Service (provided, that no change or combination of changes resulting in the elimination of critical Services from a Service Description shall be made until after Cisco announces an EOL with respect to the applicable Product, in which case Section 13.7 of the Integrator Agreement shall apply), at any time upon ninety (90) calendar days prior written notice and such changes shall become effective upon the next October 1st. If Integrator does not agree with a change of scope or content of this Section 3, which is allowed by this Section, Integrator may terminate this Section 3 by providing Cisco written notice of termination. Any such changes in scope and content which conflict with the terms set forth in the main body of the Integrator Agreement shall be superseded by such terms set forth in the main body of the Integrator Agreement. For the avoidance of doubt, no change allowed under this Section shall apply to any Services purchased prior to the effective date of such change.

4. End User Obligations

(1) End User agrees to comply with Cisco's Export Restrictions.

(2) End User agrees to comply with the applicable Cisco End User License Agreement or, if no such agreement is provided to the End User, the standard Software License Agreement located at Cisco.com, for all Cisco software provided with any Service (including any upgrades, patches, or Bug Fixes provided at a later time). End User further agrees to abide by Cisco's rules that govern the download of Cisco software, which state, amongst other things:

End User is only entitled to download Cisco software for the Cisco hardware chassis or device or the particular application software or signature file for which End User has paid the applicable software license fees; and

End User has a current and valid service contract that covers either the specific Cisco hardware chassis or device for which End User is downloading software and/or the software image or subscription file (e.g., for Intrusion Detection System) that End User is downloading.

(3) End User agrees to comply with terms and conditions provided in the applicable Cisco Service Description which are posted at www.cisco.com/go/servicedescriptions/.

(4) End User will keep Cisco Confidential Information confidential.

Attachment 3 to AMI Order Document

– Cisco EULA –

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This agreement, any supplemental license terms and any specific product terms at www.cisco.com/go/softwareterms (collectively, the "**EULA**") govern Your Use of the Software.

1. **Acceptance of Terms. By Using the Software, You agree to be bound by the terms of the EULA. If you are entering into this EULA on behalf of an entity, you represent that you have authority to bind that entity. If you do not have such authority or you do not agree to the terms of the EULA, neither you nor the entity may Use the Software and it may be returned to the Approved Source for a refund within thirty (30) days of the date you acquired the Software or Cisco product. Your right to return and refund applies only if you are the original end user licensee of the Software**

2. **License.** Subject to payment of the applicable fees and compliance with this EULA, Cisco grants You a limited, non-exclusive and non-transferable license to Use object code versions of the Software and the Documentation solely for Your internal operations and in accordance with the Entitlement and the Documentation. Cisco licenses You the right to Use only the Software You acquire from an Approved Source. Unless contrary to applicable law, You are not licensed to Use the Software on secondhand or refurbished Cisco equipment not authorized by Cisco, or on Cisco equipment not purchased through an Approved Source. In the event that Cisco requires You to register as an end user, Your license is valid only if the registration is complete and accurate. The Software may contain open source software, subject to separate license terms made available with the Cisco Software or Documentation.

If the Software is licensed for a specified term, Your license is valid solely for the applicable term in the Entitlement. Your right to Use the Software begins on the date the Software is made available for download or installation and continues until the end of the specified term, unless otherwise terminated in accordance with this Agreement.

3. **Evaluation License.** If You license the Software or receive Cisco product(s) for evaluation purposes or other limited, temporary use as authorized by Cisco ("Evaluation Product"), Your Use of the Evaluation Product is only permitted for the period limited by the license key or otherwise stated by Cisco in writing. If no evaluation period is identified by the license key or in writing, then the evaluation license is valid for thirty (30) days from the date the Software or Cisco product is made available to You. You will be invoiced for the list price of the Evaluation Product if You fail to return or stop Using it by the end of the evaluation period. The Evaluation Product is licensed "AS-IS" without support or warranty of any kind, expressed or implied. Cisco does not assume any liability arising from any use of the Evaluation Product. You may not publish any

results of benchmark tests run on the Evaluation Product without first obtaining written approval from Cisco. You authorize Cisco to use any feedback or ideas You provide Cisco in connection with Your Use of the Evaluation Product.

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5. **Limitations and Restrictions.** You will not and will not allow a third party to:

   a. transfer, sublicense, or assign Your rights under this license to any other person or entity (except as expressly provided in Section 12 below), unless expressly authorized by Cisco in writing;

   b. modify, adapt or create derivative works of the Software or Documentation;

   c. reverse engineer, decompile, decrypt, disassemble or otherwise attempt to derive the source code for the Software, except as provided in Section 16 below;

   d. make the functionality of the Software available to third parties, whether as an application service provider, or on a rental, service bureau, cloud service, hosted service, or other similar basis unless expressly authorized by Cisco in writing;

   e. Use Software that is licensed for a specific device, whether physical or virtual, on another device, unless expressly authorized by Cisco in writing; or

   f. remove, modify, or conceal any product identification, copyright, proprietary, intellectual property notices or other marks on or within the Software;

6. **Third Party Use of Software.** You may permit a third party to Use the Software licensed to You under this EULA if such Use is solely (i) on Your behalf, (ii) for Your internal operations, and (iii) in compliance with this EULA. You agree that you are liable for any breach of this EULA by that third party.

7. **Limited Warranty and Disclaimer.**

   a. **Limited Warranty.** Cisco warrants that the Software will substantially conform to the applicable Documentation for the longer of (i) ninety (90) days following the date the Software is made available to You for your Use or (ii) as otherwise set forth at http://www.cisco.com/go/warranty. This warranty does not apply if the Software, Cisco product or any other equipment upon which the Software is authorized to be used: (i) has been altered, except by Cisco or its authorized representative, (ii) has not been installed, operated, repaired, or maintained in accordance with instructions supplied by Cisco, (iii) has been subjected to abnormal physical or electrical stress, abnormal environmental conditions, misuse, negligence, or accident; (iv) is licensed for beta, evaluation, testing or demonstration purposes or other circumstances for which the Approved Source does not receive a payment of a purchase price or license fee; or (v) has not been provided by an Approved Source. Cisco will use commercially reasonable efforts to deliver to You Software free from any viruses, programs, or programming devices designed to modify, delete, damage or disable the Software or Your data.

   b. **Exclusive Remedy.** At Cisco's option and expense, Cisco shall repair, replace, or cause the refund of the license fees paid for the non-conforming Software. This remedy is conditioned on You reporting the non-conformance in writing to Your Approved Source within the warranty period. The Approved

Source may ask You to return the Software, the Cisco product, and/or Documentation as a condition of this remedy. This Section is Your exclusive remedy under the warranty.

c. **Disclaimer.**

Except as expressly set forth above, Cisco and its licensors provide Software "as is" and expressly disclaim all warranties, conditions or other terms, whether express, implied or statutory, including without limitation, warranties, conditions or other terms regarding merchantability, fitness for a particular purpose, design, condition, capacity, performance, title, and non-infringement. Cisco does not warrant that the Software will operate uninterrupted or error-free or that all errors will be corrected. In addition, Cisco does not warrant that the Software or any equipment, system or network on which the Software is used will be free of vulnerability to intrusion or attack.

8. **Limitations and Exclusions of Liability. In no event will Cisco or its licensors be liable for the following, regardless of the theory of liability or whether arising out of the use or inability to use the Software or otherwise, even if a party been advised of the possibility of such damages: (a) indirect, incidental, exemplary, special or consequential damages; (b) loss or corruption of data or interrupted or loss of business; or (c) loss of revenue, profits, goodwill or anticipated sales or savings. All liability of Cisco, its affiliates, officers, directors, employees, agents, suppliers and licensors collectively, to You, whether based in warranty, contract, tort (including negligence), or otherwise, shall not exceed the license fees paid by You to any Approved Source for the Software that gave rise to the claim. This limitation of liability for Software is cumulative and not per incident. Nothing in this Agreement limits or excludes any liability that cannot be limited or excluded under applicable law.**

9. **Upgrades and Additional Copies of Software**. Notwithstanding any other provision of this EULA, You are not permitted to Use Upgrades unless You, at the time of acquiring such Upgrade:

a. already hold a valid license to the original version of the Software, are in compliance with such license, and have paid the applicable fee for the Upgrade; and

b. limit Your Use of Upgrades or copies to Use on devices You own or lease; and

c. unless otherwise provided in the Documentation, make and Use additional copies *solely* for backup purposes, where backup is limited to archiving for restoration purposes.

10. **Audit.** During the license term for the Software and for a period of three (3) years after its expiration or termination, You will take reasonable steps to maintain complete and accurate records of Your use of the Software sufficient to verify compliance with this EULA. No more than once per twelve (12) month period, You will allow Cisco and its auditors the right to examine such records and any applicable books, systems (including Cisco product(s) or other equipment), and accounts, upon reasonable advanced notice, during Your normal business hours. If the audit discloses underpayment of license fees, You will pay such license fees plus the reasonable cost of the audit within thirty (30) days of receipt of written notice.

11. **Term and Termination.** This EULA shall remain effective until terminated or until the expiration of the applicable license or subscription term. You may terminate the EULA at any time by ceasing use of or destroying all copies of Software. This EULA will immediately terminate if You breach its terms, or if You fail to pay any portion of the applicable license fees and You fail to cure that payment breach within thirty (30) days of notice. Upon termination of this EULA, You shall destroy all copies of Software in Your possession or control.

12. **Transferability.** You may only transfer or assign these license rights to another person or entity in compliance with the current Cisco Relicensing/Transfer Policy. Any attempted transfer or, assignment not in compliance with the foregoing shall be void and of no effect.

13. **US Government End Users.** The Software and Documentation are "commercial items," as defined at Federal Acquisition Regulation ("FAR") (48 C.F.R.) 2.101, consisting of "commercial computer software" and "commercial computer software documentation" as such terms are used in FAR 12.212. Consistent with FAR 12.211 (Technical Data) and FAR 12.212 (Computer Software) and Defense Federal Acquisition Regulation Supplement ("DFAR") 227.7202-1 through 227.7202-4, and notwithstanding any other FAR or other contractual clause to the contrary in any agreement into which this EULA may be incorporated, Government end users will acquire the Software and Documentation with only those rights set forth in this EULA. Any license provisions that are inconsistent with federal procurement regulations are not enforceable against the U.S. Government.

14. **Export.** Cisco Software, products, technology and services are subject to local and extraterritorial export control laws and regulations. You and Cisco each will comply with such laws and regulations governing use, export, re-export, and transfer of Software, products and technology and will obtain all required local and extraterritorial authorizations, permits or licenses. Specific export information may be found at: http://tools.cisco.com/legal/export/pepd/Search.do

15. **Survival**. Sections 4, 5, the warranty limitation in 7(a), 7(b) 7(c), 8, 10, 11, 13, 14, 15, 17 and 18 shall survive termination or expiration of this EULA.

16. **Interoperability**. To the extent required by applicable law, Cisco shall provide You with the interface information needed to achieve interoperability between the Software and another independently created program. Cisco will provide this interface information at Your written request after you pay Cisco's licensing fees (if any). You will keep this information in strict confidence and strictly follow any applicable terms and conditions upon which Cisco makes such information available.

17. **Governing Law, Jurisdiction and Venue**.

If You acquired the Software in a country or territory listed below, as determined by reference to the address on the purchase order the Approved Source accepted or, in the case of an Evaluation Product, the address where Product is shipped, this table identifies the law that governs the EULA (notwithstanding any conflict of laws provision) and the specific courts that have exclusive jurisdiction over any claim arising under this EULA.

Country or Territory	Governing Law	Jurisdiction and Venue
United States, Latin America or the Caribbean	State of California, United States of America	Federal District Court, Northern District of California or Superior Court of Santa Clara County, California
Canada	Province of Ontario, Canada	Courts of the Province of Ontario, Canada
Europe (excluding Italy), Middle East, Africa, Asia or Oceania (excluding Australia)	Laws of England	English Courts

Japan	Laws of Japan	Tokyo District Court of Japan
Australia	Laws of the State of New South Wales	State and Federal Courts of New South Wales
Italy	Laws of Italy	Court of Milan
China	Laws of the People's Republic of China.	Hong Kong International Arbitration Center
All other countries or territories	State of California	State and Federal Courts of California

The parties specifically disclaim the application of the UN Convention on Contracts for the International Sale of Goods. In addition, no person who is not a party to the EULA shall be entitled to enforce or take the benefit of any of its terms under the Contracts (Rights of Third Parties) Act 1999. Regardless of the above governing law, either party may seek interim injunctive relief in any court of appropriate jurisdiction with respect to any alleged breach of such party's intellectual property or proprietary rights.

18. **Integration.** If any portion of this EULA is found to be void or unenforceable, the remaining provisions of the EULA shall remain in full force and effect. Except as expressly stated or as expressly amended in a signed agreement, the EULA constitutes the entire agreement between the parties with respect to the license of the Software and supersedes any conflicting or additional terms contained in any purchase order or elsewhere, all of which terms are excluded. The parties agree that the English version of the EULA will govern in the event of a conflict between it and any version translated into another language.

Attachment 4 to AMI Order Document

– Neptune Warranty Terms –

2019 NTG warranty METER.pdf

2019 NTG warranty ENCODER.pdf

A NEPTUNE TECHNOLOGY GROUP WARRANTY STATEMENT

Neptune T-10®, HP Turbine, TRU/FLO® Compound Cold Water Meters

1. TERMS OF LIMITED WARRANTY

With respect to its Neptune T-10®, HP TURBINE, TRU/FLO® Compound Water Meters (collectively the "Water Meters"), Neptune Technology Group Inc. ("Neptune") warrants the following on meters sold on or after 11/1/92:

The Water Meters will be, at the later of (i) the date of original purchase from Neptune or (ii) the date of original shipment from Neptune-authorized distributor of Water Meters (that later date is referred to as "the Date of Shipment") and will remain for a period of eighteen (18) months from the Date of Shipment, or twelve (12) months from date of installation, whichever comes first, free from manufacturing defects in workmanship and material.

(a) Maincase. The no-lead high copper alloy or Brass maincase of the Water Meters will be at the Date of Shipment free from manufacturing defects in workmanship and material for the life of the Water Meter.

(b) Frost Protection. All Neptune T-10 Cold Water Meters shipped with a synthetic polymer or cast-iron bottom cap will, commencing upon the Date of Shipment, be warranted against chamber damage for a period of ten (10) years.

(c) Registers. Standard, roll sealed registers of the Water Meters will be at the Date of Shipment, and shall remain for the following periods, free from manufacturing defects in workmanship and material for a period of ten (10) years. The ARB®, ProRead™ (ARB VI), E-CODER® (ARB VII), and ProCoder™ system registers are warranted for ten (10) years from Date of Shipment. All ProRead encoder receptacles shipped after January 1, 2001, shall be warranted for five years from the Date of Shipment. All other components and parts are covered under Neptune's standard one-year material and workmanship guarantee.

(d) Meter Accuracy for Neptune T-10. Neptune T-10 Meters and Neptune T-10 nutating disc chambers in TRU/FLO Compound Water Meters are warranted to meet or exceed, as listed herein, accuracy standards of the AWWA Standard C700-95 for a period of: (i) five (5) years from Date of Shipment for 5/8", 3/4" and 1" meters; (ii) for a period of two (2) years from the Date of Shipment for 1 1/2" and 2" meters; or (iii) the applicable registration shown below, whichever occurs first. Neptune further guarantees that the Neptune T-10 and Neptune T-10 nutating disc chambers in TRU/FLO Compound Water Meters will perform to at least Repaired Meter Accuracy Standards, according to AWWA Manual M-6 Chapter 5 (1999) Table 5.3 for an additional ten (10) years or the registration shown below, whichever occurs first.

SIZE	EXTENDED LOW FLOW ACCURACY	NEW METER ACCURACY	REPAIRED METER ACCURACY
⅝ & ⅝" x ¾"	⅛ US gpm @ 95% 5 years or 500,000 gallons	500,000 gallons	1,500,000 gallons
¾"	¼ US gpm @ 95% 5 years or 750,000 gallons	750,000 gallons	2,250,000 gallons
1"	⅜ US gpm @ 95% 5 years or 1,000,000 gallons	1,000,000 gallons	3,000,000 gallons
1 ½"	¾ US gpm@ 95% 2 years or 1,600,000 gallons	1,600,000 gallons	5,000,000 gallons
2"	1 US gpm @ 95% 2 years or 2,700,000 gallons	2,700,000 gallons	8,000,000 gallons

(e) Meter Accuracy for HP Turbine and TRU/FLO. The HP Turbine and TRU/FLO Compound Cold Water Meters will perform, for a period of one (1) year from the Date of Shipment, to American Water Works Association ("AWWA") accuracy standards for new water meters.

2. **WARRANTY RETURN**
If a Neptune Water Meter fails an accuracy test during an applicable warranty period, it may be returned to Neptune for repair or replacement at Neptune's option. An accuracy test shall be conducted by the customer according to AWWA standards. Any meter being returned for repair to Neptune under this performance guarantee must be returned with a copy of the customer's test results. If the meter is returned to Neptune without a copy of the test results or if Neptune's factory test shows the meter to meet current AWWA standards, the customer will be charged a nominal testing fee by Neptune in such cases. Neptune will repair or replace the meter at Neptune's option after the meter has been tested by Neptune. Meters repaired or replaced under the performance guarantee will be guaranteed to perform to AWWA repaired meter accuracy standards.

3. **WARRANTIES ARE EXCLUSIVE**
The warranties set forth in this certificate of warranty are in lieu of any other warranty, guarantee, or representation, whether expressed or implied, including without limitation, the warranty of merchantability and the warranty of fitness for a particular purpose.

4. **DAMAGES LIMITED TO COSTS OF REPLACEMENT AND REPAIR**
If the Water Meter fails to meet the warranties set forth in Paragraph 1 of this Certificate of Warranty, Neptune, at its option shall, without charge of labor or materials, repair or replace the Water Meter or part thereof, provided that (a) the Water Meter is delivered to a Neptune representative, (b) the Water Meter is accompanied by a Return Material Authorization (RMA), and (c) all costs of delivery to Neptune are assumed by the purchaser of the Water Meter. Neptune's liability is limited to its costs of replacement and repair of the defective water meter. Damages resulting from miscalculation of water usage or lost revenue or profit are not recoverable from Neptune. It is the responsibility of the customer to periodically verify the operation and accuracy of its meters.

5. **WARRANTIES ARE INAPPLICABLE UNDER CERTAIN CONDITIONS**
The warranties set forth in this Certificate of Warranty do not apply to any Water Meter that has been damaged by, or subjected to, conditions which, in the opinion of Neptune, have affected the Water Meter's ability of performance, including but not limited to: misuse; improper handling, application or installation; excessive operating conditions; foreign materials in the water; aggressive water conditions; tampering or unauthorized repairs or modifications; accidental or intentional damage; acts of God. This Certificate of Warranty shall not apply if product is placed in non-recommended installation, is connected or altered by other than Neptune recommended procedures, is used with other than genuine Neptune meter registers and components, or read by equipment not approved or licensed by Neptune. Neptune makes no claims concerning operability and/or compatibility or third party reading systems. In addition, this Certificate of Warranty shall not apply if third party reading equipment is believed to have caused damage to the meter or register. In order to determine its liability, if any, under this Certificate of Warranty, Neptune shall have the right to inspect any Water Meter or part thereof that is claimed to be defective at Neptune or other location designated by Neptune.

NEPTUNE'S LIABILITY WITH RESPECT TO BREACHES OF THE FOREGOING LIMITED WARRANTY SHALL BE LIMITED AS STATED HEREIN. NEPTUNE'S LIABILITY SHALL IN NO EVENT EXCEED THE PURCHASE PRICE. NEPTUNE SHALL NOT BE SUBJECT TO AND DISCLAIMS THE FOLLOWING: (1) ANY OTHER OBLIGATIONS OR LIABILITIES ARISING OUT OF BREACH OF CONTRACT OR OF WARRANTY (2) ANY OBLIGATIONS WHATSOEVER ARISING FROM TORT CLAIMS (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR ARISING UNDER OTHER THEORIES OF LAW WITH RESPECT TO PRODUCTS SOLD OR SERVICES RENDERED BY NEPTUNE, OR ANY UNDERTAKINGS, ACT OR OMISSIONS RELATING THERETO, AND (3) ALL CONSEQUENTIAL, INCIDENTAL, SPECIAL, MULTIPLE, EXEMPLARY, AND PUNITIVE DAMAGES WHATSOEVER.

A NEPTUNE TECHNOLOGY GROUP WARRANTY STATEMENT

ProRead™/E-CODER®/ProCoder™ Encoder

1. PRODUCTS COVERED
This warranty shall apply to the ProRead™ Absolute Encoder, E-CODER® Solid State Absolute Encoder Register, and ProCoder™ Absolute Encoder Register, hereinafter referred to as "Product", sold by Neptune Technology Group Inc. The warranty is extended only to utilities, municipalities, other commercial users, and authorized distributors, hereinafter referred to as "Customer", and does NOT apply to consumers.

2. MATERIALS AND WORKMANSHIP
Neptune Technology Group Inc. ("Neptune") warrants that the product shall be free from defects in manufacture and design for a period of ten (10) years from the date of shipment (such period being the "Warranty Period") when installed, serviced and operated according to Neptune's instructions. Neptune shall not be responsible for any defects in the product (whether due to design, materials, manufacture, or otherwise) which manifest themselves after the expiration of the Warranty Period. Neptune will repair or replace a non-performing product free of charge for ten (10) years.

3. WARRANTIES ARE INAPPLICABLE UNDER CERTAIN CONDITIONS.
This warranty does not include field replacement labor or materials costs, which are the responsibility of the Customer. This warranty does not apply if product is placed in non-recommended installations; may have been repaired with parts not recommended by Neptune; is converted, altered or connected by other than Neptune recommended procedures; is used with other than genuine Neptune components or read by equipment not approved or licensed by Neptune; or damaged due to improper care or maintenance, or improper periodic testing (please refer to Encoder Quick Install Guide). This warranty does not apply to any Product that has been damaged by, or subjected to, conditions which, in the opinion of Neptune, have affected the Product's ability of performance, including but not limited to; misuse; improper handling; application or installation; excessive operating conditions; tampering or unauthorized repairs and modifications; accidental or intentional damage; or acts of God. In no event shall Neptune be liable for special, incidental, indirect or consequential damages, including, without limitation, lost revenue.

THE ABOVE WARRANTY IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY NEPTUNE WITH RESPECT TO THE PRODUCT. ALL OTHER WARRANTIES, CONDITIONS, TERMS, REPRESENTATIONS, OR OTHER LEGALLY OPERATIVE PROVISIONS CONCERNING THE PRODUCT ARE HEREBY EXPRESSLY EXCLUDED. INCLUDING WITHOUT LIMITATION, ANY WARRANTY, CONDITION, TERM, AND REPRESENTATION OR OTHER LEGALLY OPERATIVE PROVISION AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THIS PARAGRAPH IS EXPRESSLY INTENDED TO EXCLUDE FROM THIS CONTRACT ALL STATUTORY AND COMMON LAW WARRANTIES TO THE MAXIMUM EXTENT PERMITTED BY LAW. TO AVOID ANY AMBIGUITY OR MISUNDERSTANDING, ALL PROBLEMS ARISING WITH THE PRODUCT AFTER THIS POINT ARE CUSTOMER'S RESPONSIBILITY. NEPTUNE'S LIABILITY SHALL IN NO EVENT EXCEED THE PURCHASE PRICE. NEPTUNE SHALL NOT BE SUBJECT TO AND DISCLAIMS THE FOLLOWING: (1) ANY OTHER OBLIGATIONS OR LIABILITIES ARISING OUT OF BREACH OF CONTRACT OR OF WARRANTY; (2) ANY OBLIGATIONS WHATSOEVER ARISING FROM TORT CLAIMS (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR ARISING UNDER OTHER THEORIES OF LAW WITH RESPECT TO PRODUCTS SOLD OR SERVICES RENDERED BY NEPTUNE, OR ANY UNDERTAKINGS, ACTS, OR OMISSIONS RELATING THERETO; AND (3) ALL CONSEQUENTIAL, INCIDENTAL, SPECIAL, MULTIPLE, EXEMPLARY, AND PUNITIVE DAMAGES WHATSOEVER.

Encoder Compatibility Guarantee
Automatic Reading and Billing (ARB®) System (ARB V, ProRead, E-CODER, and ProCoder)
With the purchase of the ARB encoder metering system, Neptune will provide the assurance that the ARB System purchased today can be expanded from reading with Neptune handheld devices to reading with Neptune mobile products and fixed network systems.

4. GUARANTEE OF COMPATIBILITY.
The Pocket ProReader RF, Advantage Probe, R900®, E-CODER®)R900i ™, ProCoder)R900i, DAP handhelds (PC9300, 9800 & CE5320B) and Neptune mobile systems are designed and built by Neptune. This guarantees the utility compatibility between these systems and the ARB encoder registers.

For Probed Reads: When reading ARB encoders with the Pocket ProReader RF, Advantage Probe, or DAP handhelds (PC9300, 9800 and CE5320B), Neptune guarantees that the meter reading obtained will match the mechanical odometer reading.

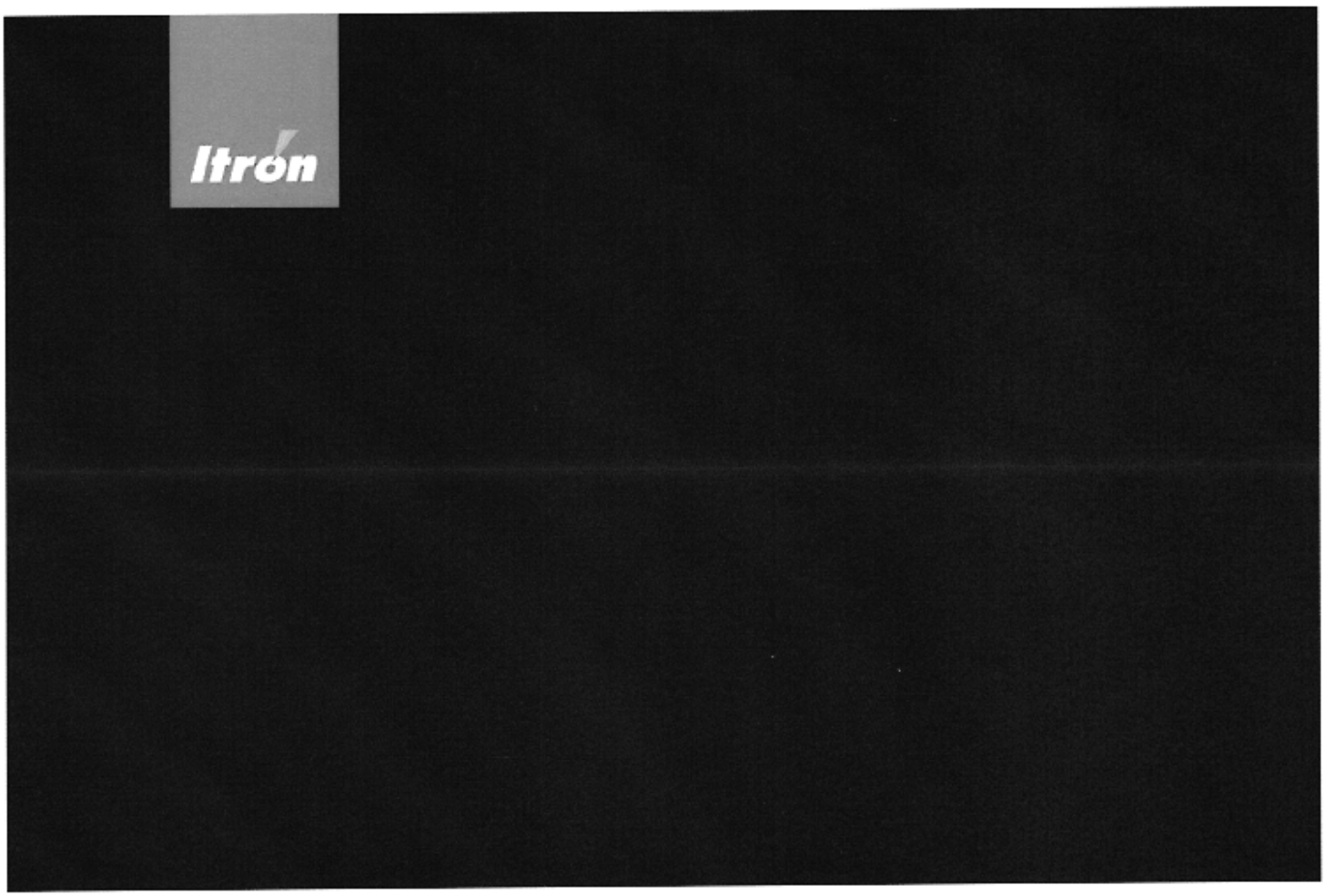
For RF Reads: When reading ARB encoders connected to an R900 where the R900 reads a ProRead or ARB V encoder hourly, or in the case of E-CODER or ProCoder where the R900 reads the E-CODER or ProCoder every 15 minutes, Neptune guarantees the encoder reading and the remote reading will match upon manual activation of the R900 with a magnet to force an immediate read and transmission. In the event of the E-CODER)R900i or ProCoder)R900i where the R900 transmission is updated every 15 minutes, Neptune will guarantee the encoder reading and remote reading to match upon this update.

Damage Guarantee
The Pocket ProReader RF, Advantage Probe, R900, E-CODER)R900i, ProCoder)R900i, DAP handhelds (PC9300 & 9800, CE5320B) and Neptune mobile systems are warranted against causing damage to any ARB encoder register during interrogation. If it is found that the Pocket ProReader RF, Advantage Probe, R900, DAP handhelds (PC9300 & 9800, CE5320B) or Neptune mobile systems caused damage to an ARB encoder register during interrogation, Neptune will either repair or replace the register at no charge to the utility.
If there are any questions concerning this Meter & Reading Information Systems Guarantee, please write to: Manager of Consumer Relations, Neptune Technology Group Inc., 1600 Alabama Hwy. 229, Tallassee, Alabama 36078.

If a Neptune water meter fails an accuracy test during an applicable warranty period, it may be returned to Neptune for repair or replacement at Neptune's option. An accuracy test shall be conducted by the customer according to AWWA standards. If foreign material causes the meter not to perform appropriately, all such materials shall be removed prior to the customer conducting the test. Any meter being returned for repair to Neptune under this performance guarantee must be returned with a copy of the customer's test results. If the meter is returned to Neptune without a copy of the test results or if Neptune's factory test shows the meter to meet current AWWA standards, the customer will be charged a nominal testing fee by Neptune in such cases. Neptune will repair or replace the meter at Neptune's option after the meter has been tested by Neptune. Meters repaired or replaced under the performance guarantee will be guaranteed to perform to AWWA repaired meter accuracy standards. This guarantee is void if components have not been maintained or installed according to Neptune installation and maintenance guidelines, or are otherwise damaged or defective. The accuracy guarantee will not apply where a properly formatted electronic

meter reading cannot be obtained on six digit encoders. The last digit will be displayed only as a zero (0) or five (5) when read remotely. As part of the encoder technology, the electronic reading from the R900 is guaranteed to match the reading on the encoder register upon manual activation of the R900 with a magnet to force an immediate read and transmission (one per hour). System damage as a result of vandalism or acts of God are not covered. Additional warranties may also apply to individual system components. Neptune's liability with respect to breaches of the foregoing warranty shall be limited as stated herein. Neptune's liability shall in no event exceed the purchase price. Neptune shall not be subject to and disclaims the following: (1) any other obligations or liabilities arising out of breach of contract or of warranty; (2) any obligations whatsoever arising from tort claims (including negligence and strict liability) or arising under other theories of law with respect to products sold or services rendered by Neptune, or any undertakings, acts, or omissions relating thereto; and (3) all consequential, incidental, special, multiple, exemplary, and punitive damages whatsoever.

THE WARRANTIES SET FORTH HEREIN ARE IN LIEU OF AND EXCLUDE ALL OTHER WARRANTIES, WHETHER EXPRESSED, IMPLIED OR STATUTORY, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.



City of Fort Wayne, IN

RFP – Fort Wayne FWCU Advanced Meter Infrastructure System
Resolution No. 105-10-30-18-2

Submitted by Itron, Inc.

December 18, 2018

Response to Appendix I

1.0 OVERALL SYSTEM CHARACTERISTICS

1.1 Mode of Operation

Requirements

1. **Each contractor must provide a narrative that describes the mode of operation.**

Describe

1. **The system's normal mode of operation (i.e., for obtaining periodic readings, for billing, and other purposes).**

The foundation of Itron's OpenWay Riva Solution is the OpenWay Riva Water Modules and the Cisco Connected Grid Routers (CGRs). The OpenWay Riva water modules and the Cisco CGRs would be strategically deployed throughout the utility's geographic territory to create the field area network. The water modules are connected to the water meters and record consumption and meter events/alarms at the utility's desired interval. The water module transmits its data two (2) to four (4) times per day through a CGR. The CGRs are routers not collectors, so when a CGR receives the transmissions from the water modules, the data is immediately routed via one of many backhaul options available through the CGR to the data center. The OpenWay Riva network is a true IPv6 field area network so once the data is received at the data center, the data is routed to the appropriate headend software application based on the IP address of the device sending the data.

2. **The sequence of steps by which the system components interact to deliver readings and event notifications and how this data can be made available to the City.**

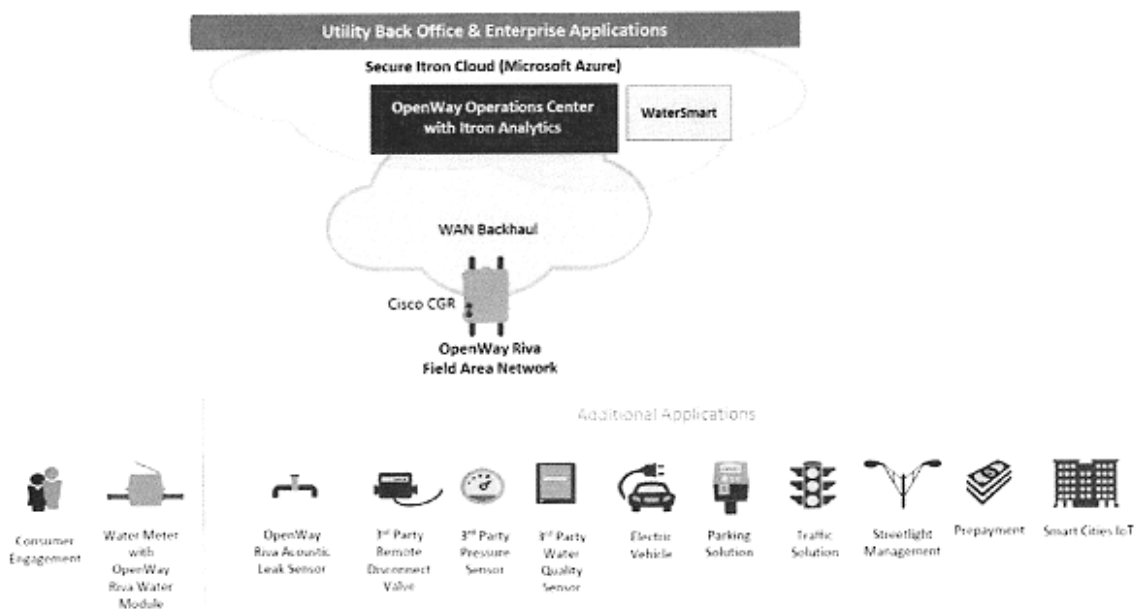
Data from OpenWay Riva water modules is routed to the Itron OpenWay Operation Center (OWOC), our AMI headend software application. The data is validated and processed for billing. The OWOC tracks and confirms it has received data from all the OpenWay Riva water modules. If OWOC does not receive data from a water module or group of water modules, it will send a request to the modules it did not hear from to ensure all data intervals are received. Billing data is sent through the billing interface at the timing specified by FWCU during the system configuration. The data is also sent to the Itron Analytics application and other third party applications such as WaterSmart Software through an interface or web services.

Long-term data storage and reporting is handled by Itron Analytics. Itron Analytics was designed to deliver our customers the value from the more granular and frequent collection

of data through our network solution without the complex Meter Data Management Software applications designed for electric utilities. Itron Analytics provide use case-based Apps, easy reporting capabilities and long-term data storage. Itron Analytics makes data available through published API's, web services, flat file exports, etc., with the goal of providing our customers the most value from the data collected whether through Itron or third party applications.

