

Olivehurst Public Utility District



Agenda Item Staff Report

Meeting Date: 03/21/24

Item description/summary:

Consider Accepting RFB for OPUD Advanced Metering Infrastructure Project Bid.

Olivehurst Public Utility District (OPUD) released request for Bid for Advanced Metering Infrastructure Purchase Project Bids. OPUD received bids on 03/15/2024 by 2'o clock of which 1 bid was submitted. "Aqua Metric" Bid was within the budgeted amount for this project.

Fiscal Analysis:

Employee Feedback

n/a

Sample Motion:

Accepted bid proposal by "Aqua Metric"

Prepared by: Swarnjit Boyal, Public Work Engineer

OLIVEHURST PUBLIC UTILITY DISTRICT

Bid Opening

Date/Time: March 15, 2024, shortly after 2:00 P.M.

Present: Public Works Engineer, Office Manager/Human Resources,
And Water Meter Technician Foreman

Location: General Manager's Office, 1970 9th Ave, Olivehurst



Project: OPUD Advanced Meter Infrastructure Project

The following bids were received:

1)
<i>Agua Metric</i> \$1,014,482.80
2)
3)
4)
5)
6)
7)
8)



Aqua-Metric Sales Company
1060 National Drive, #5
Sacramento, CA 95834
Phone: (951) 637-1400
Fax: (951) 637-1500

Primary Contact
Mike Bortoletto
Territory Manager
Phone: (916) 824-4552
Email: mike.bortoletto@aqua-metric.com

Proposal Response Contact
Kristy Segarra
Bids and Proposals
Phone: (210) 967-6300
Email: kristy.segarra@aqua-metric.com

Request for Bids
Advanced Meter Infrastructure (AMI)
Project Bid

Due: Friday, March 15, 2024 at 2:00 PM

Olivehurst Public Utility District
1970 9th Avenue
Olivehurst, CA 95961
Phone: (530) 743-4657

BID ENCLOSED

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Section 1: Cover Letter

Cover Letter

March 15, 2024

Olivehurst Public Utility District
1970 9th Street
Olivehurst, CA 95961

RE: AMI Project Bid

To Whom It May Concern:

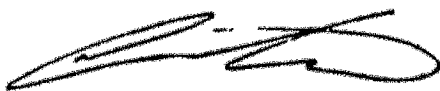
Thirkettle Corporation, dba Aqua-Metric Sales Company, is excited to propose our Advanced Metering Infrastructure (AMI) Solution to Olivehurst Public Utility District, CA in response to their Request for Bids, Advanced Metering Infrastructure (AMI) Project, due March 15, 2024.

The idea of change can be an exciting yet intimidating experience, especially when considering vast types of technology such as AMI. To reflect on how much metering technologies have advanced in recent years is to acknowledge an impressive industrial accomplishment. Operations once performed manually can be completely automated; and tasks that formerly took several steps for a utility to complete will soon be performed with just a click of a button. Having a database that offers hourly usage data will allow Olivehurst Public Utility District (PUD) the ability to provide detailed information immediately to your customers. This is a convenience that will be appreciated not just by your residents, but by utility employees as well.

However, no two AMI technologies are alike in the means of performance, security, efficiency, reliability, and support. The enclosed response encompasses Aqua-Metric's unparalleled solution of the Sensus FlexNet Advanced Metering Infrastructure system with Sensus Analytics Meter Data Management software, which will place the progressive Olivehurst PUD on the map as a Smart-City.

As you review our response, Olivehurst PUD can rest assured that when a utility chooses a partnership with Aqua-Metric and Sensus they are receiving the most proven technology with best-in-class service that does not have an expiration date. Olivehurst PUD will receive the most accurate water meters, transmitting data over the most secure AMI network, requiring the least amount of infrastructure, and supported during- and post-project by our in-house technology support team. We appreciate the opportunity and thank you in advance for your time and thoughtful consideration.

Sincerely,



Christopher Newville, Manager
Aqua-Metric Sales Company
4050 Flat Rock Drive
Riverside, CA 92505
Phone: (951) 637-1400
Procurements@aqua-metric.com

Addendum Acknowledgement
Aqua-Metric has received the following addendum:
Addendum 1 – Dated February 16, 2024
Addendum 2 – Dated February 20, 2024
RFI 1 – Dated March 11, 2024

Section 2: Executive Summary

Executive Summary

Executive Summary

Thirkettle Corporation dba Aqua-Metric Sales Company would like to thank Olivehurst PUD for allowing us the opportunity to present our Advanced Metering Infrastructure (AMI) offering utilizing the Sensus FlexNet AMI System with Sensus Analytics Data Management Software. As the prime respondent, Aqua-Metric will provide AMI system implementation, training, infrastructure installation, and support as a part of our solution to the utility. The sections outlined within our response detail the deliverables we anticipate providing to the Utility for their AMI project.

FlexNet Technology Summary

Advancements in automated technology have contributed to substantial changes in utility operations allowing a migration from multi-step manually captured information to complete one-click communication at a centralized location. Sensus FlexNet AMI is a powerful and protected migratable system based on its Primary-use FCC Licensed Frequency; consistently delivering two-watts of transmission power from each of its two-way, or pingable, transmitters at all times. This unmatched power leads to drastically reduced infrastructure requirements and maintenance costs for utilities.

As AMI continues to grow and produce increasing amounts of data, utilities have an evolving need to efficiently turn the data into useful information. With minute-by-minute, system-wide operational views, Sensus Analytics meter data management software is the answer for any utility seeking to maximize the value of the data collected from various intelligent devices on their distribution system. Sensus Analytics organizes data acquired across water, gas, and electric network communications platforms to drive revenue, improve customer service, and promote better planning. Upon data collection, the system's flexible user interface presents information in detailed reports for a utility's use. Sensus Analytics enhances the capabilities of Sensus' intelligent meters and FlexNet communications network, so utilities maximize the return on infrastructure investments over time.

As you consider your options and review our proposal herein, you will quickly discover:

- We have a true two-way AMI system, broadcasting at two-watts of power at all times.
- We provide a dedicated Primary FCC Licensed Frequency, delivering a secure private highway of communication.
- We have an industry leading 20-year SmartPoint Warranty (15-year full warranty plus a 5-year prorated warranty).
- We manage the technology, the infrastructure installation, and the post-project support with our in-house technology team.

Benefits and Costs

The benefits of AMI technology are vast when comparing them to a manually read system; however, not all AMI systems are equal in design, efficiency, and support. FlexNet's unmatched power leads to drastically reduced infrastructure requirements. Included within our response is Sensus' formal propagation analysis showing substantial water meter coverage with two basestations. This analysis showcases the minimal number of infrastructure components necessary for a FlexNet AMI System, results in lower maintenance costs for the utility.

Utility account information and usage, as well as performing modifications and adjustments, are accessible at your fingertips with instantaneous results. Olivehurst PUD will have accurate real-time data transmitting over the most secure network, enabling the utility to immediately address concerns and accelerate resolutions. This ability to rapidly acquire information is a tremendous advantage for both utility personnel and their residents.

Sensus has more than 150 years of history in developing utility measurement solutions. Additionally, Sensus has more than 50 years of meter manufacturing experience in its Uniontown, Pennsylvania facilities. They have been providing full AMI services since 2006. With operations and service facilities on five continents, Sensus is a global leader in utility infrastructure systems and resource conservation.

When a utility makes the decision to deploy an Aqua-Metric implemented Sensus FlexNet system, they are receiving much more than arguably the best AMI technology in the world, they are also gaining unmatched experience and unparalleled in-house support. Aqua-Metric's technology team provides this in-house support to manage our customer's deployment throughout the project. The utility will have peace of mind knowing our local technology team can remotely access the system instantly or be onsite to troubleshoot AMI concerns.

Suited for Olivehurst PUD

Thirkettle Corporation has been involved in over 200 AMR/AMI system deployments, sized from 300 meters to more than 280,000 meters, and has served the utility sector in multiple states for over twenty-five years. As the primary system integrator for Olivehurst PUD's AMI Project, Aqua-Metric will work to facilitate a seamless deployment from project inception to preparation, implementation, infrastructure installation, and support. With unique insight that is needed to attain your AMI goals and through hands-on experience and dedicated work ethic, Aqua-Metric ensures successful collaboration with Olivehurst PUD present and into the future.

Enclosed within our response is Aqua-Metric's extensive Client Reference List showing our diverse customer base ranging from straightforward drive-by water AMR options to elaborate, complete turn-key water, gas, and electric AMI solutions. We hope this emphasizes our vast knowledge and ability to help guide the utility in every avenue regarding AMI.

Enhanced Customer Service

From network deployment to post-project support, Aqua-Metric's in-house technology team stands far apart from other companies. Our dedicated staff is strategically located throughout the state to immediately assist you should emergency situations arise. Additionally, Sensus has a dedicated telephone support staff available with around-the-clock support. Customer support and a fluid partnership is of the utmost importance to each member of the Aqua-Metric team, and we will do our best to ensure all utility needs are met to provide the best running AMI System possible.

Water Metrology

The Sensus iPERL (solid state), SR11 (positive displacement), ally (remote disconnect), Cordone1 (Ultrasonic), and OMNI water meters are all part of the smart water network utility management solution, combining the power of Sensus advanced metering technology, software, and proven services with the FlexNet utility communications system. Utilities can now account for every drop of water and turn each one into revenue through applications that focus on minimizing loss. The smart water network is scalable to fit the needs of large and small utilities alike, realizing day-one saving, short-term payback and technology that will meet future growth and expansion needs. Additional information regarding our meter line, including specification sheets, are located within subsequent sections of our response.

Ready for the Future

Cities grow and needs change as a result of that growth. Aqua-Metric and Sensus understand that growth will trigger the need for future system expansion. We have the experience, technology, and infrastructure to assist the utility with preparing for and embracing the future by providing the best technologically sound solutions for its citizens and constituents. FlexNet offers Utilities with abilities for district metering, pressure monitoring, leak detection, Distribution Automation, SCADA Integration, integration into various third-party platforms such as Cisco, various electric metering capabilities, and more. An overview of these FlexNet expansions can be provided to the Utility upon request.

Conclusion

The enclosed proposal provides Olivehurst PUD with the industry leading AMI solution that is designed to meet the requirements detailed in the bid documents, but also grow with the utility as needed. We understand additional options are being evaluated by the utility, and we are supremely confident that our AMI solution provided herein will help the utility achieve and exceed its metering goals.

Section 3: Company Information

Company Overview

Experience and Past Performance

Company Overview

Thirkettle Corporation has served the utility industry for over thirty years and is an exclusive authorized distributor for Sensus, USA. Thirkettle Corporation originated as an authorized distributor for Precision Meters in 1992 and has grown into one of Sensus' leading distributors. Founded in Ontario, California, Thirkettle Corporation quickly became entrenched in the water metering industry approaching 1999 when Precision Meters was acquired by Sensus Metering Systems. Soon thereafter, Thirkettle Corporation became an authorized Sensus distributor in Southern California. It was at this point Thirkettle Corporation began to drive the marketplace from a direct read brass commodities business to technology driven Automated Meter Reading (AMR) systems. Thirkettle Corporation rapidly became the industry leader selling more AMR radios in Southern California than all competitors combined. As result of continued growth and success, Thirkettle Corporation transitioned into a larger facility in Riverside, CA becoming the sole Sensus distribution in Southern California, and was given the opportunity to expand into other territories through the southern United States. To date, Thirkettle Corporation continues to drive the industry and fully commits our organization in parallel to Sensus' progressive direction within the AMI market.

Aqua-Metric Sales Company Overview

Aqua-Metric Sales Company, a subsidiary of Thirkettle Corporation, has been an exclusive Authorized Sensus Distributor for twenty years. As their exclusive metering provider, we are able to focus all of our efforts on the Sensus product line and delivering the best possible services and support to our customers. Our Riverside Warehouse maintains an inventory of Sensus products and is constantly updating inventory levels to assure the lowest lead times to our customers.

In 2016, Sensus recognized Aqua-Metric's efforts in southern California and Texas by awarding us distribution for Louisiana, where we have used our AMI knowledge to expand Sensus technology within the entire state. Furthermore, in October 2020, Sensus expanded Aqua-Metric's distribution into northern California, making us the sole Sensus distributor for the entire state.

Aqua-Metric currently employs forty-nine dedicated full-time staff members. Our employees are based throughout multiple states, allowing for the best coverage of our distribution area. All employees receive ongoing product training from Sensus to ensure that they are knowledgeable in the full Sensus product line.

Aqua-Metric has been recognized by Sensus as an Authorized Value-Added Reseller focused on customer service. With the advent of so many technical systems, Aqua-Metric has developed and expanded its technology department to implement and service Sensus AMI/AMR systems. Our California AMI/AMR support specialists devote their time solely to assisting customers with technical issues related to the installation and operation of Sensus AMI/AMR products. This focus and attention to detail allows Aqua-Metric to offer local factory level software and field support to California customers without the delays often associated with remote support locations common to our industry. In addition, all Aqua-Metric employees are specialists in their own right, as they sell and support only Sensus meters and AMR/AMI systems.

Manufacturer and Subcontractor Overview

Sensus Overview

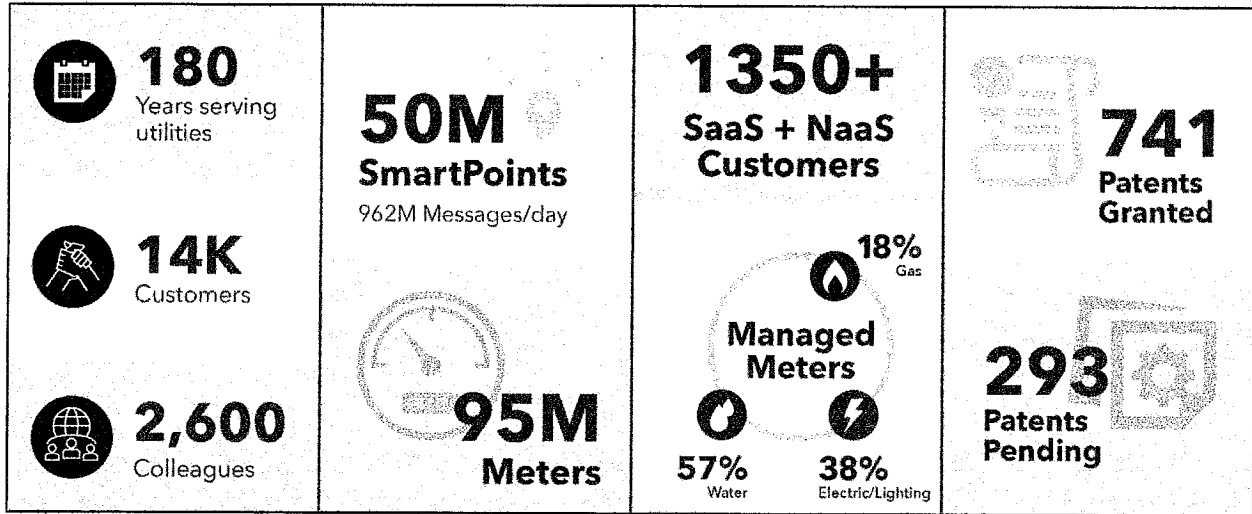
Sensus has been a cornerstone in the metering industry for more than 150 years. As a global market leader for smart grid products and technologies, Sensus is committed to helping the world's public service providers reach farther with innovation in sensing and communication technologies, data analytics, and a broad portfolio of services.

Corporate Office
4050 Flat Rock Drive
Riverside, CA 92505
Ph: (951) 637-1400
Fax: (951) 637-1500

Northern California
1060 National Drive #5
Sacramento, CA 95834
Ph: (916) 933-9554
Fax: (951) 637-1500

Texas Office
16914 Alamo Pkwy Bldg 2
Selma, Texas 78154
Ph: (210) 967-6300
Fax: (210) 967-6305

Louisiana Office
1 Galleria Blvd., Ste 1900
Metairie, LA 70001-7553
Ph: (210) 967-6300
Fax: (210) 967-6305



The FlexNet system debuted in 2006. To date, the FlexNet system is the backbone of more than 1,400 electric, water, and gas AMI systems, supporting more than 45 million total endpoints and including more than 200 combination networks.

Every day, the FlexNet system delivers more than 795 million messages of critical data so utilities can provide better service to electric, water, and gas end consumers. Our longstanding success is rooted in our commitment to providing an AMI solution that is designed to meet our customers' current objectives as well as their future business needs.

Sensus is a Xylem brand (XYL (NYSE)), which is headquartered in Washington, DC. In addition to providing smart metering, network technologies, and advanced infrastructure analytics solutions for electric, water, and gas utilities through Sensus, Xylem provides innovative technology solutions to solve the world's water challenges.

JM Electrical Services Overview

J M Electrical Services personnel have served the electrical and wireless telecom industry for over 15 years. JMES has specialized in commercial/ industrial electrical installs as well as AMI systems, network infrastructure, point to point microwave, and telecom structure builds. Their team can offer reliable, efficient, and competitive services within the electrical and telecom industries.

Experience and Past Performance

Thirkettle Corporation has served the utility sector for more than twenty-five years, providing innovative solutions necessary to enhance and maximize utility efficiency. We have achieved this through metering, Automated Meter Reading (AMR) and Advanced Metering Infrastructure (AMI) Systems, and resource management solutions for water, electric, and gas distribution systems. The Thirkettle Corporation family of companies is comprised of experienced and dedicated individuals providing our customers with the knowledge, integrity, and insight required to implement efficient and reliable metering solutions. Our keen focus on customer satisfaction ensures our service commitment to provide and support the related components needed for a successful meter reading system.

As an exclusive distributor for the most innovative metering and system manufacture, Aqua-Metric recognized the necessity to develop an in-house technology team to provide the most responsive and comprehensive customer support. Thus, Aqua-Metric developed and expanded its technology department to implement and support Sensus systems. In March 2012, Aqua-Metric became one of the first Sensus Certified Value-Added Resellers to further support Sensus technologies our company deployed in California, Texas, and Louisiana.

Similar Project Experience

Enclosed within our response is Aqua-Metric’s complete Client Reference list showcasing our diversified customer base. Below are recently implemented systems we believe are of relevant size and/or scope to the Utility’s proposed project.

City of Redwood City, CA

City of Redwood City, CA	24,000 Services
1400 Broadway, Redwood City, CA 94063 • Phone: (650) 780-7469	
Justin Chapel – Public Works Superintendent/Water Utilities • Email: jchapel@redwoodcity.org	
Meter Type: iPERL/SRII residential meter; OMNI commercial meter	

Redwood City, like many others, began using direct read technology, upgraded to an AMR drive-by solution, and finally migrated to a full AMI system. The City will have a full DMA set up throughout its distribution area and will look to add Ally with a pressure profile management suite in the future. Redwood City helped bridge their data with a comprehensive view of Utility Data Lake (UDL), the new work engine for Sensus Analytics. They see the value in a powerful AMI such as FlexNet and utilize it like many others to the full extent.

City of Woodland, CA

City of Woodland, CA	16,800 Services
655 N Pioneer Ave. Woodland, CA 95776 • Phone: (530) 661-5953	
Greg Meyer – Public Works Director • Email: Greg.Meyer@cityofwoodland.org	
Duration of Project: July 2008 – Finish September 2011 • Total Contract Value: \$6 Million	
Meter Type: iPERL/SRII residential meter; OMNI commercial meter	

The City of Woodland, CA is one of the oldest AMI systems utilized in Northern California. Starting as a Sensus direct read account, Woodland incorporated Sensus’ first version of AutoRead software in 2002. In 2006, the City transitioned to AMI Drive-By and continued to use this system until 2009 when they initiated a two-year AMI changeout project. To date, Woodland continues to read their legacy AMI product (520X endpoints) as well as incorporate the newest 2-way migratable 520M SmartPoints to read their OMNI and fire service iPERL Meters.

Currently, Aqua-Metric is working on a large-scale meter changeout program for the City of Woodland installing new iPERL and ally RD water meters. To date, Aqua-Metric continues to provide water meters, endpoints, automated shut off meters (ally), and SmartGateway units.

City of Lincoln, CA

City of Lincoln, CA	18,600 Services
600 6th St. Lincoln, CA 95648 • Phone: (916) 434-2450	

Jennifer Brown– IT/GIS Manager • Email: jennifer.brown@lincolnca.gov
 Duration of Project: April 2021 – Current • Total Contract Value: Approximately \$1.5 Million
 Meter Type: iPERL/SRII residential meter; OMNI commercial meter
 Summary of Work: Sensus FlexNet AMR Drive-By Water System with migration to AMI.

City of Lincoln was a long time AMR system that proceeded with a system upgrade solution to AMI. The entire system is covered by two base stations. The city elected to migrate toward AMI due to the large number of new builds and the expansion of the city. What was taking weeks to read, and cover is now down to minutes as the read rate success is at 99%. The expansion will provide lasting coverage through the AMI and can expand upon the solution with lighting, water treatment and help curtail non-revenue water.

City of North Las Vegas, Nevada

City of North Las Vegas	96,000 Services
1150 Las Vegas Blvd N, North Las Vegas, NV 89030 • Phone: (702) 449-3149	
Joemel Llamado – Deputy Director • Email: llamadoj@cityofnorthlasvegas.com	
Duration of Project: January 2019 – Current • Total Contract Value: Approximately \$19 Million	
Meter Type: iPERL residential meter; OMNI commercial meter	
Summary of Work: Sensus FlexNet AMI Water System.	

The City of North Las Vegas (NLV) released an Advanced Metering Infrastructure RFP in early 2017. The City set out to select a turn-key AMI provider, whose solution involved an initial pilot of 100 meters, before making the ultimate commitment to further expand their AMI deployment. Aqua-Metric was fortunate enough to be selected by the City of NLV as the AMI pilot vendor.

In October 2017, Aqua-Metric contracted with NLV to begin our Proof of Concept (pilot) phase. Using a valued subcontracting company, we installed 100 AMI-ready meters, set up a pilot AMI program, and commissioned one basestation transceiver. The proof of concept was a success and NLV’s committee selected Aqua-Metric and the Sensus FlexNet AMI solution to be implemented throughout the City.

In November 2018, Aqua-Metric and NLV entered into a formal agreement to implement a Sensus FlexNet AMI System and replace their entire meter population with Sensus iPERL and OMNI water meters. Acting as prime, Aqua-Metric provided water metering product, SmartPoint radio transmitters, AMI Infrastructure, and AMI system installation – including full infrastructure setup, implementation, configuration, and training. Further, Aqua-Metric provided water meter installation services for meters 1 1/2” and larger through a subcontractor. NLV personnel performed all residential water meter installation services.

To date, we have provided thousands of water meters to the City, and they are currently enrolled with our annual support program.