Users can request interactive (on-demand) reads through the user interface, or through a web service exercised by an external application. On-demand read requests can target one or more endpoints or groups of endpoints. Users can also filter requests by time and date range.

3. A schematic or flow diagram depicting the system's normal mode of operation.



4. The communications between system components, and where time stamping of reading and event data occurs.

As shown above, the module communicates through the CGR to the OWOC headend on a regular schedule, typically every 8 hours (3 times per day). All data is time stamped at the time the consumption or event happened. The OWOC software application contains both a Timestamp field and a Received When field for specific information such as alarms.

1.2 General Description of System Components

Requirements

1. **Each contractor must provide a narrative that describes the system components.**

Describe

1. **The applicable technical, functional, and operating characteristics of each component used by the AMI system:**

    a. **Endpoints**
    b. **Repeaters**
    c. **Collectors**
    d. **Reporting systems**
    e. **Field installation tools and software**
    f. **Field maintenance and troubleshooting tools and software**

Please refer to the product specification sheets included in Appendix 2 for additional details. Brief descriptions are provided below.

Itron OpenWay Riva Water Modules: The foundation of our AMI system that features flexible deployment options, configurable time-synchronized intervals, universal meter compatibility, and industry leading battery life. The water module records water consumption with unrivalled accuracy and enables two-way communications between the endpoint and the OpenWay Operations Center headend software, making it possible for the utility to request on-demand reads from an individual, group, or all the water modules to provide all requested data, as well provide firmware downloads when available. Additionally, the water module can store 160 days of time-synced hourly interval consumption data, meter events and alarms.

Cisco Connected Grid Routers (CGRs): Itron leverages Cisco's rugged CGR as the field area router of our OpenWay Riva Solution. The CGR is proven in the field with thousands deployed in North America. The CGR has a modular design allowing for long-term flexibility to evolve with the needs of the utility to provide benefits of converged networking; distributed intelligence; and improved security, manageability and network reliability.

Itron OpenWay Operations Center (OWOC): Our powerful AMI headend software provides the ability to command, control, and report on all aspects of the system. This includes collecting meter data, leak information, network health, security events, and trending statistics. It manages high-volume, secure disconnect/connect and on-demand read requests. OWOC also manages device configuration attributes and firmware downloads directly to the water modules.

Itron OpenWay Riva Network: Our network provides the most advanced, flexible, and secure platform available on the market, with an open architecture that supports the widest range of applications and communication protocols including but not limited to AMI, acoustic leak sensors, remote disconnect, pressure sensors, temperature sensors, and water quality sensors to deliver the Smart Water Utility.

Cisco IoT Field Network Director (FND): OpenWay Riva AMI solution utilizes Cisco IoT Field Network Director. FND is a FCAPS (fault, configuration, accounting, performance, security) software platform to manage a robust multi-service network and its security infrastructure. FND is a scalable, secure, modular, open-platform with pluggable architecture designed to enable an ecosystem of multi-vendor capability for interoperability across not only communications network, but legacy and next generation equipment, over time.

Itron Analytics: Itron's Analytics Applications are the answer to the influx of data FWCU will have access to through our OpenWay Riva AMI system. These versatile software cloud applications deliver on the promise of AMI by translating data into actionable intelligence throughout the utility. The Itron Analytics solution provides a modern, scalable, and high-performance business intelligence and analytics tools.

Panasonic Toughpad FZ-M1: The Panasonic Toughpad and the Itron Mobile Radio comprise the field tool used in the OpenWay Riva solution. The Toughpad is pre-loaded with Itron's FDM Tools with Enhanced Security software for programming and testing the OpenWay Riva Water Module. There is no programming required during or after installation for encoder registers. The module simply auto-detects what register it is connected to. Using the preloaded software, the Toughbook can perform field diagnostics. FDM Endpoint Tools provides options to program modules, read modules and check module programming parameters.

Field Deployment Manager (FDM): FDM is Itron's premier solution for managing the installation of endpoints and meters in support of advanced metering infrastructure (AMI) deployments. FDM streamlines the management, installation and delivery of equipment, while validating the accuracy of field work. Itron's installation subcontractor will utilize FDM during deployment.

1.3 Meter Reading Interval

Requirements

1. **Each two-way endpoint shall provide top-of-the-hour, time synchronized hourly reads (and, for short durations, 15-minute reads) to meet high-interval reading requirements.**

Comply

Describe

1. **What is the default meter reading interval?**

The OpenWay Riva Water Module standard intervals include hourly, 30-minute and 15-minute. Each module stores 160 days of hourly intervals or 40 days of 15 minute intervals.

2. **What is the default frequency/timing for transmitting readings from the endpoint to the collector/repeater?**

The schedule for transmitting readings to the CGR is set in the headend. The recommended configuration is to request 8 hours of data, 3 times per day. This results in getting 24 hours of data each day from the endpoint.

3. **Is the default frequency/timing for transmitting readings from the endpoint to the collector/repeater user configurable?**

Yes. The system can also request all 24 hours of data once per day; or 6 hours of data 4 times per day. FWCU can choose the configuration that best matches its business process needs.

4. **The packet content of a typical meter read transmission. For example, register reading, the amount of hourly interval readings, alarm data, etc.**

Each data transmission from the water module includes: the meter reading and intervals for the time period described above, meter events and alarms, and sensing data provided by leak and/or other sensors deployed.

5. **Describe how the system manages the transmission of interval read data to ensure that all intervals are successfully received by the HES.**

OpenWay Riva's interrogation (data request/response) process is an *acknowledged* process. This means that the headend system will recognize if it does not receive the data it has requested. If the data does not arrive, the headend system triggers an automatic retry process that continues attempting to retrieve the missing data for a configurable timeframe.

6. **Describe how missing reads may be recovered/retransmitted from the endpoint including the ability to automatically backfill missing hourly intervals daily, without human intervention.**

Please see above response. In addition, each module stores 160 days of hourly interval data which can be requested through the headend at any time.

1.4 Changing Reading Interval and Reporting Frequency

Requirements

1. **Include the below description as requested.**

Describe

1. **How the meter reading interval, endpoint transmission, and collector/repeater reporting frequencies can be changed, and the range of interval/frequency choices.**

Please see above responses. The schedule for the CGR to request data from the water module is configurable at the headend for once per day, 3 times per day, or 4 times per day.

The water module provides time-synchronized interval data that can be configured for 15, 30 or 60-minute consumption intervals. The module also supports configurable meter right-sizing intervals from 1 to 60 minutes. Operating the module in the meter right-sizing interval setting will affect battery. It is recommended this mode be used for short periods of time and no longer than 7 days to ensure the 20 year battery life.

2. **Which changes require a physical visit to the endpoint, and which changes can be propagated through the communications network to the endpoint. Describe the procedure.**

No field visit is required to change the intervals; this is accomplished over the OpenWay Riva network with the OWOC headend software.

3. **Whether a change in reading or transmission interval can be programmed to reset automatically. Indicate the magnitude of any impacts on battery life.**

These changes are handled through the OWOC headend software. The OpenWay Riva Water Module can be interrogated up to four times per day and can store 15-minute interval data while maintaining its 20-year battery life. Additional data storage and interrogation rate will begin to impact the life of the battery.

1.5 Component Firmware Upgrades

Requirements

1. **The Contractor shall include firmware for all system components including endpoints, collectors/repeaters, and portable interrogator/ programming/testing units, at no additional cost or separate annual maintenance fee.**

Comply

2. **The Contractor shall provide any available upgrades or patches to such firmware to correct problems, add new standard features, and ensure system compatibility and full functionality for a minimum of 1 year after system acceptance at no additional cost.**

Comply
Itron provides upgrades as described in our standard agreements (see Appendix 4) for customers on a valid maintenance agreement. Agreements are typically renewed annually and are available for the life of the product.

Describe

1. **If and how firmware patches or upgrades would be applied to each system component, including:**

    a. **All the steps that must be taken to upgrade collector/repeater firmware.**
    b. **All the steps (and expected duration) that must be taken to upgrade endpoint firmware (including whether a field visit is required and the average time per endpoint during a field visit).**

OpenWay Riva supports full two-way communication from the endpoint to the headend system (OWOC). Firmware updates allow for enhancements, new features and service releases to be applied over the network. Field visits are not required. OpenWay Riva allows the headend to use a multicast mode to efficiently target large populations for firmware upgrades without impacting daily operations. The download process breaks the firmware files into smaller single-packet sized blocks that are quite small and can be passed in a manner and timeframe that do not interfere with normal operations of the network.

Itron's firmware download process has multiple fail-safe measures to ensure that the image is transferred successfully and without corruption, such as hash chaining of blocks during the image download and CRC checks. The firmware download is done in stages such that the new firmware is activated only after there is confirmation that the download was successful. In the event of a corruption of the firmware download file (e.g., checksum failure), the CGR or water module will reject the new download and continue uninterrupted operation with the existing firmware. OpenWay Riva also includes features that provide flexibility in firmware activation, such as point-to-point, cell-by-cell, and by endpoint group. Network traffic is minimized by using multicast/broadcast as much as possible to eliminate any unnecessary point to point communications. If upon activation, a component fails to activate, the firmware version actively running remains in operation, and the status is returned to the OpenWay Operations Center.

The OpenWay Operations Center supports a Firmware Versions Report which displays endpoints and the firmware versions they are currently running in the field. By using a

multicast approach when downloading firmware, an estimate to upgrade the entire water module population would be less than a day.

1.6 System Capacity

Describe

1. **The memory capacity of each system component in terms of the number of meter readings and usage intervals stored (in total and per endpoint) and/or the number of meter readings that can be transmitted/received in a given time interval.**

Each water endpoint stores 160 days of hourly interval and 40 days of 15-minute interval data. Each CGR is capable of supporting 9,000 endpoints. The CGR is a router rather than a collector and does not store data; it immediately sends it to the headend upon receipt.

2. **What happens as capacity is approached? What happens when capacity is exceeded? For example, does new data overwrite old data?**

In the endpoint, new data will start to overwrite the oldest data (160 days old).

3. **Any provisions in the system for archiving old meter reading data at the data center on either physical or virtual servers.**

Itron Analytics software provides for long term storage of meter data. The standard is 5 years and additional years can be accommodated at an additional cost.

1.7 Radio Communication Band/Frequency

Describe

1. **Which RFs are used for interactions between the endpoints and collectors and indicate if they are licensed or unlicensed.**

The OpenWay Riva solution operates in the unlicensed ISM band from 902-928 MHz. All water modules operate without the need for an FCC license. The module is FCC approved but does not need a separate license to use the frequency band. The frequency range uses Frequency-Hopping Spread Spectrum 903 to 926.85 MHz in the ISM band. The Program frequency is 908 MHz.

1.8 Data Transfer to Head End System

Describe

1. **The proposed mode of data transfer between the collectors and the HES.**

There are several options for data backhaul from the CGR to the headend, including cellular from public wireless carriers and direct Ethernet, or Ethernet-enabled devices such as Wi-Fi, fiber, or private IP-based networks. Itron has assumed cellular as the backhaul for the proposed system; however, the CGR supports redundant backhaul options so FWCU could use Ethernet or fiber as the primary backhaul and cellular as the secondary option. The CGR is configured with the criteria for switching from the primary backhaul to the secondary. Changing backhaul options is a simple process. Itron will work with FWCU to determine the best options for its deployment.

2. **The frequency of transmission from the collector to the HES and whether it is configurable. If so, what are the options and how do they impact system performance?**
3. **If configurable, is an on-site visit required?**

The schedule for transmitting readings to the CGR is set in the headend. No on site visit is required. The recommended configuration is to request 8 hours of data, 3 times per day. This results in getting 24 hours of data each day from the endpoint. The system can also request all 24 hours of data once per day; or 6 hours of data 4 times per day. FWCU can choose the configuration that best matches its business process needs.

1.9 Additional Features

Requirements

1. **The Contractor shall provide a list (manufacturer, make, model, etc.) of all devices that are compatible to the AMI System and perform data collection for smart water and smart city related applications.**

Itron's commitment to an open standards-based, multi-application platform is intended to foster innovation and to promote the industry's emerging plug-and-play interoperability. Itron's OpenWay Riva solution is much more than an AMI solution. OpenWay Riva strictly adheres to an open, standards-based architecture and globally recognized standards at all levels of the system. This is to promote true interoperability, device diversity and innovations from a growing ecosystem of third-party technology providers to reduce technology risk to our customers. Itron does not have the expertise to deliver all the applications needed for a Smart Water Utility or a Smart City so we will leverage our partners to combine their best in class solutions with our best in class OpenWay Riva communications technology.

Describe

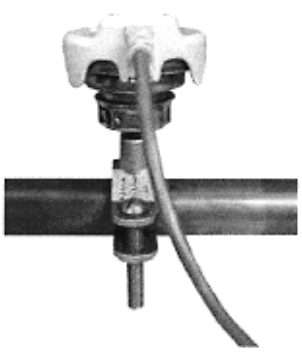
1. **Any additional capabilities of the proposed system, such as remote shut-off or turn-on, pressure monitoring, temperature monitoring, chemical concentration**

monitoring, smart city applications, etc. Describe specific third-party sensors or controllers that are supported (such as Acoustic Leak Detection) and their capabilities. Include any deployments of such devices, including the number of units installed, in the References section of the proposal.

Because OpenWay Riva is a completely standards-based, interoperable IPv6 network, where all devices are IPv6 nodes, the potential for adding third-party devices is virtually endless. Currently there are two remote disconnect valves certified for use with OpenWay Riva: Utility Systems water control valve, and Smart Earth Technologies water disconnect valve. Additional telemetry options such as monitoring of water pressure, water quality, temperature, etc. will be supported.

The OpenWay Leak Sensor (OLS) is a potted and hermetically sealed to IP68 acoustic leak sensing device. The leak sensor is powered by the OpenWay Riva Water Module. Data is stored within the OLS and returns a data packet once a day to the water module. The OLS records vibrations through the quietest period of the night. The number of recordings the OLS takes during the night is adaptive, meaning the OLS makes a determination of how many recordings to take based upon the quality of the vibrations it hears on the pipe. The minimum number of recordings is 3 and the maximum number of recordings is 20. The recording period is also adaptive meaning that the OLS determines the best time to record based upon previous recordings and historical recordings. After a number of recordings have been taken a data packet is created that indicates the spectral signature of the location the OLS is mounted to.

The OLS measures approximately 2.2" by 2".



The OLS is installed in the meter vault, on the distribution side of the service line. The OLS comes as a two piece assembly. The assembly consists of the OLS sensing module and a mounting accessory. Due to varying pipe diameters and installation conditions, variants of the mount exist.

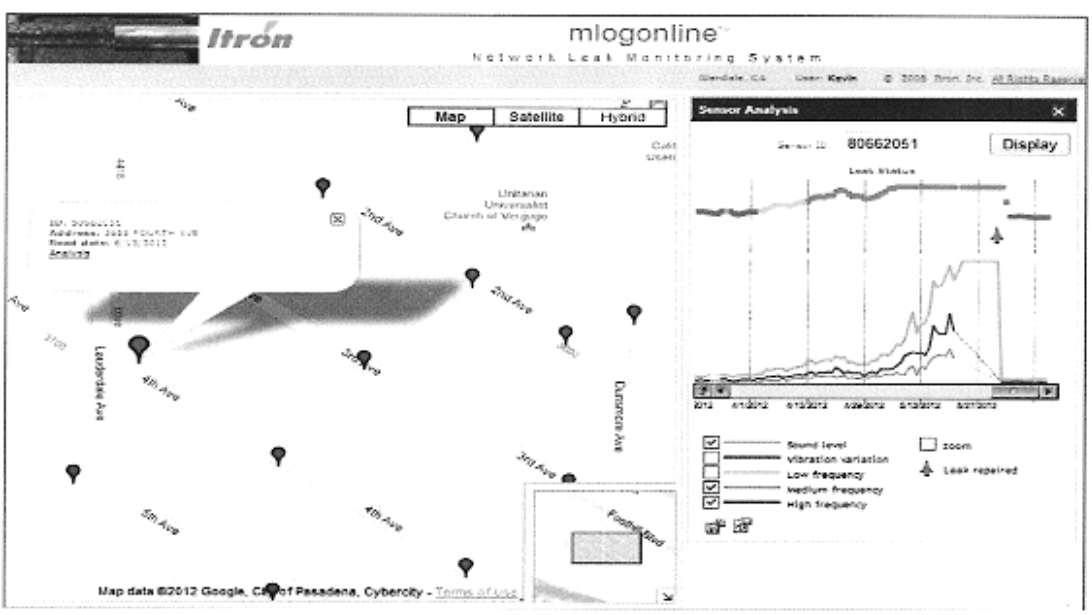
- For pipes with ½ - 1" OD diameter, 1" pipe clamp
- For pipes with 1- ¼" – 2 ½" OD diameter, 2" pipe clamp

In a typical installation, the pipe clamp is connected to the service line or the meter nut on the distribution side of the water meter. After the pipe clamp has been installed, the OLS sensing module is attached to the pipe clamp. This method ensures a rigid mechanical coupling of the OLS to the pipe and aids the installer when faced with tight or challenging installation conditions.

Because you never know where or when a new leak may occur, the leak sensor is designed to be permanently installed. Such factors as pipe age, date of installation, type of material, location and pipe dimensions are not always the best predictor of where leaks may exist; therefore, Itron's acoustic leak sensor is priced so utilities can afford a permanent solution that continuously monitors the entire distribution system.

The Distribution Leak Detection software takes the data that has been captured and automatically calculates the leak index. The software uses a three-day moving average to compare the sound heard in the current day against what was heard the two previous days. This allows for a very reliable calculation of noise level in the environment that is local to each leak sensor.

Analyzed leak data is presented in Itron Analytics and allows the utility to export, print the status of each sensor and to be able to create work orders for your non-revenue water investigation team. Leak reports are available to track each repaired leak, and they are easily exportable. The utility can also export a report of all possible leaks, or reports can be generated based on flags, making it easy to mark leaks that need to be investigated. KML exports are also available, allowing transfer of sensor location data and leak and repaired leak data into the utility's GIS system. This feature allows for tracking everything in one location. An additional automated New Leak notification report sent via email or text is also a standard part of the solution.



Leak Monitoring System

2. **The system's ability to add instrumentation (pressure, temperature, chemical, leak, etc.) and to collect distribution system performance information and transmit the information from such endpoints.**

Itron's OpenWay Riva solution is much more than an AMI solution. OpenWay Riva strictly adheres to an open, standards-based architecture and globally recognized standards at all levels of the system. This is to promote true interoperability, device diversity and innovations from a growing ecosystem of third-party technology providers to reduce technology risk to our customers. Itron makes the network specifications and reference designs available through our Itron Riva Developers Network and industry alliances such as WiSun.

Why does this matter? From FWCU's perspective, OpenWay brings the following key capabilities and advantages over other solutions:

- **A true multi-service platform: Devices can be added at any level of the network, and true IP and routing standards provide connectivity to various headend applications, regardless of how and where the devices are attached. OpenWay Riva provides** a unified multi-service platform that achieves true smart water utility interoperability to support multiple applications and devices.
- **Service independence: Devices can securely gain access to the network without having to come through the OpenWay Riva headend.** This enables true network transparency and independence, where devices such as pressure sensors, water quality sensors, temperature sensors or other systems can make direct network service calls through port addresses to access endpoint devices.

Itron's commitment to an open standards-based, multi-application platform is intended to foster innovation and to promote the industry's emerging plug-and-play interoperability. By issuing development kits, Itron actively encourages the development of new solutions in such areas as pressure management, consumer engagement, field work automation, streetlight management, electric vehicles.

To accelerate development and testing efforts for our partners, Itron has developed and released several types of developer's kits and production network interface cards (NIC). The developer's kits include documentation, development board, communication boards to enable partners to create a lab environment OpenWay Riva network for testing. Itron has also developed and released production Itron Riva NICs. This gives our partners the option of purchasing an existing NIC to integrate within their devices in lieu of having their own NICs developed.

Itron Riva Developer's Board

3. **Indicate whether additional software would be required for any additional feature listed.**

Itron's Distribution Leak Detection software is required for analyzing the data gathered by the OpenWay Leak Sensor. It is delivered as an Itron SaaS offering for a monthly fee.

The OLS is connected to the OpenWay Riva Water Module through one of its ports. The module can accommodate both a meter input and leak sensor input simultaneously.

1.10 Planned Future Capabilities

Describe

1. **Indicate any planned future capabilities for the equipment being proposed, the anticipated development and availability schedule, and the expected procedures for upgrading the City's system, if applicable.**
2. **Include a product roadmap of planned future capabilities**

The market for smart metering technology is converging with broader markets for smart grid, smart cities, and the Internet of Things (IoT). Itron's roadmap results in a multi-application, standards-based network infrastructure and IoT technology platform for which advanced metering is the first and foundational application. Itron believes that investment in a multi-application platform is the wise choice rather than buying a network built primarily for the purpose of reading meters of various commodities.

Itron's roadmap is focused on two strategic areas of development. The first is combining proven AMI capabilities with distributed intelligence used for decentralized operational decision-making, flexible adaptive communications, and multi-application network to enable our ***Active Grid*** or ***Active Network*** vision. The second area of focus is on developing and delivering ***analytics-driven business outcomes*** to our utility customers using a cloud-based managed services model. Itron is positioning our meter data management and back-office analytics applications as cloud-based offerings to provide an increasingly compelling value proposition to utilities seeking to capitalize on the value of data from AMI systems and other grid devices.

Key components of Itron's roadmap include:

» Multi-commodity AMI Application

» Multi-service Network

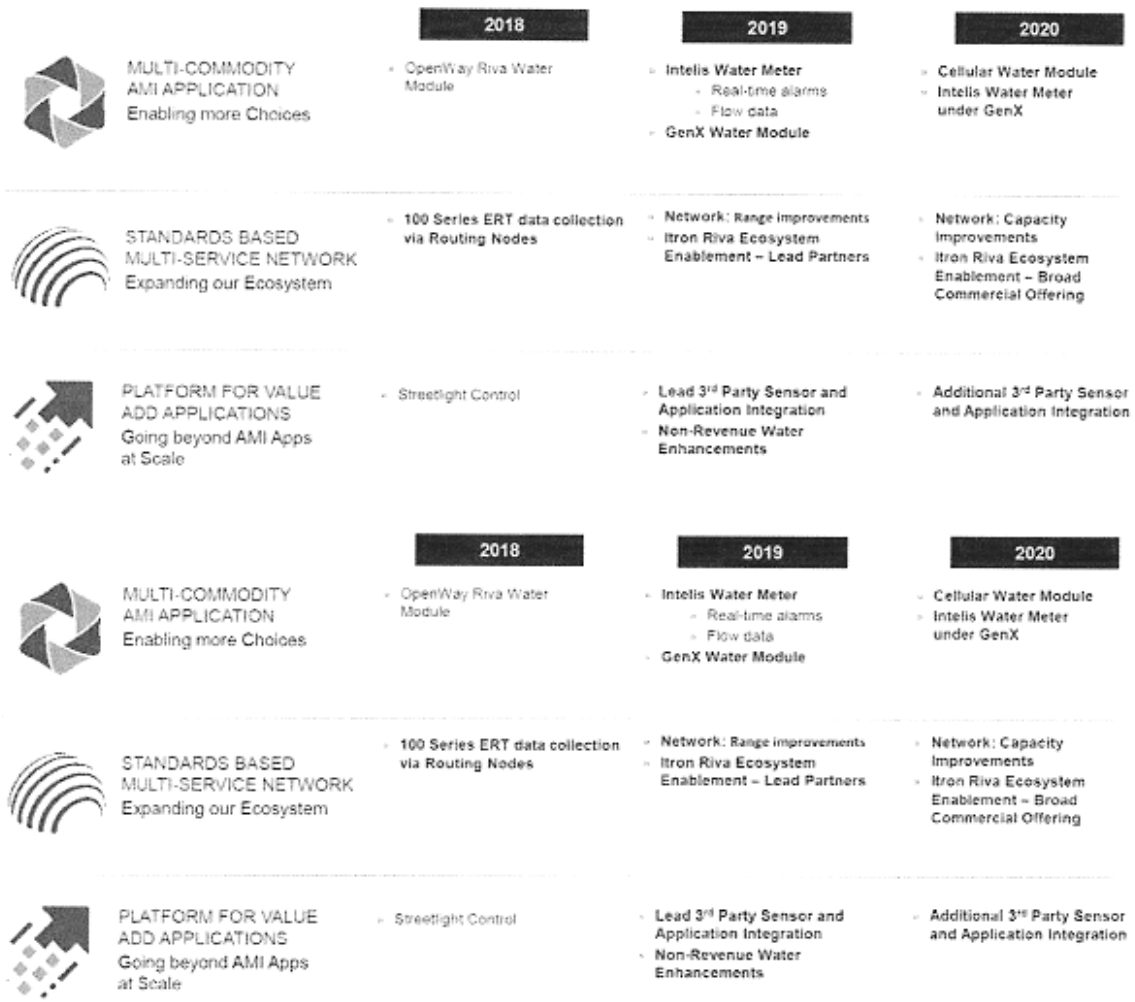
» Data Management

» Value-added Applications

Itron's roadmap is dynamic and driven primarily by evolving market requirements and direct customer input, including our close working partnership with our customers facilitated through our Itron Utility Week forums. Itron maintains this roadmap for

incorporating near-term and future enhancements to meet the collective needs of project deployments and new industry requirements. In addition, our product managers work with the Itron user groups to define, prioritize, and communicate future product enhancements.

Please note that this roadmap information is Itron confidential and proprietary information that is subject to change.



1.11 Read Performance

Requirements

1. **Currently, the City's design standard as of 2014 is to have the endpoint installed on the exterior of the premise. The City is open to keeping endpoints indoors or**

having the Contractor relocate the endpoint to the exterior of the premise. The final decision will be made after costs are received and evaluated. Therefore, the City is requesting two propagation studies, one for indoor endpoints and one for exterior endpoints.

Itron has provided two propagation studies reflecting the options stated above. Itron's recommended configuration assumes mounting the endpoint to the exterior of the premise.

2. **The Contractor shall price in its proposal and provide an adequate communications infrastructure to ensure that for all AMI meters, 98.5 percent will successfully report all daily readings within the last 72 hours, 97.5 percent will successfully report all daily readings within the last 48 hours and that at least 95 percent of all meters will successfully report all daily readings within the last 24 hours.**

Itron designs our OpenWay Riva network covering only water endpoints to the following performance criteria for all available meters:

- 99% daily reads
- 99.5% over a 3-day window
- 99% interval reads

3. **The entire service territory (define by existing accounts) shall be covered by the AMI network.**
4. **Meters that have temporary barriers beyond the control of the City or the Contractor are excluded from these performance metrics**

Describe

1. **The Contractor shall indicate the interval read success rate, design redundancy, and daily read success rates for the proposed system.**

The expected interval read success rate is 99%.

2. **Describe how the Contractor plans to safeguard performance levels over time if non-City devices are added within the service territory that cause additional 'noise' within the AMI network.**

Most installations outside of the ISM band will have minimal to no effect on performance levels due to filters used with the OpenWay Riva network. RF additions in the ISM band and within the service territory should be evaluated to determine the expected effect. Typically, maintaining a 10-foot vertical separation or a 100-foot horizontal separation between OpenWay Riva devices and other devices will safeguard performance levels.

1.12 Hard to Read Meters

Requirements

1. **Include the below description as requested.**

Describe

1. **Indicate how the AMI system will obtain readings from meters in ravines, boxes, and other transmission constraining settings.**

Itron has been deploying network solutions for the past 20 years and has a great deal of experience designing network solutions and mitigating network coverage in difficult environments. Itron's OpenWay Riva Solution has benefits over Itron's previous water proprietary networks due to the self-healing/optimizing features of the network. The OpenWay Riva endpoints are constantly evaluating the best path to a router and ultimately the OpenWay Operations Center AMI headend application. If it is determined that field mitigation is necessary Itron has several options such as adjusting endpoint deployment, remote antennas, repositioning routers, etc. to increase read rates.

1.13 Compound Meters

Requirements

1. **Include the below description as requested.**

Describe

1. **How compound meter readings would be totalized in the HES.**

Itron Analytics allows compound meter readings to be totalized in the HES. Large or High Flow Register Consumption + Small or Low Flow Register Consumption + Fire line and Fire Suppression Register Consumption = Total Consumption at the service point.

Users can pick on Account and Service Point Detail pages in Itron Analytics to display total or multi-register view as a stacked bar chart.

2. **Describe if separate register readings will be available in the HES.**

The OpenWay Operations Center models a compound meter as two separate endpoints with their own associated read data. Each endpoints data can be viewed in OWOC.

2.0 METERS

2.1 The Contractor shall refer to the Small Meter Requirements and Specifications provided in Attachment 3.

Itron is proposing Neptune meters. Other water meters can be supported. Please see the compatibility listing included in Appendix 2.

2.2 Composite Meters

Requirements

1. **If composite meters are proposed, and cross threading occurs, the Contractor shall be responsible for the replacement labor and parts**

Describe

1. **Describe the proposed approach for meter connections. If a fully composite meter is proposed describe the approach to minimize the risk of cross threading.**

The proposed meters have bronze threads.

2.3 Meter Event/Alarm Data

Describe

1. **Which events/alarms are transmitted by the endpoint. List any alarms with your solution that will not be transmitted through the endpoint. Identify alarms that can be modified by the City**

The following theft/ tamper detection flags are supported:

- Register Error signifies that the module is not able to communicate with the encoded register
- Invalid Read signifies that the register is not sending a valid read to the module
- Cut Cable signifies that the cable between the module and the meter has been cut or damaged (pulser only)
- Reprogramming Attempt This tamper is reported when unauthorized reprogramming of the ERT is attempted. It is divided into two tamper sets, Metrology and Non-Metrology. The Metrology tampers are triggered when an event occurs that would affect the integrity of the metering data coming from the device. Non-Metrology tampers are triggered when the network optimization parameters (power level, bubble up rate, etc.) are adjusted.

Tampers are sent with each meter reading as part of the data transmission. Tampers will automatically clear; there is no need to reset.

For supported meters, the module also supports transmitting extended meter alarms from water meters including:

- Empty pipe
- Reverse flow
- Temperature
- Register Error
- Zero Consumption
- Meter Tamper
- Meter Battery Alarm

2. All routine/scheduled events/alarms, include a list

For events configured as alarms, the water module will transmit the alarm events as soon as they are detected as well as with its normally scheduled transmission. This allows the City to receive immediate notification of the event alarms most important to you. Currently, alarm events include Consumer Leak Detected, Leak Meter Alarm, Empty Pipe Alarm and Active Burst Pipe. All events can be configured as alarms.

3. The condition events/alarms

At the endpoint level, the OpenWay Riva Water Module provides a number of automated exceptions/ alarms that can be configured to be delivered upstream immediately in an unsolicited fashion.

4. The default reporting frequency of endpoint events/alarms?

Itron's OpenWay Riva Water Modules continually monitor for tamper conditions. If a condition is detected, the water module will log the condition as an event for reporting to the AMI headend. Itron's AMI Headend, OpenWay Operations Center, allows for any event to be configured as an "alarm". The water module will report all events logged at its next scheduled transmission. For events configured as alarms, the water module will transmit the alarm events as soon as they are detected as well as with its normally scheduled transmission. This allows the City to receive immediate notification of the event alarms most important to you.

5. **The packet content of a typical event transmission**

In addition to providing this information as alarms, these occurrences are also being stored in the endpoint's history log. These events are stored in the endpoint and can be retrieved as needed or as part of a regularly scheduled data collection.

6. **How the system manages the transmission of endpoint event/alarm data to ensure that all intervals are successfully received by the HES**

Each meter's communication module provides a data set that characterizes its communication health and position within the network. These network statistics include items such as signal strength, network level, sync father, or router id. Meters automatically perform internal self-tests approximately once per second. These tests are transparent to the system unless a problem is discovered, in which case an event is logged and sent to OpenWay Operations Center (OWOC).

7. **How missing events/alarms may be recovered/retransmitted from the endpoint**

Naturally if an endpoint is not communicating, no event is sent. However, OWOC produces a "failed read" report to indicate which meters did not successfully transmit data in a given time period. OpenWay Operations Center has meter alarm screens and provides map-based display of non-communicating meters.

In order to ease the burden on AMI operations teams as they troubleshoot system problems and network connectivity issues, OWOC offers additional features to help facilitate the exception management process. Automated exception detection is made possible through the application's ongoing monitoring of incoming data from endpoints and integrated back office systems. By analyzing job result codes, network device status, unresponsive meters, alarms, events, and other relevant incoming data points, the application can trigger endpoint investigations when pre-defined or configurable conditions are met.

8. **Indicate which meters (brand/model) are currently compatible**
9. **Indicate which meters are anticipated to be compatible**

Currently the OpenWay Riva Water Module can transmit extended meter alarms from Badger and Kamstrup. The water module can relay meter alarm codes as long as the meter manufacturer permits Itron access to those codes. The limitation would be that the meter manufacturer would not allow this rather than any limitation in the endpoint.

2.4 Tamper Detection

Describe

1. **Which kinds of tampers are detected.**

The following theft/tamper detection flags are supported:

- Register Error signifies that the module is not able to communicate with the encoded register
- Invalid Read signifies that the register is not sending a valid read to the module
- Cut Cable signifies that the cable between the module and the meter has been cut or damaged (pulser only)
- Reprogramming Attempt This tamper is reported when unauthorized reprogramming of the ERT is attempted. It is divided into two tamper sets, Metrology and Non-Metrology. The Metrology tampers are triggered when an event occurs that would affect the integrity of the metering data coming from the device. Non-Metrology tampers are triggered when the network optimization parameters (power level, bubble up rate, etc.) are adjusted.

2. **How quickly tampering with each component can be reported and how it will be reported. Can alerts/triggers/thresholds be customized?**

Itron's OpenWay Riva Water Modules continually monitor for tamper conditions. If a condition is detected, the water module will log the condition as an event for reporting to the AMI headend. Itron's AMI Headend, OpenWay Operations Center, allows for any event to be configured as an "alarm". The water module will report all events logged at its next scheduled transmission. For events configured as alarms, the water module will transmit the alarm events as soon as they are detected as well as with its normally scheduled transmission. This allows FWCU to receive immediate notification of the event alarms most important to the utility.

3. **How many times or over what period of time will a tamper indication be provided to the collector or to the HES before it is automatically cancelled?**

Tampers are sent with each meter reading as part of the data transmission. Tampers will automatically clear; there is no need to reset.

4. **Whether the tamper indication must be reset or reprogrammed, and how this is accomplished (on-site or remotely).**

Tampers will automatically clear; there is no need to reset or reprogram. Tampers automatically clear after 24 hours.

5. **The recommended process for identifying continuous tamper event (not intermittent), where a read has not been received since the tamper event timestamp.**

The alarm will stay on as long as the tamper event is present.

2.5 Unauthorized Usage Detection

Requirements

1. **The system should give an indication of unauthorized usage; that is, when the customer account record indicates that the customer has been shut off, the system will flag and specifically report any unauthorized usage.**

Comply

Describe

1. **Unauthorized Usage Detection capability, if available. How alert triggers and thresholds can be customized?**

Readings are validated by a Reading Quality Assurance (RQA) high/ low filter. Usage outside of the parameters trigger an exception that is provided in exception reporting including Usage on Inactive Accounts. Filter values are user configurable.

2. **The minimum and maximum time from the event occurring to the report being issued at the HES.**

See above responses. If a meter event categorized as a meter alarm is triggered, the water module will immediately send a meter alarm to the OWOC software. Events are logged and can be retrieved after the condition occurred. OWOC reporting provides a daily event report that shows all of the events retrieved on a given reporting day, broken out by event type and category.

3. **How the Contractor recommends this list be kept current with the CIS solution.**

The system provides several checks for questionable readings including Hi/Lo check, zero use on active meters and usage on inactive meters. Readings are validated by a Reading Quality Assurance (RQA) high/low filter. Filter values are user configurable. Usage outside of the parameters trigger an exception that is provided in exception reporting including Usage on Inactive Accounts.