Eastern Municipal Water District, California

Eastern Municipal Water District	160,000 Services
2270 Trumble Rd., Perris, CA 92570 • Phone: (951) 928-3777 ext. 4361	
David Gayneaux – Meter Services Supervisor • Email: gayneaud@emwd.org	
Duration of Project: 2000 – Current • Total Contract Value: Approximately \$16 Million	
Meter Type: iPERL, SRII, and Ally residential meter; OMNI commercial meter	

Eastern Municipal Water District (EMWD) is one of Sensus’ most exemplary and longstanding customers in southern California. EMWD originally installed Sensus direct read water meters over twenty years ago, when Sensus first acquired Precision metering. The Utility was thoroughly impressed with the mechanical multi-jet meters produced by Precision meters and Sensus thereafter. As a progressive Utility, EMWD upgraded from manually reading their meters to Sensus’ legacy drive-by solution utilizing a vehicle transceiver unit and 520R MXUs. This state-of-the art technology helped the City maintain a better understanding of their end-customer’s water usage and perform water meter reading quicker than before. During the deployment process, Sensus discontinued their multi-jet metering line, which led the Utility to unfortunately move forward with another water meter manufacturer.

Through this transition, EMWD still utilized their drive-by system and continued to deploy Sensus MXU's (radio transmitter) on their substitute water meters. While doing so, Aqua-Metric provided continued support to EMWD for their drive-by System and meter reading products.

In 2010, Aqua-Metric and Sensus offered EMWD a Pilot Agreement to upgrade their drive-by system to newly released AMI technology. This initially began as a 500-endpoint deployment, which slowly expanded to a fully implemented AMI solution. In 2017, EMWD committed to expanding their AMI solution throughout their entire distribution network. EMWD elected to move forward with installing remote disconnect water meters (the Sensus ally meters) for residential applications. Since upgrading to AMI, Sensus FlexNet has provided the City with increased efficiency and enhanced customer service to their end-customers.

To date, EMWD continues to purchase meter endpoints, ally remote disconnect water meters, iPERL residential water meters, and OMNI commercial water meter. Aqua-Metric continues to provide AMI system and product support to the Utility.

Olivenhain Municipal Water District, California

Olivenhain M.W.D., CA	35,000 Services
1966 Olivenhain Rd., Encinitas, CA 92024 • Phone: (760) 632-4650	
John Carnegie – Customer Services Manager • Email: jcarnegie@olivenhain.com	
Duration of Project: December 2013 – Current • Total Contract Value: Approximately \$6 Million	
Meter Type: iPERL and SR11 residential meter; OMNI and accuMAG commercial meter	

Olivenhain Municipal Water District (Olivenhain) is a longstanding Sensus customer, who has been continually purchasing Sensus products since the 1990s. Our history with Olivenhain includes the District upgrading their meter reading software to be relevant with emerging technology. In 1990, the District purchased an early version of the Sensus touch read system. Soon thereafter, the District upgraded to the original Sensus AMR drive-by solution, utilizing a vehicle transceiver unit and 505/520R radio transmitters. This system was in use for over ten years, when the City upgraded to a newer drive-by unit, the Vehicle Gateway Basestation, so that migratable SmartPoints could be read. Along with the software and system improvements, Olivenhain replaced their entire distribution system with Sensus SR11 residential water meters with encoded registers and updated older model commercial water meters to the OMNI metering line.

In 2016, Olivenhain made the ultimate decision to upgrade to Sensus' most robust technological endeavor of fixed based AMI. The district implemented a phased-in approach to affix 27,000 two-way 520M water endpoints to their existing Sensus water meters, thus migrating to the Sensus FlexNet AMI system with Sensus Analytics meter data management software. The District implemented a ten-year phase-in plan for the entire AMI project, allowing an annual budget of approximately \$600,000 per year. As of now, Olivenhain is approximately 80% complete and has erected six basestation transceivers. Most recently, Olivenhain released an RFP for a customer-facing portal, which they will integrate with their current Sensus FlexNet AMI system. Aqua-Metric is working closely with the City to finalize their upgrade endeavor and incorporate our Sensus Analytics Customer Portal application. For the City's AMI project, Aqua-Metric provided network installation and training, infrastructure installation and commissioning, project management and system support. To date, Aqua-Metric continues to provide ongoing support services to Olivenhain.

City of Armona, CA

City of Armona, CA	1,400 Services
10114 14th Ave. Armona, CA 93230 • Phone: (559) 584-4542	
Kelly Granger – General Manager • Email: kelly@grangerwater.com	
Duration of Project: January 2024 – Ongoing • Total Contract Value: \$500,000.00	
Meter Type: iPERL; OMNI commercial meter	

Armona CSD has been reading 520M SmartPoints via AMR/Handheld RadioRead for the past year. They have committed to installation of the Sensus FlexNet network and begin their conversion to AMI. While only one base

station is required to give Armona 100% two-way coverage, the district decided to install two collectors for complete redundant coverage. Both base stations are planned to be installed in March 2024 and begin reading previously installed SmartPoints via FlexNet. In addition, Armona CSD will be installing iPERL, OMNI, and SmartPoints throughout the remainder of the district to be fully AMI.

Aqua-Metric Personnel Overview and Resumes

Project Team



Jeff Randolph	Western Sales Manager
<ul style="list-style-type: none"> • Employed with Aqua-Metric since 1997 • Operations manager for Aqua-Metric from 2005-2009 • Six years of experience as AMI/AMR project management • Certifications <ul style="list-style-type: none"> ○ C-61 D-65 Contractors License <p>Key Role with Utility: Jeff Randolph will be the Utility's and Aqua-Metric's lead liaison to Sensus. Mr. Randolph will work with our operations team to ensure product order, delivery, and acceptance. Additionally, he will work alongside Mike Bortoletto providing product support and overseeing the Utility's long-term development.</p>	

Mike Bortoletto	Solutions Specialist
<ul style="list-style-type: none"> • Over fifteen years of meter industry experience. • Provided sales, management, and installation supervision / support for all aspects of AMR and AMI Projects. • Educational Background <ul style="list-style-type: none"> ○ Bachelor of Arts in Communication Business Marketing with a Minor in Business Administration <p>Key Role with Utility: Mike Bortoletto will manage the day-to-day activities with the City. He will serve as the liaison between the Utility and Aqua-Metric, providing unparalleled customer service and support.</p>	

Jeff Brockman	AMI Project Management / Technical Support Specialist
<ul style="list-style-type: none"> • Over twenty years of experience in the IT field including associate and bachelor's degree level instruction. • Seven years of experience managing projects large and small, individually, or team-led, including segments of a multimillion-dollar data center co-location project. • AMR/AMI implementation training and management • Educational Background <ul style="list-style-type: none"> – Master of Business Administration – Bachelor of Arts in Political Science <p>Key Role with Utility: Jeff Brockman will work alongside our primary project manager, Chris Berg, to assist the Utility with any technology and system support services. Jeff Brockman will assist with monitoring the Utility's network for their managed solution.</p>	

Ryan Stevenson	Technical Support Specialist
<ul style="list-style-type: none"> • Technical Support Specialist to Aqua-Metric AMR/AMI partners throughout Northern California and the Bay Area. • Over six years of technical support and repair experience. • AMR/AMI implementation training and management • Educational Background <ul style="list-style-type: none"> – Bachelor of Science in Computer Science 	

Key Role with Utility: Ryan Stevenson will provide additional on-site and remote support for the City alongside our project management team. This will include network monitoring, training, and ongoing support services.

JM Electrical Services

Subcontractor

• Basestation Installation Services and Tower Build • Status: S Corp • Service Area: California, Nevada, Arizona • Company General Liability: Colony Industrial Company; Coverage: @ 5-Million • Auto Insurance: Integon; Coverage: 1-Million • California Contractor's License: 1056901 C-10 • Industry Certifications: OSHA 10 and 30; Comtrain Tower Climbing and Rescue; Manlift/Boomlift; Sensus Certified Installer; CPR/First Aid; Anritsu Sweep Testing • Contact Information: Owner, Jeff Mandell; J Mandell@jmeservices.net • Phone (714) 488-1970; Website: www.jmeservices.net • Address: 2581 Union Avenue, La Habra, CA 90631

Key Role with the Utility: JME will provide basestation collector installation services.

Section 4: Application Software and Hardware Information

Sensus FlexNet AMI Technology Overview

Sensus Analytics Application Suite Overview

Water SmartPoint Communication Module Overview

Propagation Analysis Overview

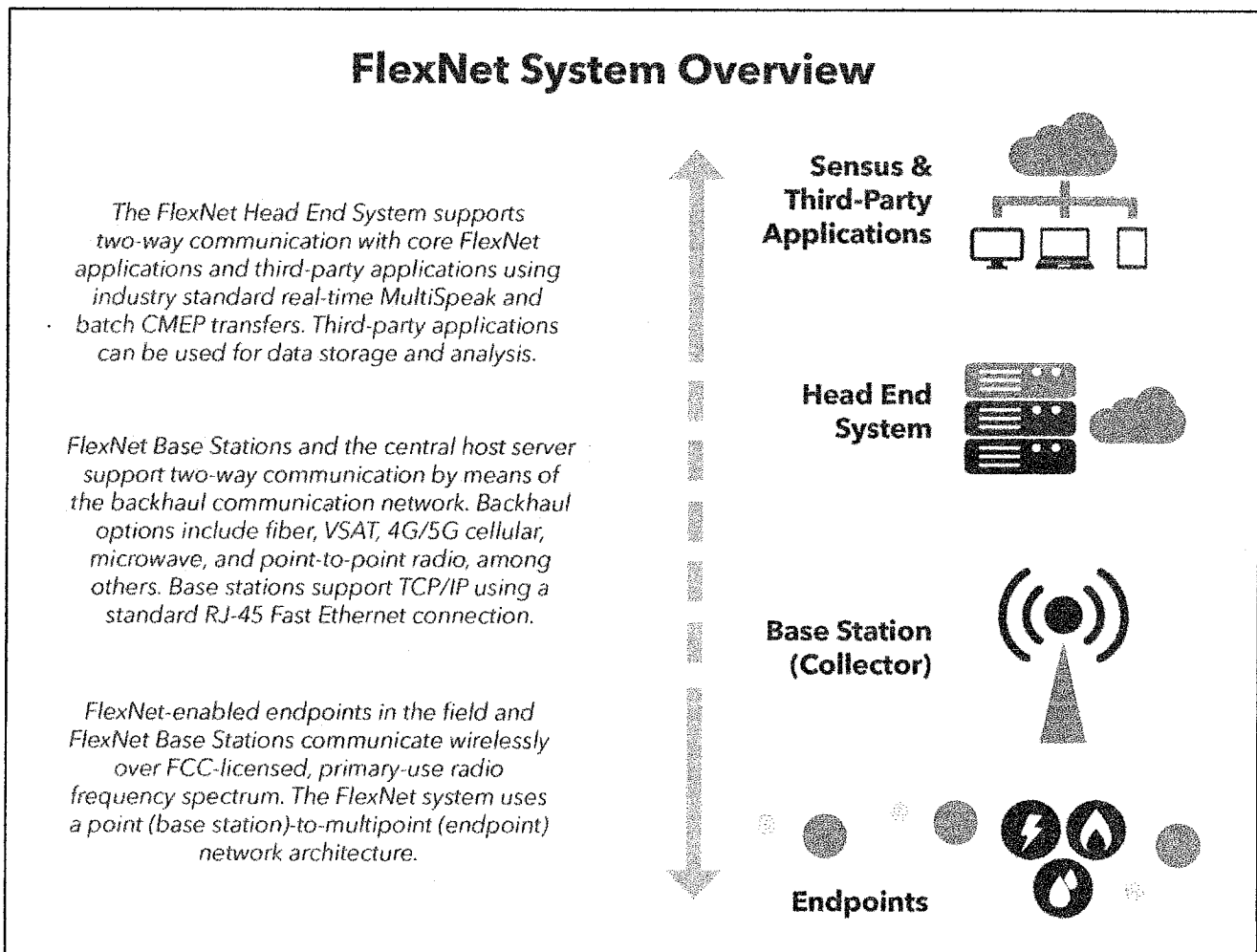
Responses to Technical Specifications

Sensus FlexNet AMI Technology Overview

The FlexNet system is point-to-multipoint communication network that uses FCC-licensed, primary-use RF spectrum. It is the most complete communication network solution on the market today that is capable of supporting multiple applications.

Sensus develops and manufactures a complete complement of AMI communication network products. This includes electric, water, and gas meters, communication modules, solutions for distribution automation (DA) communications, and communication products that support third-party products and applications to meet the business and operational requirements of utilities.

The following diagram shows the high-level system architecture of the FlexNet system, in which FlexNet-enabled endpoints communicate wirelessly to long-range FlexNet Base Stations via the FlexNet communication network. The base stations pass the data to the FlexNet Head End System software, which interfaces with the utility's existing software systems and passes the appropriate data, such as billing and outage data, to each. FlexNet system communication is completely two-way from end to end.



The FlexNet system is distinguished from competitive offerings through expandability, performance, efficiency, security, and experience. The solution is purpose-built to meet utilities' needs today and in the future.

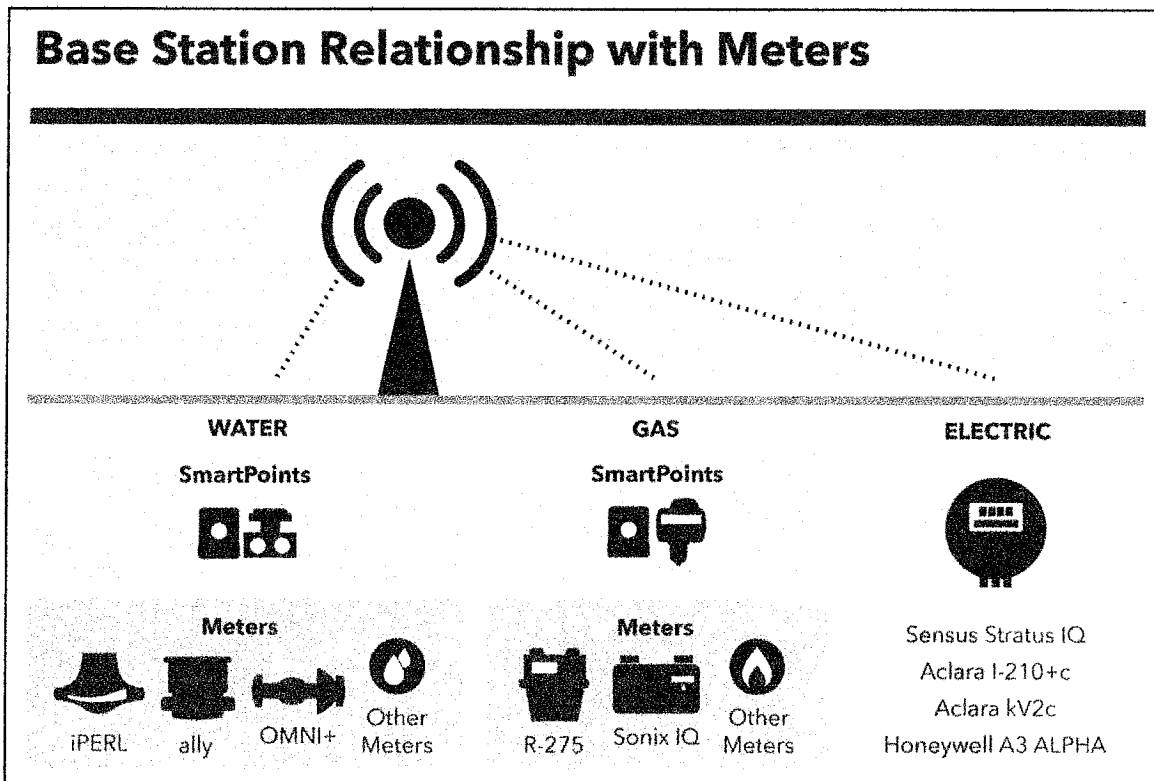
Sensus is committed to providing systems and solutions that enable utilities mitigate the risk of utilities of stranded assets. Sensus avoids obsolescence by developing products that bring in new applications while maintaining backward compatibility to network devices in the field for the life of the FlexNet system.

FlexNet Communication Network

Sensus' industry-leading, two-way wireless AMI communication network consists of multiple synchronized, high-performance, 900-MHz, FCC-licensed, primary-use RF bands. The FlexNet system operates on FCC-protected, extended-range, and extended-penetration Personal Communications Service (PCS) frequencies. Top-level specifications of the wireless solution include the following:

- Protected FCC-licensed, primary-use spectrum. No one else will be allowed to use the RF frequencies that Sensus licenses to your utility.
- FlexNet-enabled endpoints communicate directly to the FlexNet communication network.
- Fewer network collectors (FlexNet Base Stations) mean less infrastructure. FlexNet-enabled endpoints communicate at up to 2-watts of power, resulting in the fewest number of collectors of all AMI systems.
- Deploy network collectors on hardened vertical assets that stay up during storms.
- Best-performing AMI system for small and large outage events like hurricanes, storms, and ice and wind events.
- Forward-looking development roadmaps and backward compatibility for customers mean no endpoint obsolescence. The FlexNet communication network, and the endpoints you install, will be supported for the life of the FlexNet system.
- Base stations operate at up to 32-watts of power, enabling overlapping RF coverage of endpoints in the field.
- Management and troubleshooting of the network is provided by advanced, industry-leading status dashboards, with drill-down capabilities to analyze network base stations and endpoints.
- The FlexNet communication network design supports the ability to divide assigned RF spectrum up into separate channels, which separate different kinds of messages from each other. This reduces congestion on the network and speeds up message throughput.

The following diagram shows how FlexNet-enabled endpoints communicate with FlexNet Base Stations over the air via the FlexNet communication network.



FlexNet's FCC-Licensed, Primary-Use Spectrum

Like AT&T, Sprint, Verizon, and other mission-critical data communication networks, FlexNet uses FCC-licensed, primary-use spectrum. The FlexNet communication network boasts five key range and performance criteria:

- Use of existing vertical assets and efficient high-gain antennas.
- Sensus' acquisition of clear, nationwide, primary-use radio spectrum with a low noise floor years ago.
- Design and use of high-power SmartPoint communication modules (up to 2-watts) with state-of-the-art, all-digital modulation techniques that can be updated over the air.
- Design and use of highly sensitive (-120 dBm to -130 dBm), all-Digital Signal Processor (DSP)-based transceivers (base stations) that can be updated over the air.

A key to achieving high-quality performance from for the FlexNet system was the acquisition of FCC-licensed, primary-use spectrum for the best and most reliable network operation. To that end, Sensus obtained nationwide and local licenses. This RF spectrum is 100% primary-use, meaning that Sensus has primary rights to its RF spectrum, with no other entities allowed to use the channels without Sensus' permission. Additionally, RF interference is regulated and prohibited by the FCC.

Another advantage to the licensed frequency band is that the limits for total RF output power are higher than those for systems using the unlicensed ISM band, where many different communication solutions have to coexist. The ISM band is typically limited from 100 mW to 1 watt.

Sensus' FCC-licensed spectrum operates at higher power levels, and this power translates directly into a greater range for their radio system, with one base station capable of covering tens of thousands of meters. This, among other advantages, means that FlexNet system costs can be amortized over several more devices than is typical for other AMI systems.

FlexNet Base Stations

FlexNet Base Stations can be installed in substations, on existing vertical assets, on water towers, on poles, and on buildings. Sensus base stations provide field-proven, overlapping, high-bandwidth communications to all FlexNet endpoints in the field.

The FlexNet system is recognized as being the highest-performance, highest-bandwidth, and most reliable and resilient AMI communication network on the market today, providing predictable and reliable service for dense urban, suburban, and rural applications – even in extended power outage situations.

FlexNet uses multiple wireless modulations; multiple packet sizes; multiple simultaneously operating, FCC-licensed spectrum bands; multiple RF frequencies; and multiple RF subchannels to expedite low-latency, full-duplex, two-way communications in a wide variety of AMI and smart grid applications.

Backhaul Communication

Sensus designed their FlexNet Base Stations to be as flexible as possible to support a variety of backhaul communication options from the base station to the central host server. This interoperability helps utilities work with their preferred communication systems and helps them realize long-term technical and financial goals.

Base stations support Transmission Control Protocol/Internet Protocol (TCP/IP) using a standard Register Jack 45 (RJ-45) Fast Ethernet connection. If desired, different backhaul types can be used at different base stations throughout the same network. Common backhaul options used by customers include: Fiber; Very Small Aperture Terminal (VSAT); 4G/5G cellular; Microwave; and Point-to-point radio.

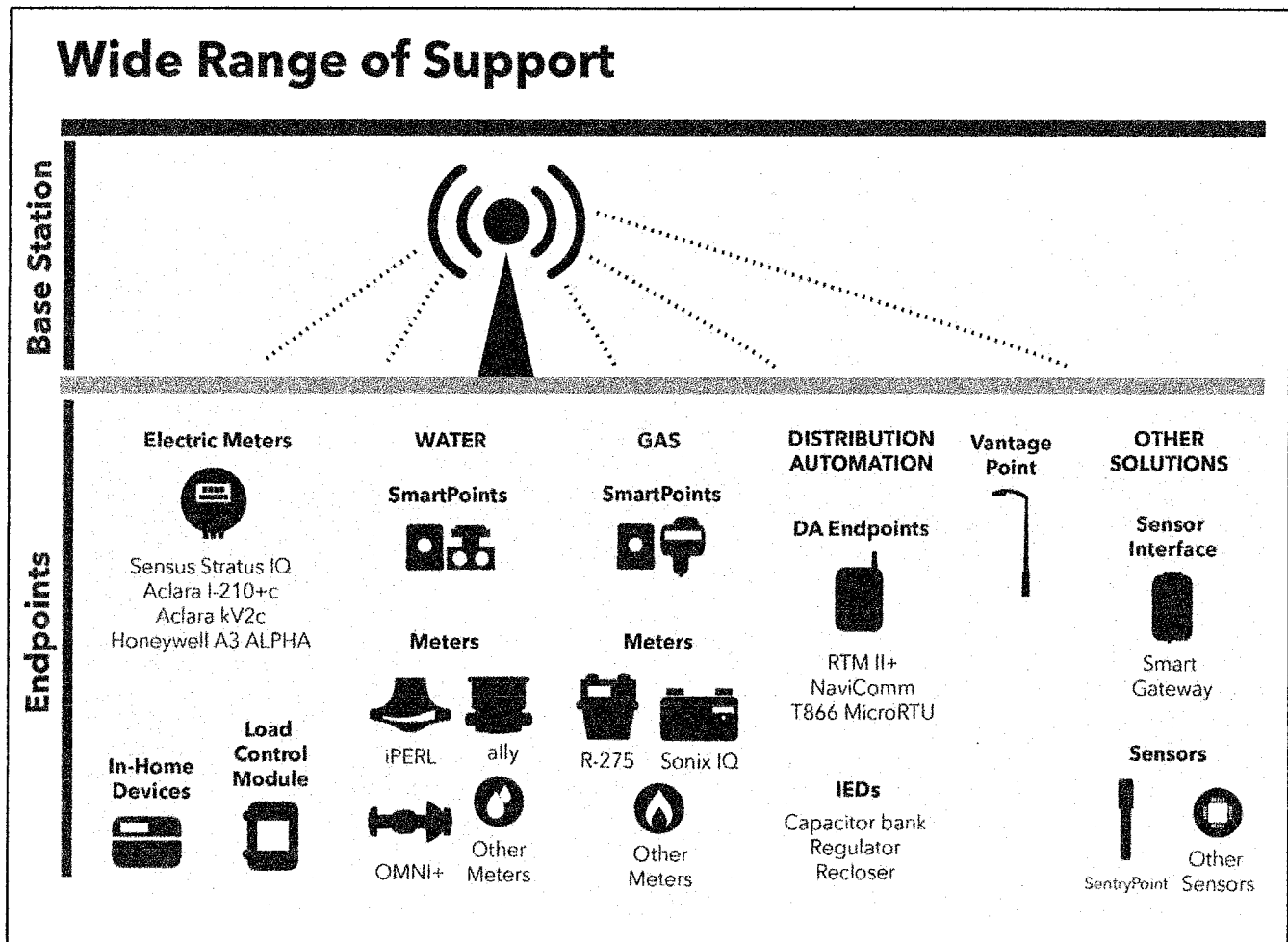
The FlexNet system operates most efficiently with a backhaul communications latency of less than 100 milliseconds (ms) and a minimum data speed of 256 kilobytes per second (kbps), with higher speed backhaul facilitating faster file transfers (such as firmware downloads).