2.6 Atypical Flow Detection

Requirements

1. **The system shall monitor water consumption through the meter and specifically indicate if there is a probable leak, high intermittent usage, or "running continuously" condition.**
2. **The City desires the system to be configurable for either immediate or end-of-the-day summary reporting of leaks.**

Comply

Describe

1. **Indicate how quickly leaks can be reported and how they will be reported.**

The OpenWay Riva Water Module keeps track of consecutive non-zero hourly flow periods reported by the encoder register. After at least the lowest metered amount is repeatedly detected every hour over a monitoring period of seven (7) days (the default, but period is configurable), the defined parameters activate the leak detection flag in the module, and automatically sends a consumption-based Leak Flag along with the meter read each time the module transmits to indicate a possible customer-side leak. For encoder-style registers, the least significant digit reported by the register determines the smallest amount of water loss that can be considered a leak.

2. **Describe the capacity to detect leaks at various flow rates and the exception process for excluding certain customer types (e.g., 24-hour businesses).**

The utility can choose/ change the amount of usage needed to set the flag. In addition, this feature can be turned off for 24-hour businesses.

Water meters typically begin to register consumption at 1/32 gpm. Although the meter is not accurate at that low of a flow rate, it will register consumption that will trigger an alarm for a leak on the customer side of the meter.

3. **Indicate whether the leak flag is configurable, if the flag resides at the HES or endpoint level, and whether a field visit is required to adjust the criteria for the event. If configurable, what are the options (for example, 24 hours, 48 hours, etc.)?**

The options are anywhere from 1 to 7 days.

4. **Indicate any software capabilities to identify potential leaks less than the minimum meter/register resolution (e.g., a 1/8 gallon-per-minute [gpm] leak on a meter/register with 1/4 gpm as the low flow rate).**

Itron utilizes the granular interval data the OpenWay Riva Water Module collects and our Itron Analytics application to determine abnormally high consumption. During system configuration Itron will work with the City to determine the most appropriate setting for "abnormally high consumption". Once configured, reports can be run daily that compare current consumption to historic consumption of each account to identify all the accounts that meet the abnormally high consumption criteria.

5. **Describe how customer related service alarms are released to customers via the customer portal and active notifications (e.g., text message, phone call (IVR), email, etc.). This applies to leak detection, large leak detection, etc.**

This leak detection technology comes standard with all OpenWay Riva Water Modules and helps utilities identify water leaks on the customer side of the meter reducing lost water, avoiding high bill complaints and assisting in conservation efforts. Thresholds for what constitutes a suspected leak are parameter driven and can be changed by the user over the network.

Itron's optional acoustic leak detection system includes an automated New Leak notification report that can be sent via email or text that is a standard part of the solution.

2.7 Burst Pipe Detection

Requirements

1. **The system shall detect very large leaks and notify the City as soon as they are detected.**

Comply
This can be accomplished with Itron's optional OpenWay Riva Leak Sensor (OLS) and leak detection software.

Describe

1. **How the system would perform this function.**

This would be accomplished using the OpenWay Riva Leak Sensor (OLS), the latest addition to Itron's advanced distribution leak detection system. OLS devices are sealed, waterproof, and submersible acoustic leak sensing devices coupled with software to monitor, analyze, and interpret leak data. Please refer to the description provided above under *1.9 Additional Features*.

As an option, Itron can provide leak sensor field managed services. With this, Itron would take our OLS offering one step farther by entering the field and pinpointing the precise location of any potential leaks identified through our software. Itron would:

- Utilize the leak data reports generated by the OLS system software and prioritize the leaks by severity
- Four times a year, for 15 days at a time, Itron would enter the field and confirm that what was reported in our software is in fact a leak while providing specific markings and field leak reports for the utility on where to dig to fix the leak

This package can be tailored to the City's needs. Emergency responses, as well as increasing or decreasing the number of days in the field, can be formulated into this service package depending on severity of the real losses in the City's water distribution system. This total package leak service eliminates the need for a utility to specialize in leak detection and allows the focus to be on repair and upkeep of the water distribution system.

2. **How the City would define the flow rate that is considered a large leak and trigger a report.**

Thresholds for what constitutes a suspected leak are parameter driven and can be changed by the user over the network. Different thresholds based on meter size, address, etc. can be set for each meter.

3. **How the City could factor in meter size to differentiate what may be perceived as a large leak on a small meter versus a small leak on a larger meter. For example, a 10 gpm leak through 1" meter vs a 10 gpm leak on a 6" meter.**

See above. Thresholds of what constitutes a leak can be defined for each meter so that size is taken into consideration.

2.8 No Flow Detection

Requirements

1. **The system shall indicate when there is an extended period (e.g., 10 days) of no flow through the meter, or an unusually low consumption over a regular reading interval.**

Comply

Describe

1. **Indicate how this is accomplished for both no flow and unusually low consumption situations.**

Zero Consumption can be tracked using Itron Analytics. This application:

- Spots theft, tampering, and inaccurate meter reads.

» Allows users to correlate data that creates a picture of where revenue might be at risk.

» Plots zero consumption on active meters alongside Route Read dates, allowing City utility administrators to spot sequential trends that could be indicative of inappropriate usage.

2. **Can this be adjusted? If so, please describe how and whether it can be done by the City or if the Contractor is required to make such change.**

As mentioned above, the system provides several checks for questionable readings including Hi/Lo check, zero use on active meters and usage on inactive meters. Readings are validated by a Reading Quality Assurance (RQA) high/low filter. Filter values are user configurable. Usage outside of the parameters trigger an exception that is provided in exception reporting.

This would be reflected in the No Usage on Active meters report which lists the endpoints having an active status but have not reported usage for a specified period. This period is configurable by the utility.

3. **Describe reporting, notification, and threshold capabilities to support no flow detection reporting.**

See above. Readings are validated by a Reading Quality Assurance (RQA) high/low filter. Filter values are user configurable. Usage outside of the parameters trigger an exception that is provided in exception reporting.

2.9 Other Detection Capabilities

Describe

1. **Other conditions that the system can detect (for example, reverse flow or backflow).**

In addition to the tampers and alerts listed above, the OpenWay Riva Water Module supports alerts for reverse-flow and low battery alarm.

2. **Describe these capabilities and how they are accomplished.**

The Reverse Flow flag is set if an hourly register value is lower than the previous hourly value. Example: Reading at noon is 123456. Reading at 1:00PM is 123455. The Reverse Flow flag remains on for 24 hours. The counter re-starts upon each occurrence of a reverse flow event. The flag is either "On" or "Off" and returns to the "off" state after completing a cycle with no additional reverse flow occurrences.

Low Battery alert is sent from the module when the battery is 90% exhausted. This provides a warning approximately 2 years before the end of battery life.

3. **Can alerts triggers/thresholds be customized?**

This is not currently supported.

3.0 ENDPOINT

3.1 General

Describe

1. **Indicate if there are different models of endpoints for indoor, outdoor wall-mounted, and vault installations and if there are different versions of the endpoint (e.g., one with more advanced features or memory, or single port versus multi-port).**
2. **Provide responses to the requirements in this section for each model/version; for those features that are different, clearly specifying which model(s)/version(s) apply.**

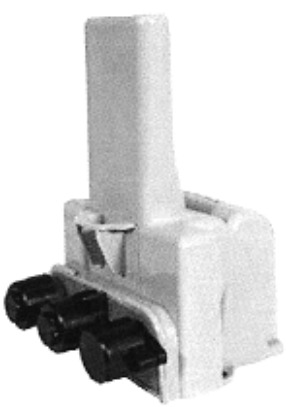
Itron offers two models of the OpenWay Riva Water Module, one for remote installations and one for pit installations. The functionality, number of available ports, etc. are the same for each model.

3.2 Physical Characteristics

Describe

1. **Describe the physical characteristics of the endpoint, including dimensions and weight.**
2. **Provide pictures or drawings to scale. Include all optional models.**

Please refer to the product specification sheet included in Appendix 2 for more details. Below are pictures and dimensions of the two models.



Pit Module

- Height: 4.5 inches
- Maximum diameter:
  - Lower: 3.90 inches
  - Upper: Approx. 1.70 inches
  - Weight: Approx. 9.6 oz.
- In-line connector register cables: 5 feet and 25 feet (ordered separately)
- Pit models can be installed up to 300 feet from meter

Remote Model

- Height: 4.5 inches
- Width: 5.05 inches
- Depth: 3.00 inches
- Weight: Approx. 9.6 oz.
- Module cable length 10 inches
- Remote models can be installed up to 300 feet from meter

3.3 Endpoints for Different Meter Types

Describe

1. **List all the meter manufactures, models, encoders, etc. that are currently compatible with the proposed AMI system.**

Itron's OpenWay Riva Water Module is compatible with all major water meter manufacturers' registers in North America. Please refer to the Water Meter and Telemetry Device Compatibility List included in Appendix 2.

3.4 Battery

Describe

1. **What is the expected battery life when the endpoint is used with normal conditions and default settings?**

Twenty plus years. Itron's warrants the battery for 20 years from date of shipment.

2. **Describe the expected battery life as a range of years within one and two standard deviations of the average expected life.**

Below is Itron's estimated battery life calculation:

- Battery Capacity (2 parallel) = 6Ah
- Average current seen by the circuit = 30 uA
- Available Capacity (after accounting for temperature and self-discharge) = 5400 mAh
- Life= ((5400/30)*1000)/8760 = 20.55 years

3. **Does the AMI system provide a warning in advance of battery failure? If so, what is it and how is this accomplished?**

The OpenWay Riva Water Module features a low battery alert that is sent from the module to the headend system when the battery is 90% exhausted. This provides approximately 2 years of warning before the end of battery life allowing ample time for the utility to plan replacement.

4. **Is battery life affected by external temperature fluctuations? If so, indicate the differences in expected and guaranteed lives.**

The module operates between -40ºF to +158ºF (-40ºC to +70ºC) for remote applications and -4ºF to 140ºF (-20ºC to +60ºC) for pit applications. Operating below or above these temperature ranges could impact battery life. Itron has customers using our water modules in climates ranging from Canada to Florida with no impact to battery life.

3.5 Endpoint ID Number

Requirements

1. **Each endpoint shall have a unique, permanent ID number that is transmitted with the meter readings and the City meter number. This endpoint serial number shall be readable on the outside as well as bar-coded.**

Each OpenWay Riva Water Module has a unique 10-digit ID number that is transmitted with the meter data. The module does not transmit the meter register ID number. The meter ID is stored in the OpenWay Operations Center and associated with an account and OpenWay Riva Water Module ID.

The endpoint ID number is readable on the outside as well as being provided as a bar code. Please see example below:

3.6 Programmability

Describe

1. **Describe if endpoints are programed prior to or during implementation. Describe the programing procedures.**

For encoded registers, the OpenWay Riva Water Module automatically senses which register it is connected to and does not need to be programmed. This zero touch install (auto-detect feature) allows the user to install the module without the need to program which reduces the chances of programming mistakes and speeds up the installation process.

2. **Describe how long it takes to program an endpoint using a standard workflow in the field.**

See above response. Programming in the field is not required.

3.7 Tampering

Describe

1. **Describe features, including physical characteristics (seals, tamper resistant bolts, etc.) to minimize, detect, and report tampering with the endpoint.**

The OpenWay Riva Water Module supports the following alerts:

- Tamper indicators (cut cable flag, communication error flag, unauthorized re-programming attempt flag)
- Reverse-flow
- System leak status flags
- Low battery alarms.

Tamper seals for covering screws on the module are also available from Itron.

3.8 Environmental Tolerance

Requirements

1. **The endpoint must operate in conditions subject to water submergence (i.e., meter pits) subject to a range of external temperatures.**

Itron's water modules have a wide operating temperature range and humidity levels of 0 to 100%. The pit version is 100% submersible and is compliant with IP68 for water submersion.

Describe

1. **Describe any features of the endpoint that prevent corrosion or degradation of mechanical or electrical performance (e.g., encapsulation or coating).**

The circuit assembly and battery pack are fully encapsulated within a specially formulated potting material to protect internal components from water, contaminants, corrosion, rough handling and temperature cycling.

The module enclosure is made out of UV stabilized polycarbonate materials to maximize protection from UV rays.

2. **Indicate the minimum and maximum external temperature during which the endpoint will continue to function in a normal way.**

The following operating temperature ranges apply for the OpenWay Riva Water Module:

» -40ºF to +158ºF (-40ºC to +70ºC) for remote applications

» -4ºF to 140ºF (-20ºC to +60ºC) for pit applications

3.9 Mounting of the Endpoint

Requirements

1. **For large meters in vaults, the endpoint shall not be mounted on the underside of the lid**

There are several options available for mounting Itron's endpoint in a meter pit/vault setting. Please refer to the "OpenWay® Riva Pit Module Installation Methods Overview" document included in Appendix 2.

Describe

1. **Describe care and caution taken to run wire through residence to the outdoor endpoint (should the City elect to install exterior end points)**

When wire is run to the outside of the residence, care is taken to ensure that wire runs are neat and inconspicuous within the premise. Extra attention may be necessary in finished basements. The wire must be run carefully between the floor and the wall to ensure it does not obstruct any other wire, pipe, heating duct, etc. Only approved fasteners are used when connecting to water pipes, walls, and floor joists. Holes to the outside of the premise are sealed with silicone.

2. **Describe requirements for mounting the endpoint (elevation, orientation, etc.) to ensure adequate communication.**

The OpenWay Riva Water Module supports wall and pit mounted options, as well as a through the lid option, which requires a 1 ¾" diameter hole for RF friendly lids. A through the lid antenna option is also available.

The module should be installed in an upright position near the top of the meter pit. Complete installation instructions are provided in the module installation guides.

3. **For endpoints not mounted in meter pits or vaults, describe features to facilitate mounting to masonry, wood, pipe, or any other building materials.**

The remote mount version can be mounted in a vertical position on any flat surface. The Remote Mount Kit includes the back plate and mounting screws. For optimum RF reception mounting to the outside of a structure provides optimum RF reception. If mounted indoors such as in a basement, mounting as high as possible (such as in the rafters) is required. The module can be mounted up to 300 feet from the register using Itron approved wire. Complete installation instructions are provided in the module installation guides.

3.10 Meter Pit and Vault Installation (see Attachments 4, 5, 6, and 12)

Requirements

1. **Lids must be configured to minimize the danger of damage from lawn mowing equipment.**
2. **If any replacement lids are needed, the replacement lid shall not rest higher than the existing one.**
3. **For large meters in vaults, the endpoint shall not be mounted on the underside of the lid**

Comply

Describe

1. **Describe how endpoints in meter pit and vault settings should be installed.**

The OpenWay Riva Water Module supports wall and pit mounted options, as well as a through the lid option, which requires a 1 ¾" diameter hole for RF friendly lids. A through the lid antenna option is also available.

The module should be installed in an upright position near the top of the meter pit. The module should be mounted 1 to 3 inches below the pit lid for optimum radiated power. Complete installation instructions are provided in the module installation guides.

2. **Describe any proposed method (such as a wire connection designed to release under tension) for connecting registers to endpoints attached to a vault lid that**

might prevent damage to the meter reading equipment or wires if vault lids are removed too abruptly.

For pit/vault installations Itron uses its In-Line Connector (ILC) which provides a waterproof connection and the advantage of a quick connect attachment between the register and the water module for ease of maintenance over the life of the system. ILC's come in 5-foot (standard) lengths and 25-foot (optional) lengths to ensure that moving the vault lid does not damage the meter reading equipment.

3. **The Contractor shall provide photographs and diagrams of any brackets or lid assemblies used to mount the endpoint in vault applications.**

Below are pictures of two available options.

Through-the-Lid Mount

Rod Mount

4. **Describe how lids located in streets and other areas of traffic will be addressed. Note – some lids cannot hold weight when drilled.**

Itron typically utilizes relay mode which is a feature of the OpenWay Riva Water Module that allows the module to connect to a neighboring module to route its data packets to the CGR.

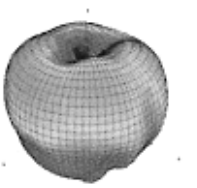
5. **Describe the proposed solution for large sized (or odd sized) cast-iron lids that may not be economical to replace with traffic rated composite lids.**

The most common options would be relay mode described above and using a through-the-lid remote antenna.

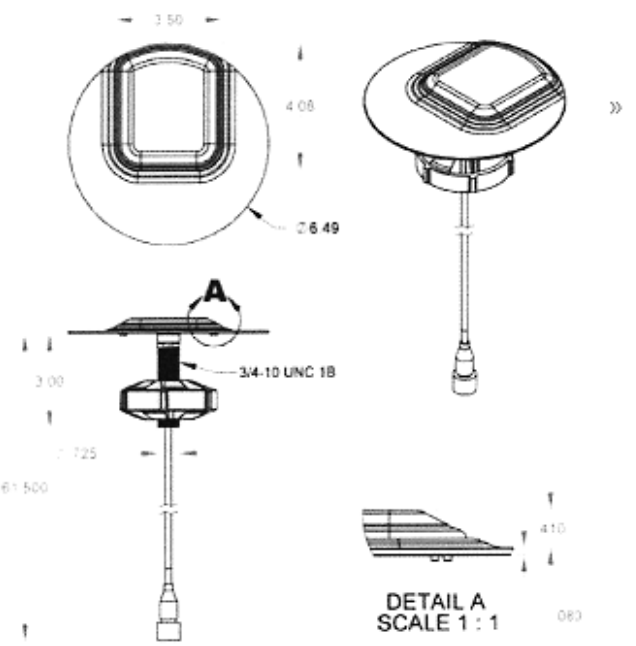
6. **Indicate if any remote antennae will be used (where the portion protruding through the lid relays the signal to an endpoint below the lid), the specifications around such device, and whether such device is traffic rated.**

There may be instances where a remote antenna will provide the optimal solution. Itron's Through-the-Lid (TTL) antenna optimizes the read-rate reliability of the network in meter pits with RF-inhibiting lids. Features include:

- Omni directional antenna for maximum performance
- Integral color coded connector for efficient installation
- T American Disabilities Act (ADA) compliant
- Pedestrian and incidental motor traffic rated



Omni directional performance



The TTL antenna provides optimal water module performance where pit boxes with metal lids are in use. The TTL antenna is designed to fit in a pit lid hole with diameters from ¾" to 1 ¾" and lid thicknesses from ¼" to 2". The TTL antenna attaches to the OpenWay Riva Water Module using the red integral connector.

3.11 Connections to Existing Meter Registers

Requirements

1. **Wire connections between the meter register and the endpoint must be sealed and waterproof.**

Comply

Describe

1. **The proposed methods to be used for connecting wires to the endpoint and to the register to avoid water or moisture intrusion and/or poor splices.**

Itron's In-Line Connector (ILC) for pit installations provides a waterproof connection and quick connect between the register and the water module. For remote installations, the Remote Mount Kit includes the necessary gel caps and the splice tube cover providing a weather-tight connect.

2. **Any provisions to prevent mis-wiring, such as in the event of manual splicing or gel-caps.**

The OpenWay Riva Water Module utilizes a 3-wire connection to the encoder register and either 2 or 3 wires for pulser type registers. Wires are color-coded and the module Installation Guide clearly shows how to connect the wires as specified by each meter manufacturer. For pit installations, the water module utilizes an in-line connection between the module and the meter register. This in-line system eliminates the need for special terminating tools and means installers do not have to match colored wire connections. All connection options are sealed and protected from the elements. Additionally, the auto-detect feature for encoder registers replaces the need for programming the module which reduces installation time, labor cost and installer error probability during installation.

3. **Indicate the maximum length of cable between the endpoint and the meter that will not result in any degradation of data or system reliability.**

The OpenWay Riva Water Module can be mounted up to 300 feet away from the register using Itron-approved wire.

3.12 Endpoint Alarm Compatibility

Requirements

1. **Endpoints shall have the ability to read meter alarms codes from electronic registers for meters being used at the City.**

Comply

Describe

1. **The capability to read meter alarm codes and transmit them through the endpoint.**

The OpenWay Riva Water Module is able to relay the extended meter alarms from new solid state and electronic meter registers from such manufacturers as Badger and Kamstrup. These alarms can include:

- Empty Pipe
- Temperature
- High/ Low Pressure
- High Flow
- Meter Low Battery
- Meter Tampering
- Reverse Flow
- Zero Consumption

2. Discuss any limitations in the ability to communicate this a meter alarm code.

The water module can relay meter alarm codes as long as the meter manufacturer permits Itron access to those codes. The limitation would be that the meter manufacturer would not allow this rather than any limitation in the endpoint.

4.0 COLLECTORS

4.1 Mode of Operation

Requirements

1. Data transmission between endpoints and the collectors shall be in a secure format and not easily deciphered by outside sources.

Comply

Describe

1. The secure format for the transmission of data between endpoints and collectors.

At the application level, Itron Enhanced Security provides a security architecture that emphasizes integrity of control, availability and confidentiality. Commands and payloads are encrypted and digitally signed before they are transferred over the network. In this manner, the messages between the applications and modules are protected, regardless of the underlying network infrastructure. Itron Enhanced Security also provides auditing of both the security activities and the events being returned by the module, managing the

encryption keys and managing the larger set of security components deployed with the AMI system.

2. **For systems that employ collectors, indicate the mode of operation and schedule by which the collector captures, stores, and retransmits data received from endpoints back to the HES.**

The Cisco Connected Grid Router (CGR) is a router rather than a collector, with data storage provided in the endpoint. When a CGR receives the transmissions from the water modules, the data is immediately routed via one of the many backhaul options available through the CGR to the data center. The module interrogation schedule is configured in the OWOC headend software and is typically three times per day.

3. **Describe any existing capabilities for sending signals to endpoints or other devices for remote shutoff, flow restriction, customer notification, etc.**

The CGR provides communication to/from the headend (OWOC) and the module. OpenWay Operations Center's two-way endpoint communications allows it to perform several important high-volume AMI control functions, including remote device configuration changes, remote device firmware upgrades, scheduled and on-demand meter read requests, service disconnect/reconnect requests, on-demand reads, and remote diagnostic services.

4.2 Preliminary RF Propagation Study

Requirements

1. **If the proposal employs an RF-based solution, the Contractor is expected to perform a preliminary RF propagation study to ensure system performance metrics described in Appendix I, Section 1.11 (Read Performance) are met.**

Comply

Describe

1. **The preliminary RF propagation study and its results to cover the meter population listed in Attachment 9, Current Meter Population.**

Itron has provided preliminary RF propagation studies reflecting the two options described by FWCU: 1) mounting the endpoint to the exterior of the premise, 2) mounting the endpoint in the basement rafters. Please see *Initial Propagation Study* included as an attachment to this section

4.3 Number of Units

Requirements

1. **The Contractor is solely responsible for determining the mix of collectors, repeaters, and endpoint placement strategies needed to meet or exceed the reading success rates described in Appendix I, Section 1.11 (Read Performance).**

Comply

2. **The Contractor shall provide a fixed network with adequate numbers of collectors and repeaters for optimal system redundancy and performance.**

Comply

Describe

1. **Indicate the number of data collection units needed to achieve the specified level of performance in Appendix I, Section 1.11 (Read Performance).**

Itron will design and install the network based on the information provided by FWCU regarding meter locations and possible CGR mounting sites. Based on currently available information, the recommended configuration (remote to exterior) calls for 46 CGRs to meet or exceed the reading success rates listed in the RFP for all available meters.

For the indoor mount option, the number of CGRs would be 194.

2. **Describe the proposed amount of redundancy in signal reception –where the endpoint is heard by more than one network device (collector or repeater).**

For the recommended configuration, the propagation study indicates that 79% of the endpoints will be heard by at least 2 CGRs. For the indoor mount option, the number of endpoints heard by at least 2 CGRs would be 81%.

The Adaptive Communication Technology that is utilized by our OpenWay Riva communications platform provides redundancy with its ability to dynamically select the most optimal path to the CGR. If the endpoint's primary CGR is down, it will automatically find another CGR for the endpoints that have a second option. The CGRs are spaced to allow for failover, where if one CGR goes down, the endpoint can temporarily use a nearby CGR to communicate its data.

3. **Describe the proposed amount of redundancy in signal reception – where endpoint is heard by more than one collector (exclude repeaters).**

See above response. The OpenWay Riva solution does not use repeaters.

4.4 Collector Mounting

Requirements

1. **Collectors shall be capable of being mounted on the following structures: roofs, utility poles, tanks, existing towers, and other structures as approved by the City.**
2. **No special tower construction will be allowed.**
3. **Collectors mounted to water tanks shall have plans and specs approved by Dixon Engineering. Dixon Engineering will complete an inspection after installation to confirm compliance. All expenses from Dixon for engineering and inspections are the responsibility of contractor.**

Comply
Itron does not anticipate mounting to water tanks.

Describe

1. **Indicate options for mounting collectors, and recommended mounting.**

There are several options for mounting the CGR. Pole mounting is the preferred method for installing the outdoor CGR. A bucket truck is typically used to install the bracket at 20' to 25', followed by mounting of the network device and connection to a 120/240 volt power source. Other typical mounting options include building, water tanks/towers and communication towers.

Cisco provides a mounting bracket kit for the CGR. Cisco also provides a pole-mount kit, band strap kit, and strap tool kit for use with the CGR and mounting bracket. All kits include the bracket and mounting hardware as well as the required number of bolts, washers, screws, etc. for recommended installation.

2. **Indicate minimum, maximum, and recommended heights.**

The recommended minimum antenna height is 25 feet and the optimal range for the antenna height is 25 to 50 feet. Antenna heights above 50 feet are considered and are reviewed on a case-by-case basis.

3. **The Contractor must include estimates of the costs of mounting and any continuing site rental costs in its fee in the Cost Proposal submission. Due to the potential costs of these sites over 20 years the City requires the Contractor to provide a 'not to exceed' value for these sites during the Cost Proposal submission.**

If a third party site is needed Itron has the knowledge and experience to quickly establish attachment agreements and negotiate lease fees that are appropriate and cost effective for the utility. Upon final configuration and confirmation of sites, Iron can provide this pricing.

4. **Describe how collector installation quality will be measured and what QA/QC checks will be made to ensure long term weatherproofing was completed per specifications.**

Itron's contractor will follow Cisco's installation specification to include the steps for long term weatherproofing. Additionally, Itron's process includes quality checks on a percentage of the network equipment installations to ensure the work has been completed to the correct standards.

5. **The Contractor will be responsible for any engineering drawings, as-builts, or similar documentation required for the installation of a collector.**

Comply

4.5 Third Party Collector Locations

Describe

1. **The proposed strategies for identifying and securing permission to use collector sites that are not on City property (if required or recommended) that will keep fees low, and that can minimize the effort required to negotiate and establish leases. A list of available facilities is provided in Attachment 10.**
2. **Access limitations associated with the initially proposed sites.**

Itron has a great deal of experience deploying large and small-scale AMI networks across North America for Water, Gas and Electric utilities. In all cases the Itron Project Managers and Field Engineers work hand and hand with our utility partners to insure the most cost-effective solution for installation and life cycle. Starting with the provided list and reaching out to other potential partners and facility owners such as City police, fire, school, parks, maintenance, transportation and other City government has proven to be a very successful approach to finding appropriate sites for water utilities. Itron's network equipment is compact and easily adapts to different mounting configuration assuring our ability to utilize the available mounting sites. If a third party site is needed Itron has the knowledge and experience to quickly establish attachment agreements and negotiate lease fees that are appropriate and cost effective for the utility.

4.6 Power Supply

Requirements

1. **The collector units shall be powered to retrieve meter readings and related data to allow their relay to a centralized location at City offices by one of the following combinations of power supply: AC Electricity Supply/Battery Backup or Solar Electricity Supply/Battery Backup**

Comply

Describe

1. **What are the options for power source?**

The primary power source for the CGR is a 120/240 volt power source.

The CGR has a Battery Backup Unit (BBU) that provides the router with emergency power if the AC power source is unavailable. The BBU provides four amp-hours per unit. A CGR can be configured with up to three (3) BBUs, providing up to twelve (12) hours of backup power to enable connectivity and information delivery during power loss.

2. **How does the system preserve data should power to a collector be lost?**

The CGR is a router rather than a collector and does not store the data (data is stored in the endpoint); it is immediately transmitted to the headend. The water module stores 160 days of time synced hourly and 40 days of 15-minute interval consumption data and meter events and alarms allowing the utility to request an on-demand read with the OpenWay Operations Center software from an individual, group or all water modules to provide all requested data; thus, the data is never lost by the system.

Adaptive Communication Technology (ACT), lets each endpoint automatically and continually select the optimal path and modulation rates to communicate. If an endpoint's primary CGR loses backhaul communications, the endpoint will find a path to another CGR to ensure its data reaches the AMI headend software.

4.7 Collector Programming

Describe

1. **Any programmable features, such as data reporting schedules, for collectors, and procedures for programming or configuring.**

The CGR supports a zero touch deployment capability which eliminates the need for the installer to interface with the CGR during deployment. Because these devices are preprogrammed at the factory, no programming or configuration is required at the time of installation. These devices attach with a universal mounting bracket and connectors that are ordered/delivered with the devices and automatically register on the network.

2. **Do collectors install themselves onto the system as they are powered up?**

Yes, see above response.

3. **Provisions, such as firewalls, to ensure integrity of data and programming, and prevent unauthorized reprogramming.**

At the application level, Itron Enhanced Security provides a security architecture that emphasizes integrity of control, availability and confidentiality. Commands and payloads are encrypted and digitally signed before they are transferred over the network. In this manner, the messages between the applications and modules are protected, regardless of the underlying network infrastructure. Itron Enhanced Security also provides auditing of both the security activities and the events being returned by the module, managing the encryption keys and managing the larger set of security components deployed with the AMI system.

Cisco's Secure Network Infrastructure (SNI) integrates the fundamental principles of access control, data integrity and confidentiality, threat detection and mitigation and physical device and platform integrity into the multi-purpose field area network.

Strong authentication of nodes on the network can be achieved by taking full advantage of a set of open standards such as IEEE 802.1x, Extensible Authentication Protocol (EAP) and RADIUS. This "white-listing" approach requires that every meter or device joining the IPv6 network must be authenticated before being allowed access to the network and smart metering system. Once authenticated, the new meter is allowed to join, provided an IPv6 address, and will be authorized to communicate with other nodes.

AMI systems are sometimes thought to collect and send privacy information. While no personally-identifiable information (PII) is collected or stored, we realize the need to provide the strongest security controls to bring back water usage data to the head end. Cisco's approach uses network-layer encryption (Transport IPsec with AES-256) in the WAN, and link-layer encryption (AES on IEEE 802.15.4g or IEEE 1901.2). This design choice preserves network visibility into the traffic at the CGR and enables use of IP-based techniques of multicast, network segmentation, and quality of service (QoS). It also allows smart meters and other endpoints to be low-cost constrained nodes that only do link-layer encryption while the versatile CGR does both network-layer and link-layer encryption.

4. **Provisions to update programming.**

The CGRs are programmable through remote firmware upgrades and specific configuration templates.

4.8 Electrical Isolation

Describe

1. **Indicate how the collector is protected against electrical surges such as lightning, static discharge, electromagnetic discharge (such as sun spots), other stray electrical charges, and flooding.**

The Cisco CGR features a rugged, hardened design with the following capabilities:

- CGR platform for pole-top deployments is housed in a NEMA 4 / IP 67 enclosure for deployment in extreme conditions while the din-rail mounted version of CGR is in a IP30-rated chassis
- Designed to meet the stringent environmental, surge and EMI compliance requirements of IEEE 1613 and IEC 61850-3
- Natural conduction cooled with no moving parts or fans for maximum reliability

4.9 Collector Maintenance

Requirements

1. **The collectors shall measure and record the following self-diagnostic information that shall be included with each data transmission:**

    a. **Battery strength**
    b. **Signal strength**
    c. **Time and date of each inbound transmission**
    d. **Collector failure**

The Cisco CGR can perform diagnostic tests, connectivity tests, interface management, and configuration checks.

The network manager (Cisco IoT-FND), included in the OpenWay Riva solution, provides a single-screen view of the OpenWay Riva system. Operators have near real-time view to unresponsive router devices. Network management reports in the OpenWay Riva system present statistics on a per-CGR basis, thereby alerting operators to underperforming CGRs in the network. Operators can drill down on underperforming CGRs, using system diagnostic tools to check the attributes of the device such as connectivity, signal strength, internal temperature, battery status, and child (meter/device) count. Using map-based visualization of the CGR and its children, operators can evaluate connectivity and topographical challenges.

Describe

1. **Indicate recommended collector maintenance intervals and procedures.**

Standard maintenance consists of servicing the battery backup unit (BBU) which provides the router with an emergency power source if the AC power source is unavailable. The units are mounted on the router door interior. The BBU can be installed in the router while the router is powered on and operating normally. The BBUs have an estimated useful life of up to 10 years depending on usage.

2. **Indicate maintenance procedures in the event of physical accident or damage.**

In the case of physical damage, the unit should be replaced with a spare unit maintained by FWCU and the damaged unit sent in for repair.

3. **Indicate in terms of FTE the level of effort required to maintain the proposed network solution.**
4. **Describe the type of work expected if the City performs the maintenance internally.**

The network is designed to require very little maintenance; efforts would be minimal. Standard maintenance for the CGR consists of servicing the battery backup unit (BBU) which provides the router with an emergency power source if the AC power source is unavailable. The router supports up to three BBU units installed at one time. The units are mounted on the router door interior. Battery replacement should occur every five years.

Should a CGR need to be replaced, the process involves disconnecting a twist on power connection, removing 6 screws, loosening two screws and lifting the CGR from its mounting cage. Replacing the CGR follows the reverse process. The actual time to perform this process is estimated at 5 minutes.

Included as an option per Appendix II, Itron can provide our Network Field Maintenance as an add-on to our SaaS offering. Should the City choose optional Network Field Maintenance, Itron's responsibilities would include:

- All outcomes listed to be provided by Itron in our SaaS environment
- Daily application operations
- Data collection and export for CIS and billing
- Daily report of non-communicating endpoints
- FAN monitoring of CGR communication
- Includes component/ full device replacement and field labor to support network device failures

The Utility's responsibility for Managed Services include:

- Meter and endpoint maintenance and mitigation (Itron can offer as an optional service)
- Network Field Maintenance provided by Itron does not include replacement/ investigation of devices which are non-communicating due to vandalism or accidental destruction (i.e. vehicle impact).

4.10 Protection against Loss of Data

Describe

1. **Describe how meter reading data is protected and not lost if a collector goes out of service.**

The CGR is a router rather than a collector and does not store the data (data is stored in the endpoint); it is immediately transmitted to the headend. The water module stores 160 days of time synced hourly and 40 days of 15-minute interval consumption data and meter events and alarms allowing the utility to request an on-demand read with the OpenWay Operations Center software from an individual, group or all water modules to provide all requested data; thus, the data is never lost by the system.

5.0 REPEATERS AND OTHER COMMUNICATION EQUIPMENT

Non-applicable

6.0 CELLULAR AMI SOLUTIONS

Non-applicable

7.0 MOBILE DATA COLLECTION SYSTEM

7.1 General Operation

Requirements

1. **The Contractor must include a means to collect meter reads with a backup mobile system.**

The OpenWay Riva Water Module is primarily a network device. Once the module is programmed to Network mode it typically stays in that mode to optimize the network performance. Meter reads can be collected using mobile devices while the endpoints are in network mode.

In those instances where the network may be down for an extended period, the solution does support switching the module to Mobile mode. This is accomplished by visiting each meter location and reprogramming the module to Mobile mode with the field installation tool (Panasonic Toughpad) through the FDM Tools software and Itron Mobile Radio (IMR). Endpoints in mobile mode can be switched to network mode using FDM Tools and IMR or using FCS and the IMR or MC3.

Describe

1. **The proposed solution for collecting meter reads in a mobile system, specifically describing the collection of both daily and hourly meter reads.**
2. **The process for loading routes to and from the mobile system. If data can be transmitted wirelessly please describe this process and requirements**

Typically, daily and hourly reads will be collected by the network. While in network mode, daily and hourly meter reads can be collected using FDM Tools and IMR. Optionally, the endpoint could be switched to mobile mode during the same visit.

Switching the endpoint to mobile mode enables the collection of daily or hourly reads using the existing FCS software at FWCU. The FCS operator can load a reading route onto a handheld device or mobile collector to retrieve a billing read and daily or hourly interval data.

Data is transmitted from the mobile device using any available network connection such as Wi-Fi or a cellular data connection. Assuming the mobile device has a wireless network connection, the data can be transmitted wirelessly.

7.2 Hardware Components

Describe

1. **The hardware components of the mobile solution.**
2. **Indicate which components are ruggedize and/or in weatherproof enclosures.**
3. **Indicate any vehicle specific requirement for the successful operation of the mobile solution.**

Itron offers two mobile solutions. FDM Tools software uses the Panasonic Toughpad and IMR. Itron Mobile for FCS uses the Panasonic Toughpad, IMR and MC3. The Toughpad and IMR are both ruggedized and weatherproof with no external enclosures required. The MC3 would be installed inside a vehicle and operate from the 12v vehicle power.

Itron's MC3 supports both permanent and portable mounting and wiring options. Please refer to the Product Specification Sheet included in Appendix 2 for more information on the MC3.

7.3 Software Components

Describe

1. **The software for the mobile solution.**

2. **Indicate what map-based features are included (such as navigation, ability to identify new meters identified, and audio/visual indicators during the collection of meter reads).**
3. **Indicate whether the software can accept a manual reading and/or notes in the account record.**

Itron offers two mobile solutions including FDM Tools software and Itron Mobile for FCS software. FDM Tools software provides the ability to collect reads via IMR when the endpoint is in either network mode or mobile mode. FDM Tools runs on the Panasonic Toughpad that can also run mapping apps. FDM Tools is used for radio communications only.

Itron Mobile for FCS provides a variety of data collection methods including manual data entry for visual reads plus walk-by and drive-by automated meter reading (AMR) of endpoints. Integrated mapping is available on any device to help provide FWCU employees with access to meters as quickly as possible. Meters are displayed on the map using icons that reflect the priority and status of each meter. When needed, employees can find the fastest path to the meter using driving or walking directions provided through the app. Freeform messages can be created quickly using voice to text.

Please refer to the Product Specification Sheet, "Itron Mobile", included in Appendix 2 for more information.

7.4 Performance

Describe

1. **Indicate the maximum vehicle speed for the normal collection of meter readings.**
2. **Indicate the capacity of the mobile solution (number of meter reads) that can be stored.**
3. **Indicate the average time required to collect a meter read (both daily and hourly) using the proposed mobile system.**
4. **Describe any events that would require the driver to stop the vehicle to collect data.**

When endpoints are operating in network mode, FCS and the MC3 can be used to collect the basic meter reading. Maximum vehicle speed would be 14 miles per hour. The mobile solution can store multiple routes with up to 3,500 network mode endpoints per route. The driver would have to stop the vehicle and use FDM Tools and IMR to collect daily or hourly interval data.

When endpoints are operating in mobile mode, FCS and the MC3 can be used to collect the basic meter reading, tamper/events, and daily or hourly interval data. Maximum vehicle speed would be 35 miles per hour. The mobile solution can store multiple routes with up to

30,000 mobile mode endpoints per route. The driver would have to slow or possibly stop the vehicle if collecting hourly interval data.

Please refer to the MC3 specification sheet in Appendix 2 for more information.

7.5 Communications Protocol

Describe

1. **How the mobile network communication protocol is like and different from the communications protocol used on the fixed network system.**

Both systems operate in the 900MHz ISM band. OpenWay Riva is a standards-based, IPv6 network. ChoiceConnect Mobile is a proprietary network.

7.6 Accessories

Describe

1. **What connecting hardware and software, including cables, modem, cradle, battery, charger, etc., are required for the unit to be fully functional?**

Please refer to the MC3 specification sheet in Appendix 2.

8.0 RADIO LICENSES

Non-applicable
The OpenWay Riva system does not require FCC licensing for operation. It operates in the regulated but unlicensed ISM band.

8.3 Protection from Interference

1. **Procedures the City may use to identify and remove interlopers on its licensed frequency(s) or overpowered signals on unlicensed frequencies.**
2. **Indicate any provisions offered by the Contractor or its system to assist in this effort.**

The 900 MHz ISM band, often called the "unlicensed" band, is in fact tightly regulated by the Federal Communications Commission (FCC). For over 20 years, Itron has worked closely with the FCC to ensure that the rules of the FCC ISM band remain well established and well respected by all the users. Itron will continue to monitor and will work with all parties to ensure compliance to the FCC ISM rules.

The OpenWay Riva network is specifically designed to operate in the ISM band and utilize the full 902-928 MHz band (26 Mhz) in the most optimal manner by automatically selecting the best 50 channels to transmit from over 1000 channels. The robustness of the IEEE

802.15.4 G/ E standards-based protocol allows for an assured connection and a very reliable communication of short and long ranges.

Interference on a radio band is a fact of life today, whether that band is licensed or unlicensed. On a licensed, narrowband frequency, the owner of the license has exclusive rights to the band, but that rarely means that interference doesn't occur. It simply means that the owner of the license has the right to ask the FCC to remove the interferer. The timing of that removal is outside of the license owner's control.

9.0 HANDHELD COMPUTERS

9.1 Handheld Computer Maintenance and Warranty

Describe

1. **Indicate the warranty and maintenance provisions for these devices and accessories.**

The "handheld computer" consists of a Panasonic Toughpad FZ-M1 and Itron Mobile Radio with FDM Tools with Enhanced Security software for programming and testing the OpenWay Riva Water Module.

The Panasonic Toughpad carries a 3-year manufacturer's warranty.

The Itron Mobile Radio carries a one year warranty and can be included in an Itron Maintenance Agreement after the warranty expires.

9.2 Handheld Computer Functions/Modes of Operation

Describe

1. **How the automation of meter replacement data occurs, and export formats supported by the Handheld Computer.**

Itron's proposal assumes using our Field Deployment Manager (FDM) work order system. Please see the response to item 7 below regarding data import and export.

2. **Can the unit interrogate meter registers (if so, which ones)?**

No, this is not supported.

3. **Can the unit program a programmable meter register? If so, describe how this is accomplished.**

No, this is not supported.

4. **Can the unit communicate with a repeater/collector?**

Communication with a CGR is supported.

5. **How the Handheld Computer receives work orders, when during the day does this process occurs, when completed work orders are sent back to the HES and how the connection made to receive the work orders (cellular 3G, LTE, physical docking station, etc.)**

This functionality is supported by Itron's full Field Deployment Manager application available to FWCU at additional cost. FDM Tools is a simple product provided at no charge to our customers that performs various field tasks such as configuring, reading, checking and troubleshooting Itron endpoints.

The FDM Tools mobile application will synchronize information and configurations to/from the FDM Tools server client. As long as the mobile client has internet access, the synchronization process can take place.

6. **Does the unit directly communicate with the endpoint or does is communicate (via Bluetooth or similar) to a separate device that in-turn communicates with the endpoint.**

The Panasonic tablet communicates with the endpoint through the Itron Mobile Radio.

7. **How does the unit receive work orders? Can it communicate over cellular service?**

The FDM Tools with Enhanced Security application utilizes an Itron hosted server. The hosted server allows utilities the ability to manage their server and mobile users, roles and permissions, meter/endpoint configurations, etc. The FDM Tools mobile client communicates to this hosted server to obtain new meter/endpoint configurations, required security material, etc. in order to communicate to and read or configure Itron endpoints. The FDM Tools mobile application will record to a device command log all radio communications performed by the mobile application. The FDM Tools server client will allow a manager the ability to view and then run a standard filter or custom filter that will show all the radio communications performed during a day or by an individual field worker. The reading and configuration information contained in the device command log can be exported as a CRF or a XML file.

8. **Indicate if the unit will be able to ascertain the condition or remaining life of the battery in an endpoint.**

The endpoint supports a Low Battery alarm that is viewable in FDM Tools.

9.3 Handheld Computer Physical Characteristics

Describe

1. **Indicate unit weight and dimensions.**

The Panasonic Toughpad is 7.98" long by 5.20" wide by 0.71" high and weighs 1.2 pounds with the standard battery. The screen is 7" WXGA 1280 x 800. It is a 10-point capacitive gloved multi touch, stylus pen with integrated holder and daylight readable screen. An on-screen QWERTY keyboard is also supported.

Please refer to the product specification sheet included in Appendix 2.

2. **Describe any features, such as shoulder or belt strap, to facilitate carrying and preventing it from being dropped.**

Please refer to the spec sheet in Appendix 2. Panasonic offers several optional accessories including several hand straps.

3. **Address any ergonomic features built into the unit.**
4. **Describe the durability of the unit, including its capacity to endure impacts from dropping onto hard surfaces and its resistance to intrusion from water.**

The Toughpad FZ-M1 is MIL-STD-810G certified (5' drop, shock, vibration, rain, dust, sand, altitude, freeze/thaw, high/low temperature, temperature shock, humidity, explosive atmosphere); is PF65 certified sealed for all-weather fanless design. Please refer to the product specification sheet in Appendix 2 for additional details.

9.4 Bar Code or RFID Reader

Requirements

1. **The unit should be capable of capturing (or accommodating a bar code reader to capture) the endpoint and meter/register bar codes. Identify if these capabilities are available.**

The FZ-M1 has several options including an integrated 1D/2D barcode reader.

9.5 Other Features

Describe

1. **Any additional functionality or features of the field units such as GPS (including accuracy) or built-in cameras.**

The Toughpad FZ-M1 supports a 720p webcam with mic and 8MP rear camera with autofocus and LED light. It supports an integrated microphone and speaker with on screen and button volume control and mute controls. Other features and available options are outlined on the specification sheet in Appendix 2.

9.6 Handheld Computer Batteries

Describe

1. **What is the average duration of the battery under normal use?**
2. **How long does it take to fully recharge a battery after a full day of normal use?**
3. **Can the batteries be recharged in charger cradles separate from the unit cradles?**
4. **Can the battery be recharged from a 12-volt vehicle system?**
5. **Can the batteries be replaced?**

The Toughpad FZ-M1 standard battery operates about 9 hours on one charge and takes 2.5 to 4 hours to charge. An optional long life battery providing approximately 16 hours when fully charged is also available. An integrated Bridge Battery provided 1 minute hot swap time is also provided. Please refer to the product specification sheet in Appendix 2 for more information.

9.7 Manual Entry

Describe

1. **Does the unit permit manual entry of meter readings or other information (for example, the information necessary to complete a meter or endpoint investigation or repair work order)? If so, what other information is allowed?**
2. **Describe its capability to record notes or comments.**
3. **Can unit be used to record non-AMI meter readings obtained in the field? (can manual entries be logged from non-AMI meters?)**

FDM Tools with Enhanced Security software allows the user to automatically collect meter readings using the tablet with an IMR. The software will allow the user the ability to complete investigations and repair work.

The FDM Tools with Enhanced Security software does not allow the user to enter comments or record notes. This is supported in the full Field Deployment Manager software application that is available to FWCU at additional cost.

9.8 Handheld Computer HES Interface

Describe

1. **Is there a separate computer and/or software required for data exchange between the HES and the Handheld Computer? If so, describe in detail the functions of the software used to manage this operation.**
2. **Describe in detail, with screen shots, the reports produced by this software.**
3. **Include a detailed description of any hardware or software needed.**
4. **How often have software upgrades been recommended for the past three (3) years?**

The FDM Tools with Enhanced Security application utilizes an Itron hosted server. The hosted server allows utilities the ability to manage their server and mobile users, roles and permissions, meter/endpoint configurations, etc. The FDM Tools mobile client communicates to this hosted server to obtain new meter/endpoint configurations, required security material, etc. in order to communicate to and read or configure Itron endpoints. The FDM Tools mobile application will record to a device command log all radio communications performed by the mobile application. The FDM Tools server client will allow a manager the ability to view and then run a standard filter or custom filter that will show all the radio communications performed during a day or by an individual field worker. The reading and configuration information contained in the device command log can be exported as a CRF or a XML file.

10.0 HEAD END SYSTEM (HES) – AMI CONTROL COMPUTER/SOFTWARE

10.1 HARDWARE AND NETWORK CONFIGURATION

Requirements

1. **The Contractor will provide all hardware and all software needed for a complete and working system. The HES should be hosted by the Contractor**

Comply

Describe

1. **Components of the cloud-based solution (e.g. datacenter) such as physical, virtual, or shared servers, backup, redundancy.**

Itron's proposed solution is offered as Software as a Service. Our SaaS solution includes Itron software subscription and maintenance, third party software, IT data center hardware,

IT administration, data storage, daily back-ups, disaster recovery, software upgrades for Itron and third party software.

2. **How this access is provided and how security is ensured.**

The SaaS offering provides rich client and web access specific to the software applications that are installed in Itron's Private Cloud environments and Itron Microsoft Azure production subscriptions environments. The software requires users to have a login and password that complies with standard IT best practices including length, complexity, reuse, longevity, lock outs, etc.

10.2 REMOTE ACCESS

Requirements

1. **The City desires that the AMI system functions, reports, and data on the control computer or server be securely accessible by properly authorized persons.**

Itron has in force Change Control Board and Access Control Standard Operating procedures specific to a Customer Business and Security Requirements.

Describe

1. **How this access is provided and how security is ensured.**

The software requires users to have a login and password that complies with standard IT best practices including length, complexity, reuse, longevity, lock outs, etc. OpenWay Riva uses role-based access control (RBAC) for all users. Users can be assigned different levels of privileges with each user using an individual password. User activity logs are provided.

2. **How data would be downloaded from the HES and imported into an MS Access/SQL or Excel database for offline analysis and reporting.**

Data is encrypted in transit by Web Services, VPN and Secure FTP.

Reports can be exported to other systems in Itron's standard XML format or via web services; data in reports can be exported to Excel format for further analysis.

10.3 ACCESS TO DATA & DISASTER RECOVERY (DR)

Requirements

1. **The City requires at least two years of interval data to be readily available in the hosted HES.**

Comply

2. **The City requires access to hosted data periodically for their own use beyond the two-year requirement.**

The OWOC SaaS offering provides 13 months of historical data. The Itron Analytics SaaS offering provides five years of online storage.

3. **The City is the owner of the data collected**

Comply

Describe

1. **Where the primary data centers are located and redundancy locations are located. Describe the DR plan and timelines associated with DR activities**

Itron's primary data center, located in Liberty Lake, WA, uses a fault-tolerant architecture composed of Cisco Unified Computing Systems coupled with VMware, providing high availability infrastructure to maximize system availability. If hardware failure recovery is required, Itron maintains maintenance contracts for all equipment with seven-days-a-week, four-hour response times from all third-party vendors. Using on-site backups, systems can be recovered in as few as two hours.

Itron includes a Cold Site option in the standard service level offering with this site located in Dallas, TX. Other disaster recovery options available include a Hot Site option and separate packages offer greater network failover certainty as well as disaster recovery testing.

2. **How the Contractor would provide all interval data periodically (monthly, quarterly, etc.) to the City (physical hard drive, FTP site, etc.). Indicate whether there is a charge for this service (do not specify the amount).**

Itron uses a Web Services, VPN and Secure FTP for data transfer to the utility.

3. **If a FTP or similar solution is recommended, describe if any data transfer rate limits would restrict access.**

Systems are configured to complete previous day's data transfer by 7 AM each day.

10.4 Guaranteed Uptime

Requirements

1. **For the hosted systems, the City requires that a guaranteed uptime (period when the AMI software is functioning as specified) be agreed upon to ensure critical business functions are not disrupted by issues occurring on the Contractors end.**

Should the uptime metric not be met, the Contractor shall provide the City a credit towards to period of hosted services where the incident occurred.

Itron's SaaS agreement include SLAs (service level agreements) that define uptime guarantees, exceptions and remedies. This agreement will be mutually agreed upon during contract negotiations.

2. **The City is requiring a 99% uptime of software and related services during regular business hours (24 hrs/day).**

Comply

3. **The City is requiring no more than one incident per year where the billing file could not be successfully received on the scheduled date by the City due to issues with the Contractors software or related environments.**

See above response regarding SLAs.

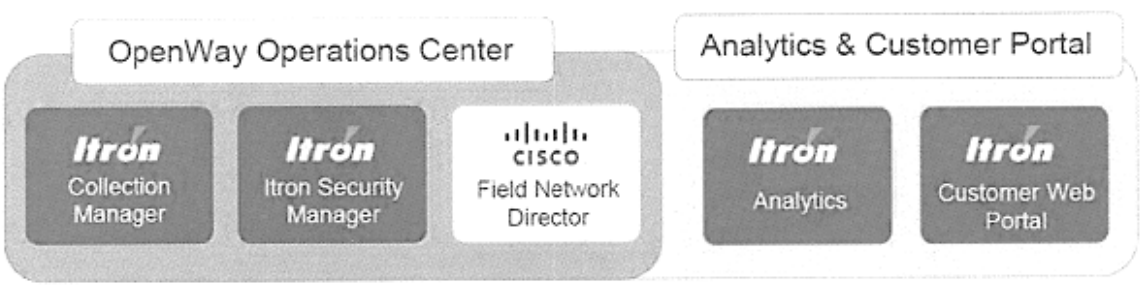
11.0 SYSTEM SOFTWARE

11.1 General

Requirements

1. **The Contractor shall provide a description of all proposed software, including version numbers (and dates of versions) of all products. Descriptions shall clearly indicate whether multiple software applications make up the proposed software solution.**

The intelligence of the Itron platform is provided by a headend system called the OpenWay Operations Center (OWOC). OWOC is a suite of software applications that manages data collection, security, and network management, and is designed to integrate with other utility IT systems. OWOC acts as a centralized hub between the metering system and other utility processes, such as analytics, customer web portals, billing, and others.



Itron OpenWay Operations Center (OWOC): Our powerful AMI headend software provides the ability to command, control, and report on all aspects of the system. This includes collecting meter data, leak information, network health, security events, and trending statistics. It manages high-volume, secure disconnect/connect and on-demand read requests. OWOC also manages device configuration attributes and firmware downloads directly to the water modules.

Itron Security Manager (ISM): ISM manages OpenWay Riva's application layer security. It ensures secure communication and data privacy between endpoints and authorized data collection systems. ISM manages encryption, authentication, decryption and validation of meter reading data and commands to and from enabled endpoints.

Cisco IoT Field Network Director (FND): OpenWay Riva AMI solution utilizes Cisco IoT Field Network Director. FND is a FCAPS (fault, configuration, accounting, performance, security) software platform to manage a robust multi-service network and its security infrastructure. FND is a scalable, secure, modular, open-platform with pluggable architecture designed to enable an ecosystem of multi-vendor capability for interoperability across not only communications network, but legacy and next generation equipment, over time.

Itron Analytics: Itron's Analytics Applications are the answer to the influx of data FWCU will have access to through our OpenWay Riva AMI system. These versatile software cloud applications deliver on the promise of AMI by translating data into actionable intelligence throughout the utility. The Itron Analytics solution provides a modern, scalable, and high-performance business intelligence and analytics tools. Itron's Customer Portal is part of the Analytics solution.

2. **All software shall be licensed to the City.**

Itron is offering a Software-as-a-Service (SaaS) solution where the software is provided as a subscription rather than through a license.

3. **Work will be performed in a phased approach to avoid interruption of the metering and billing process; therefore, the City must be able to run the new AMI system and the existing meter reading and billing system in parallel, until such time as all of the meters are converted to the new AMI system. The City's water accounts shall be uploaded to the new AMI system software, providing for a gradual transition from existing reading system to the new meter reading as future AMI endpoints are installed and functional.**

This is Itron's standard approach to implementing our systems. Itron uses its proven Itron Advantage methodology for implementing our systems. This includes a phased approach that takes into account the transition from FWCU's existing meter reading system to the new AMI system.

4. **The software must be capable of handling multiple utility reads simultaneously and separating commercial accounts from residential accounts. The Contractor shall install the software into the AMI HES hosted at the Contractor's designated facility, make it operational and ensure the system can be accessed through the Internet by the City department personnel designated by the City at security levels designated by the City; e.g., Manager (edit authority), Supervisor (edit authority), Customer Information Announcement (content addition authority), customer service, metering & billing personnel (edit authority), IT staff, etc.**

Comply

5. **Data Transmission/Upload Protocol will be developed in coordination with the City designated representatives to facilitate successful upload of the required endpoint data into the City's Meter Inventory System database and subsequent loading into Advanced Utility Systems (AUS, to be updated to V4 in 2018). AUS serves as the Customer Information System (CIS) and the Billing system.**

   a. **Development of this data exchange protocol and the exchange of the data must occur prior to any work by the Contractor.**
   b. **Data collected by the installers of the hardware will be transmitted electronically immediately following completion of the work by the Contractor, via a data exchange protocol defined by the City.**
   c. **The Contractor must develop an electronic process to match a data matching/marrying field protocol that matches or marries the meter serial number, current or replacement (previously loaded into the City's Meter Inventory) with the new meter register endpoint number into the customer premise and account files. This intricate work must be accomplished in accordance the direction provided by designated City representatives.**
   d. **Successful transmission/upload of the required endpoint data is the responsibility of the Contractor. Work will not be accepted until the required endpoint data is successfully uploaded and the replacement meters and the retrofitted meters can be read with the AMI handheld equipment by City designated personal with confirmation that the AMI meter data has successfully loaded into the City's Meter Reading database, and that the AMI System accurately reads the endpoint transmissions for the meter.**

Comply

Itron will ensure the successful exchange of data between the work order management system, which tracks meter and endpoint installation, and FWCU's Meter Inventory System. We understand and agree to provide the electronic processes specified.

Describe

1. **The recommended approach for importing data to the HES and field deployment tools from AUS**

Itron's proposed field deployment system, Field Deployment Manager (FDM), interfaces to the customer's CIS via a flat file or an XML file interface. In order to tell FDM what work to perform, the CIS will create a "From Host" file and the CIS will consume the "To Host" file containing the work order completion details created by FDM.

Itron will work with FWCU to develop and test these interfaces prior to the start of any deployment activities.

11.2 Mode of Operation

Requirements

1. **AMI software shall provide the user with reports of the current status and reading history of individual accounts and selectable groups of accounts.**
2. **The software should be able to sort and list accounts and their meter reading data.**
3. **The software should be able to create user-defined account groups and aggregate consumption profiles.**

Comply

Describe

1. **Indicate normal modes of operation of the AMI system software, including batch processing.**

The OpenWay Riva Water Module connects to the meter register and records consumption and meter events/alarms at the City's desired interval. The water module's interrogation schedule can range from one (1) to four (4) times per day to a CGR (router). The CGR immediately routes the data to the headend through one of the many backhauls available with the system. The OpenWay Riva network is a true IPv6 field area network so once the data is received at the data center, the data is routed to the appropriate headend software application based on the IP address of the device sending the data.

2. **Describe the steps a system operator must perform to obtain meter readings over the air if the functions are not totally automated.**

Data from OpenWay Riva water modules is routed to the Itron OpenWay Operation Center (OWOC), our AMI headend software application. The data is validated and processed for billing. The OWOC tracks and confirms it has received data from all the OpenWay Riva water modules. If OWOC does not receive data from a water module or group of water modules, it

will send a request to the modules it did not hear from to ensure all data intervals are received. Billing data is sent through the billing interface at the timing specified by LWC during the system configuration. The data is also sent to the Itron Analytics application and other third party applications such as WaterSmart Software through an interface or web services.

3. **Describe how a City customer service employee will obtain an individual current reading from the AMI system. Include screenshots of the application showing this function.**

Users can request interactive (on-demand) reads through the user interface, or through a web service exercised by an external application. On-demand read requests can target one or more endpoints or groups of endpoints. Users can also filter requests by time and date range.

11.3 Asset, Account, and Reads Database

Requirements

1. **The City has several systems that use meter asset/inventory, customer account, and water usage information. The AMI system adds yet another system where meter asset/inventory, account and usage information must be constantly maintained.**

OWOC will need to maintain synchronization of configuration data (device information, installed status, device configuration) with customer systems. This is done using file imports from the customer information system to OWOC. Itron will provide a guide to these formats, as well as samples of how to perform all the major configuration scenarios. The guide will also detail out which fields are required or optional and what functionality is enabled with certain fields. Data can be bulk loaded, loaded daily, or loaded incrementally as field values change. It is recommended that this synchronization be performed daily.

2. **The AMI database (vendor hosted) must contain at a minimum: account number, endpoint ID number and/or port number, meter number, meter readings, date and time of each meter reading, geographic coordinates, abnormal usage alarm, continuous flow usage alarm, encoded registry error indication, unauthorized consumption, and event indications.**

Comply

3. **The updated AMI database will be made available for download on a daily basis and shall be in a non- proprietary format.**

OpenWay Riva uses SQL Server as its database. (Oracle is also supported.) Systems are configured to complete the previous day's data transfer by 7 AM each day.

4. **The software shall show and retain a minimum of 3 years of hourly usage history for each meter/endpoint. All data for the most recent 3 years shall be available for the City's use.**

Comply

5. **The AMI system supplier shall provide the appropriate software to view and download meter data in a nonproprietary format (e.g., fixed field ASCII, or MS Excel).**

Comply

6. **The City will provide a baseline output file format to the Contractor. Any required manipulation of this file format at the time of implementation or due to system upgrades will be performed by the Contractor at its sole expense and no additional cost to the City**

Itron uses a set of common file formats across many of its products. These formats are well documented and changes are made in non-breaking ways to provide new functionality. When breaking changes to these file formats are made, the major version is incremented and both versions are supported.

Describe

1. **Major database tables and list fields with associated data types.**
2. **Can the City add or modify fields in database tables? If so, describe provisions and limitations.**

The database accommodates the items listed in item 2 above. The proposed system is highly configurable thus minimizing the need for system customization. The software can be configured using over 400 parameters maintained in the database and customized to align with FWCU's own operations and procedures. Most options are configured automatically during installation. Changes are only required when the defaults do not meet the needs of the utility.

3. **Describe the recommended ways to keep these tables up-to-date and synchronized with the City's CIS, GIS and asset management systems.**

The Itron solution utilizes a full featured interface, called a Master Device Interface or MDI, that allows all critical configuration information to be updated. FWCU's system is always considered the "master system of record", and the Itron system will always be subservient

to the data in FWCU's billing system. This synchronization can occur on at least a daily basis and is set up to occur automatically.

4. **Specifically describe the general procedures and interface requirements for: Adding a new meter, removing an existing meter, modifying an attribute of an existing meter, changing accounts, replacing an endpoint.**

These functions are handled through the OpenWay Operations Center (OWOC). OWOC's Collection Manager is designed to manage cost-effective, two-way communications with OpenWay Riva endpoints. The OWOC Collection Manager delivers a collection of services that utilities can use to meet a wide range of advanced metering use cases. Collection Manager uses an intuitive user interface for ease of locating and updating information.

OWOC Collection Manager manages efficient, cost-effective, two-way communications with Itron water modules and supports on-demand/scheduled read requests, service disconnect/reconnect, and remote diagnostic services, as well as remote configuration changes and firmware upgrades.

The Collection Manager manages and stores data related specifically to meter module configurations, network device identification for the reporting meters, the meter's communication path, and group assignments.

5. **Indicate any limits on transactions or size of queries.**

For large queries the software will implement paging on the user interface. There are no practical limits on queries, but the number of results shown to the user at any one time is limited to a few hundred per page. The user can page through the results as needed. This is a common approach to handling large data sets in user interfaces. Transaction sizes for operations such as imports are handled internally and are sized to provide the best performance.

6. **Indicate any capabilities to utilize web services to ensure multiple system (AUS and HES) are kept in sync. If web services (or similar) are not available, describe how the Contractor recommends these systems stay synced.**

OpenWay Riva provides flexible export capabilities to external business and analysis systems. OWOC can exchange data with a wide range of utility systems, including billing, outage management, analytics, web presentment, meter data management, distribution management system, load profile, forecasting, and others.

To facilitate interfacing with other systems, Itron provides two mechanisms to export data, both of which utilize XML formats.

The first is using web services that can publish data to an external subscriber. This is done using OpenWay web services which are implemented in Microsoft .NET Framework 4.5,

using Windows Communication Foundation (WCF) .NET technologies are interoperable with Java and other enterprise development software architectures. The data is in XML format defined in the OpenWay Riva web services guide and covers readings (interval and register), events and alarms.

The second mechanism is a file export to XML formats that are standard across Itron products. OpenWay Riva can be configured to provide a set of daily export files that include readings, events and alarms. The type of data and the frequency of export are configurable by the user.

11.4 Synchronizing Data

Describe

1. **Even with the best interfaces, data systems can become unsynchronized. Discuss the Contractor's strategy for keeping data of all types synchronized across the various data systems affected by AMI processes. This should include data programmed into endpoints, the billing system, and the HES.**

The Itron solution utilizes a full featured interface, called a Master Device Interface or MDI, that allows all critical configuration information to be updated. FWCU's system is always considered the "master system of record", and the Itron system will always be subservient to the data in FWCU's billing system. This synchronization can occur on at least a daily basis and is set up to occur automatically.

11.5 Meter Location Data

Describe

1. **Indicate any provisions in the HES for storing and managing X-Y coordinates or other data for meter location.**

As part of the device lifecycle process, which includes provisioning and installation of the endpoints, the system can be provided lat/long and address information for the endpoints. This is done using an Itron standard XML file that would be provided by the CIS/GID system. The location coordinates are then used by the AMI System to display devices on a map and visualize FWCU's deployment.

11.6 Interface to Billing System

Describe

1. **Indicate what information is provided to the billing system by the AMI system and indicate what information is required by the AMI system from the billing system.**
2. **Describe record layout, including field length and format.**

3. **Describe any steps an operator must perform in the AMI system to initiate or schedule this process.**

Itron uses standard APIs interfacing with utility systems. Itron will provide the format definitions for export of billing data as well as the import format for sending configuration/install data into the system. The customer will then adopt those interfaces in their systems to allow communication to OWOC. Itron's implementation services include support for this process.

One of the formats supported by OpenWay Riva is the FCS billing format currently in use at FWCU.

4. **Indicate the different applications the Contractor has interfaced with in the past (provide a listing).**

Itron has interfaced with many different applications, too numerous to list.

5. **Describe how photos captured during installation can be uploaded into the CIS to mirror the current process. Photos shall include: the arrival photo, the new meter photo, then old meter photo, the meter set, and the meter and endpoint numbers.**

Itron will take the photographs as specified, including as found, the meter set, the newly installed meter, and capture the meter and endpoint serial numbers. Itron's proposed work order management system, Field Deployment Manager (FDM), stores photos captured during the installation as part of the work order within FDM and will be available for utility review as necessary. Itron would be willing to discuss transferring photographs, if required.

11.7 Standard Web Services and APIs

Describe

1. **List and briefly describe all the current standard web services and Application Programming Interfaces (APIs) provided with your head end system software.**

To collect meter and field area router (FAR) data, a utility application must know how to interface with the OpenWay Collection Engine to perform specific tasks, such as disconnecting a meter or pinging a group of endpoints. The OpenWay web service definitions are provided in the WSDL files, which are included with each system release. These files describe the web service operations that a utility application can invoke in the OpenWay Collection Engine to implement their business processes. The OpenWay Collection Engine uses WSDL 1.1 for SOAP interfaces.

Each WSDL file describes a specific set of web services and their associated operations. The operations in each WSDL file perform a common set of tasks, such as troubleshooting a

meter population (DiagnosticService), managing a group of meters (ProvisioningService), and reading meter billing data (DataService). An integration partner or business consultant working on-site at the utility selects the Web Services and associated operations they need to support their business processes.

OpenWay Collection Engine web services are grouped together based on their related communication tasks. These task include:

- Meter communications
- OpenWay Collection Engine communications
- Client system notifications

There are far too many web services APIs to list. Itron can provide documentation if desired.

11.8 Grouping of Meters

Describe

1. **Briefly indicate any capabilities or limitations of the system to separate meters into groups (e.g., by routes, types of customer, billing cycles) for reading, configuration changes, and firmware upgrades.**

Itron Analytics includes enhanced capabilities to import groups directly from CIS, and to create groups based on advanced searches. The AMI software will allow the user to set up static groups for the purpose of collecting readings.

2. **Include a description of how the system can be used to gather synchronized readings from a grouping of meters (such as all meters within one pumping district).**

Itron Analytics includes a District Metering Analysis Application that allows FWCU to import pumping district information and district meter consumption information to monitor district water balances. The application allows the consumption from all accounts in the district to be compared to district meter readings. This allows FWCU to identify and prioritize maintenance to its districts to reduce distribution water loss.

11.9 Read on Demand

Describe

1. **How readings are taken "on demand" from a particular meter.**
2. **Include how the request is initiated within the system**
3. **Include how the request can be initiated and received by an external system**
4. **Indicate how long it would take from the request until the meter was read and the reading is available to the requestor.**

5. **Indicate as to whether an on demand read is pulling the instantaneous read from the endpoint, collector, or the meter/register. If a current read cannot be obtain describe how that is communicated to the user.**

Users can request interactive (on-demand) reads through the OpenWay Operations Center and Itron Analytics software applications user interface, or through a web service exercised by an external application. On-demand read requests can target one or more endpoints or groups of endpoints. Users can also filter requests by time and date range.

The read is immediately available in the headend software but could be up to 8 hours (interrogated 3 times per day) old depending on the interrogation schedule for that meter. The user can also request a current read directly from the meter. The expected time interval between the request and the response is 60 seconds.

11.10 Multiple Users

Requirements

1. **The City desires that the system support multiple users at multiple locations.**
2. **The City prefers a web-based interface.**

Comply

Describe

1. **How many concurrent users can the system accommodate?**

The system can accommodate up to 35 concurrent users.

2. **Can the system process batch transfers of meter reading data in the background while allowing users to conduct queries and other transactions?**

The system is sized such that users can interact with the system to support daily business operations (reporting, troubleshooting, monitoring jobs and processes), while in the background data is being imported and exported out to a CIS without any impact.

11.11 User Interface

Requirements

1. **The Contractor shall include menus, navigators, and major screen shots in its proposal.**

Please refer to the OpenWay Riva Water Solution Overview in for major dashboards, screen shots, etc.

Describe

1. **Provisions and guidelines for customizing screens, menus, and navigators.**

The user configurability for dashboards in the head end is largely accommodated by the sophisticated advanced search capabilities it provides. Users can create their own custom searches and save them as private or public searches. The display of search results can be customized and visualized on maps.

11.12 User Access

Requirements

1. **The system should provide a method to track and monitor all changes to software, hardware, work processes, and equipment.**

Comply

Describe

1. **What provisions exist for data entry and editing by authorized users?**
2. **What restrictions are placed on such functions to ensure security and data integrity?**
3. **Are edits traceable by the City?**
4. **Are restriction settings customizable by the City?**

The software requires users to have a login and password that complies with standard IT best practices including length, complexity, reuse, longevity, lock outs, etc. OpenWay Riva uses role-based access control (RBAC) for all users. Users can be assigned different levels of privileges with each user using an individual password. User activity logs are provided.

11.13 Capacity

Describe

1. **Any capacity limitations on the number of accounts, number of readings per account, etc. readily accessible for the configuration proposed.**
2. **Any provisions for archiving and retrieving additional data.**

The proposed solution is a SaaS offering with five years of online storage. Offline storage can be accommodated for longer periods if required and at an additional fee. Access to archived data will be done on an as needed basis using standard database query engines.

11.14 Back-Up

Describe

1. **Data back-up capabilities and procedures to ensure that system and consumption data are not corrupted or lost.**
2. **What are the components being used for data backup? Physical tapes on-site or off-site, redundant servers on-site or off-site**

As a SaaS offering daily backup of data and disaster recovery is included as part of the services and does not require efforts on the part of FWCU.

The Itron SaaS offering is currently certified for ISO 27001 requirements. ISO 27001 is the formal set of specifications against which organizations seek independent certification for their Information Security Management System (ISMS). ISO 27001 specifies requirements for the establishment, implementation, monitoring and review, maintenance, and improvement of a management system—an overall management and control framework—for managing an organization's information security risks.

By adopting ISO 27001 standard principles, our data centers comply with security concerns pertaining to operation, user management, physical and electronic access, and data management.

11.15 Reports

Requirements

1. **Report formats should be user-customizable, using a built-in report writer or a third-party commercially available report writer that is included with the software.**

OpenWay Riva's reporting capabilities include the ability for users to create custom reports using Microsoft SQL Reporting Services. Both ad hoc and scheduled reporting are supported.

2. **Reports must be able to be directed to a printer, screen, or data file (such as MS Excel).**

Reports can be displayed on the screen and saved to a data file. The file can then be opened in software such as Microsoft Excel and printed from that application.

Describe

1. **Provide a list, with brief descriptions and screen shots or sample pages, of the standard reports provided for system and component performance; missing or late data; errors, anomalies, and alarm conditions; data transfer, management, and**

administration; analysis of consumption for individual customers or groups of customers; and other major report categories.