Due to the many solutions that can be used by a Utility, our preference is to work with the Utility to determine the best solution for each site. All sites do not need to have the same Backhaul solution; however, each site must have a Static IP Address and be available to connect from the Utility data center. Aqua-Metric will help the Utility discuss and develop the best backhaul option.

FlexNet-Enabled Endpoints

The Sensus SmartPoint communication modules provide two-way wireless communications capabilities for water, gas, and electric meters. Water and gas endpoints typically transmit their hourly billing reads every four hours. Electric meters can be programmed to send data as fast as every five minutes for billing reading. FlexNet SmartPoint modules transmit and receive data via the FlexNet communication network to provide meter readings, on-demand information, remote disconnect and reconnect functionalities, and diagnostic data, and to receive and validate configuration changes, new protocols and modulations, and firmware updates.

The following diagram shows the FlexNet-enabled endpoints that can be deployed as a part of a FlexNet system.



The FlexNet Head End System

The FlexNet Head End System software is a secure, web-based portal to the FlexNet system. The portal is secured using encryption via HTTPS.

The head end system software receives meter and other endpoint messages from the field via the FlexNet communication network, which comprises FlexNet Base Stations (collectors).

The head end system software provides reports, diagnostics, deployment information, and on-air meter configuration and firmware upgrade capability for the two-way FlexNet endpoints, as well as other functions that are part of the FlexNet system. It also monitors FlexNet Base Station performance and status.

The FlexNet Head End System software provides role-based access to its functions to ensure separation of duty and restriction of access to critical functions. This design provides a granular level of access control to support the utility's ability to assign various roles within the software. The system features a default configuration with a variety of predefined roles that have various levels of permission, such as administrator, read-write, or read-only, and can be further customized by the utility to meet its specific needs. Utilities can create unlimited roles with an unlimited number of permissions, depending on their needs.

In addition, the head end system software records an audit log of all transactions, including date, user, and a description of each transaction for record keeping. This audit trail is valuable to ensure someone with the proper user permissions is not misusing their access control.

Any number of users can concurrently access the FlexNet Head End System software. Additionally, role-based access control is enforced within the system through Lightweight Directory Access Protocol (LDAP) and Active Directory (AD); it extends into solutions that support multiple operating companies and customer types.

Sensus Analytics Application Suite Overview

In addition to the core analytics capabilities of the FlexNet Head End System software, Sensus offers a value-added suite of applications called Sensus Analytics (SA). With built-in MDM features and billing access, this platform helps utilities across the globe turn the data they bring back from electric, water, and gas meters and sensors into actionable intelligence that saves time and money.

The suite of applications provides the core business functionality required to streamline customer service, billing, and operations. It also equips utility personnel with user-friendly dashboards so that they can make informed decisions quickly and confidently.

Cloud-Based Computing Frees up Utility Resources

The Sensus Analytics solution is a powerful data management system that aggregates information from AMI, AMR, and other IoT sources. The intuitive applications it comprises are delivered by a secure connection to a SaaS commercial cloud service, which can be accessed from any desktop computer, tablet, or smartphone.

This cloud-based management requires a lower upfront capital investment, offers a reduced cost of ownership, and enables utilities to take advantage of new software functionality more quickly and easily. Utilities need not manage or pay for hardware, third-party licenses, and backup capabilities – instead, maximizing the value of their investment in communication networks and advanced network applications through data analytics that improve operations, reduce cost, and enhance customer service.

Highly Available, Actionable Data

Data is stored in the Sensus Analytics server for 36 months, with optional additional durations available. The base data store keeps all data – including meter reads, alarms, and notifications – available to users for this time.

Data and images can be exported and copied in a wide variety of file formats, enabling utilities to aggregate data from smart meters, SCADA systems, customer billing software, and myriad other sources into one simple platform.

Utilities can maximize the value of their investment in communication networks and advanced network applications through data analytics that improve operations, reduce cost, and enhance customer service.

Application Offerings for Data Management

Meter Data Management Capabilities

Some utilities need an MDM for simple but accurate data collection, management, and reporting. Sensus Analytics is a bundle of applications that provides core meter data management performance, enabling daily utility operations like billing and meter and sensor monitoring. The solution also provides alarm management capabilities, allowing utilities to go beyond billing applications and gain insight on system performance and health.

Currently Available Applications

The following table shows the modules that are currently available through Sensus Analytics.

Application	Vertical(s)	Description
Alert Manager	Electric, water, gas	A notification tool to immediately alert individuals, teams, or key customers via SMS or email when events are reported by the meters and network. Events include conditions such as tampering, reverse flow, empty pipe, leakage, reverse power flow, outage and restoral, and high temperature alarms.
Billing Access	Electric, water, gas	A billing interface tool that previews and audits billing extracts for issues, enabling the utility to take corrective action and then generate final billing files for production. Provides customized formatting and creation of billing files for the utility's CIS system.

Application	Vertical(s)	Description
Device Access	Electric, water, gas	A customer service tool that, combined with account and customer information, presents detailed usage history and trends, identifies anomalies, provides validation of interval data, and enables custom alert programming to track specific issues.
Alarm Insight	Electric, water, gas	A monitoring tool for the entire system with near-real time alarms, allowing users to drill down to individual events, view historical data, and map or list the alarm events to track event trends. This is a convenient and time-saving alternative to creating reports and using a third-party application to sort alarms.
Meter Insight	Electric, water, gas	A dashboard providing a summary of incoming network, account, and meter data to identify and prioritize issues needing resolution. Drill-through capabilities identify current meters and their associated status, including Active Orphaned, Inactive, Stale, Almost Stale, and No Read Available.
Acoustic Monitoring	Water	An acoustic leak detection analysis tool used in conjunction with PermaLog+ acoustic sensor devices to identify leaks in water distribution systems by monitoring distribution lines. This add-on solution requires setup and customization from the Sensus Professional Services team.
Service Management	Electric, water, gas	An application allowing the utility to initiate billing-related commands in bulk to open, reduce, or close the automatic valve on groups of ally, Sonix IQ meters, or remote disconnect (RD)-enabled electric meters, and provides near-real time status updates on the process. Also tracks billing system updates.
Pressure Profile	Water	An application enabling remote pressure monitoring capabilities, providing visibility into the utility's water distribution system as a whole. Combines pressure data from ally meters and Smart Gateway sensor devices into a map-based solution, graphically displaying the pressure of measured points with respect to location over time. This add-on solution requires setup and customization from the Sensus Professional Services team.

Water SmartPoint Communication Module Overview

Water SmartPoint communication modules are a primary component of the FlexNet system and serve as more than just data collection devices. SmartPoints are equipped with full-duplex communications transceivers, providing full two-way communications from the FlexNet Head End System to the SmartPoint installed at the water meter.

The FlexNet system supports several communications options, including real-time, on-demand read capability from the meter; smart alarms, tamper detection, reprogramming of SmartPoints over the network; firmware updates over the network; and true top-of-the-hour reads.

SmartPoints are designed for residential metering solutions as well as commercial and industrial (C&I) metering solutions.

- Single-port SmartPoints provide you with the ability to monitor a single meter register; dual-port SmartPoints provide you with the ability to monitor two separate meter registers.
- Migrate from a walk-by/drive-by (WB/DB) application to fixed-base with no endpoint reprogramming necessary for changing the reading method.
- SmartPoints hold a nationally published 20-year warranty.
- Hourly readings are transmitted every 4 hours (6 times per day) as the default configuration.
- Industry-leading long-range transmitters give SmartPoints the ability to communicate at up to 2 watts of power.
- Full two-way communications from the AMI management system (the FlexNet Head End System software) to the SmartPoint. Two-way communications provide on-demand read capability from the utility office.
- Potential leaks (both major and minor) are monitored at the customer site, with alerts sent to the utility.
- SmartPoints identify backflow conditions.
- Tamper features include cut wire and empty pipe.
- SmartPoints send low-battery warnings.
- Latitude and longitude coordinates are registered during the installation process.
- Hourly reads are stored up to 35 days.
- Remote upgrades include firmware and configuration updates.
- Flexible connection options simplify installation.

Two SmartPoints are available: the non-pit set 510M and the pit-set 520M. Each unit features an internal antenna, enabling the unit to communicate directly to the FlexNet communication network. Neither unit requires a separate antenna or booster. The SmartPoint and the water meter communicate via a direct connection.

520M SmartPoint Communication Module

The 520M is designed to be installed through the pit lid for maximum performance. The following table provides 520M SmartPoint specifications.

Feature	Specification
Service	Pit-set installation interfacing the utility meter to the FlexNet system. Unit requires 1.75" diameter hole in pit lid. Fits pit lid thickness up to 1.75".
Physical characteristics	Width: 4.43" Height: 5.09" Depth: 3"
Weight	1.0 lbs. (16 oz)
Color	Black
Frequency range	900-950 MHz 8000 channels x 6.25 kHz steps

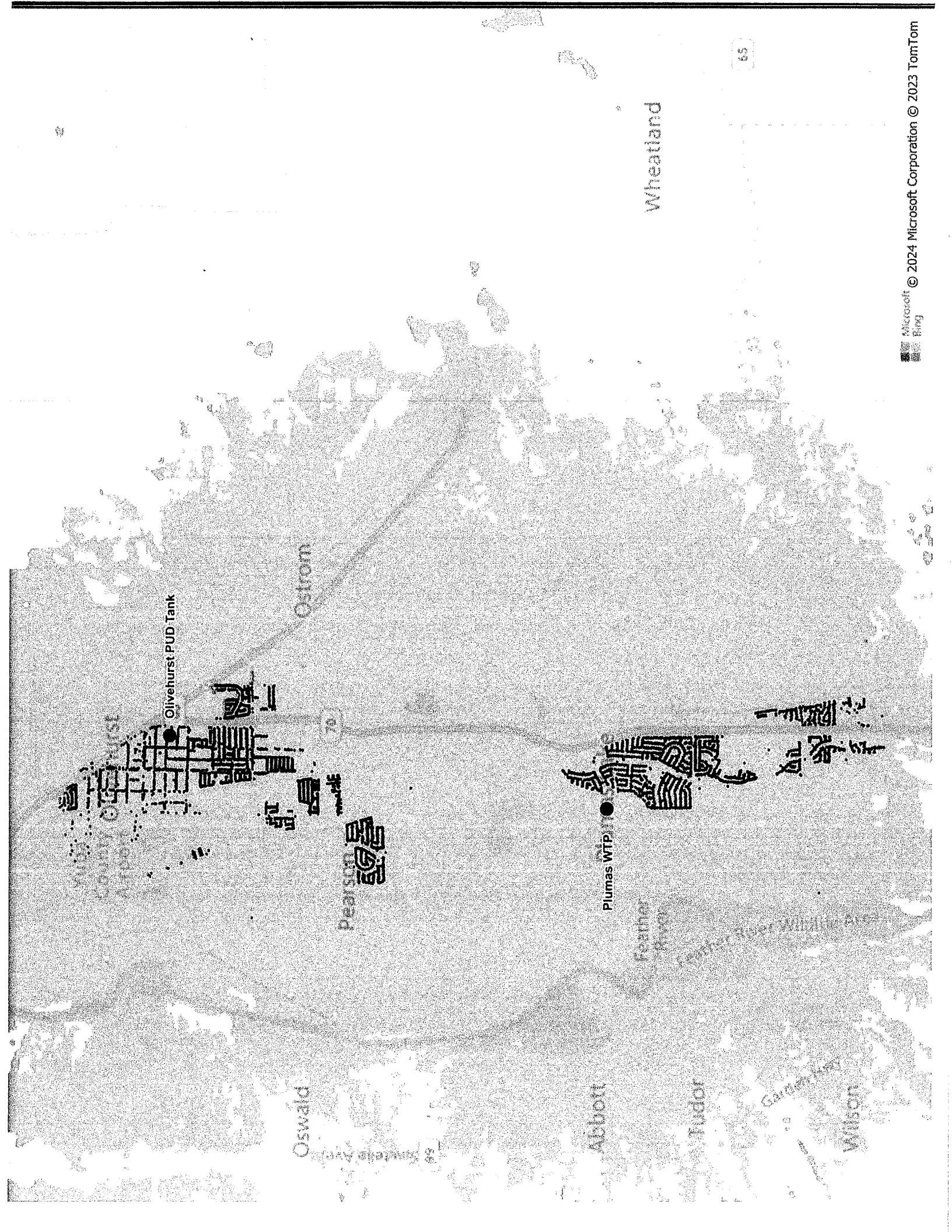
Feature	Specification
Modulation	Proprietary Narrow Band
Memory	Non-volatile
Power	Lithium Thionyl Chloride batteries
Approvals	US: FCC CFR 47: Part 24D, Part 101C, Part 15 Licensed operation Canada: Industry Canada (IC) RSS-134, RSS-119
Operating temperature	-22° to +185° F -30° to +85° C
Options	Dual- or single-port availability TouchCoupler-only or wired-only
Installation environment	100% condensing, water-submersible
Compatibility	TouchCoupler version and wired version: Sensus Encoder Registers, Badger ADE water registers, Master Meter AccuLinx, and Hersey Translator (approved TR/PL lead). Wired version only: Elster Encoder (Sensus protocol), Neptune ARB VI (ProReady), Hersey Translator, Zenner PMN Nitro 01, McCrometer flowcom FC100-00M, and Kamstrup flowIQ 2100.
Warranty	20 years (based on six transmissions per day) Please refer to the enclosed Specifications Sheet section for additional warranty information.

Propagation Analysis Overview

The following Propagation Analysis was created in partnership with Sensus USA based on information provided by the Olivehurst PUD and completed in January 2024. Based on the information given, Sensus anticipates two (2) M400 basestations will provide complete coverage for the Utility's service area. As shown within our formal analysis below, the two basestations will be located at the following City-owned sites: Olivehurst PUD Tank and Plumas WTP. Altogether the basestations will provide 100% coverage for the City's service area as reflected within the enclosed analysis.

Collector Site	Antenna Installation
Olivehurst PUD Tank	Quasi-Omni configuration requiring two panels and a power divider; located at south railing of tank and northwest railing of tank.
Plumas WTP	New 80' pole at plant; location to be at top of new pole.

As per the enclosed warranty documents, Sensus guarantees this analysis with a read success rate of 98.5% over a four-day window.



Olivehurst PUD Tank

Ostrom

Pearson

Plumas WTP

Feather River

Wheatland

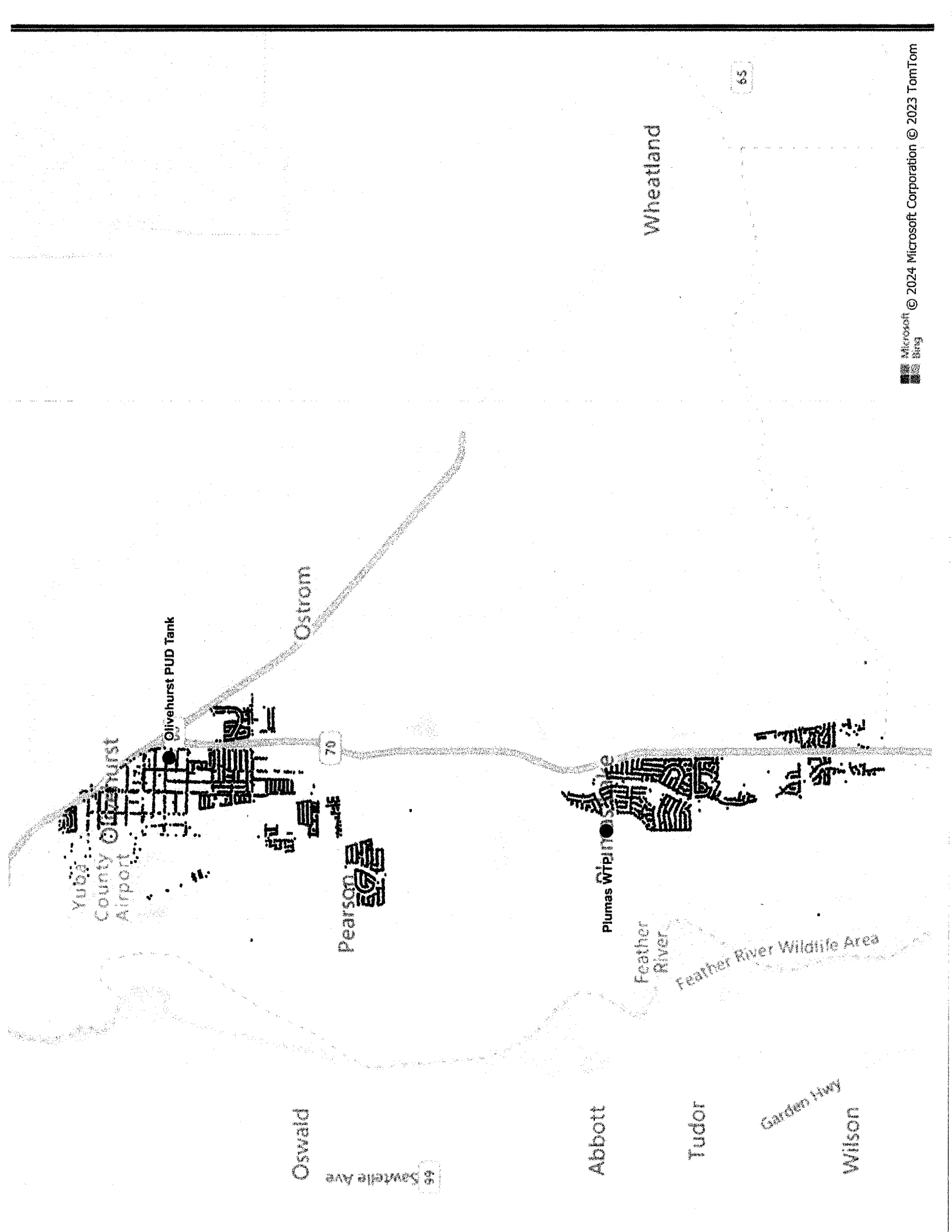
Oswald

Abbott

Tudor

Gardner Hwy

Wilson



Yuba County Airport

Olivehurst PUD Tank

Ostrom

70

Pearson

Plumas WTP

Feather River

Feather River Wildlife Area

Wheatland

65

Oswald

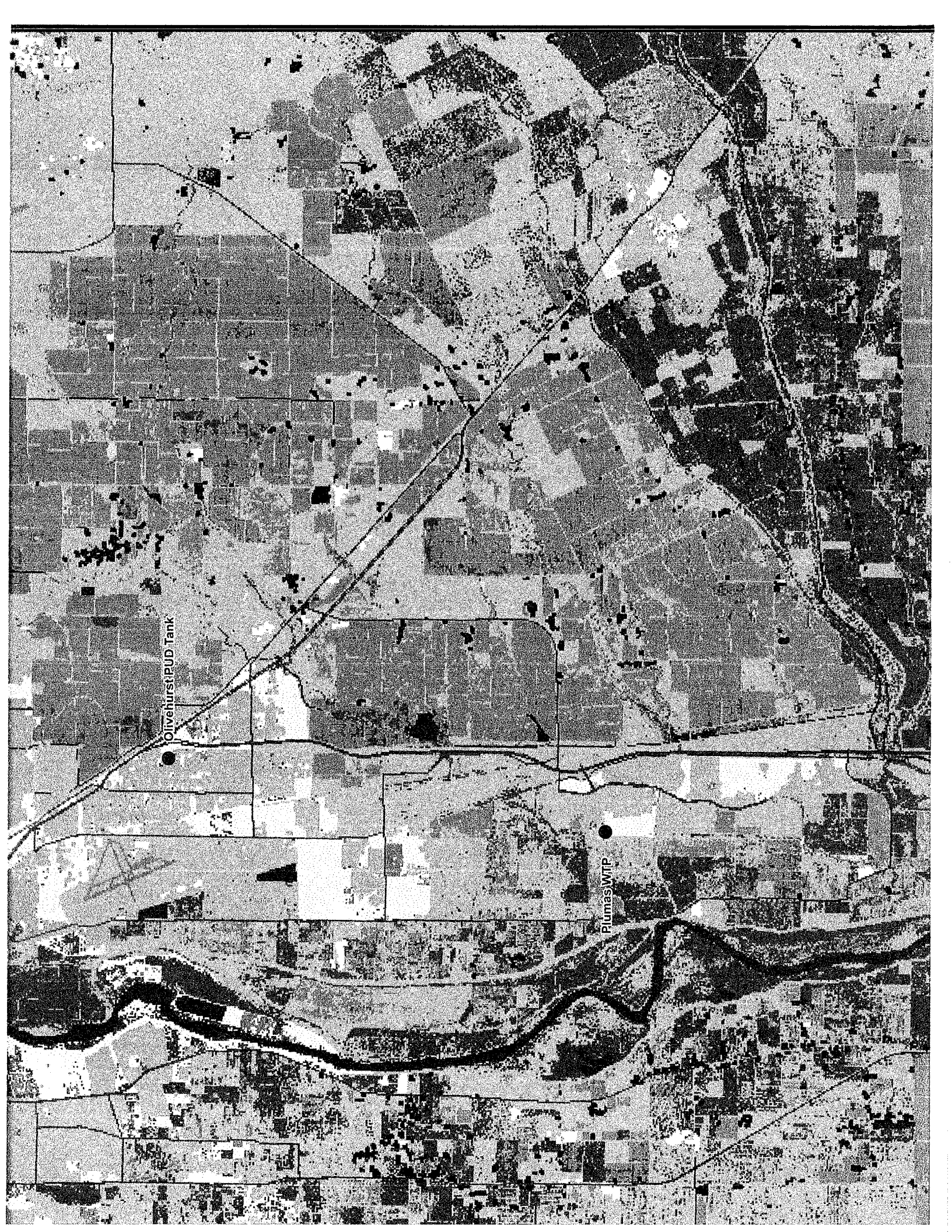
Sawtelle Ave 99

Abbott

Tudor

Garden Hwy

Wilson



Olivehurst PUD Tank

Plumas WTP

CONFIDENTIAL

Customer Name: 14078 - OIL NEAREST PUBLIC UTILITY-AM
 City/State or County: Oil Shale, CA
 Number of Meters Analyzed: 6,859

RF Engineer: James Spangler

Date: 1/12/24
 Meter Type: Smart Field Location - P1 (S) AL

SEVENUS

BTS Name	Latitude	Longitude	Structure Status	Structure Type	Base Station Equipment	Antenna Configuration (Type)	Antenna Model	Base Antenna 3dB Gain (dBi)	Base Antenna 3dB Beamwidth (Degrees)	Base Antenna Azimuth (Degrees)	Base Antenna Mechanical Tilt (Degrees)	Base Antenna Down Tilt (Degrees)	Comments	Power Class
Oilshale PUD Tank	38.011188	-121.944517	Existing	Water Tank	140002	100	WPA-70000-8CF-U-860	90	200	0	0	0	Case: Omni configuration requiring base station and power class.	5,197
Oilshale WTP	38.018656	-121.936363	Proposed	Tank	140002	85	WPA-70000-8CF-U-860	90	510	0	0	0	Case: Omni configuration requiring base station and power class.	2,875
								350	0	0	0	0	Case: Omni configuration requiring base station and power class.	5,981

Count	%
6,859	100.00%
6,859	100.00%

Comments: **Minimum 3 feet tip to ball vertical separation is required when mounting the antenna next to any existing antennas unless otherwise noted.**

* The WPA700 series antenna must be specified on order: THE FREQUENCY RANGE NEEDS TO COVER UP TO 850 MHz.

* Oilshale PUD Tanks is Case:Omni configuration requiring 2 jacks and a power divider.

Case Size	Count
1-1/2"	1,716
2-1/2"	1,287
3-1/2"	1,287
4-1/2"	1,287

Responses to Technical Specifications

A. AMI System Overview

1. To protect and guarantee frequency interference levels over the 20-year life span of the system, FCC Part24 or Part 90 approved primary use licensed spectrum is required.
Comply; please refer to the enclosed Sensus FlexNet AMI Solution Overview for additional details.
2. Preference shall be given to systems using higher transmit power for signal reliability. Note, current leaser of existing tower (near 1970 9th Ave) resides with AT&T. Selected bidder must coordinate with AT&T in order to confirm no interference with any existing systems currently occupied within existing tower. Other users on existing tower are T-Mobile. OPUD has included the latest improvements and plans per AT&T antenna's improvements from 2018 in the Attachments. OPUD also has included the latest improvements and plans per T Mobile's existing Antenna's on Tower.
Comply
3. Describe the RF modulation used by the Endpoints (narrow band, spread spectrum, etc.). What are the advantages of this type of modulation? Is this modulation "off the shelf" or is it designed specifically for AMI applications? Can the transmissions be easily decoded by commercially available RF equipment?
FlexNet is a star topology, point-to-multipoint network design that utilizes primary-use, FCC-licensed spectrum.

Competitive Advantages of a FlexNet System

The FlexNet communication network forms the backbone of the FlexNet AMI solution. Operating over FCC-licensed, primary-use RF spectrum, it is the most complete AMI communications network solution on the market today. The FlexNet system is distinguished from competitive offerings through its scalability and expandability, performance, efficiency, security, and customer experience – all benefits that the primary-use RF spectrum enables.

Network Advantages

FlexNet's FCC-Licensed, Primary-Use Spectrum is Exclusive to Sensus' Utility Customers

The FlexNet communication network serves as the foundation of the FlexNet system and enables the many financial and operational benefits that Sensus' 1,400 water, electric, and gas utility customers enjoy. Years ago, Sensus purchased the exclusive (primary-use) rights to the local and nationwide RF spectrum that your utility's FlexNet communication network will use – meaning no other person or company may use those RF channels, as enforced by the United States' Federal Communications Commission (FCC). Today, Sensus continues to add more RF spectrum to our portfolio to provide more capacity for utility customers. *Sensus offers their customers FCC-licensed, primary-use RF spectrum.*

This exclusivity enables long-distance communication across miles of your service territory with high performance, and ensures low noise floors, enhancing communication performance for the life of the system. Using exclusive frequencies also enables Sensus to use highly sensitive transceivers in its network equipment, which further increases the range and reliability of the FlexNet system – with the fewest number of network devices needed to establish your AMI system. This technology enables the point-to-multipoint network architecture of the FlexNet system, with its many advantages.

Protection from RF Interference with Primary-Licensed Communications on the FlexNet Network

Sensus utility customers experience the full protections and advantages that primary-licensed RF spectrum provides. The FlexNet communication network is protected from RF interference by the FCC, with a fine of \$10,000 per day for user interference. This protection ensures that your company has enforceable recourse in the case where an entity interferes with your RF transmissions – a benefit that other public frequency-based AMI systems cannot offer.

Superior Network Performance Distinguishes the FlexNet System from Competitors

Protection from interference on your utility's network enables numerous performance benefits. Your utility is the only user of your assigned RF frequencies in your service area. This means that the system's RF noise floor is very low, allowing for clearer communications over long distances. In addition, the FlexNet Base Station's advanced receiver design has high sensitivity, allowing excellent message reception across long distances. Along with the low noise floor, this design enhances the range and reliability of the FlexNet system.

4. Preference given to AMI system that is capable of being read through AMR if necessary.
Sensus has designed each of their systems to have the ability to work in unison with one another. Specifically, the AMR Drive-By System can be used as a backup system within AMI. Sensus is unique in the fact that they have the only AMR system that can affordably and realistically migrate to an Advance Metering Infrastructure (AMI) system with minimal infrastructure requirements and without revisiting each endpoint. SmartPoints are capable of operating in either AMR (walk-by/drive-by) or AMI (fixed based) mode. These transmitters utilize high-powered two-watt radios to communicate directly with AMR or AMI systems. SmartPoints will transition to and from each system type with a single command given by the head end system. This feature provides a clear area of cost savings versus other technologies. Due to the system coverage and redundancy available with the Sensus FlexNet AMI System, an AMR/Drive-By backup system is not quoted. However, pricing can be provided at a later date, if needed.
5. Bidder must provide an official RF Propagation Study from a licensed RF engineer or engineering firm that displays exact location and height of all data collection equipment and coverage patterns.
Comply; a formal propagation analysis is included within our response herein.
 - a. The system components must provide for a meter read over a 4-day window for at least 98.5% of all meters in the service area.
Comply; complete details regarding Sensus' read success rate and service level warranties can be provided. All guarantees are based on Sensus' manufacturer and system support warranties.
 - b. The system study component must identify all required collection infrastructure required for system operation.
Comply; as per the enclosed propagation study, two M400 basestations will provide complete system-wide coverage based on the review information used to create the analysis. At this time, we anticipate the collectors to be installed at the Olivehurst PUD Tank and Plumas WTP.
 - c. The system study component must identify any and all areas that are not covered in the propagation study. The bidder shall provide and install any additional data collection equipment (receivers, collectors) required after endpoint deployment to achieve the coverage depicted in the RF propagation study.
13 sites were excluded from the propagation analysis due to either not being accurately geocoded (invalid lat / long) or outside of the Utility's service area. These sites can be provided to the Utility upon request.

As per the enclosed propagation analysis, Aqua-Metric anticipates three (2) M400 basestations will be required to achieve 100% system coverage. Should the City require additional collectors, to achieve guaranteed coverage, Sensus will provide the additional infrastructure at no charge; however, providing the location, tower construction, installation of the unit and its backhaul will be the responsibility of the City.
6. What provisions does the bidder provide to ensure that the Utility will not have to purchase additional collector infrastructure due to system underperformance?

Sensus places a guarantee on the number of collectors reflected within their completed propagation analysis based on the information used to derive the results.

7. AMI System must be capable of performing remote disconnection of water services. Comply; remote disconnect can be achieved by use of Sensus' ally water meter. It is our understanding that water meters are not a part of the Utility's bid scope; however, pricing for the ally meter can be provided upon request.
8. Preference shall be given to systems which require the least amount of collection infrastructure while still providing overlapping coverage for redundancy. Understood.
9. The system selected must have a 20-year operational life span. What warranties are offered on the Infrastructure? Please provide. Is this warranty nationally published, or is the warranty being provided on a case-by-case basis? Please provide clarification.
Sensus Basestations are warranted for one-year (12-months) from the date of Sensus shipment. Coverage is limited to the terms and conditions outlined within the Sensus Limited Warranty G-500 as provided within the specification sheet section of our response. Sensus also provides an extended warranty for Basestations which we have included in our cost proposal. The extended warranty must be purchased within the first year from the date of product shipment and is renewed annually with a 3% annual escalator.
10. To avoid obsolescence and to allow for new technologies to be implemented, the infrastructure must utilize a configurable architecture that is capable of being updated and/or reconfigured remotely. How does your system allow for new technologies? Please provide information.

Sensus stands alone in its commitment to mitigating obsolescence. Their industry-leading, two-way wireless AMI communication network – which forms the backbone of the FlexNet system – is the key to enabling this. The FlexNet communication network consists of long-range, FCC-licensed, primary-use bands that Sensus and its utility customers have exclusive rights to use for the life of the FlexNet system.

The point-to-multipoint network architecture of the FlexNet system means that endpoints communicate directly with the base stations without having to send their messages through a long series of meters. This direct communication design allows the FlexNet system to easily support different generations of products on one system – an advantage that competitors are challenged to match.

Primary-Use Spectrum Ensures Longevity

The RF spectrum Sensus assigns to your system is 100% primary-use, meaning your FlexNet-enabled devices have the exclusive rights to use your assigned RF frequencies, with no other entities permitted to use them. Additionally, RF interference on these primary-use frequencies is regulated and prohibited by the FCC, providing you the assurance of unobstructed communications – with recourse against illegal interference. Sensus has the exclusive rights to the RF frequencies it leases, and the Sensus guarantee against unauthorized RF interference on them is a promise that other AMI systems cannot make.

Sensus' ownership of the primary-use spectrum also means that Sensus, not the government or other companies, decide how to utilize and reallocate it. This control sets Sensus apart from competitors, whose technology may depend on third-party telecommunications companies. These companies can decide at any time to modify or discontinue a technology used in competitors' deployed meters, forcing utilities to replace these meters. Because Sensus owns the rights to the spectrum it leases, they can ensure our meters in the field remain functional for the entire 20-year life of the FlexNet system.

Spectrum Channelization Supports Expansion

Further, the FlexNet system easily supports multiple applications on a single network, while offering the unique ability to operate these applications on separate, dedicated FCC-licensed frequencies. This ability to separate solutions on different RF channels is one of the important ways that the FlexNet system is

consistently able to deliver the highest overall performance and Read Interval Success (RIS) rate in the industry across many implementations.

This multi-application support allows each application to operate independently of other applications. New applications can be added at any time, and they are managed and secured independently. Channelization is achieved using RF frequencies that Sensus has the exclusive rights to. The FlexNet system can send, receive, and process multiple message types simultaneously, providing exceptional network scalability and value that other networks cannot match.

Over-the-Air Updates Enable Backward Compatibility

The FlexNet system was designed to evolve over time to meet your future needs while maintaining full support of your current ones. The FlexNet system is designed to operate for 20 years. With full two-way communication to the endpoints, future features, functionality, and protocols can be supported via firmware downloads. Additionally, settings in SmartPoint communication modules can be modified over the air to change various parameters, including leak detection thresholds.

The unique network design of the FlexNet system incorporates state-of-the-art, software-defined transceivers for endpoints and FlexNet Base Stations that can be updated over the air. These software-defined transceivers can be upgraded over time as Sensus launches new features and capabilities to enable improvements in existing hardware.

For example, Sensus recently launched an improved version of the FlexNet firmware to improve the speed and throughput of base station communication. These improvements will be usable in all endpoints that support this new capability, while some older endpoints will need to stay at their existing FlexNet version. In a FlexNet system, both firmware versions can be supported simultaneously. Thus, no endpoint is left behind.

Looking Forward

Sensus couples forward-looking, ongoing R&D investment and industry-leading performance with a commitment to backward compatibility. Put simply, the endpoints you deploy today will continue to be supported throughout their lifetime. Your team can rest assured knowing that your FlexNet system will never become obsolete or strand any deployed FlexNet endpoints for the life of your system. The FlexNet Head End System software allows communication with independent endpoints, enabling your team to take advantage of Sensus' ongoing innovations in technology, products, and applications – while also continuing to support the products you have already deployed in the field.

11. The Utility wishes to maintain a Fixed Base Support and Extended Maintenance contract with the system Proposer.

Comply; Aqua-Metric is proposing a Software-as-a-Service hosted AMI solution to the City. Alongside the AMI hosting fees, Aqua-Metric's cost proposal reflects our in-house Annual Support subscription services.

12. Outline specifically what is covered by the proposed Fixed Base Support and Extended maintenance contract. Does the contract include extended maintenance on the data collection units and overall network?

Aqua-Metric and Sensus provide support as a part of their annual subscription services. Furthermore, Aqua-Metric provides field tickets for customer inquiries and technical support. Below is an overview regarding Sensus' SaaS solution. An overview of Aqua-Metric's annual support is included within Section 6: Support Overview of our response.

Sensus SaaS Solution Overview

Sensus' Software as a Service (SaaS) is a managed offering in which Sensus is responsible for the day-to-day monitoring, maintenance, management, and support of the utility's FlexNet Head End System software

applications as a private cloud-based service. Nearly all of Sensus' utility customers take advantage of their SaaS offering, with approximately 99.9% of utilities choosing Software as a Service.

The SaaS offering provides all the benefits of a FlexNet communication network by placing the FlexNet Head End System in Sensus' private, cloud-based data centers. Sensus provides all the hardware and software needed to operate the head end system and manages the application and servers in its two U.S.-based, world-class Tier IV data centers. Utilities do not need to invest additional expenditures, such as IT hardware and software, additional office space, and specialized IT resources like security or database administrators, specifically for the FlexNet Head End System. Sensus monitors the utility's servers around the clock to ensure high availability and reliability. Sensus' data center teams perform all hardware maintenance and software patch installation, updates, and upgrades to ensure that your team has access to all the latest features and capabilities that FlexNet has to offer. Sensus guarantees 99.9% application availability (uptime).

Software as a Service (SaaS) Features

The standard SaaS service includes:

- Sensus purchases and owns the FlexNet Head End System software and license, as well as all third-party software and licenses required to run the application, such as Microsoft, Red Hat, and SQL.
- All server hardware required to operate the system. Includes server hardware refresh, as necessary.
- Sensus manages, maintains, and monitors software and server hardware.
- All FlexNet software maintenance, including patches, updates, and upgrades (coordinated with your team).
- Production and disaster recovery environments using our two U.S.-based data centers.
- Disaster recovery solution with Recovery Time Objective (RTO) of 48 hours.
- Standard technical support.
- A set of standard Service Level Agreements (SLAs) for uptime and availability of the head end system.
- Web portal access to the head end system.
- Sensus submits a daily file in standard file format containing hourly consumption reads and all available alarms collected by the network, including exception reports, such as zero consumption reads, non-responding meters (including traceability to the meter location).
- 24/7/365 server and network monitoring and trouble ticket generation, advanced security monitoring, and preventative maintenance monitoring using diagnostic software tools.
- 60 days of historical data available on the FlexNet Head End System and on the Storage Area Network (SAN). Secure vaulting of encrypted backup containing one year of history is available for auditing purposes.

Aqua-Metric Support: In addition to Sensus' annual SaaS hosting services, Aqua-Metric offers technical support services to our customers. As a Sensus Certified Value-Added Reseller (VAR), Aqua-Metric's in-house technology department delivers best-in-class support to each of our customers. From conceptualization and infrastructure installation, through project completion and beyond, Aqua-Metric works with each of our customers to provide the technical support required for optimal system operation.

Aqua-Metric's Value-Added Services include remote and on-site assistance with implementation, integration, troubleshooting and diagnosis, software patches and updates for the AMI System; as well as once-per-year on-site health check of each base station; and labor to replace defective base station warranty parts. The City will have peace of mind knowing that Aqua-Metric and Sensus technical support professionals are available to help implement and support your AMI network throughout the project.

Additional information regarding Aqua-Metric's Annual VAR Support is included within the enclosed Support section of our response.

Pricing for the proposed SaaS solution (hosting fees) and Aqua-Metric's annual support program is included within the enclosed cost proposal.

B. Water Endpoints

Pit or Vault Applications

1. The endpoint shall be water submersible, capable of operating in 100% condensing humidity and provides operating temperature range of -22 F to 185 F (-30 C to 85C).
Comply.
2. The endpoint antenna shall be configured to be installed through the industry standard 1 $\frac{3}{4}$ " inch hole in a pit lid with no degradation of transmission range. The antenna will be capable of mounting to various thicknesses of pit lids from $\frac{1}{2}$ " to 1 $\frac{3}{4}$ " inch.
Comply.
3. Preference will be given to systems which can connect to meters without wire cutting or splicing.
Comply - The pit-set 520M SmartPoint communication modules are available with a simple plug-and-play TouchCoupler connection. With TouchCoupler, no cutting or splicing of wires is required. This connection is also waterproof, preventing any corrosion of wires or water intrusion into the meter.
4. Endpoints shall provide a 20-year warranty while delivering hourly readings (24 readings per day). Sensus offers a 20-year nationally published endpoint and battery warranty for the water SmartPoint communication modules (fifteen-year full warranty, and 5 years prorated). The 20-year warranty is based on hourly meter reads and six transmissions of hourly interval data per day.
5. To avoid obsolescence and to allow for new technologies to be implemented, the endpoint must be capable of 2-way RF communication allowing firmware to be updated and settings to be reconfigured over the air.
Comply.
6. AMI water endpoints must operate on FCC primary use licensed spectrum.
Comply; all proposed hardware components for the Sensus FlexNet AMI system are FCC-licensed and approved. FlexNet - and all FlexNet system components - operate exclusively on clear channel, primary-use, FCC-licensed frequencies. Sensus is the primary license holder nationwide, and Sensus maintains the license on behalf of the Utility for the term of the contract. All Sensus SmartPoints and basestations have FCC CFR 47: Part 15, Part 24D, and Part 101C, licensed operations approvals.
7. AMI water endpoints must be capable of being mounted through either plastic or iron meter pit lids.
Comply.

C. Water Meters Information

5/8" – 1" Residential Meter Specifications

1. Type (SR II)

OPUD currently employs solid state, battery operated electromagnetic flow measurement system with a hermetically sealed, glass covered, electronic register with a programmable 9- digit display. This meter assembly is intended where measurement of both domestic and fire service water usage is desired.

Comply; however, it is our understanding that water meters are not a part of the Utility's bid scope. However, if meters are required, the Sensus SRII metering line complies with the requirements stated herein.

2. Register

The register is an electronic device encapsulated in glass with 9 programmable digits utilizing a liquid crystal display (LCD). It will have indicators for flow direction, empty pipe, battery life and unit of measurement. The

register must be hermetically sealed with a heat tempered glass cover and be tamper resistant. The register shall not be removable from the measuring sensor. The register shall utilize magnetic coupling technology to connect to a touch read, radio read or fixed base meter reading system in either an inside or pit set installation. Comply; however, it is our understanding that water metering products are not a part of the Utility's bid scope. However, if meters are required, the Sensus SR11 metering line complies with the requirements stated herein.

3. Certifications And Marking

All sizes of meter packages shall be UL (Underwriters Laboratories) Listed approved as being accepted for use on fire service lines and domestic water use. For such applications, the meter shall be identified indicating such acceptance.

Comply, however, it is our understanding that water meters are not a part of the Utility's bid scope. However, if Sensus meters are required, Aqua-Metric can provide these. All UL-approved meters will be provided with UL markings.

1 1/2" – 2" Residential Meter Specifications

1. Scope

These specifications set forth the cold water meters used in residential settings, including the following potential service applications and general considerations:

- Intended where a moderately wide flow range is anticipated
- Measurement of water usage for typical billing applications
- Measurement intended for typical commercial, residential and industrial applications
- Measurement of constant low to extended high flow usage

Comply; however, it is our understanding that water meters are not a part of the Utility's bid scope. However, if meters are required, the Sensus OMNI metering line complies with the requirements stated herein.

2. Performance

The meter assembly shall have performance capability of continuous operation up to the rated maximum flows as listed below without affecting long-term accuracy or causing any undue component wear. Maximum headloss through the meter / strainer assembly shall not exceed those listed in the following table per meter size.

Comply.

3. Operating Characteristics

METER SIZE	LOW FLOW (95% Min.)	OPERATING RANGE (98.5 - 101.5%)	PRESSURE LOSS (Not to Exceed)
1 1/2"	.75 GPM	2 to 150 GPM	6.7 PSI @ 150 GPM
2"	1.0 GPM	2.5 to 200 GPM	7.0 PSI @ 200 GPM
2" without strainer	1.0 GPM	2.5 to 200 GPM	4.4 PSI @ 200 GPM

Partially Comply; see below for variances in compliance.

1 1/2" OMNI R2 Pressure Loss: 6.9 PSI @ 160 GPM.

2" OMNI R2 Pressure Loss: 7.0 PSI @ 200 GPM.

4. Electronic Register

The meter's register is all-electronic and does not contain any mechanical gearing to display flow and accurate totalization. The electronic register includes the following partial list of features:

- AMR resolution units fully programmable
- Large, easy-to-read LCD display
- 10-year battery life guarantee

The Sensus OMNI R2 meter complies with the requirements stated herein.