OpenWay Riva's reporting capabilities are specifically designed for AMI implementations. Using web-based dashboards and event-driven reports, operators and management can view the past and current state of system deployment, track current issues, and pinpoint issues impacting meter data collections and customer billing. OpenWay Riva exception management tools empower these operators to make the knowledgeable decisions needed to troubleshoot and repair the appropriate systems in the deployment. Data collected through network monitoring software, field area routers, etc., can be analyzed in the context of key performance indicators such as communication read rates, billing success rates, and defined service level agreement metrics.

Please refer to the OpenWay Overview included for a listing of reports as well as sample screen shots.

2. **Describe any existing capability to interface with maps for presentation.**

Many reports and dashboards are available as map-based view. For example, the network management application includes GIS-map Visualization, Diagnostic & Troubleshooting Tools that allow the entire network and security management function to be visualized on a GIS-map view for operator ease-of-use. Itron Analytics uses various mapping technologies and overlays account meter data over this map.

11.16 Validation, Estimation, and Editing

Describe

1. **Any system capabilities to validate meter readings for reasonableness, unusually high or low readings, and potential meter rollovers.**

The system provides several checks for questionable readings including Hi/Lo check, zero use on active meters and usage on inactive meters. Readings are validated by a Reading Quality Assurance (RQA) high/low filter. Filter values are user configurable. Usage outside of the parameters trigger an exception that is provided in exception reporting.

2. **Estimating and editing capabilities.**

The type of editing and estimation that is typically provided in an MDM is not provided in the proposed solution. For water utilities we have found this is usually not required. The OpenWay Riva headend contains configurable logic to track missed reads for up to 30 days on endpoints. The software will automatically request data from the endpoint that it has not received to fill data gaps.

11.17 Configuration & Customization

Requirements

1. **Permissible customization shall not void any software product warranties, nor prevent any overlay of future software releases.**

The proposed system is highly configurable thus minimizing the need for system customization. The software can be configured using over 400 parameters maintained in the database and customized to align with FWCU's own operations and procedures. Most options are configured automatically during installation. Changes are only required when the defaults do not meet the needs of the utility.

Describe

1. **Indicate the nature and extent to which standard reports can be customized, such as where a non- standard report can be created using available data.**
2. **Indicate the limits on what can be customized by the City related to software reports.**

OpenWay Riva's reporting capabilities include the ability for users to create custom reports using Microsoft SQL Reporting Services. Both ad hoc and scheduled reporting are supported.

11.18 Software Documentation

Requirements

1. **Documentation shall be provided with the software and should include at a minimum:**

    a. **System overview description, system flow charts, file descriptions and record layouts (include descriptions of fields that can be customized for City applications)**
    b. **Database structure diagrams**
    c. **Description of program function and logic**
    d. **Back-up and recovery procedures**
    e. **Operating procedures, screen layouts**
    f. **Data entry procedures**
    g. **Report descriptions**
    h. **Descriptions of all user options**
    i. **Descriptions of all error messages**

Complete system documentation can be provided but is not typically needed in a SaaS environment. Itron will be responsible for installation and configuration of the server hardware and system software as well as backup and recovery processes.

Operating guides, etc., will be provided.

11.19 Software License and Warranty

Requirements

1. **All Contractor provided software necessary to support the full functionality of the meter reading system(s) must be supplied to the City with a perpetual, irrevocable, fully paid-up license to use, copy, maintain, modify, enhance, translate, and create derivative works from the software.**

Itron is providing our software in a SaaS environment which provides for a subscription to the software.

Describe

1. **Indicate the software's designer, owner, and licensor.**

Itron

2. **Indicate how many servers or workstations the software license will cover.**

The software subscription is based on the total number of endpoints in the system, not on the number of workstations. All servers will reside in Itron Data Centers.

11.20 Maintenance and Upgrades

Requirements

1. **The Contractor supplied software shall be available for 20 years with enhancements, patches, and corrections of "bugs," at no additional cost to the City beyond the annual maintenance fee.**
2. **The Contractor must promptly notify the City if it introduces newer or later versions of the software or any of its components**
3. **All releases and/or upgrades shall include release notes made available to the City.**
4. **The City shall be required to sign off on any upgrade or patch releases before made in the production environment.**

Comply

5. **Contractor must provide assistance at no charge for modification of existing (standard or user- defined/customized) reports to function properly within newly upgraded software.**

Itron provides training on how to create and modify reports. Efforts beyond this training may be subject to additional costs.

Describe

1. **Indicate the schedule of planned upgrades**

Itron continues to develop our AMI platforms, understanding that utilities will continue to require a wide range of reliable, economic technology and business options now and in the future. Product roadmaps and schedules are not public information. Itron would be more than happy to have a more detailed road map discussion protected by a Non-Disclosure Agreement at the appropriate time in the future.

11.21 Third Party Software

Requirements

1. **The City desires that the Contractor shall own and host all software, except for commercial generic third-party packages used to support the Contractor's system; e.g., relational database management system, report generator, etc.**
2. **The Contractor must secure for the City sublicenses or direct licenses for all third-party software necessary for the systems to function as proposed.**

Itron is proposing a hosted environment with our SaaS offering. As part of SaaS Itron secures all required third-party software.

Describe

1. **Indicate third party provider of software specifically designed to support the Contractor's software.**
2. **Indicate the warranty, licensing, and support provisions for any such packages.**

No third party software has been specifically designed to support the proposed solution. Itron uses commercially available third party applications such as SQL Server.

12.0 END TO END SECURITY

12.1 Communications Security

Requirements

1. **The AMI system must ensure end-to-end data integrity (so that the readings from the meters, ID numbers, and other data are always associated with the correct meter and customer), data access security, and prevent exposure of any personally identifiable information (PII).**
2. **The system must ensure against loss of stored data.**

Comply

Describe

1. **Specifically describe how the system addresses end to end security.**

Itron's best-in-class, standards-based security strategically locates multiple layers of protection throughout the architecture. Our underlying security controls are based on widely adopted cryptographic and security standards, while also reflecting specific innovations by Itron and Cisco.

At the application level, Itron Enhanced Security provides a security architecture that emphasizes integrity of control, availability and confidentiality. Commands and payloads are encrypted and digitally signed before they are transferred over the network. In this manner, the messages between the applications and modules are protected, regardless of the underlying network infrastructure. Itron Enhanced Security also provides auditing of both the security activities and the events being returned by the module, managing the encryption keys and managing the larger set of security components deployed with the AMI system.

Strong authentication of nodes on the network can be achieved by taking full advantage of a set of open standards such as IEEE 802.1x, Extensible Authentication Protocol (EAP) and RADIUS. This "white-listing" approach requires that every meter or device joining the IPv6 network must be authenticated before being allowed access to the network and smart metering system. Once authenticated, the new meter is allowed to join, provided an IPv6 address, and will be authorized to communicate with other nodes.

Cisco's approach uses network-layer encryption (Transport IPsec with AES-256) in the WAN, and link-layer encryption (AES on IEEE 802.15.4g or IEEE 1901.2). This design choice preserves network visibility into the traffic at the CGR and enables use of IP-based techniques of multicast, network segmentation, and quality of service (QoS). It also allows smart meters and other endpoints to be low-cost constrained nodes that only do link-layer encryption while the versatile CGR does both network-layer and link-layer encryption.

12.2 HES Software Security

Requirements

1. **The HES software shall include a security system, incorporating multiple levels of authorization and access.**

Comply

Describe

1. **Security features, logging, and security levels.**

The software requires users to have a login and password that complies with standard IT best practices including length, complexity, reuse, longevity, lock outs, etc. OpenWay Riva uses role-based access control (RBAC) for all users. Users can be assigned different levels of privileges with each user using an individual password. User activity logs are provided.

13.0 CUSTOMER WEB PORTAL

13.1 Functionality

Requirements

1. **Provide a fully hosted customer facing web portal**

Itron has included the Itron Analytics Customer Portal for FWCU's consideration.

2. **Customizable customer "dashboard" to display water usage information, daily temperature information, rainfall & estimated bill based on usage**

Itron Analytics Customer Portal allows utility customers to log-on and view their own meter data for the past year, by month. It also breaks down the most recent month by days and the most recent day by hours.

3. **Comparisons between the customer's consumption and that of their neighbor, reference group, system average, or other meaningful metric**

Itron Analytics Customer Portal provides the customer the ability to view their consumption against pre-selected groups defined by utility by using attributes such as "similar lot size," zip code, or utility-selected attributes.

4. **Email alerts when water use exceeds a self-established monthly water budget, a City-developed water use budget, or is higher than the typical usage signaling they may have an undetected leak**

The IA Customer Portal permits the customer to set target consumption limits, and to be notified via email/ text when limit is within a certain percentage (20% default) of reaching that limit, as well as a notification when it has been exceeded

5. **Watering advice about how much irrigation is needed to replace actual evapo-transpiration losses**
6. **Customized messages about water conserving tips**
7. **Evaluations of the impact of water efficiency measures on water usage/bill using before and after self- assessments**

Itron's Customer Portal does not support these features. An option available to FWCU would be to select WaterSmart's solution which has an add-on water reports feature. Water Reports are highly personalized, informative, carefully designed reports that, if selected, will help FWCU customers better understand their home water use, how their usage compares to similar households in Fort Wayne, and how they can take action to save water and money.

Describe

1. **Display of usage when there is a gap when read(s) are not reported and how the usage is displayed once read is reported. I.e.: a symbol displays when a read is not reported**
2. **Provide both functional descriptions and capability statements for the recommended solution.**
3. **The ability to create a single sign on for customer account**

Please refer to the IA Customer Portal spec sheet included in Appendix 2 for a description of the solution. Single sign on is supported.

More advanced features are available through WaterSmart's portal which is not included in our pricing.

13.2 Signing Up Customers

Describe

1. **Process to enlist new customer**
2. **The proposed approach for signing up customer to the web portal when an email address is not currently on file.**

Customers can be enrolled in Itron's Customer Web Portal by using the following methods:

» Using Single Sign On (SSO) FWCU can log in users directly from the utility's website as well as update account information, etc. as needed.

» Administrators can add users manually to the customer portal and create a temporary password that they can send manually to the user.

» Users can self-register directly on the customer portal itself.

13.3 Compatibility with Current Online Bill Payment System

Describe

1. **The proposed approach for interfacing with Paymentus as the current bill payment solution.**

Customer Portal has many configuration options that allow it to easily integrate with a utility's existing infrastructure

13.4 Mobile Device Display

Describe

1. **Any mobile device applications (apps) or mobile friendly features enabling the customer portal to be displayed on mobile devices.**

The Web Portal is available to customers through a PC or through their mobile devices, such as iPhones, iPads, and Androids. It supports phone, tablet and desktop screen sizes.

Itron Analytics Customer Web Portal Snapshots

14.0 CUSTOMER OUTREACH

14.1 Background

The City considers the customer education and communications to be a critical part of the project which will directly influence the success of the project. Customer Outreach provides the foundation to help customers accept installation. Three basic phases are intended, each with distinct objectives coordinated with specific AMI program milestones.

(1) **Pre-Deployment: A series of communications designed to notify customers of AMI benefits (not included in this RFP)**
(2) **Deployment: A series of communications designed to prepare customers for meter deployment - paced to the meter installation schedule**
(3) **Post Deployment: access to web-portal services (not included in this RFP)**

Each phase should have defined messages, audiences, channels and education materials to increase the resonance between message and customer. These materials are to reach a diverse audience and be presented in non-technical language with simple text and accompanying graphics. Translations shall be available in Spanish and Burmese.

Response

14.2 Schedule Phase

The Schedule Phase messages will prepare customers within the deployment area for meter replacement by providing scheduling details and by pointing customers to additional online and call center resources. The contractor must propose the specifics of how they will schedule the installations. Provide customers with clear and accurate information to ease the AMI meter installation. Text and graphics, including logos, of all Contractor letters, door hangers, and other communications must be submitted for approval to the Utility.

Furthermore, the Contractor must work with the Utility to develop messages for inconveniences that occur from the installation of the new meter and be able to communicate these messages in a timely and professional manner to our customers.

Requirements

1. **The Contractor shall be responsible for notifying the customers of the need to gain access to meters and scheduling the meter replacement**
2. **All communication materials will be available in English, Spanish and Burmese, and Contractor call center services shall include English, Spanish and Burmese speaking representatives**

3. During the Schedule Phase, the Contractor will utilize and send, at a minimum the following notifications:

    - 45-day notification (letter or postcard) to set customer expectations
    - 10-day notice - prior to the commencement of installation on a cycle, the Contractor shall send color printed notices to customers and owners of property on that book indicating the dates when installations will occur. The material must include the Contractor Call Center phone number and website for customer scheduling.
    - Direct phone calls to confirm or reschedule meter
    - Door tag left at customer premise after a successful upgrade
    - Door tag left at the customer premise in the event of an unsuccessful upgrade.

Describe

Describe how your customer outreach will offer simple, clear, and informative scheduling messages for the following customer types:

(1) Indoor water meter account

a. Two important notes regarding the indoor meter customers are:

    a. After three missed scheduled appointments (recorded by contractor), the account will be turned over to the City for resolution
    b. The City will provide the customer addresses with known indoor meters, and current meter reader routes are provided in Attachment 7.

(2) Outdoor water meter accounts
(3) Commercial and Industrial water meter accounts

a. For the approximately 9,400 commercial and industrial customers, the sequence of channels will be consistent with the above classification of in-door vs outdoor meter. However, the language in the "45-day and 10- day notifications will be customized to address the nature of commercial customers.

(4) Describe how the various customer communications will be recorded and/or logged electronically. The City shall have access to view these records throughout the project.

Itron will utilize its subcontractor, Tribus, for field installation of the endpoints. Tribus will work to complete work in the way that is most convenient for customers. They use a combination of appointments, canvas attempts, and cold-calls (knocking if already in the

area). All attempts and phone calls are documented and tracked to ensure that every effort is made to complete the work. Appointments will be scheduled in two-hour windows and customers are immediately notified by phone if an installer is delayed.

Many of their projects require appointment setting in conjunction with accessing meters, especially in cases where a high percentage of meters are located inside premises necessitating property access.

Customer Access
Itron/Tribus recommends a three-attempt process for customer contact. Aside from cold call calling and door hangers, our Call Center will attempt to contact the customers to make an appointment.

As part of Tribus' standard operating procedures, each employee will attempt to contact the customer by knocking on the door and introducing him / herself as an installation contractor for Fort Wayne City Utilities. If there is no answer at the door and the meter is outside, the Tribus employee will proceed with the installation. If the meter is inaccessible and access is required, the Tribus employee will initiate our standard "Three attempt process".

Three Attempt Process
There are three types of scheduling attempts with each type initiated at least two times.

- **Field attempt number one:** a field installer will physically visit the premise targeted for installation. If work on the meter cannot be completed due to meter issues such as unsafe conditions, obstruction to access, etc., Tribus will contact the City for resolution.
- **Written attempt number one:** if the meter is inaccessible, a door hanger will be left in a location accessible to the customer but not readily visible from the street.
- **Field attempt number two:** on another occasion, the field installer will re-visit the premise in an attempt to complete the required work.
- **Written attempt number two:** if the meter is still inaccessible, the installer will leave another door hanger.
- **Phone calls (up to two attempts):** Following the second inaccessible field attempt, Tribus will call the customer to set an appointment.

Tribus documents customer contacts and meter access attempts and can make this information available to the City. If field and scheduling attempts are not successful, Tribus will turn the account over to the City. Such accounts will be declared as Set-Aside or Unable to Complete (UTC).

14.3 Inconvenience Recovery Campaign

The city acknowledges that mistakes will be made and customers will be inconvenienced through a loss of time and/or property due to either installation damage, performance

malfunctions, or their bill. Regardless of the source of inconvenience, the Contractor (with City oversight) must manage the customer messaging in response to such events.

Typical damage estimates will be developed by the Utility. If damage is incurred to water systems that are privately owned, a standard cost will be applied to the customer bill. If property damage is incurred that is not part of the water system, then the Contractor will incur the costs. A dispute process will be established by the Utility.

Furthermore, in the installation process, some homes may have infrastructure that is either in-accessible or at a high risk of being damaged during the meter replacement. In these cases (to be explicitly defined in the contract), the Contractor must inform the City and arrive at a mutual determination of how to proceed. The liability for property losses resulting from damage will be assumed by the Contractor is negligence occurs or mutually agreed upon procedures are not followed.

Understood. Itron requests final provisions for this time of recovery be mutually agreed upon during contract negotiations.

15.0 TRAINING

15.1 Training Curriculum

Requirements

1. **The training on operation of the AMI system shall not occur until after the software has been installed and the billing interface file has been written, tested, and is working successfully to transfer meter reading data to the billing system.**

Itron's standard approach to training begins at the start of the project with solutions capability overview. Training continues throughout the project as Itron resources work with FWCU's resources by following our standard project methodology. Itron will provide FWCU with formal training required to properly test the billing interface and continue with delivering applicable training prior to additional testing.

2. **The Contractor shall provide thorough training and specify teaching method and duration for each training sessions:**

    a. **All aspects of the AMI system's operation, including obtaining reads and consumption data from the system; transferring reads and other information between the AMI system and the billing system; creating, analyzing, and customizing performance reports; diagnosing potential problems with system components; and changing or adding customer accounts/endpoints/ meters to the system, for a minimum of 5 City employees or agents.**

b. **Field installation, for a minimum of 20 City employees or agents.**
c. **Field diagnostics and maintenance, for a minimum of 5 City employees or agents.**
d. **Customer Service and related departments training on the AMI software, for a minimum of 40 City employees or agents.**
e. **Collector and repeater field maintenance and repair/replacement for a minimum of 5 City employees or agents.**
f. **The training shall cover all users with varying authorization levels and capabilities. Additionally, all aspects of that operator customization must be available (what screens they have access to, what data they can change, etc.).**
g. **All training shall be conducted by experienced instructors at the City facilities in Fort Wayne, Indiana. The training shall be coordinated with the City in accordance with a mutually agreed upon schedule.**
h. **A minimum of two training courses for customer service staff shall be held during regular business hours.**
i. **The Contractor shall include an option for follow-up training within the first year of deployment.**

Itron includes comprehensive training and technical support with all new systems. The training begins with an overview of the AMI product which includes a high level overview of AMI system software. Our goal is to ensure that all users are knowledgeable and prepared to perform their functions.

The target audience includes field personnel, office personnel, IT staff, system administrators and customer service personnel. Training is conducted onsite at the utility facilities. Training instructors have many years of implementation and training experience and are typically the same individuals used to install the system.

Training will be performed to ensure that users have appropriate knowledge to install and operate the Itron OpenWay Riva solution. Per the RFP requirements, Itron can include training for all levels requested. A Train the Trainer option is available to lower training costs if desired.

Itron has included an option for follow-up training as requested.

15.2 Location

Requirements

1. **All training shall be done at City offices and facilities, or in the field in the City's service territory.**

Comply

15.3 Testing

Requirements

1. **The Contractor's training shall include evaluation of trainees to ensure that they have learned the course content and can perform all necessary functions on the system.**
2. **The Contractor shall notify the City of any employees who fail this evaluation, and provide them additional training as required.**
3. **The Contractor shall repeat a training session at no additional cost to the City if a majority of the trainees have not attained the skills from the training session or fail the evaluation at the end of the training.**

Practical testing will occur during classroom training in order to ensure that participants understand the course concepts. Observation of employees who are not grasping concepts will be shared with FWCU, and additional training will be offered to these individuals as required.

15.4 Training Objectives and Outline

Requirements

1. **The Contractor shall provide a detailed outline of each training session's objectives and content at least 2 weeks prior to the training session to the City for review.**

Comply

15.5 Training Aids

Requirements

1. **The Contractor shall provide trainees' workbooks, training aids (including software and video), and system technical manuals prior to or during the training session at no additional cost.**

Itron will provide all required training materials electronically. Training materials typically consist of the following:

» Training Curriculum—Materials used to illustrate points and structure the learning

» Training Exercises—Exercises that follow the lessons identified in the Training Manual—Exercises can be quizzes, hands-on activities, and case studies.

» User Guide (on-line help)—All Itron products come with thorough user documentation.

Practical testing will occur during classroom training in order to ensure that participants understand the course concepts.

15.6 Restore Equipment

Requirements

1. **The Contractor shall restore, repair, or replace any City equipment damaged in training, and restore any hardware or software modified in training.**

Comply

15.7 Instructors

Requirements

1. **The Contractor shall provide trained and experienced instructor(s), and ensure that they do not perform other duties during the training period that will interrupt instruction.**
2. **The Instructor will provide a checklist to trainees to evaluate presentation of course materials for effective feedback to the City.**

Itron will dedicate experienced instructors for all training sessions. Instructors will provide trainees the opportunity to evaluate the training and course material following the training sessions.

15.8 Prerequisite to Installation

Requirements

1. **The Contractor must provide prerequisite training to City staff/installer contractor prior to the commencement of installations. There will be no installations permitted until after the City's staff is properly trained.**

Comply

Describe

1. **Briefly describe typical prerequisite training topics and time allotments for training utility staff on the installation, operations and maintenance of your AMI system.**

Training courses do not have prerequisites; each training is tailored for the participants' job functions.

16. AMI SYSTEM SUPPORT

16.1 Initial Support Period

Requirement

1. **The Contractor should provide onsite support during the installation period at no additional cost to the City beyond the annual component and software maintenance fees.**

During the deployment phase of the project Itron personnel will be onsite to provide technical support. Itron will include a dedicated project manager who is also an available onsite resource.

16.2 Extended Support Period

Requirements

1. **The Contractor should provide telephone and onsite support for 20 years from the date on which the Contractor completes full-scale installation.**

Itron is proposing a SaaS solution which includes software maintenance support in the annual fee. The SaaS agreement is renewed on at least an annual basis. The CGRs are covered by Cisco support which provides a five year warranty and support services. Please refer to the agreements included in Appendix 4 for more information.

Itron will provide support for the life of the product.

2. **The Contractor shall include in this proposal a schedule of support costs, terms, and conditions.**

Please refer to the Maintenance & Support Addendum to Itron's Master Sales Agreement included in Appendix 4. Pricing has been included in *Tab 7 – Fee Submittal*.

3. **Support shall be renewed at the City's discretion on an annual basis.**

Comply

Describe

1. **Indicate the number of staff currently working in the customer support center/department that could assist the City with resolving issues.**
2. **Where are these staff members located?**

Itron Technical Support Services (TSS) has 75 dedicated resources to respond to technical questions or requests from Itron customers. There are two primary TSS locations in North America, Liberty Lake, WA and Raleigh, NC.

16.3 Telephone Support

Requirements

1. **The Contractor shall provide trained persons to answer technical questions and guide City employees through the use or diagnosis of the system through a toll-free number.**

Comply

2. **After business hours technical support shall be available, with after business hours telephone number(s) available as needed.**

After business hours support is available for Severity Level 1 issues as defined in Itron's support agreement.

Describe

1. **Indicate telephone support hours proposed.**

Technical Support Services is staffed from 5:00 a.m. through 5:00 p.m. Pacific time, Monday through Friday. Customers experiencing a critical service issue outside of Technical Support Services staffing hours may page an after-hours staff member on standby.

2. **What is the provision for support outside the telephone support hours?**

After business hours support is available for Severity Level 1 issues as defined in Itron's support agreement. Also, Itron customers can receive support at any time through Itron Access. Itron Access is a single sign-on portal dedicated to providing our customers and partners with a wealth of information at your fingertips. LWC will find new software release notes on enhancements, access downloadable releases, access to technical news and information, including our knowledge base of frequently asked questions (FAQs) and detailed product information such as installation guides, tutorials, and software downloads. Additionally, customers may initiate and track product service requests (SR) using the self-service online portal.

3. **Indicate proposed provisions for support.**

Itron customers can obtain assistance on almost any issue through Itron's Technical Support Services (TSS) group. Support services include system operator assistance, troubleshooting,

sales order inquiries, service questions, etc. Calls are routed by system type so they can be immediately directed to personnel trained on the customer's specific system. Itron's goal is to resolve reported problems during the first telephone call.

For calls that require additional assistance, Itron's System Support personnel act as a "second tier" of resources. They investigate and resolve issues that require effort outside of the Help Desk. In those cases where an issue requires a higher level of technical support, Itron Customer Support personnel will coordinate and track support until resolution.

4. **Describe the Contractor's current support operations (number of persons, location, hours, etc.) and any planned additions as a result of this project.**

Itron Technical Support Services (TSS) has 75 dedicated resources to respond to technical questions or requests from Itron customers. There are two primary TSS locations in North America, Liberty Lake, WA and Raleigh, NC. Customers have access to TSS resources via telephone – 1.877.487.6602, email – support@itron.com, and web submittal – http://support.itron.com, for assistance in resolving customer issues. All issues are logged in our call tracking system (Salesforce.com) for accuracy, metrics, accountability, and closure of customer issues.

Additional resources will not be needed for FWCU's project.

16.4 Support Service Level Agreement (SLA)

Requirements

1. **The Contractor shall provide a table by urgency level indicating the maximum permissible response time (in hours) using a 24 hours day**

Describe

1. **Define the levels of urgency**
2. **Provide examples of each level applicable to this project.**
3. **Define what action is required by FWCU to initiate the support request.**

Please refer to the Managed Services Addendum to Itron's Master Sales Agreement for details. Section 11. Incident Response Performance Levels provides basic definitions, severity level definitions and examples. See excerpt below:

11.2 Issue Severity Level Definition and Examples.

11.2.1 "Severity Level 1." Critical Business Impact / System Down: An issue for which there is no work-around, which causes the Product / Software Applications or a critical business function / process of the Itron system to be unavailable. System use and operation cannot continue.

Severity 1 issue levels must be reported by phone to initiate the Severity 1 response process. Service Requests initiated by email or web interface are logged as a Severity 3 until reviewed by Itron Technical Support Services and validated as a higher priority.

11.2.2. "Severity Level 2." Moderate Business Impact / Degraded Operation: An issue other than a Severity Level 1 issue, for which there is no work-around, which limits access or use of the software or a business function, causing the system to miss required business interface or deadlines. The system remains available for operations but in a restricted fashion.

Severity 2 issue levels must be reported by phone to initiate the Severity 2 response process. Service Requests initiated by email or web interface are logged as a Severity 3 until reviewed by Itron Technical Support Services and validated as a higher priority.

11.2.3. "Severity Level 3." Minor Business Impact / Compromised Operation: An issue other than a Severity Level 1 or Severity Level 2 Error that has an inconvenient use of or access to a software function. (e.g., a feature is not working as documented but a work-around is available and significant business functions are not materially impaired).

11.2.4. Normal Inquiry. A request for information that is not issue related. This category includes requests for future feature/functionality and information about the Managed Services platform and applications that may not be included in the current configuration available to Customer.

11.3. Issue Itron will use reasonable efforts to meet recognition, notification, and escalation targets.

	Targets		
Severity	***Tier1 Recognition***	***Customer Notification***	***T2 Escalation***
1	30 minutes	Immediately on recognition	One hour
2	8 hours	After eight (8) business hours being unresolved	17 business hours (8-5)
3	24 hours (At next daily report or check)	Within three (3) business days	As required
Normal Inquiry	24-48 hours for acknowledgement of inquiry	NA	NA

16.5 Onsite Support

Requirements

1. **The Contractor shall be required to provide onsite assistance at the request of the City.**

Itron can dispatch field support should the situation warrant it and remote support proves to be insufficient to resolve the reported issue. Typically, situations can be resolved without the need for an on-site visit.

2. **Onsite support shall include emergency service with a response time of 24 hours (on-call), as well as recurring work to perform preventative maintenance for the collection system.**

Once agreement is made that onsite support is required, Itron will provide best efforts to meet the one business day timeline depending on time and travel conditions.

17.0 PROJECT MANAGEMENT & INSTALLATIONS

17.1 Installation and Project Schedule

Requirements

1. **The City and the Contractor shall establish an overall schedule for installation of the entire project. Contractor shall work with the City to perform installations that do not conflict with existing billing operations.**

    a. **On the first work day of each week, the Contractor will provide the City an updated schedule of where work is planned for the next 3 weeks.**
    b. **Contractor will work with the City to schedule blackout windows. The City will require an approximate 5 day-blackout window per billing area, where installations will not be permitted to occur for each route.**
    c. **Contractor shall submit a proposed detailed schedule, including the number of monthly installation, monthly number of installers, implementation and project management staff on site, and additional resources require for the successful completion of the project.**

Comply

2. **If issues and plumbing repairs begin to occur during the normal changeout process the City may elect to throttle the number of daily installation until the backlog of issues is minimal.**

Comply

Describe

1. **Provide the proposed schedule with installations starting in 2020, extending for no longer than 24 months. The rate of installation will be determined by the contractor's ability to satisfactorily meet key performance indicators (KPI) that include customer complaints and utility satisfaction and monitored by the Utility designated project manager.**
2. **Provide proposed milestones associated with the schedule (the demonstration, or slow-start period is to be concluded in 2019, and the full meter deployment schedule is to start after January 1, 2020).**

Please refer to the overall preliminary project plan included in *Tab 4 – Technical Approach*. Itron will provide a mutually agreed upon final project schedule during contract negotiations which will include the installation schedule. Itron/Tribus will provide an installation schedule prior to commencing full deployment.

17.2 The Project Manager & Team

Requirements

1. **The City will designate an employee or agent who will manage the project on behalf of the City. The function of this Project Manager is to coordinate with the Contractor and promote compliance by the provider with the specifications. The designation of a Project Manager shall not relieve the Contractor of its full responsibility to comply with the terms of the Contract and/or all plans and specifications.**

Comply

2. **If key proposed staff (such as the Project Manager or Implementation Manager) are not available at the time of Notice to Proceed the Contractor shall be required to submit alternative resources with similar or better qualifications for review and approval by the City.**

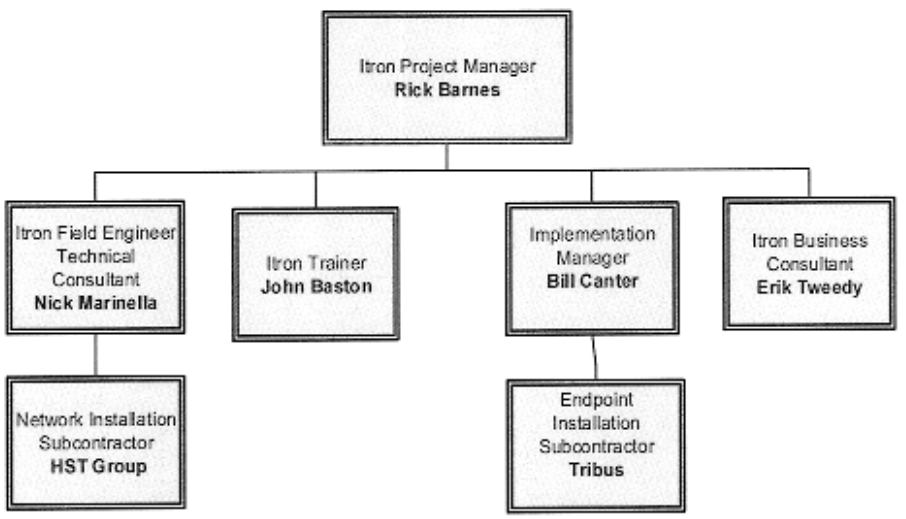
Comply

Describe

1. **Indicate the proposed Contractor Project Manager and key supporting team members.**

Itron's basic project team is illustrated in the organization chart below. This core project team typically includes five members. In addition to the core team, Itron's Project Manager has access to any required resources within Itron needed for successful completion of the

project. Brief resumes are attached for the team members named in the chart below. Some personnel may be subject to change based on the project start dates and scheduling. All personnel assigned to the project will be experienced and highly qualified for their role.



2. **Include resumes and/or experience summaries for the Project Manager and key supporting team members.**

Resumes for Itron personnel are included in Appendix 3 of this proposal. Tribus will provide project management of the meter installation part of the project with oversight from Itron. The Tribus team includes an overall Project Manager who will be dedicated to the project through to completion. The Project Manager will be supported by Tribus' Corporate Services team which includes seasoned utility experience, quality assurance personnel, training, supervisory, and administrative personnel.

Each member of Tribus' Project Team has been selected because they have the skills and experience to ensure that the City's meter installation project objectives are achieved safely and accurately, on-time and on-budget.

3. **Indicate the proposed number of hours by month (for the duration of the project) the Project Manager and key supporting team members (installation leads, interface development, network rollout, etc.) will be onsite and remotely working on the Project for the duration.**

Itron will provide a monthly breakdown as requested upon selection and dependent upon which installation method (indoor vs. remote to exterior) is selected. The typical duties, hours and availability are described below.

Project Manager – Provides project schedule for software and network installation, workshops, testing, training and transition. The Project Manager (PM) will be responsible for managing project resources and coordinating schedules to ensure all resources are available when needed. The PM will ensure that all reporting is being coordinated and produced in a timely manner. Project Manager will also interface with FWCU's project manager to ensure both parties' schedules are in synch. Project Manager will be available throughout the project.

Field Engineer – Provides expertise in RF troubleshooting and product installation. This individual will inspect proposed sites for network hardware, troubleshoot any issues discovered with network hardware, and program network hardware. Resource available throughout network installation and testing.

Technical Consultant – Provides knowledge and support during integration development from CIS, or third party systems, into the network software. This individual will be available during integration development, testing, and transition. Provides software expertise as a part of focus classes to educate end users on the administrative, and day to day operations of the system. This individual will be available during scheduled training sessions and upon request for additional training classes.

Implementation Manager – Provides overall Itron project delivery management as it relates to the endpoint deployment support, including securing and scheduling project resources, managing the installation schedule, change order process and installation reporting. Acts as the contract manager; responsible for endpoint deliveries, shipping logistics, incoming inspection coordination, RMA logistics and endpoint acceptance. Implementation Manager is available throughout the project.

Business Consultant – Provides business and solution expertise. The Business Consultant is responsible for defining the solution interfaces, test scenarios, business cases, and providing product knowledge during the definition and design phases of the project. A Business Consultant will be available during software installation, workshops, integration, and transition. Assists Technical Consultant with training.

17.3 Procedures Approval

Requirements

1. **The Contractor shall provide detailed installation procedures to the City. The procedures should be designed to optimize the work of the field installers and all other staff working on the project.**

2. **The Contractor shall take and submit the following photos: (Note these photos can be submitted on a disc or ftp site, or other proposed electronic form)**

    a. **Entire meter set upon arrival.**
    b. **The customer address and new endpoint serial number for QC**
    c. **Close up of the existing meter with register read.**
    d. **New meter and ERT together side by side. (does not need to be installed)**
    e. **Entire meter set after installation.**
    f. **A screen shot of the customers signature.**

Itron/Tribus will provide detailed installation procedures to FWCU upon notice of award. Image capture is a standard component of the installation process.