Section 5: Project Management, Implementation, and Conversion

Proposed Project Approach
Preliminary Project Schedule

Proposed Project Approach

Aqua-Metric's optimal business solutions provide comprehensive offerings to our customers, encompassing solution planning and design, network deployment, meter installations (where applicable), and life-cycle support. We endeavor to give each customer peace of mind knowing they are receiving the absolute best technology, implemented and supported locally by our team of committed and highly knowledgeable professionals.

Aqua-Metric practices a standard operational philosophy and approach from initial project commencement through completion and acceptance, combining the benefits of best practices and local support. Leading into the Olivehurst PUD's AMI project, Aqua-Metric will host a series of Planning and Solution Design workshops allowing us to gain a better understanding of the City's current business processes and identify any immediate needs. Once we understand these requirements, our project team will work closely with the City to establish a project plan, deliverables, communication plans, and project acceptance. During this time, we will devise a deployment timeline conducive to product acquisition, software integration, and network implementation services.

Aqua-Metric's in-house technology department will be responsible for managing installation, integration, and commissioning of the Utility's FlexNet system. Our technology department is proficient in all aspects of FlexNet AMI system deployment with particular emphasis on integration with the City's CIS Tyler Munis. Our team will work closely with Olivehurst PUD and their CIS to facilitate the successful integration of the CIS software with the proposed Sensus Analytics MDM software.

Aqua-Metric's technology team will provide instructor-led and one-on-one field training needed for optimal system operation. Throughout the initial project start-up, our technology team will deliver on-site training courses for key city personnel. Each training session will be relevant to the audience and will include necessary product documentation and handouts.

Within the solution's lifetime, Olivehurst PUD will inevitably encounter obstacles to overcome in the future. Aqua-Metric is committed to assisting the City overcome these hurdles to ensure the continued operational health of the network through the project. Through Sensus and Aqua-Metric's annual support offering will provide comprehensive onsite and remote support to ensure the Utility will receive the best service, hardware, and software support for Sensus AMI products.

Scope of Work

As Olivehurst PUD's primary system integrator, Aqua-Metric will commit the necessary time and resources to fulfill the City's goals for a successful AMI project. Our team will work alongside the City during all phases of their prospective AMI project and provide post-project support for the AMI System upon system acceptance. Our fundamental services will include:

- AMI Implementation
 - Procurement of the AMI network, software, and endpoints
 - AMI system planning and design in collaboration with the Utility
- Design, installation, and acceptance of the AMI Network
- Installation, configuration, integration, and training of the AMI Software
 - Sensus FlexNet RNI
 - Sensus Analytics MDMS
 - Sensus FieldLogic Tools (handhelds)
 - Deployment of SmartPoints
- Project close out.

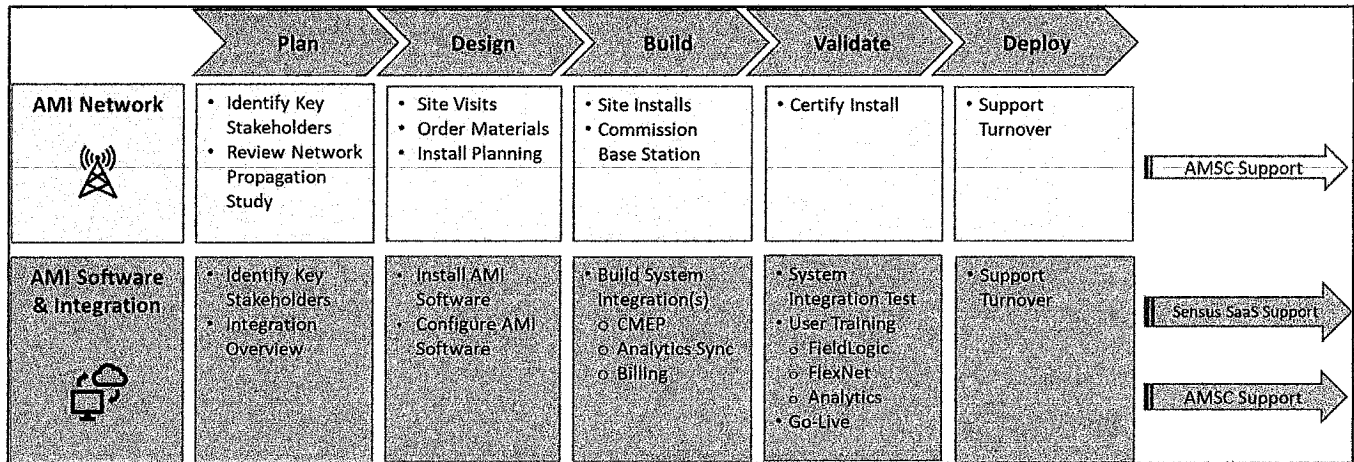
Project Approach

Aqua-Metric utilizes a phased, waterfall approach for AMI Implementations. The phased approach calls for four major workstreams to work in parallel to accomplish the project objectives.

The proposed workstreams are:

- AMI Network Installation
- AMI Software Installation and Integration
- Deployment & Closeout

The following diagram depicts the Aqua-Metric work activities by phase:



Aqua-Metric’s proposal is for the AMI system and radio transmitters only – no meter/SmartPoint installation services – as detailed herein. Aqua-Metric’s approach includes network infrastructure and software implementation and management until the network is deployed. After which our scope will reduce to coordination of product schedules and delivery.

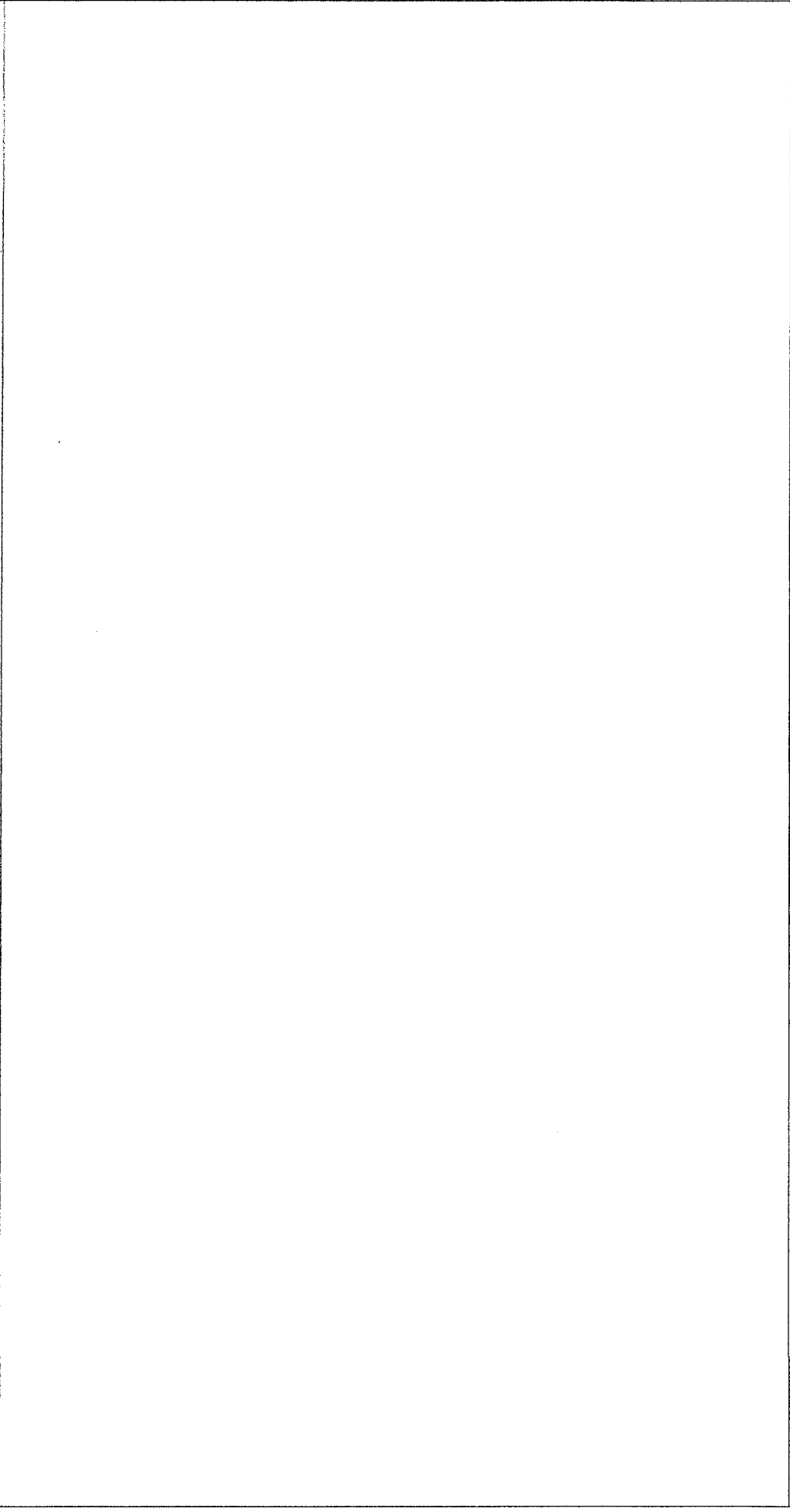
If the City desires Aqua-Metric to manage product installation during full deployment, we can price appropriately once we have further discussion(s) to better understand how the meter deployment will align with product delivery schedules and the City’s deployment schedules. We are happy to discuss these options with the Utility and assist with developing a statement of work and deployment plan, including pricing options to provide the level of project management necessary to facilitate this change in scope.

Sample Project Schedule - CONFIDENTIAL

ID	Task Name	Start	Finish	Duration
1	Olivehurst CA - FlexNet Project	Mon 4/1/24	Thu 4/17/25	274 days
2	Council Approval	Mon 4/1/24	Mon 4/1/24	1 day
3	Notice to Proceed	Mon 4/1/24	Mon 4/1/24	1 day
4	Kickoff Meeting	Tue 4/2/24	Thu 4/18/24	13 days
5	Project Kick-Off	Tue 4/2/24	Tue 4/2/24	1 day
6	M400B2 Basestation	Wed 4/3/24	Wed 4/3/24	1 day
7	Olivehurst Project Plan & Schedule	Thu 4/4/24	Tue 4/16/24	9 days
8	Post Kick-off - Project Plan & Schedule	Wed 4/17/24	Thu 4/18/24	2 days
9	Endpoint Order and Delivery	Fri 4/19/24	Thu 4/17/25	260 days
10	2,750 - 520M Single Port	Fri 4/19/24	Thu 4/17/25	52 wks
11	825 - 520M Dual Port	Fri 4/19/24	Thu 4/17/25	52 wks
12	RNI Configuration	Fri 4/19/24	Thu 5/2/24	10 days
13	TGB Delivery and	Fri 4/19/24	Thu 8/1/24	75 days
14	2 - WPA-70090-8C Antennas	Fri 4/19/24	Thu 6/27/24	10 wks
15	1 - DB589-Y An	Fri 4/19/24	Thu 6/27/24	10 wks
16	1 - 80' Lattice T	Fri 4/19/24	Thu 7/11/24	12 wks
17	2 - Communication	Fri 4/19/24	Thu 5/30/24	30 days
18	2 - M400B2 Basestations	Fri 4/19/24	Thu 5/23/24	5 wks
19	Basestation Ins	Fri 7/12/24	Thu 8/1/24	15 days
20	Base Station Commissioning & Modem	Fri 8/2/24	Mon 8/26/24	17 days
21	TGB, Cordex, & Modem	Fri 8/2/24	Mon 8/5/24	2 days
22	Base Station Commissioning	Tue 8/6/24	Mon 8/26/24	15 days
23	System Testing	Tue 8/27/24	Tue 8/27/24	1 day
24	Installation Trainin	Wed 8/28/24	Wed 8/28/24	1 day

Sample Project Schedule - CONFIDENTIAL

ID	Task Name	Start	Finish	Duration	2024	2025
25	Sensus Analytics/Billing Integration(Depen	Thu 8/29/24	Wed 12/11/24	75 days	Qtr 1	Qtr 2, Qtr 3, Qtr 4
26	Sensus Analytics Ti	Thu 12/12/24	Mon 12/16/24	3 days		Qtr 1
27	System Tuning	Thu 12/12/24	Mon 1/27/25	33 days		Qtr 1
28	System Clean up	Tue 1/28/25	Mon 2/3/25	5 days		Qtr 1
29	System Performance	Tue 2/4/25	Fri 2/7/25	4 days		Qtr 1
30	Project Closed Out	Mon 2/10/25	Mon 2/10/25	1 day		Qtr 1



Section 6: Support Overview
Aqua-Metric Annual Support Overview

Aqua-Metric Annual Support Overview

Aqua-Metric is committed to supporting our customers and their AMI System; and therefore, has developed a technology team dedicated to providing technical support after the implementation of the project.

Aqua-Metric offers a value-added service to our customers through our annual support subscription services in addition to the support services provided by Sensus. This support provides access to Aqua-Metric's in-house support specialists to provide remote and on-site assistance for the Utility, including troubleshooting and issue tracking.

Our on-site and remote support services include:

- Assistance with billing integration
- Access to Subject Matter experts on Sensus products and tools
- Remote and on-site support
- Hardware and Software troubleshooting assistance
- Technical support for Field Troubleshooting
- Training updates as tools, techniques, and software change
- Assistance with software updates and recommendations on the updates needed for your system and devices.
- Coordination with Sensus to facilitate support as required.
- Once-per-year on-site health check of each base station.
- Labor to replace defective base station warranty parts.

SERVICE EXTENDING BEYOND THE SALE

At Aqua Metric, we endeavor to build long-term partnerships that extend well beyond the sale of your FlexNet solution. Our in-house service experts are highly knowledgeable and certified to guide your project through each step of deployment and beyond. Aqua Metric's annual VAR Support service program provides you enhanced and priority support to ensure your technology is healthy and operating efficiently.



NETWORK INFRASTRUCTURE

- Infrastructure health and network connectivity checks
- Network infrastructure hardware repairs
 - Basestation replacement parts included with Sensus extended warranty



REGIONAL NETWORK INTERFACE, SENSUS ANALYTICS, AMI SOFTWARE

- Quarterly review RNI and Sensus Analytics data
- Diagnose and troubleshoot integration issues
- Troubleshoot issues between the AMI Software and CIS
- Assist with configuration of existing user reports and alerts
- Troubleshoot access to AMI Software and password issues
- Coordinate software patches and updates



METERS AND SMARTPOINTS

- Assist with troubleshooting meter and SmartPoint device issues
- Coordinate product warranty (RMA) returns with Sensus



FIELD EQUIPMENT AND SOFTWARE

- On-site inspections and checking field equipment operations
- Setup and configure FieldLogic profiles
- Provide meter configuration profiles
- Coordinate software patches and updates
- Troubleshoot software, hardware, and field equipment
- Troubleshoot loading or unloading routes from reading devices



SUBJECT MATTER EXPERTISE

- Provide customer updated software training documentation
- Periodic training on:
 - Fixed network infrastructure operation, maintenance, and troubleshooting
 - Mobile infrastructure
 - RNI and Sensus Analytics
 - Analytics and RNI Administration
 - Sensus Analytics Customer Portal
 - Field Equipment
 - AutoVu & AutoRead Software
 - Field Logic Software
 - Meter installation
 - SmartPoint installation and activation

Contact us with questions regarding functionality and use of products or software.

(866) 719-1422 Monday - Friday 7:30 AM - 4:30 PM

helpdesk@aquametric.com



Section 7: Training and Education

AMI System Training Overview

AMI Training Overview

The success of any system deployment is largely dependent on the knowledge and proficiency of the project team members. From the initial implementation to project closure and beyond, Aqua-Metric's technology team will work with the Utility to provide instructor-led and one-on-one training needed for optimal system operation.

As a part of Aqua-Metric's initial project start-up, members of the technology team will perform on-site training for the Utility as detailed below. Product documentation will also be provided at this time. Additional services and training can be provided to the Utility as requested. We highly recommend that the Utility maintain their annual support subscription services to ensure ongoing use of our technology team and their support services.

Over the system's start-up period, between five and seven days of training are provided. Depending on project complexity and training requirements, Aqua-Metric will provide additional and/or refresher training, as necessary.

Training Plan

Step One – 1/2 to 1 Day: In the Field - SmartPoint Module Field Training for Utility Personnel

Once the AMI infrastructure is installed, training of field personnel or installation contractors in radio installation and activation will be held.

- Handheld operation
- Proper documentation of change-out information to support AMI
- Safety & Security
- Quality audits of installations
- SmartPoint installation and activation
- Verification of SmartPoint activation
- Troubleshooting SmartPoint Issues

Step Two – 1/2 to 1 Day: Overview Sensus FlexNet and Analytics

Once the infrastructure is installed and the system has at least two weeks of data for a sampling of meters, we will have overview training that provides a one-hour overview of the system with an additional two-hour session for billing personnel.

Overview (field and billing personnel – 1 hr.)

- Sensus FlexNet architecture and components
- Field Activation – overview of field activation
- FlexNet roles and responsibilities
- Device Manager Overview (Gas, Water, and Electric)
- Sensus Analytics Overview

Details (focus on billing – additional 2 hrs.)

- Billing setup and integration
- Device Manager deeper dive – show information and troubleshoot.
- Sensus Analytics Meter Insight – look at performance of the System.
- Sensus Analytics Billing Overview – show integration to provide reads in seconds.
- FlexNet and Sensus Analytics Alarms
- Sensus Analytics Report Access – getting data out to answer questions.

Step Three – 1 Day: Expand on System Capabilities

Additional formal training is provided on the Sensus FlexNet system, including administration functions. These sessions provide a deeper dive into the system's capabilities. This training will occur two to three months into the project to expand the knowledge and capacities of utility personnel now that they are familiarized with the Sensus FlexNet.

Step Four – 2 to 3 Days: Additional Training Support

During the next few months of the project there will be on-site visits or web-based training for groups or individuals to answer questions and provide additional support and training as needed.

Step Five – 1/2 Day: Project Closeout Training

Project close-out training and transitioning of the project to the support team will occur once all meters have been installed.

Section 8: References

Aqua-Metric Client Reference List

Aqua-Metric Client Reference List

City of North Las Vegas	96,000 Services
<p>1150 Las Vegas Blvd N, North Las Vegas, NV 89030 • Phone: (702) 449-3149 Joemel Llamado – Deputy Director • Email: llamadoj@cityofnorthlasvegas.com Duration of Project: January 2019 – Late 2021 Meter Type: iPERL residential meter; OMNI commercial meter Summary of Work: Sensus FlexNet AMI Water System.</p>	

Eastern Municipal Water District	160,000 Services
<p>2270 Trumble Rd., Perris, CA 92570 • Phone: (951) 928-3777 ext. 4361 David Gayneaux – Meter Services Supervisor • Email: gayneaud@emwd.org Duration of Project: 2000 – Current • Total Contract Value: Approximately \$16 Million Meter Type: iPERL, SRll, and Ally residential meter; OMNI commercial meter Summary of Work: Direct read account, migration to AMR Drive By, migration to AMI Fixed Based system. Currently still purchasing Sensus product.</p>	

Moulton Niguel Water District, CA	55,000 Services
<p>Address: 27500 La Paz Rd, Laguna Niguel, CA 92677 • Phone: (949) 795-6785 Contact Name: Dan West – Operations Superintendent • Email: DWest@mnwd.com Duration Of Project: 2016 – Present • Total Contract Value: Approximately \$4.6 Million Meter Type: iPERL Residential Meter; Omni Commercial Meter Summary Of Work: Sensus FlexNet AMI Water System With Sensus Analytics MDM Software And Third-Party Customer Portal. Primarily Sensus AMI radios and a variety water meters types. Initially completed a one-year Proof Of Concept Phase (pilot) In 2016. In 2019 Moulton Niguel WD decided to complete the radio deployment throughout the Utility. As of now, we have over 53,000 AMI radios installed.</p>	

City of Garden Grove, CA	42,000 Services
<p>13802 Newhope St., Garden Grove, CA 92843 • Phone: (714) 741-5348 Les Ruitenschild – Water Distribution Supervisor • Email: lesr@ci.garden-grove.ca.us Duration of Project: August 2018 – Present • Total Contract Value: Approximately \$10 Million Meter Type: iPERL, and SRll residential meter; OMNI commercial meter Summary of Work: Sensus FlexNet AMI Water System with Sensus Analytics data management software.</p>	

Olivenhain M.W.D., CA	35,000 Services
<p>1966 Olivenhain Rd., Encinitas, CA 92024 • Phone: (760) 632-4650 John Carnegie – Customer Services Manager • Email: jcarnegie@olivenhain.com Duration of Project: December 2013 – Current • Total Contract Value: Approximately \$6 Million Meter Type: iPERL and SRll residential meter; OMNI and accuMAG commercial meter Summary of Work: Installation and Implementation of Sensus FlexNet AMI Water System with Customer Portal</p>	

City of Santa Maria, CA	23,800 Services
<p>601 Black Rd., Santa Maria, CA 93454 • Phone: (805) 925-0951 ext. 7421 Martin Burgos – Water Resources • Email: mburgos@ci.santa-maria.ca.us Duration of Project: May 2008 – August 2008 • Total Contract Value: Approximately \$3.3 Million Meter Type: iPERL and SRll residential meter; OMNI commercial meter Summary of Work: Installation and Implementation of Sensus FlexNet AMI Water System</p>	

City of Redwood City, CA	24,000 Services
<p>1400 Broadway, Redwood City, CA 94063 • Phone: (650) 780-7469 Justin Chapel – Public Works Superintendent/Water Utilities • Email: jchapel@redwoodcity.org Meter Type: iPERL/SRII residential meter; OMNI commercial meter Summary of Work: Sensus FlexNet AMI System with approximately 19,000 services on the AMI system and 5,000 manually read meters planned to be converted.</p>	

City of West Sacramento, CA	22,000 Services
<p>1951 S River RD West Sacramento, CA 95691 • Phone: (916) 617-4854 Jessie Melson – Public Works Director • Email: jessiem@cityofwestsacramento.org Meter Type: iPERL/SRII residential meter; OMNI commercial meter Summary of Work: Sensus FlexNet AMI System in the process of upgrading their existing Sensus SmartPoints.</p>	

Vallecitos Water District, CA	22,000 Services
<p>201 Vallecitos de Oro, San Marcos, CA 92069 • Phone: (760) 505-0927 Chris Tapia – Meter Services Supervisor • Email: ctapia@vwd.org Duration of Project: 2018 – Present • Total Contract Value: Approximately \$6 Million Meter Type: iPERL, and SRII residential meter; OMNI commercial meter Summary of Work: Sensus AMR Water System with AMI Pilot in process.</p>	