17.4 Proof of Concept

Requirements

1. **Prior to the commencement of full-scale installation, the Contractor shall install endpoints on one of the City's routes (or multiple routes) (comprised of approximately 500 to 1,000 meters) following the Contractor's proposed procedures. During this estimated four (4) month test, the City and the Contractor shall evaluate the procedures for public notification, scheduling installations, meter and endpoint installation, data transfer to the City's billing system, meter reading over the system, installation data management, and problem resolution, to ensure they are working and effective. The City may require the Contractor to modify any procedures that it deems are deficient or ineffective or otherwise unacceptable to the City. No work will be started on other routes until the AMI system equipment is determined to be working to performance requirements on the test route, the project control procedures and systems are determined to be performing accurately, and the installation procedures have been approved by the City.**

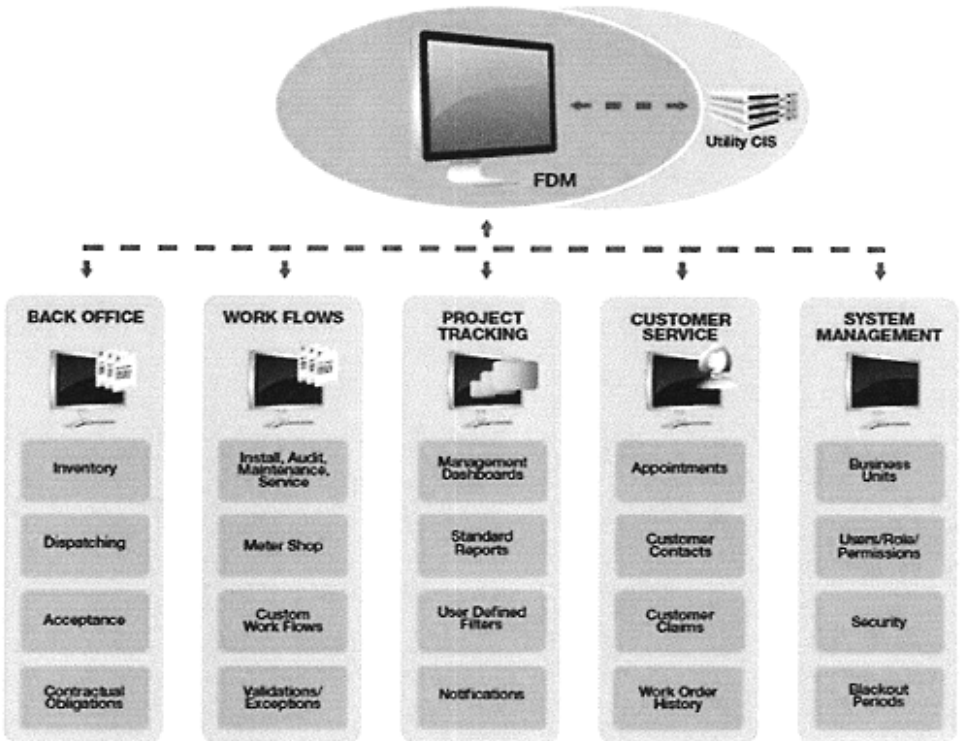
Itron acknowledges the City's Proof of Concept requirements and will comply. Many of our project follow a similar POC structure prior to commencing full deployment.

17.5 Field Deployment Software

Describe

1. **Indicate and describe the proposed field deployment software including an overview, screenshots, and system capabilities to view work order both on mobile applications and pc-based applications. Vacant meters, which are currently read by the Utility will need be converted to AMI.**

Field Deployment Manager (FDM) is Itron's premier solution for managing the installation of endpoints, meters and network equipment in support of advanced metering reading (AMR) and advanced metering infrastructure (AMI) deployments. Whether used by company or subcontractor personnel, FDM streamlines the management, installation and delivery of equipment, while validating the accuracy of field work.



Field Deployment Manager Overview

Itron's installers will use our FDM field installation software. FDM uses workflows to support best practices in deployment management. Workflows guide the installer step-by-step through the installation process, ensuring that appropriate data is collected along the way.

Work order exceptions can trigger the installer to re-key a manual entry or verify conditions in the field. Work order exceptions include duplicate endpoint, duplicate meter number, mismatch meter number, mismatch meter type, and high or low meter reading value. Exceptions may be categorized and assigned severity levels to help ensure that they are reviewed and corrected before data is delivered to the utility CIS.

A workflow is a sequence of screens that Field Deployment Manager displays to guide a field service rep through the steps necessary to complete a work order. FDM has a collection of standard workflows for reading and programming Itron meter modules

(endpoints) and for modifying and configuring features that are specific to particular endpoint types.

Upon completion of the installation, the field tech will verify the register values match the value being transmitted and complete the installation in Field Deployment Manager (FDM). At the end of the day a host upload or to host file will be provided to FWCU with account #, meter #, ERT ID, address, and the out / in reading values for billing as well as any other data FWCU has requested Itron to gather. This will complete the installation work order process.

17.6 Installation Sequencing

Requirements

1. **The Contractor shall conduct installations by book, or group of books. Book groups should be based on geographic proximity and logistics, and neighborhoods to be determined by the City in discussion with the Contractor. In addition;**

    a. **Contractor must notify the City of any service address scheduled for a meter replacement or register upgrade does not have a meter or has some other means of water conveyance. This includes, straight pipes, flexible piping, hoses, or any device where the meter is to be located.**
    b. **If a service does not have a meter but it has water available on the supply line, then the Contractor shall not proceed until obtaining authorization from the City.**

2. **The City will retain the right to prioritize other areas, or to reorganize priorities, both before the program begins, and during the program. Unless approved in writing by the City, the Contractor shall complete at least 90 percent of the installations in one release, or group of routes before commencing installation on the next release. Exceptions to the requirement to complete an installation may be granted by the City. For example, a property that is vacant or abandoned, has no meter or no existing standard connections for a meter, has piping or plumbing deteriorated or in fragile condition, may be excluded by the City from the properties that must be upgraded. These will be treated as if they had not been assigned when computing the percentage of assigned properties completed.**

3. **Meters with Clark yokes will not be excluded from the required work for the Contractor. However, the Contractor will only be permitted to complete a limited number of these per day to avoid a potential backlog of work for the City.**

Comply

17.7 Work Hours

Requirements

1. **The Contractor shall propose normal work hours, which must be approved by the City. Indicate the number of crews proposed for all installation periods, including evening and weekend times.**
2. **No Clark yokes shall be replaced on weekends or evenings.**

Itron/Tribus Field Installers' typical schedule is from 8:00 am to 5:00 pm Monday through Friday. Special off-hour and weekend installations can be made available to accommodate FWCU's customers reasonable requests.

17.8 Daily Reports

Requirements

1. **A listing of all installation locations to be visited by the Contractor's installers each day shall be electronically transmitted to the City each work day by INSERT FOR FT WAYNE. At the end of each day the Contractor shall electronically transmit to the City information on work performed in a City- approved file format.**

Itron/Tribus acknowledges the City's requirements for daily reporting and will comply. Many of our projects regularly require detailed daily and weekly project status reports, which include productivity tracking down to the individual installer level.

17.9 Weekly Reports

Requirements

1. **On a weekly basis at a minimum, the Contractor must submit an electronic list (in MS Excel) of installations completed to date, including key fields such as address, date, installer, serial numbers (of devices found and installed), and other fields to be specified by the City during the planning stage.**

Comply

17.10 Installation Timeline

Requirements

1. **The City anticipates commencing implementation after the proof of concept by January 2020.**
2. **The City requires that implementation be complete before 2022.**

Comply

17.11 Landscape Damage Including Grass or Shrubbery

Requirements

1. **If grass or shrubbery is damaged by the installation process, the Contractor must repair the damage to the original condition to the satisfaction of the customer by replanting, resodding, or reseeding. The Contractor must provide a photograph of this repair work (before and after).**
2. **The Contractor is responsible for any required traffic control. The work must comply with all appropriate traffic safety regulations.**
3. **The City reserves the right to inspect any installation and cleanup work within 30 days before payment is made to the Contractor. The City reserves the right to inspect any installation and cleanup work within 90 days after installation in response to customer complaints of damage.**
4. **The Contractor shall be responsible for claims resulting from damage caused by installation.**

Itron/Tribus will comply with this requirement. Any damage which is found to be directly caused by the water meter exchange performed by Tribus Field Installers will be resolved by Tribus. In addition, Field Installers are trained to perform site housekeeping so that the customer's property is restored to the same or better condition than it was found in.

17.12 Meter Boxes & Lids

Requirements

1. **The Contractor shall supply a complete solution including replacement of meter vault lids when required.**
2. **Meter vaults/lids in traffic settings shall include a traffic rated solutions applicable to the location.**

Understood

17.13 Concrete/Asphalt Pavement Repair/Patching

Requirements

1. **Where a meter box being replaced is located within a driveway, sidewalk, pavement or other similar areas, the replacement of the meter box and surface restoration may require additional effort to restore surface. The Contractor shall inform the City when these situations are encountered and the additional effort will be handled as Additional Services as defined in the Payment Section.**

Comply

17.14 24-Hour Customer Support Period

Requirements

1. **For 90 days after the City was notified of a given installation, the Contractor must respond to calls from the customer associated with that installation or the City concerning leaks, loss of service, low pressure, and other problems associated with installation on a 24-hour-per-day basis. The Contractor must respond within 2 hours of receiving the call and arrive at customer's premises ready to correct any problems within 4 hours of receiving the call.**

    a. **The Contractor shall provide this access for a minimum of 90 days after completion of the Project. The Contractor shall maintain a log of all such calls and their resolution, and provide to the City a copy of the log daily, using e-mail or another mutually acceptable electronic means.**
    b. **Describe the procedures for response to customer problems.**

The standard warranty provides for 30 days for leaks and one year for workmanship. If awarded, we welcome the opportunity to discuss this provision for customer support with FWCU.

Tribus has a well-established process in place to ensure customer satisfaction and to address and resolve customer claims. They focus on resolving customer complaints and claims in a timely, well-documented, and appropriate manner that maintains a focus on customer satisfaction under all circumstances.

Customer inquiries, claims, complaints, and compliments are documented and are managed personally by the Project Manager to ensure satisfactory resolutions. The inquiry, investigation process, action taken, customer comments, and billing information are also recorded. Tribus then provides authorized management and stakeholders with reports of the updated, key metric information regarding customer inquiries, claims, complaints, and resolutions as part of our progress reporting on project operations.

Complaint Resolution

Each customer complaint, whether received by the installer in the field, in writing, or by telephone, is documented, addressed, and resolved using Tribus' customer complaint process:

1) Tribus' Customer Care Center or field personnel receives a complaint and immediately enters it into our system.
2) A record of the complaint is created by Tribus office or field personnel. The record includes:
    a) Relevant contact information
    b) The nature of the complaint

c) Customer information

3) A Tribus manager implements a follow-up investigation by:
   a) Contacting the customer and all involved parties to understand the situation
   b) Documenting findings in order to later advise the customer of actions / solution
   c) Determining fault (if applicable)
4) A Tribus manager enacts an appropriate resolution and documents the resolution in our system.
5) All customer damage claims are handled by the manager who investigates the situation, speaks to all involved parties, and determines if a damage settlement is appropriate and to what extent.
6) Manager then contacts parties involved who require notification of the resolution and explains what action was taken.

An investigation summary report tracks customer complaints and compliments to ensure customer service performance goals are achieved.

17.15 Installation Acceptance

Requirements

1. **Each installation will be accepted by the City conditioned upon:**
   a. **Electronic submission of a list of completed installations containing for that installation the Location ID, address, old and new meter serial numbers, old and new meter readings, endpoint serial number, physical description of the location of meter and endpoint on the property (i.e. "front middle", "rear left", etc.), GPS coordinates of the meter, the Contractor's inspector's name if applicable, and the installer's name.**
   b. **Successful capture of the radio read after the installation through the fixed network solution**

Comply. Requested data will be captured using Itron's FDM application.

17.16 Photos and GPS Coordinates

Requirements

1. **The Contractor shall capture and submit photos of the as-found meter register, as-left meter register, customer address and new endpoint serial number for the City's records; these photos must be submitted electronically within 3 days of the completed installation via access to an electronic work order management system, FTP site, or similar. The City must be able to lookup photos by address or account**

number directly. The Contractor shall record GPS coordinates for all upgrades as well.

Comply

17.17 Site Conditions

Requirements

1. Before, or at the time of installation, the Contractor shall inspect the existing water meter setting, including piping and control valves. If the Contractor determines that conditions are such that damage would result from standard installation procedures to customer or city owned property, the Contractor shall immediately contact the City Project Manager, shall not attempt the installation until the site is inspected by an authorized City representative, and shall postpone installation at that site until the City Project Manager authorizes the Contractor to proceed with the work.
2. Before, or at the time of installation, the Contractor shall perform a cursory condition assessment of each meter. The assessment shall include the following items:

    a. Documenting lead services (upstream and downstream of meter)
    b. Documenting visible sump pumps located customer basements
    c. Documenting the presence of backflow devices and associated identification numbers

Comply

17.18 Repairs

Requirements

1. At its option, the City may authorize the Contractor to make any repairs necessary to install a meter to service lines or piping, order the customer to make such repairs, or undertake such repairs itself.

Comply

17.19 Old Piping

Requirements

1. Old piping per se should not be grounds for the failure of the Installer to replace a meter designated for replacement. Only when old piping is leaking or deteriorated to a point that damage to it could reasonably be expected by changing the meter

will poor piping be accepted as a reason for not replacing the meter. Unless the City's Project Manager remands the installation to the City for further action, the Contractor is still required to install the meter and associated equipment if the piping has been repaired or replaced.

Comply

17.20 Meter Replacement

Requirements

1. **Installer should ensure he/she is at the correct location and meter, and check for running water prior to commencing meter change-out. Installer must turn off the water to the building. Installer shall assume responsibly for electrical damage to appliances if proper procedures are not followed. Installer shall then replace the meter, using new gaskets or washers. All meter adapters, bushings, or other hardware necessary to install the new water meter in the consumer's existing meter setup must be furnished by the Contractor. The Contractor is required to install standard connections (meter couplings) for all 5/8" thru 2" meters if none exists currently. These couplings must receive prior approval from the City. The Installer must repair any damage or caulk any holes caused by removing old wire and readouts displays. Contractor shall coordinate with the City a common caulk color for these repairs.**
2. **Cost of materials, labor and other incidentals not explicitly listed on the fee table shall be included in the unit installation price**
3. **Installer shall leave the water service in the same position found during arrival.**

Itron/Tribus will investigate customer inquiries and claims of damage in the event that the customer claims that damage was caused by the installation of the new water meter/AMI device. All claims will be reviewed by Itron/Tribus and by the City prior to assuming responsibility.

17.21 Meter Salvage

Requirements

1. **Subject to the description of the City, the Contractor shall scrap all replaced meters. The value to the Contractor of scrap shall be listed in the Contractor's pricing tables explicitly. Depending upon the Contractors scrap value per meter the City will decide to scrap devices internally or utilize the Contractor's prices. The Contractor shall factor in the disposal cost of the existing endpoints into their proposal costs at the appropriate phase.**
2. **The old transmitter will be properly disposed of by the contractor.**

Comply

17.22 Strainer

Requirements

1. **If there is a strainer at any meter installation site, the Installer shall clean and restore it. If applicable, strainers shall be cleaned only on meters being replaced, not on retrofits.**

Comply. Itron/Tribus does not anticipate the meters will have strainers.

17.23 Verify Working Service

Requirements

1. **Except for services found in the off position, the installer shall flush water line after installing a new meter to ensure the meter is registering properly and verify service restoration to the entire premises. The water line shall be flushed until the meter begins to register usage.**

Tribus will perform its standard meter installation testing to verify that each new meter is fully functional, properly installed, and that the customer is with water before leaving the site.

After the installation is complete, the installer will open all valves. Water will be run through the meter to make sure that the meter register functions properly and to test the meter installation for leakage. The installer will also ensure that the meter has not been installed backwards. The installation will be checked according to the manufacturer's instructions, and any leaks related to the installation will be corrected immediately.

Once the plumbing system is fully changed and there are no apparent leaks associated with the meter installation, the installer will observe the low flow indicator on the meter. In the event of low flow indications, Tribus will inform the City that the plumbing system will need further investigation to eliminate any wasteful flow that may be occurring.

The City will be provided with a before and after reading to verify successful programming and operation, including a before and after picture of the completed installation. Old meters will be returned to the City tagged with information including the address where the meter was removed from, the date, the final reading, the field installer involved, and the service order number.

17.24 Plumbing Irregularities

Requirements

1. **The Contractor shall report to the City's Project Manager, prior to the installation of a meter, any meter and/or plumbing irregularities including but not limited to**

meters installed backwards and disconnected meters or any other indication of tampering such as magnets, if meter has been removed and replaced with connecting pipes (jumper); if registers are disconnected from meters; if there are bypass lines found in the 'on' position; if there are illegal connections before a meter; if there are unmetered connections of a customer's plumbing to a service lateral, fire pipe, or water main; or if there are any other violations of the City's regulations.

2. The Contractor shall not proceed with the installation of a meter until the City Project Manager has authorized such installation in writing.

Comply

17.25 Dirt and Water around Meter

Requirements

1. The Contractor shall be responsible for removing and properly disposing of any reasonable amount of mud, rocks, dirt, and debris needed to access a meter in a meter box. These items shall be removed such that there is a minimum of 2" clearance below the meter. The Contractor shall expose connection to the service line and any piping between the service line connection and the meter to ensure that they are in a condition that will not be damaged by changing the meter. If a water meter box is flooded so that the meter is fully or partially submerged, the Installer must pump out the box before changing the meter. The pumped-out water shall be disposed of in a safe and proper manner as to not cause harm to the surroundings or to others. Installer must ensure that the water service is not in any way contaminated, even intermittently, by standing water in the meter box. All waste resulting from cleaning the meter box must be cleaned up and disposed of properly by the Contractor and will be the responsibility of the Contractor. The Contractor may not dispose of such materials at any City owned location.

Itron/Tribus will remain in compliance with the City's project plan as well as all City ordinances for the removal and legal disposal of dirt and debris from meter boxes.

17.26 Meter Vault/Box Damage

Requirements

1. In the event the meter box is discovered to be damaged rendering the meter box and its contents inaccessible, the Contractor is to notify designated City personnel the same day such inaccessibility is discovered by the Contractor.
2. Delays to the Contractor due to the lack of accessibility shall be the Contractor's sole expense at no expense to the City.

3. **The Contractor shall contact the City for authorization before any repairs are undertaken.**

Comply

17.27 Payment for Installations

Requirements

1. **The Contractor shall only be paid for completed and accepted installations as specified in Terms of Payment.**

Comply

17.28 Leak Notification

Requirements

1. **Should the Contractor identify a leak at the meter vault during the time of installation, the Contractor shall provide notification to the City the same day.**

Describe

1. **Indicate how leaks will be tracked and the City will be promptly notified of the event.**

Identification of leaks is a standard component of Tribus' meter installation process. After the installation is complete, the installer will open all valves. Water will be run through the meter to make sure that the meter register functions properly and to test the meter installation for leakage. The installer will also ensure that the meter has not been installed backwards. The installation will be checked according to the manufacturer's instructions, and any leaks related to the installation will be corrected immediately.

Once the plumbing system is fully changed and there are no apparent leaks associated with the meter installation, the installer will observe the low flow indicator on the meter. In the event of low flow indications, Tribus will inform the City that the plumbing system will need further investigation to eliminate any wasteful flow that may be occurring.

17.29 Latitude/Longitude

Requirements

1. **The Contractor shall capture the latitude and longitude of the endpoint location during the time of installation and provide such information to the City.**

Comply

Describe

1. **Indicate how the requested data will be supplied to the City**
2. **Indicate the accuracy of the coordinates**

This information will be captured using FDM. GPS accuracy of 3 to 5 meters is supported.

17.30 Quality Control Procedures

Describe

1. **The proposed QC procedures and key elements for this Project.**

Itron is an ISO-compliant company with extensive quality systems across all areas of the organization. Itron has QC procedures embedded in our Itron Advantage proven implementation methodology which includes the use of FDM work order management application. FDM will be utilized during the endpoint deployment to track and manage system performance, data integrity, quality assurance, inventory status and project financials.

In addition, our installation subcontractor Tribus has strict quality and accuracy standards and provides continual meter installation training to ensure all performance and customer relations standards are met. Their multi-faceted approach to monitoring quality performance ensures accuracy, efficiency, and professionalism at every level of onsite operations. Their comprehensive quality assurance measures are thorough and derived from many years of experience. They have an ongoing quality assurance program that ensures standards are maintained throughout the contract.

Their Quality Assurance / Quality Control (QA/QC) program can be broken down into the following facets:

- Workforce Quality
  - Assesses field employee's performance on timeliness and professionalism
  - Managers use Tribus' web-based system to monitor performance
- Installation Quality
  - Assesses installations for functionality and warranties
  - Managers use Tribus' web-based system to provide online training manuals, policies and procedures, standards, and best practices
- Meter Reading Quality
  - Assesses Meter Readers' understanding of concepts and procedures
  - Managers use Tribus' MeterPro for screening and testing

» Corporate Quality Audit Program

- Assesses project's operational performance against contractual requirements
- Performed on an annual basis with full report and employee surveys

The quantity and quality of our employees' performance is continuously recorded and monitored.

More details on Tribus' QA/QC program can be provided upon request.

17.31 Appointment Scheduling

Requirements

1. **The Contractor shall be responsible for scheduling and handling appointments for customers with indoor meters.**

Comply

Describe

1. **Indicate how the Contractor plans to schedule and track appointments including tools, procedures, call centers, etc.**
2. **The Contractor shall indicate their proposed customer appointment window duration.**

Tribus has extensive experience scheduling appointments with customers for field installation services. Our projects regularly involve setting up a customer call center with a local or toll-free contact number for installation appointment scheduling and for meter-related customer questions.

To maximize value to the City while also minimizing Call Center start-up costs, Tribus proposes the use of its already established Customer Care Center located in Wauwatosa, WI, for this project. The Customer Care Center is currently staffed five days per week and is equipped with IT and telephone infrastructure, computer equipment, and other amenities necessary to carry out this installation project.

Tribus manages customer contact functions for many projects and has expertise regarding all major meter technology vendors. Based on their experience, they've minimized customer impact on previous projects by following several operational principles:

» Encouraging customers to proactively call the toll-free number to set up a convenient appointment time

» Training all Tribus Field and Customer Care Center personnel to provide excellent customer service; all interactions are polite and professional, and personnel must be able to competently answer customer questions

- If necessary, and only with the City's approval, scheduling appointments outside of regular business hours; we try our best to accommodate special requests
- Adhering to a "minimum three contact attempt" process to increase the probability of making contact with each customer *
- Providing a 24-hour emergency number – all after hours messaging includes the number for an on-call Tribus Project Supervisor to assist and if necessary, dispatch an installer within one hour

** It is Tribus' normal process to make three attempts to access each meter account, but will work with the City and comply with its required processes and practices.*

Appointment Scheduling

Tribus distributes mail / door hangers to incite customer requests for installation appointments. All printed materials are approved prior to production / distribution, within which customers are encouraged to book online, or contact our call center to schedule their appointment.

Tribus also has a web-based scheduling tool for customers who wish to make an appointment to have their meter updated. The link to this scheduling tool can be posted on the City's website and can appear on printed letters and door hangers upon the City's approval. Customers will use their account numbers to access the site and view available dates and timeframes to book their own appointments; there, information is also provided to direct them to the Customer Care Center for help or further assistance. Additionally, a dedicated email address will also be provided. Representatives respond to all inquiries within four business hours to facilitate appointments or respond to inquiries. Additionally, each Representative has a direct fax number.

In addition to the above, they will also attempt to call the customer for an appointment. If by way of mail-outs / door hangers and two phone calls – or the contractually-required number of calls to complete our due diligence – an appointment is still not made, Tribus installers will typically refer the matter to its customer for resolution. Tribus employees follow the set protocol as agreed upon with our customer for installation notification methodology in order to secure appointments, including parameters for any "no response" locations.

Managing Call Volumes

Tribus will have a dedicated number of Customer Service Representatives (CSRs) assigned to this project. In the event of overflow call volumes, additional Tribus representatives are able to assist in answering customer calls. Supervisors also step in to take calls, if necessary.

They also have the ability to offer voicemail to avoid long wait times. All voicemails are returned the same day or, if received after hours, early the next business day. In the event of an emergency, the voice response system includes flexible messaging options that can be modified within minutes to offer updates to all callers.

Hours of Operation

Typical Customer Care Center hours of operation are Monday through Friday, 7:00 a.m. to 6:00 p.m. CT, but can accommodate the City's requested hours of operation. If a non-emergency call is received outside of normal business hours, messages are recorded in a general voicemail. Messages are retrieved the following morning and a customer service representative (CSR) contacts the customer that day. Messages can be retained via a voice recording server.

In addition to customized customer service hours, they provide an emergency contact number on all after-hours messages, so that an on-call Tribus Project Supervisor may be contacted if necessary.

Customer Service Philosophy

Training is an important component of good customer service. Their service policy is to create a satisfied customer at the end of each interaction. To realize this goal, they strive to enhance quality and improve productivity. Continual employee training is one of the steps in achieving its service commitments.

Tribus investigates all customer complaints within 24 hours. A quality assurance program is implemented to ensure customers with complaints are:

1) Directed to the appropriate department where their complaint is recorded
2) Provided with an agreed-upon solution that is carried out as specified
3) Given a procedure for the solution
4) Advised of any changes

17.32 Wiring

Requirements

1. **Most indoor meters are in a basement (or similar indoor location) without a wire running to the exterior of the premise.**

Describe

1. **How the signal is proposed to be received by the AMI solution, including specifics such as whether wiring will be required during the time of installation and what steps shall be taken during the appointment to ensure good connectivity**

For meter installations which require a wire run to the exterior of the premise, the Tribus Field Installer will connect the AMI system wire following the standard meter installation procedure. Once the meter is installed and tested, the Tribus Installer will connect the wire directly to the register outside of the building and directly to the AMI device to ensure that an adequate signal is received by the AMI device. Tribus will follow its standard Quality

Assurance and Quality Control processes for installation to ensure that these wires are properly connected and that the AMI signal is adequately received.

17.33 Warehousing

Requirements

1. **The City is able to provide material storage, inventory storage, and the storage of project related inventory and materials or vehicle parking for the Contractor. Please refer to Attachment 8 for details.**

Itron/Tribus acknowledges that the City will provide warehousing. Tribus understands that this warehousing facility will be made available to the installation contractor and they anticipate the usage of this facility for this deployment project.

18.0 WARRANTIES

18.1 AMI Component Warranties

Describe

1. **Indicate the warranty terms for various components required for this Project.**

Below is a summary of Itron's warranty policies regarding our AMI hardware. Itron has also included a copy of our warranties, which are included in our Master Sales Agreement and equipment addendum, as well as the maintenance agreement in Appendix 4 for FWCU's review.

Network equipment: Cisco Connected Grid Routers (CGRs) have a standard 5-year hardware warranty. Itron will act as the primary point of contact for Cisco CGR warranty issues.

Itron OpenWay Riva Water Module: Itron includes a standard 20-year warranty, including battery, that provides 10 years at full replacement and an additional 10 years at pro-rated replacement cost. The start date of the warranty period is the date the modules are shipped. Itron's warranty covers the repair or replacement of a defective product that is reported defective to Itron during the warranty period. The warranty does not cover the effort or costs to change-out the equipment (that is, removal and re-installation charges apply). However, it does cover the freight for returning replacement unit to the utility. Responsibilities for other costs are as defined in the appropriate maintenance agreements.

Below are excerpts from Itron's Technology and Services Addendum for Equipment Purchase and Warranty Schedule included in our Master Sales Agreement.

10.1 Limited Warranty

Itron warrants to Customer that the Itron-manufactured equipment will be free from defects in materials and workmanship and will conform to the applicable specifications for a period of one (1) year from the date of shipment, unless otherwise stated in the attached warranty schedule for Itron-manufacture equipment or Order Document. For avoidance of doubt, components parts of Itron-manufactured equipment that are provided by third-party manufacturers and developers – and which are integrated into Itron-manufactured equipment – are covered by this Section 10 warranty.

11. Exclusions to Warranty on Itron-Manufactured Equipment

The above Section 10 warranty on Itron-manufactured equipment does not cover damage due to external causes, including accident, abuse, misuse, inadequate maintenance, problems with electrical power, acts of God; service (including installation or de-installation) not performed or authorized by Itron; usage not in accordance with product instructions or in a configuration not approved by Itron; normal wear and tear; and problems caused by use of parts and components that are not supplied by Itron. The warranty provided herein shall be void if the equipment is modified in a way not authorized in writing by Itron.

18.2 Installation Warranties

Requirements

1. **All installation work, including materials used in the installation, performed by the Contractor or their third-party agent under this contract, shall be guaranteed against defects in workmanship for a period of 1 year from the date of installation.**

Comply

18.3 Nonperformance or Excessive Failures

Requirements

1. **Should the failure rates exceed the guaranteed maximum expected annual failure rates identified with the Fee Tables, or should the system in its totality substantially fail to perform such that the City cannot reliably use the system for billing, or should the occurrence of erroneous or inaccurate meter readings exceed 0.5% per year, then the City may notify the Contractor of this condition, whereupon the Contractor shall be responsible for promptly restoring the system to its normal level of reliability and accuracy at its sole cost and expense.**

Describe

1. **How the Contractor plans to handle situations where batches of failed meters (or similar related equipment, like registers or endpoints) are discovered after installation**

Itron requests final guaranteed and expected annual failure rates be agreed upon during contract negotiations. Itron's warranty terms meet or exceed general industry requirements for a project similar to FWCU's proposed project. We would like to discuss remedies for excessive failures.

18.4 Response Timeframe for Returned Items

Describe

1. **Provide the maximum amount of time from receiving returned equipment to communicating with the City the root cause of the issue.**

CGRs: When CGR's are covered by Cisco's HW Warranty (with the SW / TAC maintenance) or covered Cisco's full SNT (SmartNet) maintenance, CGR Equipment is not returned for investigation / repair. This is a good time savings. The majority of the CGR failure work is based Cisco's FRU (Field Replaceable Unit) Program. When a CGR is failed, Customer or Itron (if field service is being provided) replaces the failed CGR with a working spare. The unit is brought into the shop for investigation, through Itron Tier 1 support and Cisco TAC remote analysis. Itron will validate if there is an issue with the RIVA CAM board, and if not, Cisco TAC will investigate which part is failed via remote connection to the CGR unit. As a result of the investigation a replacement part will be approved by TAC and shipped to Customer / Itron for repair of the unit. If the investigation identifies a full unit replacement is required, Cisco TAC will provide the approval at this same time. Average time for root cause and identification of corrective action varies based on time of field removal, therefore the field work timing is important. However, average time for investigation to approval for Parts shipment or full unit replacement is 2 to 3 days. Maximum time is 7 work days.

2. **Provide the maximum turnaround time for processing either repaired equipment or new equipment**

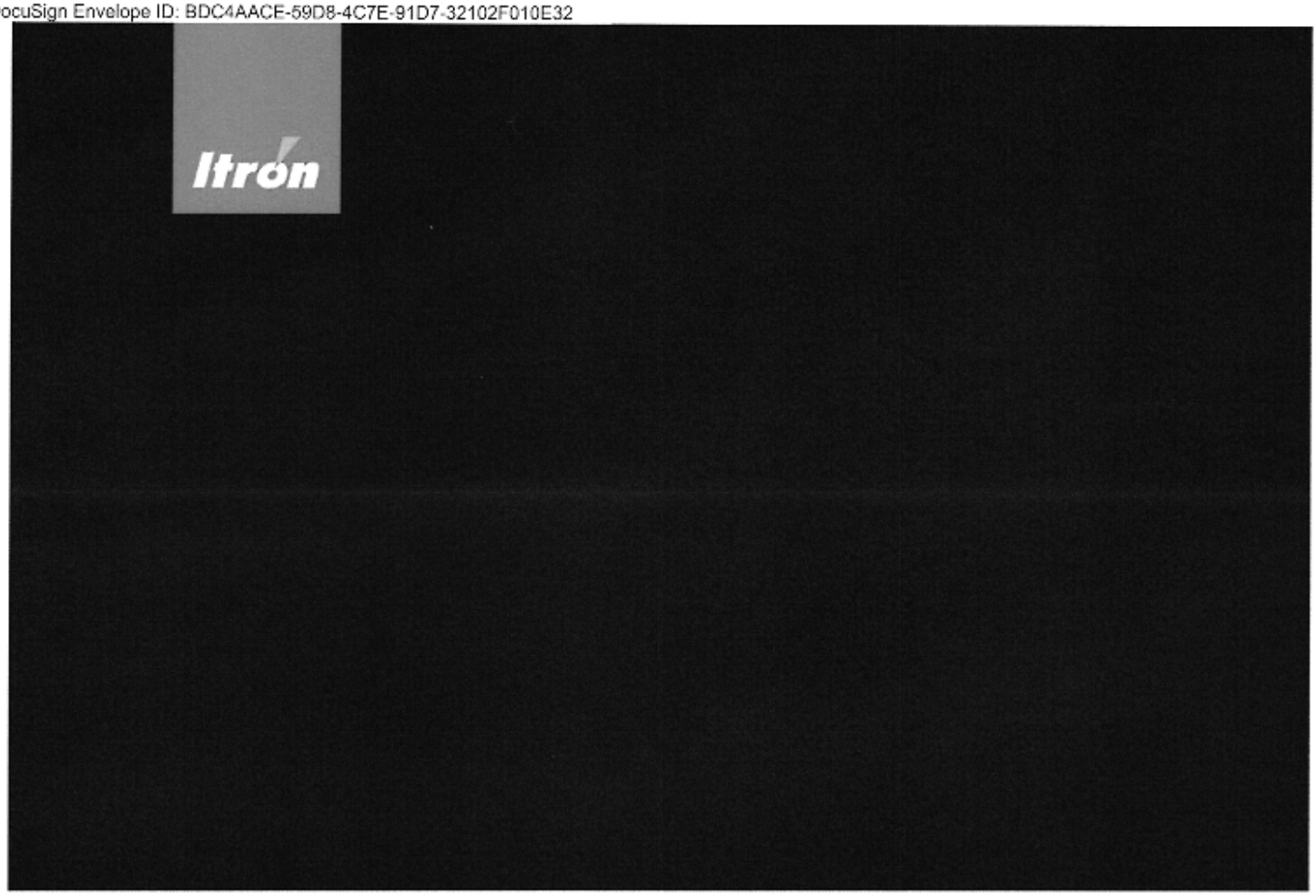
CGRs: Once the failure part/ mode and corrective action is identified under only warranty coverage, the maximum time to receive a replacement part from Cisco for repair is 30 days (minimum is 10 days per Cisco Warranty description). For units covered under the SmartNet coverage, having advance replacement / shipment, the maximum turn around for FRU parts is 7 work days (average is 2 to 5 days).

For a full unit replacement is required, the Maximum turn for receipt of a new replacement unit is 35 work days. This is based on Cisco's 21 work day build and ship approval process,

plus approximately 3 weeks for ship time and Itron's unit configuration / test specific to Customer's use case.

3. **Provide the maximum amount of time for the Contractor to ship to repaired or replaced product**

Once approved, CGR replacement parts is 2 to 4 days average ship/ receipt time, 7 days maximum. New CGR units are received on a maximum of 35 work days based on the build and configuration process described above.



City of Fort Wayne, IN

RFP – Fort Wayne FWCU Advanced Meter Infrastructure System
Resolution No. 105-10-30-18-2
Best and Final Response

Submitted by Itron, Inc.
March 1, 2019

Questions

GENERAL QUESTIONS

1. If the utility elects for the optional network maintenance what solutions can you offer to contractually maintain your network performance levels for the life of the solution?

Itron Response: Itron's Network Field Operations (Maintenance) with Network Managed Services includes the investigation and replacement of non-communicating network devices once a work order has been dispatched. Network Devices covered under this service include those which fail due to device issues.

Itron provides desk level investigation of non-communicating network devices and dispatches a field investigation/truck roll, if required. The Service Level Agreement provided by contracting the Network Field Operations with Network Managed Services will provide a guaranteed availability for network devices.

2. How do you plan to monitor, manage, and resolve customer complaints and claims?

Itron Response: Itron's installation subcontractor, Tribus, will provide these services. Their process is described below.

Each customer will receive a post installation drop card with the Tribus Call Center phone number. If a customer has a concern or complaint, they can call our Call Center and a Tribus Customer Service Representative will document the call and relay the concern to the Project Manager. The Tribus Project Manager will contact the customer and arrange to send a Lead/Supervisor to the premise and discuss the concern.

Each customer complaint, whether received by the technician in the field, in writing, or by telephone, is documented, addressed, and responded to using the Tribus customer complaint process as outlined below:

1. The Call Center receives a complaint and immediately enters it into our system.
2. A record of the complaint is created either by our office or field personnel. The record includes:
    a. Relevant contact information
    b. The nature of the complaint
    c. Customer information
3. A Manager implements a follow-up investigation by:
    a. Contacting the customer and all involved parties to understand the situation
    b. Documenting findings in order to later advise the customer of actions / solution
    c. Determining fault (if applicable)
4. A Manager enacts an appropriate response and documents the response

5. All customer damage claims are handled by the Manager who investigates the situation, speaks to all involved parties, and determines if a damage settlement is appropriate and to what extent.

6. The Manager then contacts parties involved who require notification of the resolution and explains what action was taken.

An investigation summary report tracks customer complaints and compliments to ensure customer service performance goals are achieved. Tribus will ensure that a complaint / claim investigation is actioned within 24 hours and communicated with the customer.

Calls will be transferred to the City if it is determined to be a City issue, e.g., a billing issue, or a general call that does not relate to the meter exchange. The Tribus Call Center Representative will announce to the City Representative:

- Who they are
- Who they have on the line
- The reason for the call

3. Describe your approach for interface development and testing. How would you propose to run a wire out of a finished basement? What tools are at your disposal if a wire cannot be run?

Itron Response: Itron pricing includes 176 hours for interface development: 16 hours for assessment, 40 hours for design support, 40 hours for build support, 40 hours for testing support and 40 hours for go live support. Itron has assumed that the City's CIS billing system, Advanced Utility System, can export a flat file (.TXT/.CSV/.XLS) with the required information. The City and Itron will work together during the 16-hour assessment to confirm that the hours allotted are acceptable.

In the event that work is to be performed in a customer's finished basement, Tribus will make every effort to run the wire to an outside wall without damaging the customer's property. Tribus installers will be equipped with drills and wire fish to run the wire above ceilings and behind walls, etc. Tribus will ensure that all installers are fully trained on the safe, effective, and correct way of running wire.

It is important to note that the OpenWay Riva Water Module has peer to peer communication capability. This feature is used primarily for final end point mitigation, but can also be used in those cases where an endpoint simply cannot be located outside.

4. Tell us about your call center and how they will support getting appointments.

Itron Response: Itron will utilize Tribus for call center support. A description of their operations is provided below.

Tribus has extensive experience in managing Call Center operations for our projects. Our projects regularly involve setting up a customer call center with a local or toll-free contact number for installation appointment scheduling and for meter-related customer questions. To provide maximum value for the City's project, Tribus is proposing the use of our already-established Wisconsin-based Customer Care and Call Center.

Based on our experience, we have minimized customer impact on previous projects by following several operational principles:

- Encouraging customers to proactively call the toll-free number to set up a convenient appointment time
- Training all Tribus field and call center personnel to provide excellent customer service; all interactions are polite, professional, and personnel must be able to competently answer customer questions
- If necessary, and only with City's approval, scheduling appointments outside of regular business hours; we try our best to accommodate special requests
- Adhering to a "minimum three contact attempt" process to increase the probably of making contact with each customer*
- Providing a 24-hour emergency number. All after-hours messaging includes the number for an on-call Tribus Project Supervisor to assist and, if necessary, dispatch an installer within one hour

**It is Tribus's normal process to make three attempts to access each meter account, but we will work with the City and comply with its required processes and practices.*

Trubus's Call Center is equipped with an advanced Enghouse, EICC telephony system. Each Customer Service Representative has a dedicated computer with software enabling a seamless transfer of work order data. Custom dashboards provide our Customer Service Representatives with daily statistics including Average Speed of Answer, Average Hold Time, Number of Calls Taken, Outbound Calls Made, etc.

Tribus Customer Service Representatives have the ability to enlist a translator for any customer via CTS LanguageLink (CTS). CTS will respond immediately to Tribus's translation needs in over 100 languages with real-time 3-way interpretation.

Tribus's typical call center hours of operation are Monday through Friday, 7:00 a.m. to 6:00 p.m. CT, but we can accommodate the City's requested hours of operation. If a non-emergency call is received outside of normal business hours, messages are recorded in a general voicemail. Messages are retrieved the following morning and a Customer Service Representative (CSR) contacts the customer that day. Messages can be retained via a voice recording server.

In addition to customized customer service hours, Tribus provides an emergency contact number on all after-hours messages, so that an on-call Tribus project supervisor may be contacted if necessary.

5. What tools are needed for the utility to complete AMI upgrade?

Itron Response: Because the City has been installing 100W+ ERT modules for many years and OpenWay Riva Water Modules (500W ERTs) more recently, you have the tools and knowledge necessary to complete the AMI upgrade. With additional training provided by Itron as part of our proposed solution, the City will be in a great position for a successful project.

VENDOR SPECIFIC - ITRON

1. How can FCS be incorporated into your solution if at all?

Itron Response: The Itron OpenWay Riva solution allows utilities to deploy ERTs and manage all the fixed network, handheld and drive-by readings through their existing Field Collection System cycle-based billing interface. Using the existing FCS billing interface eliminates the need for interface development.

The OpenWay Riva Fixed Network collects readings and exports a file each day that contains one reading for each ERT under the network. The Field Collection System (FCS) matches fixed network readings to unprocessed meters in traditional routes.

FCS dispatches the unprocessed meters to handhelds and mobile collectors to finish any incomplete routes.

2. **In your best and final proposal, FWCU would like to see Badger meters quoted as an option.**

Itron Response: Itron values the request made by FWCU and has secured meter pricing for Badger water meters. Likewise, we secured "best and final" pricing from Neptune as our base RFP response water meter provider. With the goal of providing the most cost-effective solution to earn your business and to honor our original partnership with Neptune we have decided to only offer Neptune meters in our turnkey solution at this time. Overall savings to the City along with the additional reduction in the Best and Final pricing are substantial and we are confident FWCU will be best served with this solution. If, after this round of submittals the City is still interested in having Badger meters as part of the Itron offering, Itron will be open to further discussions.

3. **Your meter cost are high comparatively. Please look at revising in the best and final proposal.**

Itron Response: Water meter pricing has been reviewed and updated pricing is included in our proposal.

4. **In the past the Utility has had excessive failures in its AMR and water metering systems. Because of past excessive failures, it is very important that the Utility receive responses to Nonperformance or Excessive Failures table in the Supplemental Pricing file. This is a decisive section in the overall confidence that the Utility has for each vendor which is why the Utility is looking for the vendor to commit to a solution for both system and product failure. In addition, to completing the Supplemental Pricing, the Utility would like for an action plan to be provided for problem solving failures and would like to know what the escalation triggers are.**

   Excessive Failure Rates Clarification:
   All vendors will be required to provide a 2% annual failure rate of Meters, Registers, and Endpoints for the first 10 years of installation period. Vendors are encouraged to submit lower annual failure rates if they have a higher level of confidence in their product than the minimum 2% that the Utility requires.

   For repeaters (if applicable), collectors, and handhelds, the Utility will be looking to each vendor to disclose their maximum permissible annual failure rate as a percentage.

Itron Response: Itron agrees to provide labor if the annual maximum failure rate exceeds 2% for the OpenWay Riva Water Modules for the first 10 years from date of shipment. Itron will work with the City to come to mutually agreeable processes and procedures during contract negotiations.

As demonstrated by the expected failure rates noted on the failure rate tables, Neptune's high quality products are unlikely to have failure rates to exceed 2%. In the rare occurrence when this may

happen, Neptune will stand by its products with its Standard Warranty and its Return Material Authorization process to provide warranty replacements to the City. Additionally, Neptune will provide labor to get the failure rate under 2%. In the event there is an issue with getting the reading data, the product will be deemed a failure as long as a Neptune reading device cannot obtain a valid reading from the register.

Itron has provided the expected failure rates for the Cisco CGRs rather than an excessive failure rate and this is reflected on the Excessive Failures table. Please note that Itron has provided a field network maintenance option that will ensure proper network SLAs should the City desire it.

Likewise, for the Itron Mobile Radio (IMR), we have provided the typical or expected failure rate. Itron recommends a 10% sparing level for this type of equipment to prevent lost time in the field.

Itron has a standard Return Material Agreement (RMA) procedure for returning equipment under warranty. Itron's RMA process includes a failure analysis form with each module returned. This information can also be provided through the Itron website or electronically upon request. During the maintenance contract period, equipment can be shipped to Itron and may be repaired and returned or replaced in whole. Under the Managed Services agreement, Itron will handle the RMA process for the CGRs.

Statement of Work

OPENWAY RIVA AMI SAAS PROJECT

City of Ft. Wayne, IN.

SOW Point of Contact: Ryan Kuenner

ITRON Account Executive: Gary Ziegler

Date: 9/9/19

Version: 1.4

Table of Contents

A. About this Document

- This Statement of Work ("***SOW***") defines the activities ("***SERVICES***") to be performed by Itron, Inc. ("***ITRON***") for the City of Ft. Wayne, IN ("***CUSTOMER***") for the OpenWay Riva SaaS Project ("***PROJECT***"). This document will describe the agreed upon scope, services to be provided, deliverables, assumptions, responsibilities, timeline and completion criteria.
- Any updates to this SOW shall only be considered as documented through the Change Control Process (see Appendix) throughout the duration of the PROJECT. The SERVICES shall be governed by the following agreements ("**AGREEMENTS**") and their related terms and conditions, as executed between CUSTOMER and ITRON:

  Master Sales Agreement, including the following Addenda:

  Equipment Purchase & Warranty Schedule Addendum

  Software License Addendum

  Maintenance & Support Services Addendum

  Installation/Implementation Services Addendum

  Software as a Service (SaaS) Addendum

  Managed Services Addendum

  Pricing Summary Reference Number: BMR# 16143-18 Ver4 Jul September 6, 2019

- No work will commence until the above agreements and this SOW have been duly executed.

B. Document Controls

B.1. Document Record

Date	Author	Version	Change Reference
4/26/19	Ryan Kuenner	1.0	DRAFT
6/11/2019	Ryan Kuenner	1.1	Edits and Responses.
7/11/2019	Kevin Keim	1.2	Edits and Review
7/17/2019	Ryan Kuenner	1.3	Added Testing Section
7/18/2019	Ryan Kuenner	1.4	Accepted Changes, Add definition for Available and Accepted Endpoints.

B.2. Document Owner

- This SOW contains information that is confidential and proprietary to ITRON, who is the document owner and is responsible for developing and maintaining this SOW. It is understood that this SOW is for the purposes of the PROJECT as described. This SOW or portions thereof should not be referred to, re-produced, distributed or utilized in any manner outside of the PROJECT's needs, without prior written consent of ITRON.

C. Authorization

- CUSTOMER and ITRON agree to the terms of this SOW and by signing below, the CUSTOMER authorizes ITRON to perform the SERVICES detailed herein.

CUSTOMER	ITRON
Authorized Signature See Attached Signature Page	**Authorized Signature**
Printed Name	**Printed Name**
Title	**Title**
Date	**Date**

-

Please Complete:
- **SOW Identifier:** OpenWay Riva AMI SaaS Project - **CUSTOMER Name:** City of Ft. Wayne, IN. - **SOW Point of Contact:** Ryan Kuenner - **Date Created:** - **Version**: Final

Please e-mail or fax a PDF file of the signed SOW to the contact below. E-mailing or faxing only the signature page is acceptable. A fully executed copy will be returned to CUSTOMER electronically in PDF format by e-mail.

If an original signed paper agreement is required, please mail the signed SOW to the address below. If mail is used, overnight service is recommended. Please provide a tracking number to your Account Executive. A fully executed copy will be returned to you electronically in PDF format by e-mail and the original signed paper copy will be returned by mail.

Please return this signed SOW to:

ITRON, Inc.

2111 N. Molter Rd.

Liberty Lake, WA 99019

Attn: Contract Administration

Fax: (509) 891-3331 or pdf and email to contract.request@ITRON.com.

* A fully executed version will be returned.

D. Project Overview

D.1. Project Summary

The PROJECT involves implementation of the OpenWay Riva Advanced Metering System ("***SYSTEM***"). The SYSTEM has extensive capabilities with the PROJECT focused on implementing the standard meter data requirements as described in the AGREEMENTS.
The anticipated duration of the PROJECT is thirty-six (36) months.
The PROJECT will be performed in three (3) phases.

The first phase "INITIAL INSTALLATION" consists of workshops, training, back office software implementation, configuration, and testing and is anticipated to be completed in a ten (10) month period.

The second phase "FIELD INSTALLATION PART I" will include the installation of 46 Connected Grid Routers (CGR's), one-half (1/2) of the total 500W OpenWay Riva Endpoints to be installed (estimated at 53,603), and one-half (1/2) of the total 5/8"-1" water meters to be installed (estimated at 36,953).

An initial Notice to Proceed will be issued by the Fort Wayne Board of Public Works for the first phase and the second phase of the PROJECT. Work on the first phase may begin immediately upon issuance of the Notice to Proceed. Work on the second phase may begin any time after issuance of the Notice to Proceed and completion of any necessary software implementation, configuration, and testing during the INITIAL INSTALLATION phase of the PROJECT.

The third phase "FIELD INSTALLATION PART II" will include installation of the remaining 500W OpenWay Riva Endpoints and the remaining 5/8"-1" water meters, and project closeout activities. A separate Notice to Proceed will be issued by the Fort Wayne Board of Public Works for the third phase of the PROJECT. Work on the third phase may begin only after issuance of this separate Notice to Proceed.

The PROJECT will follow ITRON's standard project methodology, as included in Appendix A, with the Detailed Project Schedule incorporating the above-prescribed timing requirements, being outlined in the Project Plan published upon the inception of the PROJECT.

The SYSTEM consists of the following software and hardware:

- Software Applications (Hosted by ITRON)
    - OpenWay Operations Center
        - Collection Manager
    - ITRON Analytics
    - ITRON Security Manager
    - Cisco IOT Field Network Director (FND)
- Network Equipment
    - Connected Grid Routers (CGR)

- ERT Gateway Star (EGS)
- OpenWay Riva Water Endpoints

D.2. Project Services

The PROJECT will include the following services provided by ITRON:

- Project management services
- Installation and configuration of software in a SaaS environment
- Integration of ITRON software applications with CUSTOMER CIS (AUS v4).
- Network Design services
- Network Installation services
- Functional SYSTEM Testing
- SYSTEM Training
- Installation of approximately 107,206 500W OpenWay Riva Endpoints
- Exchange of approximately 71,658 5/8"-1" inside water meters
- Exchange of approximately 2,249 5/8"-1" pit water meters

D.3. Project Elements

- The following are key elements of the PROJECT to be completed by ITRON:
  - Installing and configuring Software Applications to meet the requirements defined in this SOW.
  - Implementing the SYSTEM to meet performance metrics and deliverables outlined in the AGREEMENTS and this SOW.
  - Conducting a 4-month Initial System Acceptance (Proof of Concept) Test which will consist of up to 2 MNBs and up to 500 OpenWay 500W Endpoints (INITIAL INSTALLATION phase).
  - Deploying Network hardware as defined in the network design Appendix B.
  - Deploying OpenWay Riva Water Endpoints per locations provided by CUSTOMER.
  - Providing daily extract of meter register data for Accepted Endpoints.
  - Providing training as outlined in the Training Section of this SOW.
  - Performing SYSTEM testing in accordance with the Testing Section of this SOW.
  - Transitioning CUSTOMER to ITRON Technical Support Services.
  - Field Area Network (FAN) Deployment, including the following hardware:
    - 55 Connected Grid Routers (CGRs)
    - 13 Encoder Receiver Transmitter (ERT) Gateway Star
  - 500W Endpoint Deployment.
  - Configuration of 100W Deployed Endpoints to be read over the FAN.

E. Project Assumptions

E.1. General Project Assumptions

- Below are assumptions utilized to create this PROJECT Scope and Project Plan documents.

1.	ITRON and CUSTOMER will provide suitably trained and skilled resources to support the PROJECT effort and timeline agreed upon by both parties. CUSTOMER's technical and business resources shall be fully familiar with their present IT Operations as they relate to the PROJECT components.
2.	The ITRON Project Manager ("ITRON PM") assigned to this PROJECT is responsible for management of all ITRON resources, ITRON Deliverables and the Project Plan.
3.	CUSTOMER will identify all individuals/entities assigned to the various roles that will be performed by CUSTOMER in furtherance of the PROJECT. Any additions not identified at PROJECT startup, including 3rd party contractors/consultants may impact this SOW and associated pricing, requiring agreement through the Change Control Process.
4.	ITRON will identify and be responsible for any 3rd party contractors/consultants contracted by ITRON for the PROJECT.
5.	Resource travel time will accommodate arrival on Monday and departure Friday morning. The schedule will be determined by the ITRON PM.
6.	CUSTOMER and ITRON will provide the SERVICES outlined in this SOW during normal business hours, 8:00 AM to 5:00 PM Eastern time Monday through Friday, except travel time and holidays. If necessary, CUSTOMER will provide after-hours access to CUSTOMER facilities to ITRON personnel. ITRON installation scheduling hours may be between 6am and 8pm.
7.	All PROJECT resources will use ITRON methodologies, ITRON tools and ITRON templates.
8.	CUSTOMER is responsible for developing its own internal standard operating procedures (SOP)s based on training and input from ITRON during the PROJECT for all aspects of the SYSTEM.
9.	ITRON will provide CUSTOMER with an electronic copy of a standard set of SYSTEM documentation including user guides, training materials, and where applicable, designs.
10.	Issue tracking/resolution done by ITRON will be done using ITRON tools.

E.2. Technical and Design Assumptions

- Below are assumptions utilized to develop the Network Design Deliverables and other technical requirements.

1.	ITRON has designed the Network to achieve a 99% daily read rate, 99.5% three-day read rate and 99% interval reads for Accepted OpenWay Riva Water Endpoints.
2.	Network Devices must be installed in accordance with the installation manual and at locations and elevations specified in the Network Design document.
3.	Unanticipated obstructions or other issues found during site surveys or installation that may impact RF performance will require a re-evaluation of network design. Design changes could lead to additional equipment.
4.	The Network has been designed based on CUSTOMER provided Endpoint Geographic Information System (GIS) coordinates. CUSTOMER provided Coordinates that differ from actual coordinates by more than 100 feet may require additional network design and will be addressed through the Change Control Process.
5.	CUSTOMER is responsible for all permitting and Joint Use Agreements (JUA) required to install the Network Devices.
6.	OpenWay Riva Water Endpoints must be installed in accordance with the Endpoint installation guide and the Network Design document. All installations are to be exterior to the building wherever possible or in meter pits where required.
7.	CUSTOMER is responsible for data quality and data cleansing.
8.	CUSTOMER will complete requests for changes to configuration (opening firewall ports, Windows OS, etc.…) within the mutually agreed upon timeline.
9.	No software customization shall occur unless otherwise stated in this SOW. (For example, UI changes, reports, extracts, interfaces, etc.)

F. Project Deliverables

- ITRON deliverables are shown below with the schedule of each Deliverable being included in the Project Plan.

F.1. ITRON Deliverables

- ITRON shall provide the standard Project Plan at the start of the PROJECT.
- ITRON shall conduct a PROJECT kickoff meeting to provide a SYSTEM overview, review the Project Scope, budget and schedule.
- ITRON shall provide PROJECT tracking and will manage the Project Plan and Deliverables through weekly sixty-minute PROJECT planning and status calls.
    - On the first workday of each week, ITRON shall provide the CUSTOMER an updated schedule of where work is planned for the next 3 weeks.
    - ITRON will work with the CUSTOMER to schedule blackout windows. The CUSTOMER will require an approximate 5 day-blackout window per billing area, where installations will not be permitted to occur for each route.
    - ITRON shall submit a proposed detailed schedule, including the number of monthly installations, monthly number of installers, implementation and project management staff on site, and additional resources required for the successful completion of the PROJECT.
- ITRON shall provide one production instance of hosted environment. Refer to SaaS addendum for service level commitments.
- ITRON shall develop the Initial Network Design based on CUSTOMER provided data. ITRON to validate backhaul availability at each network location and complete Network Device and OpenWay Riva Water Endpoint installation as specified in the Initial Network Design.
- ITRON shall complete network site surveys to validate placement of Network Devices included in the Initial Network Design.
- ITRON shall update the Network Design after field surveys are completed by ITRON.
- ITRON shall make available a SFTP site to the CUSTOMER to share data files.
- ITRON shall provide integration support for a total of (160) hours of integration assessment from CUSTOMER CIS to OpenWay Operation Center Head End System. Itron estimates 160 hours for integration between Itron OpenWay Riva headend and customer CIS. Estimate of 1 week duration of design support (40 hours), 1 week duration for build support (40 hours), 1 week duration of testing support (40 hours), and 1 week duration of go live support (40 hours) will be validated, and actual effort will be confirmed following integration assessment. CUSTOMER will provide data based on the standard interface format. Additional support available through the Change Control Process.

- ITRON shall implement Field Deployment Manager Work Order management system to support the Field Installation Phase.
- ITRON shall conduct a total of eighty (80) hours of software training for up to twenty (20) CUSTOMER employees/agents. This training may be broken down into multiple sessions with no more than ten (10) individuals participating per session.
- ITRON shall provide up to eighty (80) hours of network device / endpoint installation & mitigation and site survey training including preparation.
- ITRON shall provide sixteen (16) hours of ITRON Analytics training including preparation.
- ITRON shall complete transition documentation and introduce CUSTOMER to ITRON Support Services in a scheduled transition meeting.
- ITRON shall complete all Field Installations, as follows:
    - ITRON shall conduct installations by book, or group of books. Book groups should be based on geographic proximity and logistics and neighborhoods to be determined by the CUSTOMER in discussion with ITRON. In addition, ITRON must notify the CUSTOMER of any service addresses scheduled for a meter replacement or register upgrade that does not have a meter or some other means of water conveyance. This includes straight pipes, flexible piping, hoses, or any device where the meter is to be located.
    - If a service does not have a meter but it has water available on the supply line, then ITRON shall not proceed until obtaining authorization from the CUSTOMER.
    - The CUSTOMER will retain the right to prioritize other areas, or to reorganize priorities both before the PROJECT begins, and during the PROJECT. Unless approved in writing by the CUSTOMER, ITRON shall complete at least 90 percent of the installations in one release, or group of routes before commencing installation on the next release. Exceptions to the requirement to complete an installation may be granted by the CUSTOMER. For example, a property that is vacant or abandoned, has no meter or no existing standard connections for a meter, or has piping or plumbing deteriorated or in fragile condition, may be excluded by the CUSTOMER from the properties that must be upgraded. These will be identified as a Return to Utility (RTU) order, and treated as if they had not been assigned when computing the percentage of assigned properties completed.
    - ITRON shall run wire where required for endpoint installations to remote the radio to the exterior of the structure. ITRON acknowledges that some installations may require longer runs of wire to achieve a proper installation. ITRON acknowledges that some installation scenarios such as installations where the meter is located in the basement or within the structure may require special accommodations. This is part of the PROJECT and is not subject to additional compensation through the Change Control Process.
    - ITRONs contractor shall capture the following photos at each meter location:
        - Entire meter set upon arrival;

- The customer account number, address and new endpoint serial number for quality control;
- Close up of the existing meter with register read;
- New meter and ERT together side by side (does not need to be installed). For retrofits on the outside of the home a picture of the ERT is required;
- Entire meter set after installation.

- ITRON shall capture GPS coordinates at each endpoint and a physical description of the location
- ITRON shall document the following items during the meter installation:
  - Service material coming into the meter;
  - Whether there is a sump pump and if it is connected to City Sewer System
  - The presence of backflow devices and associated identification numbers (photo)

ITRON shall provide support to the CUSTOMER in reprograming existing Open Riva Itron Endpoints to go from mobile reads to fixed reads during the last mobile collector read by the CUSTOMER. In the event of an issue with reprograming ITRON and CUSTOMER will agree to a field mitigation solution.

- ITRON shall provide a Project Control Manual (PCM) that will identify the required operations and procedures during the Field Deployment Phase.
- Itron shall provide onsite technical support during the PROJECT at no additional cost.
- Itron shall provide a dedicated project manager who is also an available onsite resource.
- ITRON shall provide Call Center Operations.
- ITRON shall provide Work Order Management.
- ITRON shall provide a Quality Assurance Program.
- ITRON shall provide a Meter Access Program.
- ITRON shall provide Endpoint Mitigation.
- ITRON shall provide Project Reporting.
- ITRON shall ensure Endpoint Acceptance.
- For ninety (90) days after ITRON is notified of a given installation, ITRON must respond to calls from the end user associated with that installation or the CUSTOMER concerning leaks, loss of service, low pressure, and other problems associated with installation on a 24-hour-per-day basis. ITRON must respond within one (1) hour of receiving the call. If the request is urgent (i.e. leaking water) ITRON shall arrive at the end user's premises ready to correct any problems within one (1) hour of receiving the call. If the request is not urgent ITRON shall schedule an appointment with the end user, which shall take place within 5 business days of the request.
- ITRON shall provide access to all call center logs for a minimum of 90 days after completion of the PROJECT. ITRON shall maintain a log of all such calls and their resolution, and provide

CUSTOMER a copy of the log daily, using e-mail or another mutually acceptable electronic means.

- ITRON shall document each end user complaint, whether received by the installer in the field, in writing, or by telephone, and that the complaint is addressed, and resolved using ITRONs' customer complaint process, as follows:
  - ITRONs Customer Care Center or field personnel receives a complaint and immediately enters it into FDM work order management system.
  - A record of the complaint is created by ITRON office or field personnel. The record includes:
  - Relevant contact information;
  - The nature of the complaint; and
  - Customer (end user) information
- ITRON manager implements a follow-up investigation by:
  - Contacting the end user and all involved parties to understand the situation;
  - Documenting findings in order to later advise the end user of actions / solution; and
  - Determining Root Cause (if applicable).
- ITRON enacts an appropriate resolution and documents the resolution in its system.
- All end user damage claims are handled by ITRON's staff who investigates the situation, speaks to all involved parties, and determines if a damage settlement is appropriate and to what extent.
- ITRON then contacts parties involved who require notification of the resolution and explains what action was taken.
- ITRON shall provide an investigation summary report that tracks end user complaints and compliments to ensure customer service performance goals are achieved.

- ITRON shall work with the CUSTOMER to develop messages for inconveniences that occur from the installation of the new meter and shall communicate these messages in a timely and professional manner to the end users.
  - ITRON shall be responsible for notifying end users of the need to gain access to meters and scheduling the meter replacement.
  - ITRON shall make all communication materials available in English, Spanish and Burmese. ITRON's call center services shall include English, Spanish and Burmese speaking representatives.
  - ITRON shall utilize and send, at a minimum the following notifications:
    - 30-day notification (letter or postcard) to set customer expectations
    - 10-day notice prior to the commencement of installation on a cycle, Itron shall send 5.5" x 8.5" color printed notices to customers and owners of property on that cycle indicating the dates when

installations will occur. The material must include the Contractor Call Center phone number and website for customer scheduling.
- Direct phone calls to confirm or reschedule meter
- Door tag left at the customer premise in the event of an unsuccessful upgrade.

F.2. CUSTOMER Deliverables

- CUSTOMER deliverables are shown below with schedule of each Deliverable being included in the Project Plan.
- CUSTOMER shall assign PROJECT staff and participate in the PROJECT kick-off meeting;
- CUSTOMER shall participate in scheduled planning and update meetings;
- CUSTOMER shall complete integration of daily reading files created by ITRON and stored on the SFTP site into CIS;
- CUSTOMER shall complete SYSTEM Testing in accordance with the established Project Plan and as defined in the standard Test Plan.
- CUSTOMER shall assign resources and ensure active participation in Training as outlined in the Training Course Description Section.
- Post Endpoint Acceptance, using the support of ITRON as outlined in Section H.1, CUSTOMER shall complete troubleshooting and mitigation of non-communicating or poorly communicating OpenWay Riva Water Endpoints as required.
- Unless under Network Maintenance as a Service, CUSTOMER shall maintain the SYSTEM including Network Devices.
- CUSTOMER shall maintain accepted OpenWay Riva Water Endpoints.
- CUSTOMER shall maintain interfaces between CUSTOMER software and ITRON Software.
- In the event of a CUSTOMER driven change in field conditions, inform ITRON so that ITRON can update Network Design as Network Device changes occur in the field.
- CUSTOMER shall develop and test interface files. Format will utilize Itron's standard API's. Daily updates to the interface file are required to synchronize CIS to ITRON Software Applications. Interface files will be posted to the ITRON SFTP site. See Appendix C.

F.2.1. Interfaces

ITRON will provide 176 hours of consulting support to CUSTOMER for implementing the Master Data Import (MDI) interface to OpenWay Operation Center (OWOC). The Integration Test Plan will be developed by CUSTOMER to validate the proper development of the different SYSTEM integration points. Testing will be performed jointly by ITRON and CUSTOMER with testing results provided to CUSTOMER for review and approval.

Field Deployment Manager (FDM) is Itron.

Integration Name	Destination Application	Type	Functions
FDM	CIS	Flat File (From-Host & To-Host)	From-Host file provides CUSTOMER CIS account information for generating field work orders. To-Host file provides completed work order information for updating CUSTOMER CIS with new Meter/Endpoint data and completed work order data. ITRON will support FDM to CIS interface to upload pictures into the CIS system.
MDI File	OWOC	XML File	Master Data Import File created from the CUSTOMER CIS to Populate OWOC with configuration data. See Appendix C for Sample

o

F.3. Equipment

For the PROJECT, the CUSTOMER will purchase Network Devices and OpenWay Riva Water Endpoints against the quantities specified in the Pricing Summary that are installed. ITRON will be responsible for providing an equipment release request which the CUSTOMER will be responsible for approving. If endpoint or meter quantities increase, the CUSTOMER will purchase additional quantities of Equipment as needed. CUSTOMER will work with ITRON sales to order equipment as specified. If the endpoint or meter quantities are less than what is reflected on the Pricing Summary, CUSTOMER is only responsible for purchasing the quantity of endpoints and/or meters actually installed. Customer is not required to purchase excess inventory at the end of PROJECT.

G. Testing

- Testing is a critical activity in deploying a successful solution. This section describes the testing activities for the PROJECT.

G.1. Comments & Clarifications

1.	CUSTOMER will provide Tier 1 Support for internal testing. ITRON shall provide Tier 2 Support onsite at Customer location in Ft Wayne, IN. Note: Tiers defined in the Testing section of this SOW.
2.	ITRON shall resolve all SYSTEM and installation related defects.
3.	Assignment of the severity levels to each testing issue or defect will be reviewed and agreed to by both parties. Any discrepancy will be resolved by CUSTOMER & ITRON PMs. Note: Severity levels defined in the Testing section of this SOW.

G.2. Testing Types

- The ITRON testing approach utilizes the following testing types: Functional, Integration and Solution testing, System Acceptance, and Final Acceptance. This section describes each type of test.

Test Type	Defined	ITRON Responsibility	CUSTOMER Responsibility
Functional Unit Testing	Functional Unit testing to verify accurate setup and configurations.	Prepares, document, and Executes ITRON Functional Test Cases.	Reviews and Approves ITRON Functional Test Results.
Integration	Integration testing verifies integration-level work and configurations, critical to the enterprise solution.	Prepares, document, and executes ITRON Integration Test cases, with data inputs from CUSTOMER CIS. Provides outputs to CUSTOMER CIS. Data Inputs: • MDI File (XML) • FromHost File (CSV) Data Outputs • Common Read File (CRF – Read Data XML) • ToHost File (CSV)	Executes CUSTOMER test cases. Creates Out puts from CUSTOMER CIS, and consumes Inputs to CUSTOMER CIS. Data Outputs: • MDI File (XML) • FromHost File (CSV) Data Inputs • Common Read File (CRF – Read Data XML) • ToHost File (CSV) Reviews and Approves ITRON Integration Test Results.
Solution (End-to-End)	Solution "End-to-End" Test Cases validates CUSTOMER business requirements with entire solution in place for key use cases.	Prepares, document, and executes ITRON Solution Test cases, with data inputs from CUSTOMER CIS.	Provides input to Test cases. Data outputs to ITRON. Reviews and Approves ITRON Solution Test Results.

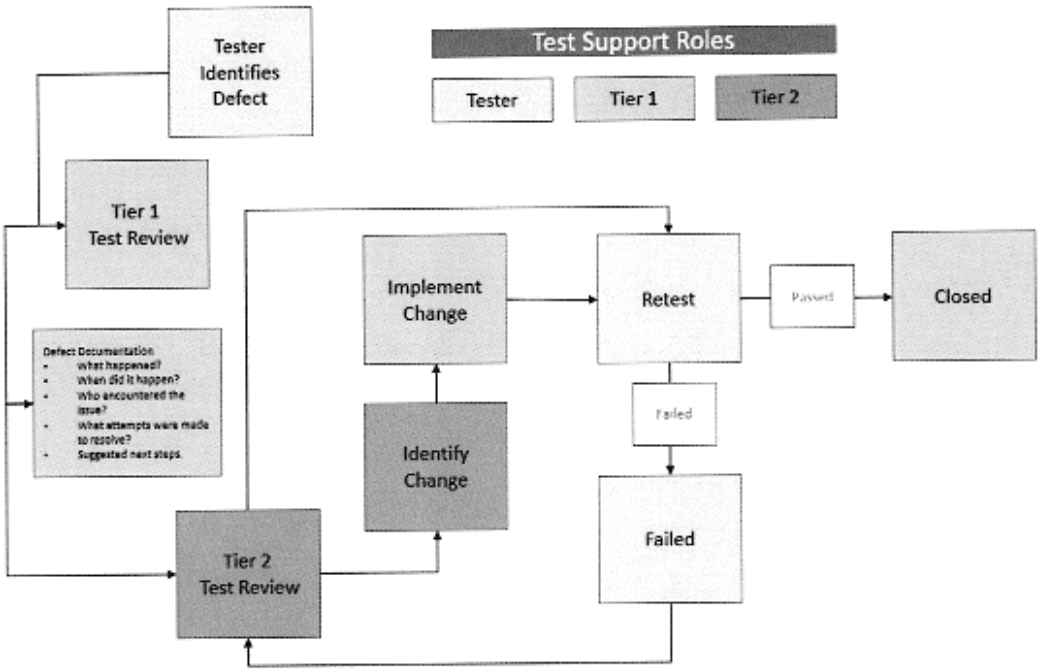
Test Type	Defined	ITRON Responsibility	CUSTOMER Responsibility
Initial System Acceptance Test (Proof of Concept)	Initial System Acceptance Testing identifies that the system is installed, Configured, and operating to CUSTOMER specifications as defined in the business solution requirements document. (BSRD)	Prepares, documents, and executes ITRON Initial System Acceptance Test, with data inputs from CUSTOMER CIS.	Provides input to Initial System Acceptance Test cases. Data outputs to ITRON. Reviews and Approves ITRON Initial System Acceptance Test Results.
Final System Acceptance Test	Final System Acceptance Testing identifies that all Accepted Endpoints are installed, and achieve the performance specifications identified in this SOW.	Prepares, documents, and executes ITRON Final System Acceptance Test, with data inputs from CUSTOMER CIS.	Provides input to Final System Acceptance Test cases. Data outputs to ITRON. Reviews and Approves ITRON Final Acceptance Test Results.

G.3. Tier Support Levels

To address issues encountered during testing, it is recommended that the project team implements the Tier support model as described below.

During testing, issues may be encountered that require support from resources that are trained in the ITRON solution. This section defines the tiers referenced in an earlier section.

Tier Levels	Defined	Examples	Testing Responsibility
1	A resource that is trained on the ITRON solution. They are considered process owners and are first level support for problems/issues encountered. Tier 1 is required to provide basic troubleshooting. For each issue encountered, they should collect the following information in their problem/resolution process: – What happened? – When did it happen? – Who encountered the issue? – What attempts were made to resolve? – Suggested next steps.	End user can't run a report. Tier 1 Support would provide support to this user.	CUSTOMER
2	If Tier 1 is unable to resolve, Tier 1 escalates to Tier 2. Tier 2 are also trained in the ITRON solution but have deeper product knowledge. If Tier 2 is unable to resolve, they will engage appropriate ITRON resource(s).	Through Tier 1 troubleshooting, it was determined that the issue was a system failure vs. a training issue. Tier 1 would escalate to Tier 2.	ITRON



G.4. Testing Severity Parameters

- The following table defines the testing severity levels for ITRON solution component testing defects identified during the PROJECT testing activities. It also includes required mitigation/actions steps to resolve.
- Both parties will review all issues found through the associated testing process and agree on severity level assignment and applicable course of action as detailed below.

Level	Defined	Actions
Critical	– Issue is causing a problem that results in: o Lost data, system instability or system crashes. o Loss of complete functionality with no work around. (For example: unable to collect data, unable to provide billing data to billing system.) o Major set of test cases of the Functionality (High, Medium and Low critical) cannot be tested until the requisite functionality is fixed and available for testing. With workarounds\alternate approaches, a small set of test cases of the functionality can still be executed.	– Issue recorded and reported to: o ITRON Project Sponsor o ITRON Engineering/Product Management Review project/testing mitigation with CUSTOMER. – ITRON Project Team will create a Service Request with Engineering to investigate issue within one (1) business Day. – Conduct regular meeting updates to track resolution. – If resolution is a scheduled software hotfix, CUSTOMER specific testing will be required to validate resolution.