City of Alhambra, CA	22,000 Services
<p>68 S 1st Street, Alhambra, CA 91801 • Phone: (626) 300-1579 Roy Watson – Field Service Supervisor • Email: royw@cityofalhambra.org Duration of Project: June 2020 – Ongoing • Total Contract Value: Approximately \$3 Million Meter Type: iPERL and SRII residential meter; OMNI commercial meter Summary of Work: Installation and Implementation of Sensus FlexNet AMI Water System with Complete Water Meter Exchange</p>	

City of Lincoln, CA	18,600 Services
<p>600 6th St. Lincoln, CA 95648 • Phone: (916) 434-2450 Jennifer Brown – IT/GIS Manager • Email: jennifer.brown@lincolnca.gov Duration of Project: April 2021 – Current • Total Contract Value: Approximately \$1.5 Million Meter Type: iPERL/SRII residential meter; OMNI commercial meter Summary of Work: Sensus FlexNet AMR Drive-By Water System with migration to AMI.</p>	

City of Fountain Valley, CA	18,500 Services
<p>10200 Slater Avenue, Fountain Valley, CA 92708 • Phone: (714) 593-4400 Mark Sprague – Utilities Director • Email: mark.sprague@fountainvalley.org Duration of Project: May 2014 – June 2015 • Total Contract Value: Approximately \$4 Million Meter Type: iPERL residential meter; OMNI commercial meter Summary of Work: Installation and Implementation of Sensus FlexNet AMI Water System with Complete Water Meter Exchange</p>	

City of Chino, CA	17,000 Services
<p>5050 Schaffer Ave, Chino, CA 91710 • Phone: (909) 464-8347 Rob Burns – Director of Finance • Email: rburns@cityofchino.org Duration of Project: September 2015 – Present • Total Contract Value: Approximately \$4 Million Meter Type: iPERL residential meter; OMNI commercial meter Summary of Work: Installation and implementation of Sensus FlexNet AMI Water System. The City is currently finalizing the last phase of their AMI Project.</p>	

City of Woodland, CA	16,800 Services
<p>655 N Pioneer Ave. Woodland, CA 95776 • Phone: (530) 661-5953 Greg Meyer – Public Works Director • Email: Greg.Meyer@cityofwoodland.org Duration of Project: July 2008 – Finish September 2011 • Total Contract Value: \$6 Million Meter Type: iPERL/SRII residential meter; OMNI commercial meter Summary of Work: Turn-Key Sensus FlexNet AMI System. The City is interested in expanding their system to include Smart Gateway for SCADA and Vantage Point for street lighting allowing for a complete Smart-City solution.</p>	

Big Bear Lake Department of Water and Power	16,500 Services
<p>41972 Garstin Drive, Big Bear Lake, CA 92315 • Phone: (909) 866-5050 John Gross – Meter Supervisor • Email: jgross@bbldwp.com Duration of Project: June 2018 – Current • Total Contract Value: Approximately \$4.5 Million Meter Type: accuSTREAM residential meter; OMNI commercial meter Summary of Work: Sensus FlexNet AMI Water System. BBL is currently phasing in their water meter system with roughly 12,000 endpoints installed.</p>	

City of Glendora, CA	13,500 Services
<p>116 E Foothill Blvd., Glendora, CA 91741 • Phone: (626) 852-4838 Bill Weaver – Water Utility Supervisor • Email: bweaver@cityofglendora.org Duration of Project: 2014 – 2017; Upgrade to Sensus Analytics in 2020 • Total Contract Value: Approx. \$4 Million Meter Type: iPERL residential meter; OMNI commercial meter Summary of Work: Installation and implementation of a Sensus FlexNet AMI Water System.</p>	

City of Los Banos, CA	12,000 Services
<p>411 Madison Ave., Los Banos, CA 93635 • Phone: (209) 827-7056 Randy Williamson – Water Quality Specialist • Email: randy.williamson@losbanos.org Meter Type: SRII residential meter; OMNI commercial meter Summary of Work: Sensus FlexNet AMI System with continued SmartPoint purchases due to significant City growth.</p>	

City of Madera, CA	13,000 Services
<p>1030 South Gateway Drive, Madera, CA 93637 • Phone: (559) 662-4932 Vonny McPherson – Administrative Assistant • Email: lmcpherson@madera.gov Duration of Project: January 2018 – Current • Total Contract Value: Approximately \$4 Million Meter Type: SRII residential meter; OMNI commercial meter Summary of Work: Installation and implementation of a Sensus FlexNet AMI Water System</p>	

County of Ventura, CA	13,000 Services
<p>6767 Spring Road, Moorpark, CA 93020 • Phone: (805) 794-3834 Joe Valdivia – Customer Service Supervisor • Email: joe.vildivia@ventura.org Duration of Project: 2016 – Present • Total Contract Value: Approximately \$1.5 Million Meter Type: iPERL and SRII residential meter; OMNI commercial meter Summary of Work: Sensus FlexNet AMI Water System with Sensus Analytics MDM and Customer Portal. Approximate five-year phase-in solution.</p>	

Yucaipa Valley Water District	12,500 Services
<p>12770 Second Street, Yucaipa, CA 92399 • Phone: (909) 790-3300 Matt Porras – Implementation Manager • Email: mporras@yvwd.dst.ca.us Duration of Project: January 2018 – Current • Total Contract Value: Approximately \$4 Million Meter Type: iPERL residential meter; OMNI commercial meter</p>	

Summary of Work: Sensus FlexNet AMI Water System. YVWD is currently phasing in their water meter system with roughly 2,000 endpoints installed. The District currently maintains 12,500 services but plans to expand to 20,000 services within four years.

Valley Center Water District, CA 10,000 Services

29300 Valley Center Road, Valley Center, CA 92082 • Phone: (760) 749-1600
Moses Stublin – Meter Services Supervisor • Email: mstubin@vcmwd.org
Duration of Project: 2017 – Current • Total Contract Value: Approximately \$6 Million
Meter Type: iPERL and accuSTREAM residential meter; OMNI commercial meter
Summary of Work: Turn-Key Sensus FlexNet AMI Water System with Sensus Analytics MDM Software and Customer Portal. Five-year phase-in project where Aqua-Metric partnering subcontractors provided water meter installation services.

Laguna Beach County Water District, CA 8,500 Services

Address: 306 3rd St. Laguna Beach, CA 92651 • 949-494-1041
Juan Benitez – Customer Service Manager • Email: jbenitez@lbcwd.com
Project Duration: May 2015 to June 2016 • Total Contract Value: Approximately \$2.8 Million
Meter Type: iPERL Residential Meter; Omni Commercial Meter
Summary of Work: Sensus FlexNet AMI Water System with Sensus Analytics MDM Software and Customer Portal with Single Sign-On. Aqua-Metric provided water meter installation services through a subcontracting company.

City of Norco, CA 8,000 Services

2870 Clark Avenue, Norco, CA 92860 • Phone: (951) 270-5667
Jacob Vogenberg – Administrative Compliance Coordinator • Email: jvogenberg@ci.norco.ca.us
Duration of Project: 2008 – 2009 • Total Contract Value: Approximately \$2.5 Million
Meter Type: PMM residential meter; OMNI commercial meter
Summary of Work: Turn-key Sensus FlexNet AMI System with Logic MDM Software. Product installations performed by a partnering subcontractor. The City is in the process of transitioning to the Sensus Analytics data management software.

Santa Fe Irrigation District, CA 7,000 Services

5920 Linea Del Cielo, Rancho Santa Fe, CA 92091 • Phone: (858) 227-5763
Chris Bozir – Distribution Operation Supervisor • Email: cbozir@sfidwater.org
Duration of Project: 2014 - Present • Total Contract Value: Approximately \$4.5 Million
Meter Type: iPERL residential meter; iPERL Fire Service Meter; OMNI commercial meter
Summary of Work: Turn-Key Sensus FlexNet AMI System with Sensus Analytics MDM Software and Customer Portal. Seven-year phase-in program where Aqua-Metric partnering subcontractors provided water meter installation services.

City of Imperial, CA 5,000 Services

420 S Imperial Ave., Imperial, CA 92251 • Phone: (760) 355-2155
Laura Gutierrez – Finance Director • Email: lgutierrez@cityofimperial.org
Duration of Project: August 2014 – December 2015 • Total Contract Value: Approximately \$850,000.00
Meter Type: iPERL and SR11 residential meter; OMNI commercial meter
Summary of Work: Sensus FlexNet AMI Water System

Triunfo Sanitation District (Oak Park Water) 4,600 Services

1001 Partridge Drive, Suite 150, Ventura, CA 93003 • Phone: (800) 613-0901
Richard Jones – Operations Superintendent • Email: richardjones@vrds.com
Duration of Project: January 2015 – May 2015 • Total Contract Value: Approximately \$2.2 Million
Meter Type: iPERL residential meter; OMNI commercial meter
Summary of Work: Installation and Implementation of Sensus FlexNet AMI Water System

City of Sierra Madre, CA 232 W Sierra Madre Boulevard, Sierra Madre, CA 91024 • Phone: (626) 655-7135 Jose Reynoso – Utilities Supervisor • Email: jreynoso@cityofsierramadre.com Duration of Project: July 2018 – Current Summary of Work: Installation and Implementation of Sensus FlexNet AMI Water System	4,500 Services
Orchard Dale Water District 13819 Telegraph Rd., Whittier, CA 90604 • Phone: (562) 941-0114 Ed Castaneda – General Manager • Email: ecastaneda@odwd.org Duration of Project: May 2019 – Ongoing • Total Contract Value: Approximately \$1.5 Million Meter Type: iPERL residential meter; OMNI commercial meter Summary of Work: Installation and Implementation of Sensus FlexNet AMI Water System	4,500 Services
City of Blythe, CA 440 S Main St., Blythe, CA 92225 • Phone: (760) 922-6611 Phillip Hamblen – Water Supervisor • Email: phamblen@cityofblythe.ca.gov Duration of Project: June 2017 – December 2017 • Total Contract Value: Approximately \$2 Million Meter Type: iPERL residential meter; OMNI commercial meter Summary of Work: Turn-key Sensus FlexNet AMI Water System with product installation provided by a subcontractor.	4,500 Services
City of Atwater, CA 470 Aviator Drive, Atwater, CA 95301 • Phone: (209) 357-6351 Ryan Ward – Water Systems Operator • Email: rward@atwater.org Meter Type: SRll residential meter; OMNI commercial meter Summary of Work: Installation and Implementation of Sensus FlexNet AMI Water System	4,000 Services
Nipomo Community Service District, CA 148 S Wilson Street, Nipomo, CA 93444 • Phone: (805) 459-2155 Mario Iglesias – General Manager • Email: miglesias@ncsd.ca.gov Meter Type: accuSTREAM residential meter; OMNI commercial meter Summary of Work: Longtime Aqua-Metric / Sensus customer who recently upgraded to the Sensus FlexNet AMI System in December 2020.	4,000 Services
City of Armona, CA 10114 14th Ave. Armona, CA 93230 • Phone: (559) 584-4542 Kelly Granger – General Manager • Email: kelly@grangerwater.com Duration of Project: January 2024 – Ongoing • Total Contract Value: \$500,000.00 Meter Type: iPERL; OMNI commercial meter	1,400 Services

Section 9: Cost of Bid

Request for Bid Proposal (Bid) Form
Aqua-Metric Itemized Quote
Project Pricing Clarifications and Assumption
Exceptions Listing

PROPOSAL (BID)

OLIVEHURST PUBLIC UTILITY DISTRICT

Thirkettle Corporation dba Aqua-Metric Sales Company

Name of BIDDER _____

1060 National Drive, #5 – Sacramento, CA 95834

Business Address _____

The undersigned, as BIDDER, declares that the only persons or parties interested in this BID as principals are those named herein; that this bid is made without collusion with any other person, firm or corporation; that he has carefully reasonably examined the location of the work, the annexed bid form of agreement, and the plans and specifications therein referred to; and he proposes and agrees, if this bid is accepted, that he will contract with the owner in the form of the copy of the agreement annexed hereto, subject to reasonable negotiation and modifications as necessary and duly agreed to by the parties, to provide all necessary machinery, tools, apparatus and other means of construction, and to do all the work and furnish all materials specified, in the manner and time prescribed, and according to the requirements of the owner parties as set forth within the agreement, and that he will take in full payment therefore the following lump sum for the complete work, based on the attached hereto estimated quantities, to wit:

Contractor agrees to supply and/or to perform all the work described below and as instructed by the District Engineer in a good workman like manner for the following item

Line No.	Item	Quantity	Unit price	Total
AMI System				
Network Infrastructure, Setup, equipment, and Configuration				
1	M400B2 Basestation (or equivalent)	2	\$37,746.97	\$75,493.94
2	Communication Backhaul	2	\$1000.00	\$2,000.00
3	M400B2 Basestation (or equivalent) Installation at Water Tower Site. Note no interference of radio frequency may occur with existing infrastructure in term of installation of basestation. This includes all trench cost associated with Electrical conduit to tower/basestation.	1	\$20,026.00	\$20,026.00
4	M400B2 Basestation (or equivalent) Installation at New Tower Site - Includes New 80' Universal Aluminum Tower and all trench cost associated with Electrical conduit to tower/basestation.	1	\$57,761.59	\$57,761.59
5	M400B2 Basestation (or equivalent) Certification	2	\$2,500.00	\$5,000.00
*6	520M Single Port SmartPoint Radio Transmitters (or equivalent) (PURCHASE ONLY , no installation required)	2,750	\$168.00	\$462,000.00
*7	520M Dual Port SmartPoint Radio Transmitters (or equivalent) (PURCHASE ONLY , no installation required)	825	\$224.00	\$184,800.00
8	12-Month Performance and Payment Bond	1	\$13,200.90	\$13,200.90
AMI Software Setup and Configuration				
9	Regional Network Interface (RNI) Software as a service (SaaS) Setup (or equivalent)	1	\$7,956.25	\$7,956.25
10	Regional Network Interface (or equivalent) Training	1	\$5,500.00	\$5,500.00
11	Sensus Analytics System (or equivalent) Setup	1	\$5,000.00	\$5,000.00
12	Sensus Analytics (or equivalent) Basic Integration	1	\$6,875.00	\$6,875.00
13	Sensus Analytics (or equivalent) Training	1	\$4,000.00	\$4,000.00
14	Network Implementation/ Consumer portal system set-up (with current District Billing software in conjunction with proposed AMI System. District billing software upgrade is separate from this bid.)	1	\$10,000.00	\$10,000.00
Two (2) Year Software Hosting and Support				
15	Annual Hosted RNI (or equivalent) Software-as-a-Service, Water Only (2 years) - (This bid will include first two years for this contract, known as initial start-up system integration and maintenance plug bug defusing, please send separate spreadsheet on cost for years 3-5).	1	\$36,605.98	\$36,605.98
16	Annual Sensus Analytics Enhanced (or equivalent), Water Only (2 years) - (This bid will include first two years for this contract, known as initial start-up system integration and maintenance plus bug defusing, please send separate spreadsheet on cost for years 3-5).	1	\$28,790.48	\$28,790.48
17	Annual Sensus Analytics (or equivalent) Text Messaging Fee (communication and relay to operators, first 2 years). -(This bid will include first two years for this	1	\$2,441.08	\$2,441.08

	contract, known as initial start-up system integration and maintenance plus bug defusing, please send separate spreadsheet on cost for years 3-5).			
18	Annual M400 Basestation (or equivalent) Extended Warranty (2 years). - (This bid will include first two years for this contract, known as initial start-up system integration and maintenance plus bug defusing, please send separate spreadsheet on cost for years 3-5).	2	\$3,654.00	\$7,308.00
19	2 year Support - (This bid will include first two years for this contract, known as initial start-up system integration and maintenance, please send separate spreadsheet on cost for years 3-5).	1	\$30,450.00	\$30,450.00
SUBTOTAL			Tax:	
			\$49,273.58	\$1,014,482.80

Note:

FOR ITEM 6 & 7 – EXISTING METER AND RADIO MUST BE ABLE TO READ ON ONE SOLUTION/ ONE SYSTEM/ONE NETWORK. IF BIDDER IS PROVIDING SEPARATE RADIO READ THAN REQUESTED, TOTAL AMOUNT OF RADIO READS WOULD NEED TO INCLUDE AN ADDITIONAL 2,015 SINGLE PORTS, 800 DUAL PORTS (IN LIEU OF WHAT'S BEING REQUESTED), WHICH THEN WOULD BE EQUIVALENT TO 8,015 TOTAL CONNECTIONS WORTH. THIS WOULD EQUAL TO 4,765 SINGLE PORTS & 1,625 DUAL PORTS. REPLACE ITEM 6 = 4,765 & REPLACE ITEM 7 = 1,625.

OWNER TO PROVIDE FULL-TURNKEY SYSTEM (INCLUDES ANY ITEMS NOT MENTIONED ABOVE OR REQUIRED TO COMPLETE THE JOB. Set forth within the Agreement)

OWNER MUST PROVIDE SYSTEM AND REGISTER COMPATIBLE TO SENSUS SRII METER CURRENTLY IN OPUDs SYSTEM.

The bidder shall set forth, in clearly legible figures, the bid price in the spaces provided in the following schedule:

Addendum 1, dated 2/16

TOTAL BID AMOUNT		\$ 1,014,482.80
Write out	One Million, Fourteen Thousand, Four Hundred Eighty Two Dollars, and Eighty Cents	
figures:		

The said quotations include the cost of insurance, sales tax, and every other item of expense direct or indirect incident to the contract. as set forth within the agreement.

This is not part of bid – rather breakdown for cost on software support that would be used for budgetary purposes down the road for bidder awarded (years 3 -5).

Line No.	Item	Quantity	Unit	Extended
Software Hosting and Support AMI System (years 3-5)				
Year Three Fees				
	Annual Hosted RNI (or equivalent) Software-as-a-Service, Water Only	1	\$19,130.68	\$19,130.68
	Annual Sensus Analytics (or equivalent) Enhanced, Water Only	1	\$15,046.22	\$15,046.22
	Annual Sensus Analytics (or equivalent) Text Messaging Fee (Optional)	1	\$1,275.74	\$1,275.74
	Annual M400 Basestation (or equivalent) Extended Warranty	2	\$1,909.62	\$3,819.24
	General Support	1	\$15,913.50	\$15,913.50
			Year Three Total:	\$55,185.38
Year Four Fees				
	Annual Hosted RNI (or equivalent) Software-as-a-Service, Water Only	1	\$19,704.60	\$19,704.60
	Annual Sensus Analytics (or equivalent) Enhanced, Water Only	1	\$15,497.61	\$15,497.61
	Annual Sensus Analytics (or equivalent) Text Messaging Fee (Optional)	1	\$1,314.01	\$1,314.01
	Annual M400 Basestation (or equivalent) Extended Warranty	2	\$1,966.91	\$3,933.82
	General Support	1	\$16,390.91	\$16,390.91
			Year Four Total:	\$56,840.95
Year Five Fees				
	Annual Hosted RNI (or equivalent) Software-as-a-Service, Water Only	1	\$20,295.74	\$20,295.74
	Annual Sensus Analytics (or equivalent) Enhanced, Water Only	1	\$15,962.54	\$15,962.54
	Annual Sensus Analytics (or equivalent) Text Messaging Fee (Optional)	1	\$1,353.43	\$1,353.43
	Annual M400 Basestation (or equivalent) Extended Warranty	2	\$2,025.92	\$4,051.84
	General Support	1	\$16,882.64	\$16,882.64
			Year Five Total:	\$58,546.19



Aqua-Metric Sales Company
 1060 National Drive, #5 | Sacramento, CA 95834
 Phone: (951) 637-1400 | Facsimile: (951) 637-1500

March 11, 2024

Client: Olivehurst PUD
Attention: Swarnjit Boyal
Address: 1970 9th Ave
City, State, Zip: Olivehurst, CA 95961
Phone: 530-743-8573
Email: sboyal@opud.org

Line No.	Item	Quantity	Unit	Extended
Sensus FlexNet AMI System				
Network Infrastructure, Setup, and Configuration				
	M400B2 Basestation	2	\$37,746.97	\$75,493.94
	Communication Backhaul	2	\$1,000.00	\$2,000.00
	M400B2 Basestation Installation at Water Tower Site	1	\$20,026.00	\$20,026.00
	M400B2 Basestation Installation at New Tower Site - Includes New 80' Universal Aluminum Tower	1	\$57,761.59	\$57,761.59
	M400B2 Basestation Certification	2	\$2,500.00	\$5,000.00
	520M Single Port SmartPoint Radio Transmitters	2,750	\$168.00	\$462,000.00
	520M Dual Port SmartPoint Radio Transmitters	825	\$224.00	\$184,800.00
	12-Month Performance and Payment Bond	1	\$13,200.90	\$13,200.90
FlexNet AMI Software Setup and Configuration				
	RNI SaaS Setup	1	\$7,956.25	\$7,956.25
	RNI Training	1	\$5,500.00	\$5,500.00
	Sensus Analytics System Setup	1	\$5,000.00	\$5,000.00
	Sensus Analytics Basic Integration	1	\$6,875.00	\$6,875.00
	Sensus Analytics Training	1	\$4,000.00	\$4,000.00
	Network Implementation	1	\$10,000.00	\$10,000.00
Recurring Annual Fees: SaaS Software Hosting and Support - Year One				
	Annual Hosted RNI Software-as-a-Service, Water Only	1	\$18,032.50	\$18,032.50
	Annual Sensus Analytics Enhanced, Water Only	1	\$14,182.50	\$14,182.50
	Annual Sensus Analytics Text Messaging Fee (Optional)	1	\$1,202.50	\$1,202.50
	Annual M400 Basestation Extended Warranty	2	\$1,800.00	\$3,600.00
	Annual Aqua-Metric Support	1	\$15,000.00	\$15,000.00
Recurring Annual Fees: SaaS Software Hosting and Support - Year Two				
	Annual Hosted RNI Software-as-a-Service, Water Only	1	\$18,573.48	\$18,573.48
	Annual Sensus Analytics Enhanced, Water Only	1	\$14,607.98	\$14,607.98
	Annual Sensus Analytics Text Messaging Fee (Optional)	1	\$1,238.58	\$1,238.58
	Annual M400 Basestation Extended Warranty	2	\$1,854.00	\$3,708.00
	Annual Aqua-Metric Support	1	\$15,450.00	\$15,450.00

This quote for the product and services named above is subject to the following terms:

- All quotes are subject to the Aqua-Metric Terms of Sale unless there is an executed agreement between the parties. Terms of Sale can be found online at www.aqua-metric.com
- Quote is valid for thirty days.
- If modifications in materials, labor, or processing are required to meet new regulations, the pricing submitted herein is subject to immediate change.
- Freight allowed on single Sensus Water Product orders exceeding \$20,000.00.
- Net Thirty Days to Pay
- Returned product may be subject to a 25% restocking fee.
- Sales Tax Estimated at 8.25% for Product Only. Applicable freight charges are not included.
- Minimum 5 year term for SaaS Model with Annual 3% price increase
- Pricing based on 8,015 water services.
- Customer to provide electricity to basestations and basestation mounting hardware
- Customer to provide static IP address and monthly data (SIM) for backhaul communication - Aqua-Metric suggests Verizon Wireless or AT&T
- Customer's Billing System will provide Billing System Integration pricing directly to the City; Aqua-Metric is unable to determine these costs
- Network Implementation Manly Fee subject to change based on the actual months of implementation services.
- Pricing does not include staging, product storage, or consumer outreach program
- Performance and Payment Bond estimated for 12-months only.
- Any items beyond quote above subject to price negotiations

Subtotal	\$965,209.22
Estimated Product Sales Tax (8.25%)	\$49,273.58
Total	\$1,014,482.80



Aqua-Metric Sales Company
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 Phone: (951) 637-1400 | Facsimile: (951) 637-1500

March 11, 2024

Client: Olivehurst PUD
Attention: Swarnjit Boyal
Address: 1970 9th Ave
City, State, Zip: Olivehurst, CA 95961
Phone: 530-743-8573
Email: sboyal@opud.org

Line No.	Item	Quantity	Unit	Extended
Sensus FlexNet AMI System				
Year Three SaaS Fees				
	Annual Hosted RNI Software-as-a-Service, Water Only	1	\$19,130.68	\$19,130.68
	Annual Sensus Analytics Enhanced, Water Only	1	\$15,046.22	\$15,046.22
	Annual Sensus Analytics Text Messaging Fee (Optional)	1	\$1,275.74	\$1,275.74
	Annual M400 Basestation Extended Warranty	2	\$1,909.62	\$3,819.24
	Annual Aqua-Metric Support	1	\$15,913.50	\$15,913.50
			Year Three Total:	\$55,185.38
Year Four SaaS Fees				
	Annual Hosted RNI Software-as-a-Service, Water Only	1	\$19,704.60	\$19,704.60
	Annual Sensus Analytics Enhanced, Water Only	1	\$15,497.61	\$15,497.61
	Annual Sensus Analytics Text Messaging Fee (Optional)	1	\$1,314.01	\$1,314.01
	Annual M400 Basestation Extended Warranty	2	\$1,966.91	\$3,933.82
	Annual Aqua-Metric Support	1	\$16,390.91	\$16,390.91
			Year Four Total:	\$56,840.95
Year Five SaaS Fees				
	Annual Hosted RNI Software-as-a-Service, Water Only	1	\$20,295.74	\$20,295.74
	Annual Sensus Analytics Enhanced, Water Only	1	\$15,962.54	\$15,962.54
	Annual Sensus Analytics Text Messaging Fee (Optional)	1	\$1,353.43	\$1,353.43
	Annual M400 Basestation Extended Warranty	2	\$2,025.92	\$4,051.84
	Annual Aqua-Metric Support	1	\$16,882.64	\$16,882.64
			Year Five Total:	\$58,546.19

This quote for the product and services named above is subject to the following terms:

- All quotes are subject to the Aqua-Metric Terms of Sale.
- Quote is valid for thirty days.
- If modifications in materials, labor, or processing are required to meet new regulations, the pricing submitted herein is subject to immediate change.
- Freight allowed on single Sensus Water Product orders exceeding \$20,000.00.
- Net Thirty Days to Pay
- Returned product may be subject to a 25% restocking fee.
- Minimum 5 year term for SaaS Model with Annual 3% price increase
- Pricing based on 8,015 water services.
- Pricing does not include bonding
- Any items beyond quote above subject to price negotiations

Years 3 - 5 Total **\$170,572.52**

Project Pricing Clarifications and Assumptions

Aqua-Metric would like to thank the Olivehurst PUD for allowing us the opportunity to present our Sensus FlexNet AMI Solution in response to their bid for an AMI System. We believe our system exceeds the requirements outlined within the Utility's bid documents but would like to offer the following clarifications to help better understand our proposed response.

1. Standard Terms and Conditions

Aqua-Metric's proposal has been carefully prepared using information furnished by Olivehurst PUD within their Request for Bids for an AMI Solution. Aqua-Metric's response thereto is not intended to be construed as Aqua-Metric's acceptance or rejection of any specific terms or conditions except where expressly stated herein otherwise. If awarded, Aqua-Metric will enter into the required contract(s) with Olivehurst PUD based on Aqua-Metric's standard agreement(s) and Terms of Sale. All contracts must be executed prior to project start. Enclosed within our response is Aqua-Metric's Terms of Sale, which will govern, unless there is an executed agreement between the parties. Furthermore, any accompanying Terms and Conditions with purchase order are inapplicable and will be rejected.

In recognition of the potential for fluctuation in raw material and inflationary costs, pricing will be held firm for 120 days after which pricing may be subject to adjustment(s) based upon inflation rates within the current market and potential supply chain constraints. The percentage change between the response price and the contract price shall not exceed the percentage change issued by Aqua-Metric's supplier's actual cost of increase. Prices for products or services unaffected by verifiable cost trends shall not be subject to adjustment.

If modifications in materials, labor, or processing are required to meet new regulations, the pricing submitted herein is subject to immediate change.

2. Price Proposal Sheet Notes

Annual Sensus RNI and Sensus Analytics SaaS fees are based on 8,015 water services. There is a minimum 5-year term for all annual support and subscription services with a 3% yearly price escalator.

Backhaul System – Aqua-Metric is proposing a communication backhaul system with Sierra-Wireless Modem. Olivehurst PUD will be responsible for all Static IP address(es), RJ45 connection, and monthly SIM card/Data Charge for each Backhaul use. Aqua-Metric will work with the Utility to determine the best options to move forward with; Aqua-Metric prefers AT&T, Sprint, or Verizon Wireless.

Basestation Installation – Olivehurst PUD will be required to provide an electrical base at and run electricity to each basestation tower, as well as provide mounting racks and/or antenna mounts, as needed. Site / Installation or engineered drawings are not included. Pricing assumes the following:

- Installation of two basestations. One on an existing water tower and the other with a new 80' tower.
- All power assumed to be within 10' of base station location.
- Excavation for new tower excludes rocky soil and dirt removal. Dirt to be spread on site with equipment.
- Soil compaction assumed to meet engineering requirements.
- No soils reports and/or compaction tests/reports are included in pricing; this can be added for an additional cost.

Water Tower Site	New Tower Site
<ul style="list-style-type: none"> • Install two new panel antennas with splitter for base station on opposite sides of water tower • Install 2 new 7/8" coax from antennas to base stations • Install base station at base of water tower • Install new power from source within 10' of base station • Ground Base station and coax 	<ul style="list-style-type: none"> • Construct new footing for tower • Install new 80' universal aluminum tower • Install new omni antenna and coax • Install base station on tower • Install ground ring in footing and ground tower and equipment

• Sweep Test

• Sweep test

Performance and Payment Bond - Performance and Payment Bond pricing has been included within our bid response. Bonding is based upon an estimated 12-months from the date of contract execution. Bonds are subject to change based on 1% of the premium for each additional month beyond the estimated duration and total contract value at project completion.

Handheld Equipment – Aqua-Metric’s cost proposal reflects Juniper Cedar tablets within our cost proposal. We can forego this line item if the Utility has smart devices (i.e., tablets) that are readily available. For this option, we would download our FieldLogic Software onto each device and use it alongside a CommandLink II.

Any items beyond what is quoted within our response are subject to price negotiations.

Payment terms are net 30 days.

Returned product will be subject to a 25% restocking fee for Sensus products. All non-Sensus products are subject to their manufacturer’s return policies.

Estimated 8.25% sales tax is provided as a line item for quoted product only. Sales tax is not included within each unit cost, but as an additional cost to the proposed unit pricing. Additional taxes and fees not included.

3. Clarifications Regarding RFP Scope of Services

- a. RFP Section I – AMI Project, reference to “AMI Control Computers”. Aqua-Metric is proposing a Software-as-a-Service cloud-based hosted AMI solution to OPUD. AMI control computers will not be provided.
- b. RFP Section II – General Scope, “The bid awarded shall test equipment delivered in order to show that it complies with specified requirements. Testing shall be done in a manner approved by the District Engineer.” Sensus, as the products manufacturer, test their meters and provides test results tagged to their metering products.

Exceptions Listing

Aqua-Metric would like to thank the Olivehurst PUD for allowing us the opportunity to present our Sensus FlexNet AMI Solution in response to their RFP for an AMI System. While we believe our system exceeds the requirements outlined within the Utility’s bid documents, we would like to submit the following exceptions to the City’s bidding documents.

- a. Any alternates or deviations from the Technical Specifications are addressed in the above questionnaire responses.
- b. RFP Section I – AMI Project, “The bid must include all costs for network deployment and data collector unit installation, configuration, testing and training. All site preparation and installation costs must be reflected in the data collection unit pricing.”

RFP Section II – General Scope; and Proposal (Bid) Form, reference to the term “Turnkey”

Aqua-Metric has reviewed the specifications provided by the Olivehurst PUD to prepare our response in accordance with the project scope as presented. While we believe our proposal to be a comprehensive solution for the City’s consideration, we remain mindful that potential unknown conditions may not have been identified or disclosed prior to our response which may arise through the course of the project. In such event, Aqua-Metric will work closely with the Olivehurst PUD on a case-by-case basis to determine how we best approach any unforeseen circumstances equitably for both the City and Aqua-Metric.

Aqua-Metric proposal does not reflect all-inclusive pricing. Pricing does not include product installation services, staging services, product storage, trash/recycling receptacles, or consumer outreach program.

Any line items, services, or material beyond what is stated within the enclosed itemized quote and/or RFQ response is subject to additional fees.

Base station site installation engineer drawings are not included.

c. Proposal (Bid) Form

- Aqua-Metric has provided an updated redlined copy of the Proposal (Bid) Form within our response.
- Freight allowed on individual Sensus water products orders exceeding \$20,000.00. Any non-Sensus water products items will incur additional charges for freight based on ordering quantities and delivery addresses. Non-Sensus / non-water products include handheld equipment, meter boxes, meter box lids, etc.

d. Section 6. Legal Regulations and Responsibility to the Public, New Facilities; and Standard Contract (Agreement)

Please refer to Item 1 Standard Terms and Conditions above regarding our ability to review and negotiate the terms of final agreement(s) and contract(s). There is language within the Utility's sample agreement(s) that will require negotiation and redline prior to execution. Some items of consideration include, but are not limited to, the following: new facilities, insurance and liabilities, retention, and sureties in lieu of retention, indemnification, liquidated damages, and more. These items, and others, will be thoroughly reviewed and negotiated if considered for project award.

Aqua-Metric's cost proposal does not include Builder's Risk insurance. If the Utility requires this insurance coverage, additional fees will apply. Additional information from the Utility is required to build out the policy prior to quoting.

Section 10: Required Forms

Bid Bond

Anti-Collusion Affidavit

List of Subcontractors

Addendum Acknowledgement



AIA Document A310™ – 2010

Bid Bond

Bid Bond No: N/A

CONTRACTOR:

(Name, legal status and address)

Thirkettle Corporation dba Aqua-Metric Sales
4050 Flat Rock Drive
Riverside, CA 92505

SURETY:

(Name, legal status and principal place of business)

Harco National Insurance Company
4200 Six Forks Road, Suite 1400
Raleigh, NC 27609

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

OWNER:

(Name, legal status and address)

Olivehurst Public Utility District
1970 9th Avenue
Olivehurst, CA 95961

BOND AMOUNT: Ten Percent of the Total Amount Bid (10% of Bid Amount)

PROJECT:

(Name, location or address, and Project number, if any)

Advanced Metering Infrastructure (AMI) Project Bid

Project Number, if any:

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed this 5th day of March 2024

(Witness)

Thirkettle Corporation dba Aqua-Metric Sales Company

(Principal) *(Seal)*
(Title)

(Witness)

Harco National Insurance Company

(Surety) *(Seal)*
(Title) Emilie George, Attorney-in-Fact

ARIZONA NOTARY ACKNOWLEDGMENT

State of Arizona

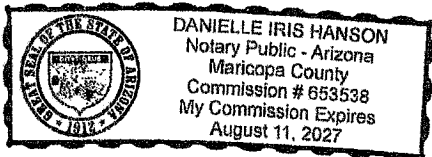
County of Maricopa

}

On this MAR 05 2024, before me Danielle Hanson
[Name of Notary Public]

personally appeared Emilie George, whose identity was proven
[Name of Signer]

to me on the basis of satisfactory evidence to be the person who he or she claims to be, and
acknowledged that he or she signed the above/attached document.



Witness my hand and official seal.

(Seal)
[Affix Seal Here]

A handwritten signature in black ink, appearing to read 'Danielle Hanson', written over a horizontal line.

Signature of Notary Public

POWER OF ATTORNEY
HARCO NATIONAL INSURANCE COMPANY
INTERNATIONAL FIDELITY INSURANCE COMPANY

Bond # N/A

Member companies of IAT Insurance Group, Headquartered: 4200 Six Forks Rd, Suite 1400, Raleigh, NC 27609

KNOW ALL MEN BY THESE PRESENTS: That **HARCO NATIONAL INSURANCE COMPANY**, a corporation organized and existing under the laws of the State of Illinois, and **INTERNATIONAL FIDELITY INSURANCE COMPANY**, a corporation organized and existing under the laws of the State of New Jersey, and having their principal offices located respectively in the cities of Rolling Meadows, Illinois and Newark, New Jersey, do hereby constitute and appoint

P. AUSTIN NEFF, EMILIE GEORGE, CHRISTINE WOOLFORD, IRENE LUONG, ALEXANDER R. HOLSHEIMER, JAMES W. MOILANEN, YUNG T. MULLICK, DANIELLE HANSON

Mission Viejo, CA

their true and lawful attorney(s)-in-fact to execute, seal and deliver for and on its behalf as surety, any and all bonds and undertakings, contracts of indemnity and other writings obligatory in the nature thereof, which are or may be allowed, required or permitted by law, statute, rule, regulation, contract or otherwise, and the execution of such instrument(s) in pursuance of these presents, shall be as binding upon the said **HARCO NATIONAL INSURANCE COMPANY** and **INTERNATIONAL FIDELITY INSURANCE COMPANY**, as fully and amply, to all intents and purposes, as if the same had been duly executed and acknowledged by their regularly elected officers at their principal offices.

This Power of Attorney is executed, and may be revoked, pursuant to and by authority of the By-Laws of **HARCO NATIONAL INSURANCE COMPANY** and **INTERNATIONAL FIDELITY INSURANCE COMPANY** and is granted under and by authority of the following resolution adopted by the Board of Directors of **INTERNATIONAL FIDELITY INSURANCE COMPANY** at a meeting duly held on the 13th day of December, 2018 and by the Board of Directors of **HARCO NATIONAL INSURANCE COMPANY** at a meeting held on the 13th day of December, 2018.

"RESOLVED, that (1) the Chief Executive Officer, President, Executive Vice President, Senior Vice President, Vice President, or Secretary of the Corporation shall have the power to appoint, and to revoke the appointments of, Attorneys-in-Fact or agents with power and authority as defined or limited in their respective powers of attorney, and to execute on behalf of the Corporation and affix the Corporation's seal thereto, bonds, undertakings, recognizances, contracts of indemnity and other written obligations in the nature thereof or related thereto; and (2) any such Officers of the Corporation may appoint and revoke the appointments of joint-control custodians, agents for acceptance of process, and Attorneys-in-fact with authority to execute waivers and consents on behalf of the Corporation; and (3) the signature of any such Officer of the Corporation and the Corporation's seal may be affixed by facsimile to any power of attorney or certification given for the execution of any bond, undertaking, recognizance, contract of indemnity or other written obligation in the nature thereof or related thereto, such signature and seals when so used whether heretofore or hereafter, being hereby adopted by the Corporation as the original signature of such officer and the original seal of the Corporation, to be valid and binding upon the Corporation with the same force and effect as though manually affixed."

IN WITNESS WHEREOF, **HARCO NATIONAL INSURANCE COMPANY** and **INTERNATIONAL FIDELITY INSURANCE COMPANY** have each executed and attested these presents on this 31st day of December, 2023

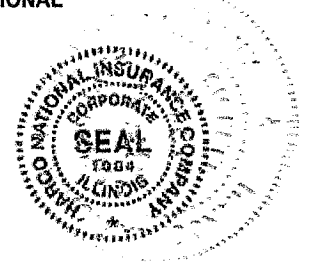


STATE OF NEW JERSEY
County of Essex

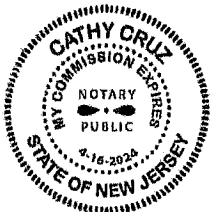
Kenneth Chapman

Executive Vice President, Harco National Insurance Company
and International Fidelity Insurance Company

STATE OF ILLINOIS
County of Cook



On this 31st day of December, 2023, before me came the individual who executed the preceding instrument, to me personally known, and, being by me duly sworn, said he is the therein described and authorized officer of **HARCO NATIONAL INSURANCE COMPANY** and **INTERNATIONAL FIDELITY INSURANCE COMPANY**; that the seals affixed to said instrument are the Corporate Seals of said Companies; that the said Corporate Seals and his signature were duly affixed by order of the Boards of Directors of said Companies.



IN TESTIMONY WHEREOF, I have hereunto set my hand affixed my Official Seal, at the City of Newark, New Jersey the day and year first above written.

Cathy Cruz a Notary Public of New Jersey
My Commission Expires April 16, 2024

CERTIFICATION

I, the undersigned officer of **HARCO NATIONAL INSURANCE COMPANY** and **INTERNATIONAL FIDELITY INSURANCE COMPANY** do hereby certify that I have compared the foregoing copy of the Power of Attorney and affidavit, and the copy of the Sections of the By-Laws of said Companies as set forth in said Power of Attorney, with the originals on file in the home office of said companies, and that the same are correct transcripts thereof, and of the whole of the said originals, and that the said Power of Attorney has not been revoked and is now in full force and effect.

IN TESTIMONY WHEREOF, I have hereunto set my hand on this day, March 05, 2024

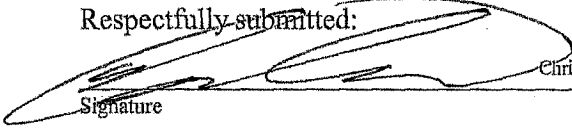
Irene Martins, Assistant Secretary Page 68

Addendum 2,
dated 2/19.

NOTE: Additional numbered pages may be attached if needed.

Accompanying this bid is: (cashier's check) bidder's bond: (NOTE: Circle the one that is submitted) in the amount of \$101,448.28 (10% of Total Bid) dollars, being at least ten percent (10%) of the total amount bid. Licensed in accordance with the act providing for the Registration of Contractors for work being performed under Class A & Class C10.

Respectfully submitted:


Signature

Christopher Newville

4050 Flat Rock Drive, Riverside CA 92505

Address

Manager

Title

March 11, 2024

Date

Class A License No. 908605

License Number (if applicable)

Attest

 Kristy Sigarra

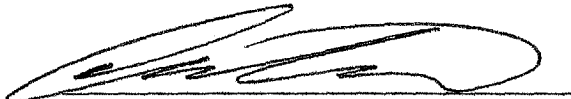
SECTION II – ANTI-COLLUSION AFFIDAVIT

STATE OF: Texas

COUNTY OF: Guadalupe

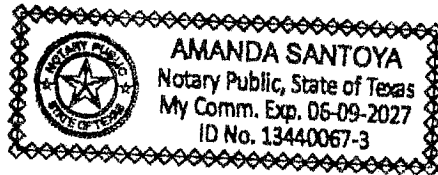
Christopher Newville, being duly sworn deposes and says that:

1. He/She/They/Them is the Manager of Thirkettle Corporation dba Aqua-Metric Sales Company submitting the attached bid;
2. He is fully informed respecting the preparation and content of the attached bid and of all pertinent circumstances respecting such bid;
3. Such bid is genuine and is not collusive or sham bid;
4. Neither the said bidder, nor any of its officers, partners, owners, agents, representatives, employees or parties interested, including this affidavit, has in any way collude, conspired, connived or agreed, directly or indirectly, with any other bidder firm or person to submit or to refrain from bidding in connection with such contract, or has in any manner, directly or indirectly sought by agreement or collusion or communication or conference with any other bidder, firm or person to fix and overhead, profit, or cost element of the bid price of any other bidder to secure through collusion, conspiracy, connivance or unlawful agreement any advantage against the Olivehurst PUD, or any person interested in the proposed contract; and
5. The price or prices quoted in the attached bit are fair and proper and are not contained by any collusion, conspiracy, connivance or unlawful agreement on the party of the bidder or any of its agents, representatives, owners, employees or parties, in interest, including this affiant.


(Contractor)

Christopher Newville - Manager
Aqua-Metric Sales Company

Subscribed and sworn to before me,
This 11th day of March, 2024 ⁽²⁸⁾



Notary Public Amanda Santoya

STATE OF CALIFORNIA
DEPARTMENT OF INSURANCE
SAN FRANCISCO

Amended

Certificate of Authority

THIS IS TO CERTIFY, That, pursuant to the Insurance Code of the State of California,

Harco National Insurance Company

of Rolling Meadows, Illinois, organized under the laws of Illinois, subject to its Articles of Incorporation or other fundamental organizational documents, is hereby authorized to transact within this State, subject to all provisions of this Certificate, the following classes of insurance: Fire, Marine, Surety, Plate Glass, Liability, Workers' Compensation, Common Carrier Liability, Boiler and Machinery, Burglary, Credit, Sprinkler, Team and Vehicle, Automobile, Aircraft, and Miscellaneous as such classes are now or may hereafter be defined in the Insurance Laws of the State of California.

THIS CERTIFICATE is expressly conditioned upon the holder hereof now and hereafter being in full compliance with all, and not in violation of any, of the applicable laws and lawful requirements made under authority of the laws of the State of California as long as such laws or requirements are in effect and applicable, and as such laws and requirements now are, or may hereafter be changed or amended.

IN WITNESS WHEREOF, effective as of the 31st day of December, 19 94, I have hereunto set my hand and caused my official seal to be affixed this 3rd day of January, 19 95.



By

John Garza Mendez
John Garza Mendez
Insurance Commissioner
Victoria S. Sidbury
Victoria S. Sidbury
Deputy

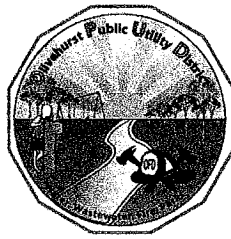
NOTICE: Qualification with the Secretary of State must be accomplished as required by the California Corporations Code promptly after issuance of this Certificate of Authority. Failure to do so will be a violation of Ins. Code Sec. 701 and will be grounds for revoking this Certificate of Authority pursuant to the covenants made in the application therefor and the conditions contained herein.