Level	Defined	Actions
Minor Business Impact	– An issue which can be addressed with a work-around but does not meet the business solution requirements or functional/performance requirements as agreed upon. – System can still operate although some functionality or performance is reduced. – Some test cases of the functionality cannot be tested until the requisite functionality(s) is fixed and available for testing. With the current available functionality, Major set of test cases of the functionality can still be executed.	– Review work around/mitigation with CUSTOMER. – ITRON Project Team will acknowledge and begin investigation of the issue within one (1) business Day. – If resolution is a scheduled software hotfix, CUSTOMER specific testing will be required to validate resolution. – Requirement for future software hotfix implementation supported through ITRON Support Services post project.
Information/Training/Minor Error	– An issue not impacting any system functionality and is considered cosmetic only. – It is not necessary to fix any of the trivial level defects prior to full Production use.	– Issue recorded as an enhancement request and reported to ITRON Product Management through standard process. – Improvement will be managed by ITRON Product Marketing and considered for future system release.
Enhancement Request	– Request is made to enhance the product functionality.	– Enhancement will be managed by ITRON Product Marketing and considered for future system release.

G.5. Initial System Acceptance Test (Proof of Concept)

1.	The Initial System Acceptance Test will be initiated upon completion of the Initial Installation of up to a thousand (1,000) Endpoints, 2 CGR's, 1 EGS.
2.	Prior to the Initial System Acceptance Test, ITRON and CUSTOMER will verify that each deployed CGR for the Initial System Acceptance Test can communicate and register with the OWOC.
3.	The Initial System Acceptance Test will run for 30 days starting when the back-office installation is completed and accepted. ITRON can declare an exclusion day if a special condition is encountered during the Initial System Acceptance Test. Examples of specific conditions that could trigger an exclusion day are backhaul or IT-related issues are experienced, unforeseen field conditions include extensive power outages at the CGRs, etc. The exclusion has to be communicated to CUSTOMER in writing as soon as practicable.
5.	Initial System Acceptance reports will be generated from OWOC as approved by CUSTOMER.
6.	ITRON is responsible to publish and configure the optimal read schedule to achieve performance requirements before starting the Initial System Acceptance Test.
8.	In the event a non-ITRON caused deficiency is identified that prevents successful completion of the Initial System Acceptance Test or causes ITRON to perform field investigations, ITRON will work to identify the root cause with CUSTOMER and provide a remediation plan.

9.	ITRON will submit an Initial System Acceptance Certificate upon successfully meeting performance criteria; CUSTOMER has 15 business days to dispute the Certificate or Initial System Acceptance will be considered achieved.
10.	Following Initial System Acceptance, full Endpoint deployment can begin.

G.6. Final System Acceptance Test

1.	The Final System Acceptance Test will be initiated upon completion of the Installation of all Accepted Endpoints, and FAN equipment.
2.	Prior to the Final System Acceptance Test, ITRON and CUSTOMER will verify that each deployed CGR for the Final System Acceptance Test can communicate and register with the OWOC.
3.	The Final System Acceptance Test will run for up to 30 days starting when all deployed Endpoints have been accepted. ITRON can declare an exclusion day if a special condition is encountered during the Final System Acceptance Test. Examples of specific conditions that could trigger an exclusion day are backhaul or IT-related issues are experienced, unforeseen field conditions include extensive power outages at the CGRs, etc. The exclusion has to be communicated to CUSTOMER in writing as soon as practicable.
4.	Meters/Endpoints will be considered Unavailable and excluded from the Final System Acceptance Test if an Accepted Meter/Endpoint was found to be tampered with, replaced, stolen or vandalized. If an Accepted Meter/Endpoint has stopped communicating for three (3) consecutive days, CUSTOMER will investigate to determine whether the meter is working properly. If the Meter/Endpoint is found to be working properly, that Meter/Endpoint will be included in the Final System Acceptance Test for purposes of determining whether the test performance levels have been met, as described below.
5.	Final System Acceptance reports will be generated from OWOC as approved by CUSTOMER.
6.	ITRON is responsible to publish and configure the optimal read schedule to achieve performance requirements before starting the Final System Acceptance Test.
7.	The Final System Acceptance Test requirements will be met when the following performance levels are achieved for 30 days: o The average 1-day **Register Read Rate** for all Accepted Meters/Endpoints during the Final System Acceptance Test period is 99.0% or greater. o **Register Read Rate** performance is the number of unique **Register Reads** received during each Measurement Day over the duration of the test period divided by the number of Accepted Meters/Endpoints for each of the Measurement Days over the duration of the test period. o The average **3-day Billing Register Read Rate** for all Accepted Meters/Endpoints during the Final System Acceptance Test period across billing cycles is 99.5% or greater.

	○ **3-day Billing Register Read Rate** performance is the number of **Register Read**s received for each Meter/Endpoint included in a Billing Cycle divided by number of Accepted **Register Read**s for each included Billing Cycle in the measurement. ○ The average **Daily Interval Read Rate** for all Accepted Meters/Endpoints during the Final System Acceptance Test period is 99.0% or greater. ○ **Daily Interval Read Rate** performance is the number of unique **Interval Data** Reads received during each Measurement Day over the duration of the test period divided by the number of expected **Interval Data** Reads from Available Meters/Endpoints for each of the Measurement Days over the duration of the test period.
8.	In the event a non-ITRON caused deficiency is identified that prevents successful completion of the Final System Acceptance Test or causes ITRON to perform field investigations, ITRON will work to identify the root cause with CUSTOMER and provide a remediation plan.
9.	ITRON will submit a Project Completion Form upon successfully meeting the Final Acceptance Test performance criteria; CUSTOMER has 15 business days to dispute Certificate or Final Acceptance will be considered achieved.

H. Acceptance of ITRON Deliverables

H.1. Deliverable Acceptance

Acceptance of the ITRON Deliverables are outlined as follows:

1. Business Solution Requirements Design – upon submission by ITRON and Approval by CUSTOMER.
2. Initial Network Design – upon submission by ITRON and review with CUSTOMER.
3. Network Design - upon submission by ITRON and review and approval by CUSTOMER
4. ITRON to conduct Site Surveys.
5. Software Applications – upon completion of the Testing.
6. Training – upon completion of Training as defined in the Training Course Description Section.
7. ITRON Functional Testing.

H.2. Meter/Endpoint Acceptance

- Meter/Endpoint Acceptance is defined below. ITRON's responsibility for these tests will be limited to validating the RF communications between the Meter/Endpoint and OWOC and the delivery of Meter data to CUSTOMER systems as approved by CUSTOMER.
- Available Endpoint: A Meter/Endpoint will be considered Available after installation upon communicating with the headend system for five (5) consecutive days. In addition:
  - A Meter/Endpoint that is not damaged or vandalized by a third party in such a way that prevents communication;
  - For which CUSTOMER has provided the ITRON application with accurate and up-to-date account information via MDI File.
  - There is no RF interference in excess of FCC limits caused by a third-party system; and
  - For which at least one register/index read for that Measurement Day has been requested by the OWOC.
  - FDM will be used as an acceptance tool only at the conclusion of the project for final system acceptance.
- Accepted Endpoint: A Meter/Endpoint will be considered Accepted by the CUSTOMER after meeting the Available Meter/Endpoint criteria, there are no outstanding installation issues open, and the CUSTOMER has acknowledged in writing the Meter/Endpoint as being a completed installation. Process:

1.	ITRON will present an Endpoint Acceptance report showing Endpoints that have delivered a register read to OWOC for five (5) consecutive days and were not previously Accepted by the CUSTOMER.
2.	CUSTOMER will have six (6) business days after Endpoint Acceptance report is submitted by ITRON to identify Endpoints that CUSTOMER believes have not

	achieved Endpoint Acceptance as described above; otherwise, Endpoints will be deemed accepted. Only Endpoints in dispute will be excluded from being accepted; all other Endpoints in the Endpoint Acceptance report will be considered accepted after 6 business days of receiving the Meter/Endpoint Acceptance report.
3.	○ Accepted Endpoints will be CUSTOMER's responsibility for ongoing field maintenance. Provided, however, all installation work, including material used in the installation, performed by ITRON or its third-party agent under this SOW, shall be guaranteed against defects in workmanship for a period of 1 year from the date of meter and endpoint acceptance.
4.	○ Any Meter/Endpoint that the CUSTOMER disputes as meeting Meter/Endpoint Acceptance requirements will be reviewed by CUSTOMER and ITRON with the appropriate party taking action to resolve the issue impacting Meter/Endpoint Acceptance.
6.	○ Any Meter/Endpoint that does not achieve Meter/Endpoint Acceptance, and is not (a) as specified in the METER LOCATION file, or (b) was not able to be geocoded from CUSTOMER-supplied information, or (c) is not listed or identified in the METER LOCATION file (i.e., new services) will be excluded from the Final Acceptance Test. ITRON and CUSTOMER will define a mutually agreed to process for determining any Endpoint issue(s) and resolution(s) before exclusion from the Final System Acceptance Test.

I. System Acceptance Certificate

I.1. About This Document

This document will be used to formally acknowledge the completion of the Software Installation, System Configuration, System Testing, Training, and Project Control Manual related work and criteria as defined in the SOW. A meeting will be conducted by the ITRON PM and the CUSTOMER Project Manager to review the acceptance criteria and the acceptance of the SYSTEM. This document will record agreements reached during that meeting.

The ITRON PM and the CUSTOMER Project Manager shall refer to the SOW for guidelines on acceptance.

Upon formal acknowledgement of acceptance, the ITRON Managed Services will operate the OpenWay Riva system according the service levels in the Managed Services Addendum.

I.2. Notification Review Meeting Participation & Acknowledgement

Name	Company	Position	Date of Meeting
	CUSTOMER	Project Manager	
	ITRON	Project Manager	

I.3. Project Details

OpenWay Riva SaaS Project	City of Ft Wayne, IN

I.4. Completion Criteria

Please check the boxes below to confirm that the following items have been completed:

☐ All Software Applications have been configured, tested, and achieve performance criteria in System Acceptance.

☐ All Training has been completed and accepted by CUSTOMER.

☐ All testing has been completed and accepted by CUSTOMER.

☐ Full Field Deployment can begin.

I.5. Authorization

ITRON	CUSTOMER
Authorized Signature	Authorized Signature
Printed Name	Printed Name
Title	Title
Date	Date

J. System Performance

J.1. System Performance

- The SYSTEM was designed to meet the requirements as defined herein with performance expectations as outlined in General Technical and Design Assumptions. Maintaining the System after acceptance to meet performance expectations will be driven by the CUSTOMER using the following guidelines:

  1. Mitigate non-communicating Network Devices and OpenWay Riva Water Endpoints in accordance with the support / training provided by ITRON as outlined in the ITRON Deliverables.
  2. Maintain Network Devices and OpenWay Riva Water Endpoints in a timely manner and in accordance with SOPs developed by the CUSTOMER.
  3. If during the course of the PROJECT while the ITRON PM is assigned, the CUSTOMER believes there are issues with the Network Design provided by ITRON, the CUSTOMER can discuss its concerns during the weekly PROJECT meetings. ITRON will provide troubleshooting support to the CUSTOMER and will work to promptly resolve the issue at no additional cost to CUSTOMER, unless the issue was directly caused by CUSTOMER. In that case the CUSTOMER will be billed at the time and material rates as incurred for their effort.
  4. ITRON shall support CUSTOMER with SYSTEM performance issues and support the CUSTOMER'S development of Standard Operating Procedures (SOPs) for Operations and Maintenance as required during the PROJECT.

K. Project Completion

- Once ITRON has achieved the performance levels for the Final System Acceptance Test, as set forth in Testing Section G.4, paragraph 7, , the ITRON PM and the CUSTOMER will schedule a transition call with ITRON Support Services. The ITRON PM will complete the transition documentation ahead of scheduling the call with the CUSTOMER and ITRON Support Services. Upon transition, the CUSTOMER will get support through its Account Executive and ITRON Support Services

L. Project Completion Form

L.1. About This Document

This document will be used to formally acknowledge the completion of the PROJECT related work and criteria as defined in the SOW. A meeting will be conducted by the ITRON PM and the CUSTOMER Project Manager to review the completion criteria and the close out of the PROJECT. This document will record agreements reached during that meeting.

The ITRON PM and the CUSTOMER Project Manager shall refer to the SOW for guidelines on acceptance.

Upon formal acknowledgement of completion, the PROJECT delivery and related SOW will be considered complete.

L.2. Notification Review Meeting Participation & Acknowledgement

Name	Company	Position	Date of Meeting
	CUSTOMER	Project Manager	
	ITRON	Project Manager	

L.3. Project Details

CUSTOMER	City of Ft Wayne, IN

L.4. Completion Criteria

Please check the boxes below to confirm that the following items have been completed:

☐ Project Completion Criteria, as defined in the Project Completion Criteria section of the SOW, have been met.

☐ All signed Deliverables identified in the SOW, have been received and approved by CUSTOMER.

☐ All Project invoices have been received by the CUSTOMER.

☐ The Project has been transitioned to ITRON Managed Services.

☐ CUSTOMER agrees to the completion of the Professional Services as described within the SOW and the Completion Criteria identified.

L.5. Authorization

CUSTOMER	ITRON
Authorized Signature	Authorized Signature
Printed Name	Printed Name

CUSTOMER	ITRON
Title	Title
Date	Date

M. Change Control

M.1. Change Control Process

- An ITRON Change Order Form ("***Change Order***") will be used for communicating changes to this SOW. The Change Order must describe the change requested, the rationale for the change, the estimated price and the effect the change will have on the overall PROJECT. All Change Orders must be approved and signed by CUSTOMER and ITRON. No work shall commence prior to CUSTOMER's authorization of the Change Order.

#	Step	ITRON	CUSTOMER	Notes
1.	Identify scope change.	☒	☒	Either party may identify a scope change.
2.	Submit a formal request for a Change Order.	☒	☒	Party identifying the scope change should submit the change request via email. – Request should include: – Problem Statement – Requirements
3.	Assess impact (scope, schedule, resources) and prepare brief summary.	☒	☐	
4.	Report impact results and submit Change Order form.	☒	☐	Should include: – Scope change described – Cost change – Project schedule impacts
5.	Authorize Change Order and email executed copy to ITRON Legal.	☐	☒	
6.	ITRON Legal executes Change Order and emails copy to CUSTOMER and ITRON Project Manager.	☒	☐	

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M.2. Appendix B – Change Order Form "Sample"

	Name	Date
Client Name:		
Requestor:		
Client Authorization:		
ITRON PM Approval:		
ITRON Contract Auth.:		

- Send Pricing Summary to Client? ☐ Yes ☐ No
- Has contract been signed? ☐ Yes ☐ No
- General Comments:

- Order Processing:
- PO/Contract #: _____
- Comments: _____
- Hardware Changes:

Qty	Item Description	Unit Price

Qty	Item Description	Unit Price

- Comments:

- Software Changes:
- ☐ Modifications ☐ Meter Licenses ☐ Other

Description	Unit Price

- Implementation Labor and Expense:
- ☐ Billable ☐ Non-billable Charge to: _____

Purpose	Description	Days	@ $	Total
	Labor			
	Per Diem			
	Misc.			
	Total			

-

Other Changes:

Change Order: >Author Name

Please return this signed Change Order for formal ITRON Contract Authorization and Execution to:

Itron, Inc.

2111 N. Molter Rd.

Liberty Lake, WA 99019

Attn: Contract Administration

Fax: (509) 891-3331 or pdf and email to contract.request@itron.com. – a fully executed version will be returned.

N. Service Fees & Related Details

N.1. Services Fees

- The SERVICES outlined in this SOW are being provided at a fixed cost of $938,965.00. Specific details related to these costs for the PROJECT can be found in the Customer Pricing Summary, BMR. Any changes to the services as outlined will be addressed though the Change Control Process.
- These fees are based upon ITRON's recommended engagement approach, ITRON standard travel policy, staffing levels, scope of the PROJECT and Project Schedules as outlined in this SOW. Modifications to any of these factors will result in changes to the estimated fees. Any changes that affect ITRON's engagement approach, staffing levels, scope of the PROJECT and Project Schedules will follow the Change Control Process.

ITRON will invoice CUSTOMER per the below schedule. ITRON will submit to CUSTOMER an invoice for Milestone Payments specifying the services completed. If at any point, there is reason to believe that a Milestone Payment amount will be exceeded; ITRON will immediately notify CUSTOMER in writing as to the changes in the estimate and issue a Change Order as described in Change Control Process, which will be approved by CUSTOMER. CUSTOMER shall pay all taxes, if any, due for SERVICES provided by ITRON to CUSTOMER under this SOW.

Milestone Payment Schedule for Initial Installation Services:

Payment Milestone	Milestone Description	Deliverable	Amount
1	Managed Services Startup Cost	Mobilization of Hosted Environment	$31,000.00
2	System Definition/Design Completed	Workshop Completion Business Solution Requirement Document Technical Architecture Design	$226,991.25
3	Back Office System Installation Completed	Initial Installation Begins	$272,389.50
4	Initial Installation Completed	System Acceptance Testing Completed	$272,389.50
5	Field Installation Begins	Initial System Acceptance	$136,194.75
		Total	**$938,965.00**

N.2.Billing Information

- To ensure that ITRON has all the correct billing information, please verify the following:

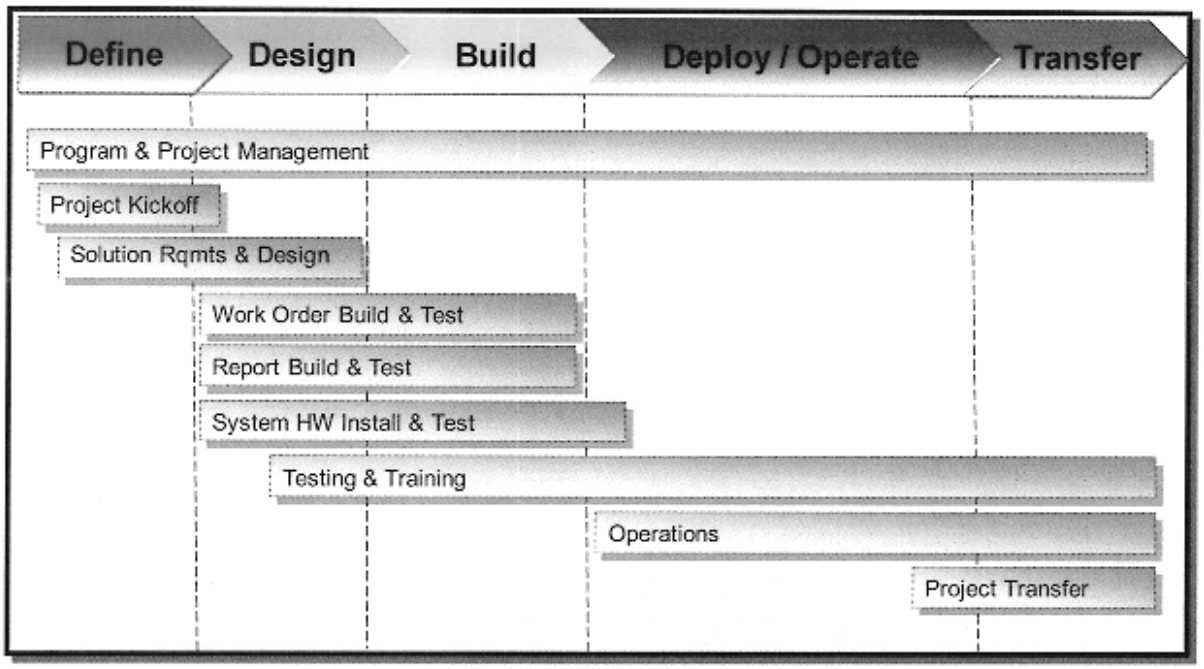
Requested	CUSTOMER Data
Billing Contact Name	Ben Groeneweg
Billing Contact Phone # (s)	260-415-7231
Billing Contact Email Address	Ben.groeneweg@cityoffortwayne.org
Physical Location Address (if applicable)	200 E Berry St, Suite 250 Fort Wayne, IN 46802
Billing Address (if different from above)	
Special Billing Requirements?	
Purchase Order #	

O. Training Course Descriptions

ITRON will provide its standard training material and courses as outlined below to the CUSTOMER. In the event customized user training and material is requested, or additional training time is requested by the CUSTOMER, this shall be supported through the Contract Change Order Process.

Type	Description	Module Name
End user / Operational Training	End user / Operator has the operational knowledge to maintain operate and troubleshoot the solution and provide Tier 1 support. Two sessions of each Course in scope; each Course consisting of up to eighty (80) hours of training. Itron will hold 2 Sessions for up to 20 individuals (10 per session). Example: Administrator that understands the configurations and use cases of the ITRON solution.	OWOC Operational
OW Endpoint Training	Endpoint installation personnel are introduced to operational, installation, and troubleshooting of endpoints.	OW Endpoint Training
Network Device Training	RF Network personnel are introduced to operational, installation, and troubleshooting of CGR (Connected Grid Routers).	CGR Technical Training
FAN Site Survey & Mitigation Training	This will be hands on field training on how to perform site surveys, and mitigation of Field Area Network equipment and performance.	Field process review
IT Security Overview	This session will be to educate CUSTOMER resources on the security of the hosted Solution including types of access to applications, and to answer additional security concerns	IT Security Overview
End user/Operational Training	This End User interactive training session is designed to give basic users hands on training in using the primary IA Customer Service Dashboard and its report tools in analyzing usage relating to customer inquiries, billing, etc. User will learn how to access the Itron Analytics web interface, understand its functionality, and use its rich features that will assist the user in completing their work tasks.	Analytics

P. Appendix A: Itron Advantage Delivery Methodology – OpenWay Riva



Itron's Advantage Delivery Methodology consists of five steps: Define, Design, Build, Deploy/Operate and Transfer.

The Define step includes gathering resources and information needed to initiate and manage the PROJECT, understand the CUSTOMER's specific needs and to communicate the objectives and plan to successfully deliver the TRON solution. It also includes a requirement gathering workshop to ensure PROJECT requirements will be met through system design and/or business process solutions. ITRON will identify, define, and document the testing requirements for both Endpoint Acceptance and System Performance Acceptance.

During the Design step the ITRON project team works with the CUSTOMER project team to perform detailed planning for each of the PROJECT deliverables such as the refined Network Design and Acceptance processes. At the end of the design phase ITRON will provide the CUSTOMER a BSRD document and a TAD document detailing the requirements and architecture developed in the Define and Design methodology steps. The CUSTOMER will provide ITRON the Acceptance test schedule and process flows to ensure a successful deployment, and that business objectives are met.

During the Build step the ITRON project team will use the design documents to configure and perform basic functional tests to validate components of the Solution. CUSTOMER staff will be trained, facilities will be set up, and the CUSTOMER will develop and execute testing with support from ITRON.

During the Deploy/Operate step ITRON will deploy Endpoints. Endpoints Acceptance procedures will continue throughout the Deploy phase. CUSTOMER will validate the Solution, which will include end-to-end system integration of basic monthly meter reading functionality. After acceptance, the OWOC will be formally transitioned to ITRON Managed Services, with ITRON Managed Services being the point of entry for OWOC support questions by CUSTOMER.

During the Transfer step, ITRON will work with the Contactor project team to transition the Solution to the ITRON Managed Services team made available to help the CUSTOMER and which are contracted for under the MSA. Additionally, ITRON will support PROJECT activities including, but not limited to, vacation of facilities, final billing, PROJECT lessons learned and contract close-out.

Project Resources

In support of the PROJECT, ITRON will provide qualified and professional resources. ITRON shall provide a Project Manager for the duration of the PROJECT who will support PROJECT implementation activities defined in this document.

ITRON shall provide a Business Consultant to facilitate the define/design workshops and ensure the requisite deliverables (i.e. BSRD and TAD) accurately define the Solution.

Any changes in scope or the Project team will be managed via the Change Control Process set out in the Change Control Section of this document.

Itron Project Roles and Responsibilities

The following table provides an overview of the ITRON project roles and responsibilities.

Itron Role	Responsibilities
Project Sponsor	– Project sponsor – Responsible for overall communications – Attends CUSTOMER executive stakeholder reviews – Point of escalation for issue/risk resolution – Overall project accountability – Responsible for project strategy, planning, staffing and financials – Supports Itron staff, with internal activity requirements
Project Manager (PM)	Responsible for overall onsite Itron project delivery management as it relates to the Itron Solution deliverables and responsibilities described in the SOW including: – Schedules Itron Project resources – Secures Itron resources for work

Itron Role	Responsibilities
	– Manages scope and project planning – Manages project financials – Manages the Itron Project Plan – Manages project reporting – Manages issues and risks – Manages the Change Control Process – Manages the contract – Manages Itron internal management tasks and reporting – Responsible for Itron policy management for project resources – Detailed responsibilities including: – Solution Delivery interface with SaaS related issues. – BSRD and TAD Creation and Signoff – Itron Training Delivery – Go-Live Support
Implementation Manager (IM)	Responsible for management of Meter/Endpoint, and Field Area Network installation as it relates to the Itron Solution deliverables and responsibilities described in the SOW including: – Schedules Itron Installation Project resources – Secures Installation Itron resources for work – Manages Installation scope and project planning – Manages Installation project financials – Manages the Itron Installation Project Plan – Manages Installation project reporting – Manages Installation issues and risks – Manages the Change Control Process – Manages the contract – Manages Itron Installation internal management tasks and reporting – Responsible for Itron policy management for project resources
Technical Consultant/s (TC)	Provides technical services, support and assistance: – Product Implementation Lead for the configuration of the SaaS environment – Provides Project technical input. – Data workflow – Systems integration support – Configures and supports testing of software – Supports: o Management of the SaaS environments during Project. o Requirements gathering o Technical Issue evaluation/resolution o Technical Training activities

Itron Role	Responsibilities
	– Provides "Go-Live" technical support. – Assists with desktop evaluation for acceptance activities.
Business Consultant (BC)	Provides: – Solution Capabilities Overview – Facilitates business requirements gathering (BSRD) – Provides Training/Train the Trainer Training and training support material. – Support for Itron related software testing activities (functional and/or integration testing).
Field Engineer	Responsible for design of the FAN including site surveys Training. The field engineer is also responsible to support troubleshooting of performance issues impacting the ability to meet acceptance commitments.
Field Service Representative (FSR)	Responsible for Installation of Meters/Endpoints in accordance with the procedures identified in the Project Control Manual.

Customer Project Roles and Responsibilities

The following table provides an overview of the CUSTOMER project roles and responsibilities.

CUSTOMER Role	General Responsibilities
Project Manager	Works collaboratively with Itron Project Manager: – Manages overall AMI Project – Tracks progress – Manages communications and reporting – Integrates with CUSTOMER's PMO function on behalf of the AMI project team – Manages Project issues – Manages Project Plan – Reviews key documentation – Manages CUSTOMER Project resources and resource scheduling
Business Lead	– Has in-depth knowledge of the meter to cash business process

CUSTOMER Role	General Responsibilities
	– Works collaboratively with Itron Business Consultant – Gathers business requirements – Leads design and testing – Manages issue tracking for testing – Coordinates development of test cases – Reviews the BSRD and/or other document requirements – Supports organizational change management within CUSTOMER – Provides Tier 1* support for system issues encountered during testing to Production – Provides Tier 2* support for system issues encountered during post Production – Note: * Tiers defined in Testing section of this SOW.
Technical Resource	– Acts as the CUSTOMER technical lead on the Project – Has access to other CUSTOMER technical or support resources and systems as may be necessary to support the project work or to troubleshoot systems – Oversees CUSTOMER IT standards and IT server requirements (procurement and support) – Leads other system integration or upgrade requirements – Supports development of test cases – Supports Production upgrade and cutover – Provides "Go-Live" technical support – Leads final system performance validation – Supports SaaS Change Management Process – Provides Tier 1* support for system issues encountered during testing to Production – Provides Tier 2* support for system issues encountered during post Production – Works collaboratively with Itron Technical Consultant to: o Telecommunications infrastructure o VPN tunnel responsibility – Evaluate design requirements and supporting documentation Note: * Tiers defined in Testing section of this SOW.
Integration TC	– Will be required to manage and perform integration requirements with back-office systems including CIS.
Field Deployment Lead	– Manages field device and meter related activities including First Article Testing approval, configurations, field deployment, and field mitigation efforts. – Manages deployment and hardware device related staff. – Manages field staff responsible for site surveys, site make ready, installation and mitigation activities.

CUSTOMER Role	General Responsibilities
Others	– Database Administrator – Builds, maintains, and tunes CUSTOMER managed database(s). – Network Administrator – Provides system access. Understands and provides expertise on the interfaces between the various data systems on the network – Testers – Perform CUSTOMER specific testing requirements (i.e. System Performance testing, etc.) as agreed in SOW – Meter Techs/Field Techs – Assist with meter configurations, Field site surveys, Meter, Module and FAN make ready and installations, field investigations for hard to read meters & inside Meters and Modules, Meter, Module and FAN optimization. Logistics – Coordinates order entry, forecasting, RMA, etc. – System Operators – CUSTOMER to provide Operators to be trained on the system operations, and manage operations for OpenWay Riva solution. Responsible for other systems including billing operational requirements, etc. CUSTOMER will provide an Operator Lead to manage the CUSTOMER operations requirements, and provide Tier 1 support to operators. – Billing / Work Order Specialists – manage, on a daily basis, the engagement with customers for follow-up, exception orders, and data quality – Communications Specialist – develops and approves all communications with customers, including internal and external project communication updates, press releases, educational meetings, etc.

Q. Appendix B: OpenWay Riva – Propagation Study

The network design is based on the following assumptions:

1. The network design is predicted to enable the Solution to meet network coverage of 100.0% of locations provided by the CUSTOMER and validated Lat/Long Meter locations.

2. All proposed network device locations are located on Customer owned infrastructure unless otherwise noted.

3. Pole heights assumptions are included in the network design for each network location.

4. The network design utilizes 500W OpenWay Endpoints, Connected Grid Routers (CGR) and 100W Endpoints.

5. The network design does not assume there is any RF blockage issues in the Service Territory. If there is RF blockage, ITRON shall work to resolve this during the PROJECT. After Final System Acceptance, CUSTOMER will work with ITRON's support to resolve RF issues.

6. The proposed location for the initial placement of each network device was identified using refreshed GIS information received from Customer for which the attached December 3, 2018.

The FAN shall perform in accordance with the Operating Specifications and the FAN Network Design:

FortWayne(Cityof)_IN_500WRemote%20to'

R. Appendix C: Master Data Import Interface to OpenWay Operations Center (OWOC)

Below is a sample of the Master Data Import file in XML format that would come from the CIS system to populate OWOC with configuration data.

Details to be reviewed during project workshops, where Itron to Provide Documentation on developments to Itron Standard application programming interface (API's).

<MasterDataImport xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://www.itron.com/masterdata/2013/03"><SetServicePoint ServicePointId="7710005787" EquipmentType="Endpoint" CommodityType="Water" PremiseId="0000105840" TimeZone="MountainUSNoDst" PrimaryCollectionSystem="FixedNetwork" DeviceWillSupportTwoWay="true"><SetAccount AccountId="8002400000" AccountNumber="8002400000" RevenueClass="SFRES" CustomerFirstName="BAKER,JUDY"><BillingAddress StreetAddress="1111 HAFFLINGER LN" CUSTOMER="RENO" State="NV" Zip="89521" Country="USA"></BillingAddress><AccountLinkRange Start="2008-12-24T12:49:14.000000-07:00" End="EOT"></AccountLinkRange></SetAccount><SetAccount AccountId="8002400000" AccountNumber="8002400000" RevenueClass="SFRES" CustomerFirstName="BAKER,JUDY"><BillingAddress StreetAddress="1111 HAFFLINGER LN" CUSTOMER="RENO" State="NV" Zip="89521" Country="USA"></BillingAddress><AccountLinkRange Start="2008-12-24T12:49:14.000000-07:00" End="EOT"></AccountLinkRange></SetAccount><SetAccount AccountId="8002400000" AccountNumber="8002400000" RevenueClass="SFRES" CustomerFirstName="BAKER,JUDY"><BillingAddress StreetAddress="1111 HAFFLINGER LN" CUSTOMER="RENO" State="NV" Zip="89521" Country="USA"></BillingAddress><AccountLinkRange Start="2008-12-24T12:49:14.000000-07:00" End="EOT"></AccountLinkRange></SetAccount><SetAccount AccountId="8002400000" AccountNumber="8002400000" RevenueClass="SFRES" CustomerFirstName="BAKER,JUDY"><BillingAddress StreetAddress="1111 HAFFLINGER LN" CUSTOMER="RENO" State="NV" Zip="89521" Country="USA"></BillingAddress><AccountLinkRange Start="2008-12-24T12:49:14.000000-07:00" End="EOT"></AccountLinkRange></SetAccount><SetAccount AccountId="8002400000" AccountNumber="8002400000" RevenueClass="SFRES" CustomerFirstName="BAKER,JUDY"><BillingAddress StreetAddress="1111 HAFFLINGER LN" CUSTOMER="RENO" State="NV" Zip="89521" Country="USA"></BillingAddress><AccountLinkRange Start="2008-12-24T12:49:14.000000-07:00" End="EOT"></AccountLinkRange></SetAccount><SetAccount AccountId="8002400000" AccountNumber="8002400000" RevenueClass="SFRES" CustomerFirstName="BAKER,JUDY"><BillingAddress StreetAddress="1111 HAFFLINGER LN" CUSTOMER="RENO" State="NV" Zip="89521" Country="USA"></BillingAddress><AccountLinkRange Start="2008-12-24T12:49:14.000000-07:00" End="EOT"></AccountLinkRange></SetAccount><Address StreetAddress="597 E SUNBURST LN" CUSTOMER="TEMPE" State="AZ" Zip="85283" Country="USA"></Address></SetServicePoint></MasterDataImport>

SIGNATURE PAGE
TO
STATEMENT OF WORK

APPROVED this 17th day of September, 2019.
BOARD OF PUBLIC WORKS

By: ABSENT
Shan Gunawardena, Chair

By:
Kumar Menon, Member

By: Mike Avila
Mike Avila, Member

Attest:
Michelle Fulk-Vondran, Clerk

Itron, Inc.

By: DocuSigned by:
B423AAC598A54AD...

Printed name and Title: Robert Farrow VP Treasury

Date: 9/16/2019

BILL NO. S-19-09-27

REPORT OF COMMITTEE ON CITY UTILITIES

October 1, 2019

Geoff Paddock Chair

Thomas Didier Co-Chair

All Council Members

An Ordinance approving Agreement for Water Meter Replacement Project between the City of Fort Wayne, Indiana, in connection with the Board of Public Works, and Itron, Inc

Involving a total cost of $18,704,297.54

COMMITTEE ON CITY UTILITIES HAVE HAD SAID Ordinance under consideration and beg leave to report back to the Common Council that said Ordinance

DO PASS	DO NOT PASS	ABSTAIN	NO REC

LANA R. KEESLING
CITY CLERK

Public Hearing Date: N/A
Read the first time in full and on motion by Councilman Paddock.
Read the second time by title and referred to the City Utilities Committee.
Read the third time in full and on motion by Councilman Paddock, placed on passage by the following vote:

TOTAL VOTES	AYES	NAYS	ABSTAINED	ABSENT
ARP	☒	☐	☐	☐
BARRANDA	☒	☐	☐	☐
CRAWFORD	☒	☐	☐	☐
DIDIER	☒	☐	☐	☐
ENSLEY	☒	☐	☐	☐
FREISTROFFER	☒	☐	☐	☐
HINES	☒	☐	☐	☐
JEHL	☒	☐	☐	☐
PADDOCK	☒	☐	☐	☐

DATED: October 8, 2019

Lana R. Keesling
LANA R. KEESLING, CITY CLERK

Passed and adopted by the Common Council of the City of Fort Wayne, Indiana, as Special Ordinance No. S-19-09-27 on the 8th day of October, 2019

Lana R. Keesling
LANA R. KEESLING
CITY CLERK

John N. Crawford
PRESIDING OFFICER

Presented by me to the Mayor of the City of Fort Wayne, Indiana, on the 9th of October 2019, at the hour of 1:45 o'clock P.M. E.S.T.

Lana R. Keesling
LANA R. KEESLING, CITY CLERK

Approved and signed by me this 10th day of October 2019, at the hour of 9:00 o'clock AM. E.S.T.

FORT WAYNE, INDIANA
RECEIVED
OCT 11 2019
LANA R. KEESLING
CITY CLERK

Thomas C. Henry
THOMAS C. HENRY, MAYOR