LIST OF SUBCONTRACTORS

(Public Contract Code Section 4104)

In compliance with the provisions of Sections 4100 et seq. of the Government Code, the undersigned hereby designates below the names and locations of the place of business of each subcontractor who shall perform work on this contract in excess of one-half of one percent of the bid price. If the Contractor fails to specify a subcontractor for any portion of the work under the contract, he shall be deemed to have agreed to perform that work himself. Any change or substitution of subcontractors shall be accomplished in strict accordance with provisions of the Government Code.

Work to be Performed	Percent of Total Contract	Subcontractor's Name and Address	DIR #	CSLB Lic. #
1. Base Station Installation services and tower build.	~7.78%	JM Electrical Services 2581 Union Avenue, La Habra CA 90631		California Contractor's License No. 1056901 (C-10)
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				



Olivehurst Public Utility District
Advanced Meter Infrastructure Project
Olivehurst, CA

ADDENDUM 1

February 16, 2024

This addendum is for all persons preparing bids (BIDDER) for the above referenced project and as such shall be considered final Bid document package as if they were originally provided therein.

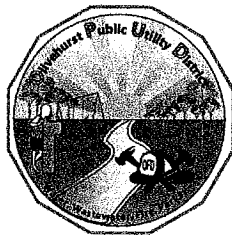
All changes (CHANGE), deletions (DELETE) and/or additions (ADD) to the Bid herein shall be included in the BIDDER's proposal. In case of any conflict between original Bid and this addendum, this addendum shall govern (with attached Bid documents).

Below are a list of highlighted Bid Updates.

- 1.) Plans of existing Antenna Infrastructure included (AT&T + T-mobile) (Sheets 45 - 62 of 91).
- 2.) Clarification of an RFB, not RFP (General updates to bid)
- 3.) Bid award criteria will be based on lowest responsible bidder that meets all the qualifications and requirements listed in technical specifications.(Sheet 5 of 91)
- 4.) Mandatory site meeting is no longer required in order to bid. A one time voluntary site meeting was scheduled for 2/16/2024 of which no make up dates will be schedule unless specifically requested, and approved by OPUD. (Sheet 7 of 91)
- 5.) Clarification of Existing meter and radios must be able to read on one solution/ system/network - #6-7, and Notes for bid item request (Sheet 2-3, 15-16 of 91).
- 6.) Update to include electrical trenching and conduit (Sheet 2,15 of 91).

Swarnjit Boyal

Swarnjit Boyal
Olivehurst Public Utility District
1970 9th Ave
Olivehurst, CA 95961
(530) 682-0736



Olivehurst Public Utility District
Advanced Meter Infrastructure Project
Olivehurst, CA

ADDENDUM 2

February 20, 2024

This addendum is for all persons preparing bids (BIDDER) for the above referenced project and as such shall be considered final Bid document package as if they were originally provided therein.

All changes (CHANGE), deletions (DELETE) and/or additions (ADD) to the Bid herein shall be included in the BIDDER's proposal. In case of any conflict between original Bid and this addendum, this addendum shall govern (with attached Bid documents).

Below are a list of highlighted Bid Updates.

- 1.) Bid identifies Contractor Class needed for bid (Class A & C10) - Sheet 1 of 100
- 2.) Revised language for Bid Bond request. - Sheet 19 of 100
- 3.) Language update and requirements from original of **Substitution of Security to Security in Lieu of Retention**. - Sheet 23 of 100
- 4.) Liquidated damages updated from \$100 to \$1500. - Sheet 28 Of 100
- 5.) Update Payment schedule per Prompt Payment Act (Cal. Bus. Prof. Code §7108.5. and Cal. Pub. Contract Code §§10261.5, 10262, and 10853) - Sheet 4,31 of 100
- 6.) Updated documents for Performance and Payments & Labor Bonds. - Sheet 40-48 of 100

Swarnjit Boyal

Swarnjit Boyal
Olivehurst Public Utility District
1970 9th Ave
Olivehurst, CA 95961
(530) 682-0736



Olivehurst Public Utility District
Advanced Meter Infrastructure Project
Olivehurst, CA

REQUEST FOR INFORMATION (RFI) 1

March 11, 2024

This RFI is for all persons preparing bids (BIDDER) for the above referenced project and as such shall be considered part of the final Bid document package as if they were originally provided therein. All changes (CHANGE), deletions (DELETE) and/or additions (ADD) to the Bid herein shall be included in the BIDDER's proposal. In case of any conflict between original Bid and this addendum, this addendum shall govern (with attached Bid documents). Below are Questions received by OPUD with responses.

1.) QUESTION: The Bid's Legal Regulations and Responsibility to the Public document discusses "Builder's Risk All Risk Insurance". The costs to obtain and hold Builder's Risk insurance can be substantial. Can the Utility confirm that this is a requirement and should be quoted within the cost proposal?

ANSWER: Yes, per bid this needs to be included. Please include all required insurances and bonds under item 8 of bid (reference bonds).

2.) QUESTION: The Bid's Legal Regulations and Responsibility to the Public document discusses "Insurance Coverage for Special Conditions". Can the Utility confirm if "special insurance coverage" is required, and if so, what special insurance is needed so that this can be accounted for within the cost proposal?

ANSWER: NO, This project does not require any special conditions. This item has been omitted from the bid.

3.) QUESTION: The Bid discusses retainers and Securities in Lieu of Retention. Can the Utility provide additional information regarding their expected retainer (percentage, etc?)

ANSWER: Retain capped at 5% prior to completion and acceptance of the project. Omitted the using of securities as collateral in lieu of a retention.

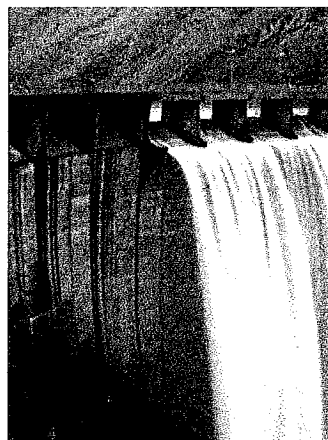
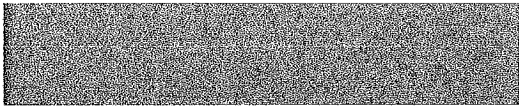
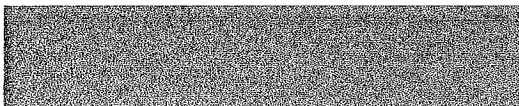
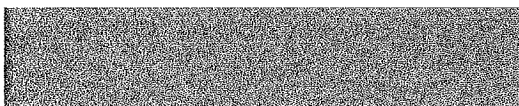
4.) NOTE: BID DATE HAS BEEN EXTENDED TO FRIDAY, 3/15/2023 @ 2 PM.

Swarnjit Boyal

Swarnjit Boyal
Olivehurst Public Utility District
1970 9th Ave
Olivehurst, CA 95961
(530) 682-0736

Section 11: Product Specification Sheets and Warranty

Product Specification Sheets
Warranty Documents



FlexNet

Network Communications System

Redefining Intelligent Utility Communications

Technology that takes you
from today to tomorrow.


SENSUS

FlexNet™ – Technology you can trust

FlexNet is a robust, high-powered solution based on open standards. It gives electric, gas and water utilities a communications network that is designed and built specifically for smart grid applications. Working with smart meters, FlexNet provides utilities a dedicated and secure two-way communications highway over which to transmit and receive customer usage data – the hallmark of Advanced Metering Infrastructure (AMI) solutions. Utilities can more effectively monitor and manage the distribution and use of electricity, water or gas.

With automatic delivery and analysis of consumption data, utilities are able to match supply with consumer demand, resulting in much better utilization of resources with the least amount of waste. Customers can be billed based on actual usage patterns and be encouraged to use resources more wisely. They can receive early notification of water or gas leaks, tampering, equipment problems or outages.

With these advantages and more, Sensus is redefining the standard for utility AMI.

In the FlexNet environment, smart meters communicate data throughout the day – such as electric power consumed from the grid and returned to the grid by customers who generate alternative energy – or water leaks in a home or business. In-home devices inform customers of their energy or water usage patterns. Utilities gain new visibility through infrastructure monitors that can sense trouble conditions and trigger an alert to the need for corrective action.

Customers are empowered to participate in demand response programs that save them money while conserving resources.

A Dedicated and Protected Communications Highway

Reliable, secure and cost-effective.

Unlike other utility networks that operate on costly power line infrastructures or low-powered, shared radio frequencies, FlexNet uses primary use radio spectrum, protected by law from interference and bundled into the network solution. This strategy presents essential advantages that other systems cannot offer.

No frequency sharing, no interference, no problems – period. While other systems fight interference and signal noise in shared bands, FlexNet transmits with a clarity and security that is protected by federal law.

The highest signal power and range in the industry. FlexNet wireless devices can transmit at up to two watts, potentially 10 to 100 times more power than devices on unlicensed spectrum. High signal power and low noise combine to significantly extend network reach. Instead of a fraction of a mile between endpoints, a FlexNet network can transmit up to 40 miles from point to point.

A simpler, more manageable infrastructure. One tower gateway can cover 30 to 300 square miles, depending on population density and terrain. In hard-to-reach areas, smart meters can pass

along data for each other. That means less equipment to buy, deploy and operate.

More reliable communications.

FlexNet's dedicated highway for data transmission makes communication more reliable than other systems that require channel hopping over radio frequencies.

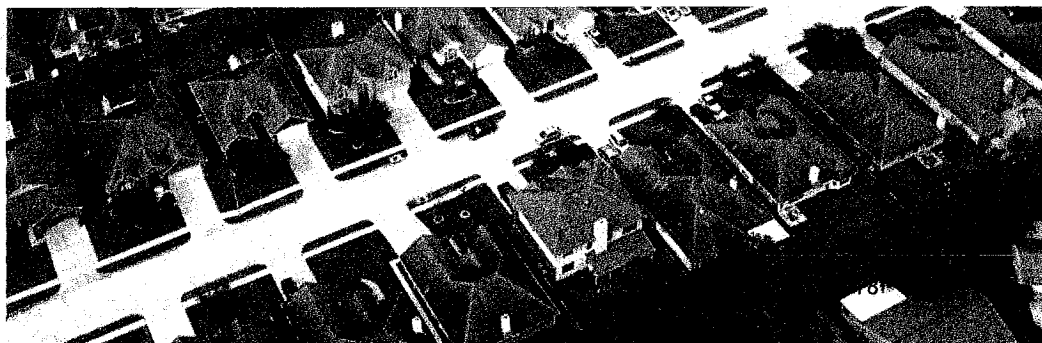
Cost-effective, rapid build-out.

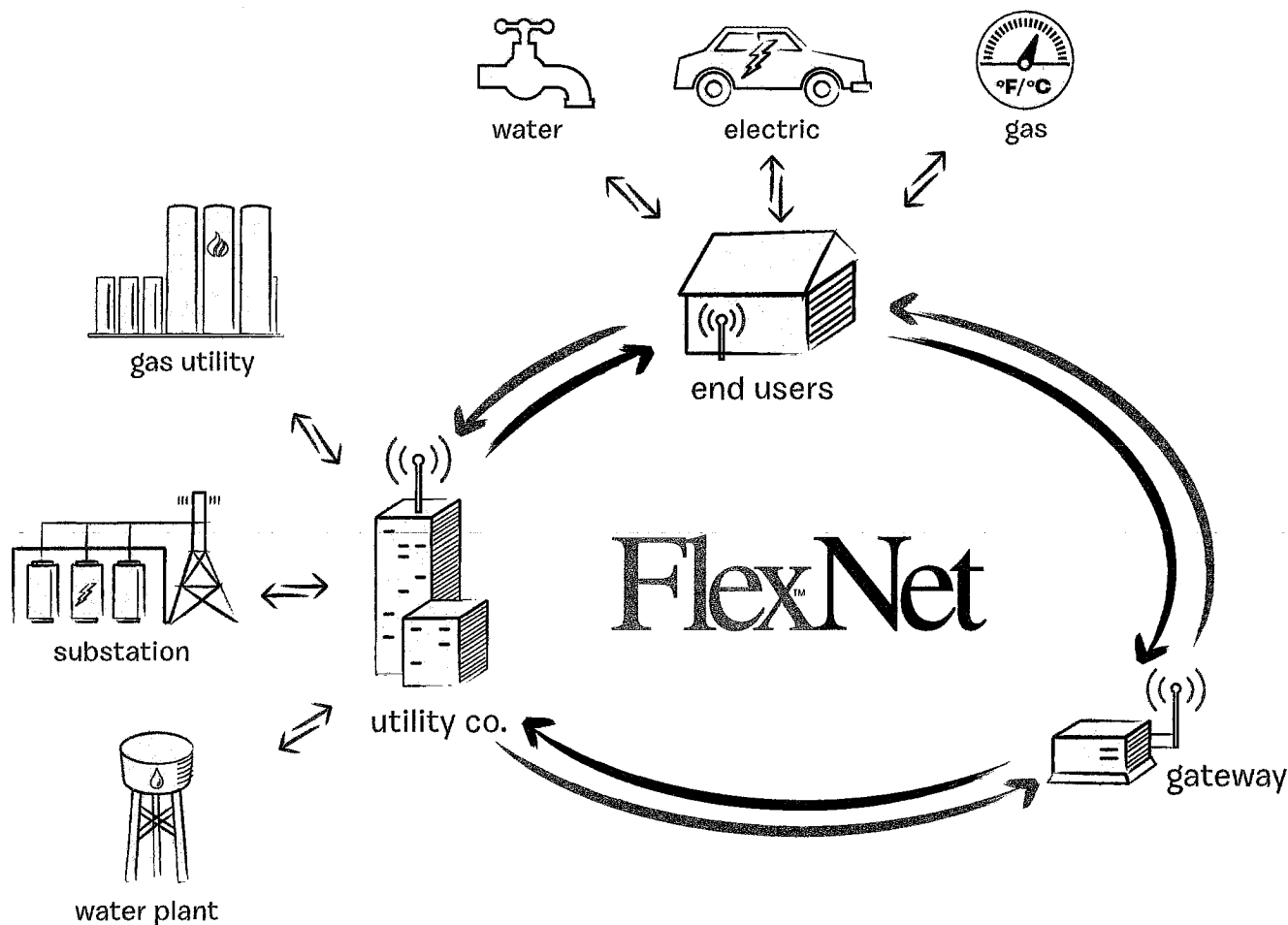
FlexNet systems have access to more than 4,000 tower sites covering more than 90 percent of the U.S. population. The tower-based architecture can be quickly deployed without concern for easement and access issues. And because FlexNet transmits stronger over a wider signal area, initial infrastructure build-out and ongoing maintenance costs are reduced.

Multilayered security to protect data privacy and integrity. Federal law prohibits infringement on licensed spectrum. On top of that, the FlexNet system adds multiple layers of built-in security, from strong AES-256 encryption to multilevel authentication, access controls and more for premium protection. With less traffic to interfere with communication, data is transmitted more securely.

Meeting utility needs today and tomorrow. FlexNet gives gas, water and electric utilities the ability to add functionality to keep up with utility growth. Demand response, distribution automation, home area network and new applications can easily be incorporated into a utility's operations over the FlexNet network, a future-proof investment.

Conserve capital while maintaining flexibility and ensuring scalability, whether you want to serve a few thousand homes or a few million.





FlexNet™ – Technology that delivers

Sensus Smart Meters at customer premises communicate consumption, status and diagnostic data to the FlexNet network for monitoring and billing purposes.

Energy meters also accept control instructions and software upgrades from the utility to intelligently manage consumption and remotely upgrade features and services.

Wireless communication between meters and towers is securely carried on licensed radio spectrum for distances of up to 40 miles, depending on the environment.


Sensus Tower Gateway Base Stations (TGBs) installed on existing towers (50–600 feet tall) communicate with SmartPoint meters and with the Regional Network Interface (RNI).

Backhaul communication between towers and the utility data center can be wireless, wired or satellite, whichever best suits the utility's business case.

Sensus Regional Network Interface (RNI) servers at the utility's data center manage network communications and data storage and processing.

Sensus FlexWare software provides an intuitive, Web-based interface to manage the system and its data.

The **Sensus FlexServer** Web-based portal enhances utility monitoring and management, expands consumer participation and improves public outreach.

 Sensus is redefining the standard for utility AMI systems.

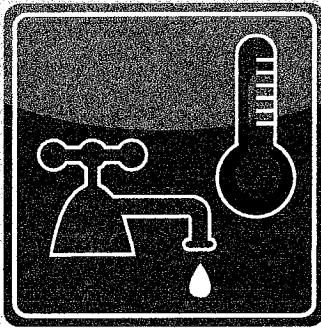
- The highest data transmission power in the industry
- No interference from other broadcasters
- Blanket coverage of your entire area
- Maximum range, reliability and security
- Minimal infrastructure for flexible and rapid build-out
- Robust, direct, secure communications

FlexNet™ – Technology without limits

FlexNet Water

FlexNet gives water utilities an acoustic leak detection solution that saves not only valuable natural resources but also lost revenue due to leaks in utility lines.

FlexNet SmartPoint M2 series transceivers offer water utilities two-way, fully migratable, AMR-to-AMI solutions and unprecedented freedom to expand and modify system capabilities without having to replace or revisit meters and equipment.

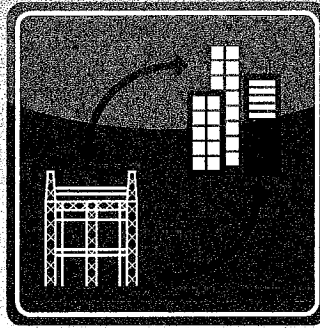


Smart utilities are using FlexNet data capabilities to inform and interact with customers and promote good conservation practices.

FlexNet Electric

The Sensus Smart Grid solution provides electric utilities with a standards-based, secure, dedicated, two-way, long-range wireless data communications network that will future-proof their AMI investment.

Electric utilities of all sizes benefit from our FlexNet dedicated RF spectrum with the ability to assign separate communications channels for discrete applications, such as distribution automation, demand response and SCADA.

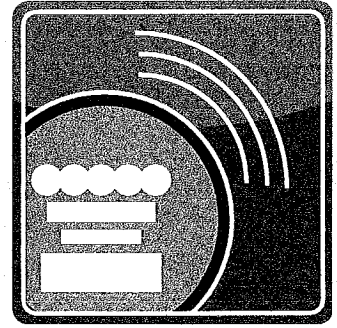


The unparalleled RF design and operational efficiencies of Sensus can blanket a utility's entire service territory to deliver ubiquitous coverage.


FlexNet Gas

FlexNet allows gas utilities to increase meter reading accuracy, reduce overhead costs and enhance customer service – all while keeping more utility trucks off the road.

The innovative gas product line produced by Sensus combined with the FlexNet secure, reliable communications network delivers a gas AMI solution that expands easily and meets the requirements for safety and accuracy. Minimal infrastructure means lower maintenance cost and ease of installation.



FlexNet lets gas utilities excel in safety, reliability, efficiency and environmental responsibility, because no one has energy to burn.



■ We're not just promising results.
■ We're delivering the smart grid today.

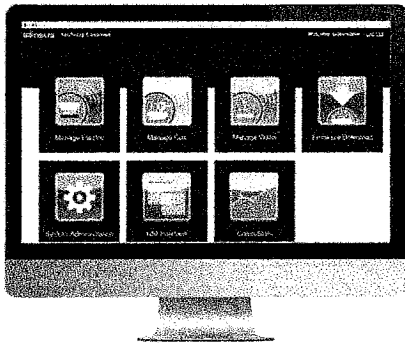
With roots that go back more than a century, Sensus is redefining the way utilities think about metering. Not only are we the world's largest manufacturer of water meters, we are now a leading innovator and installer of utility communications and automation systems that put the "smart" in smart metering.

We are literally building on that foundation every day as we manage hundreds of deployments and install millions of endpoints in the United States, Canada and Europe.

Whether your utility is rural or urban – electric, gas, water or a combination – a FlexNet solution can deliver superior communications on a secure network that scales to meet your current and future needs.

Find out more about how the Sensus FlexNet system redefines the possibilities for intelligently managing costs, resources, infrastructure and customer engagement.

Visit us on the Web at www.sensus.com or call 1-800-638-3748.



Regional Network Interface (RNI)

The nerve center of your FlexNet® communication network

The Regional Network Interface (RNI)™ is the head end system for the FlexNet communication network. The RNI manages communications by reading and delivering near real-time data, providing a window into the field. Communicating with end points, the RNI continuously gathers and processes device and network data, providing you with status updates and storing or sending data to other systems including your CIS, MDM, OMS and Sensus Analytics. From the data received, you can monitor the operation of meters, base stations, and the various RNI components to ensure timely and accurate billing for services. Priority alarms are delivered immediately, and onboarding diagnostic tools optimize performance by monitoring and managing system health.

BENEFITS

- Receive reliable, accurate device data to support billing and data analytics.
- Configure end points over the air.
- Operate more efficiently.
- Monitor and optimize system performance.
- Manage system security.

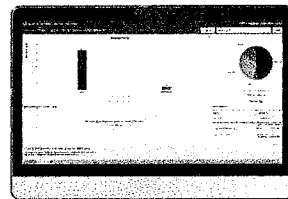
COMPONENTS

- **Hardware:** Whether licensed and hosted onsite at your facility, or in one of our data centers through a managed services partnership, servers are part of the RNI, used to host multiple components. Configuration varies with the size, structure and data needs of your network (e.g. number of end points, number of base stations, message duplication rate, base station to meter density).
- **Database:** This is the primary system of record for information consumed and produced by FlexNet. The database contains data such as meter read information and end point configuration information.
- **Software:** a suite of intuitive applications used to manage FlexNet.

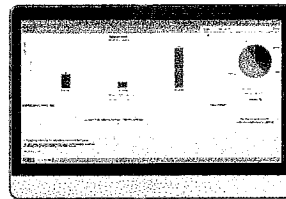
RNI software applications

The RNI software applications are used to monitor and maintain the FlexNet AMI communication solution. Core functions include:

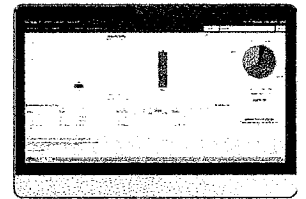
- **Configure:** set up of the devices and network settings; manage user access and security settings.
- **Monitor:** observe, detect and record network status using charts and graphs.
- **Tune:** make adjustments for proper system operation.
- **Troubleshoot:** analyze monitoring data and alerts to maintain proper network operation.
- **Optimize:** perform firmware and configuration downloads, and maximize the efficiency and speed of your network.



Water



Gas



Electric

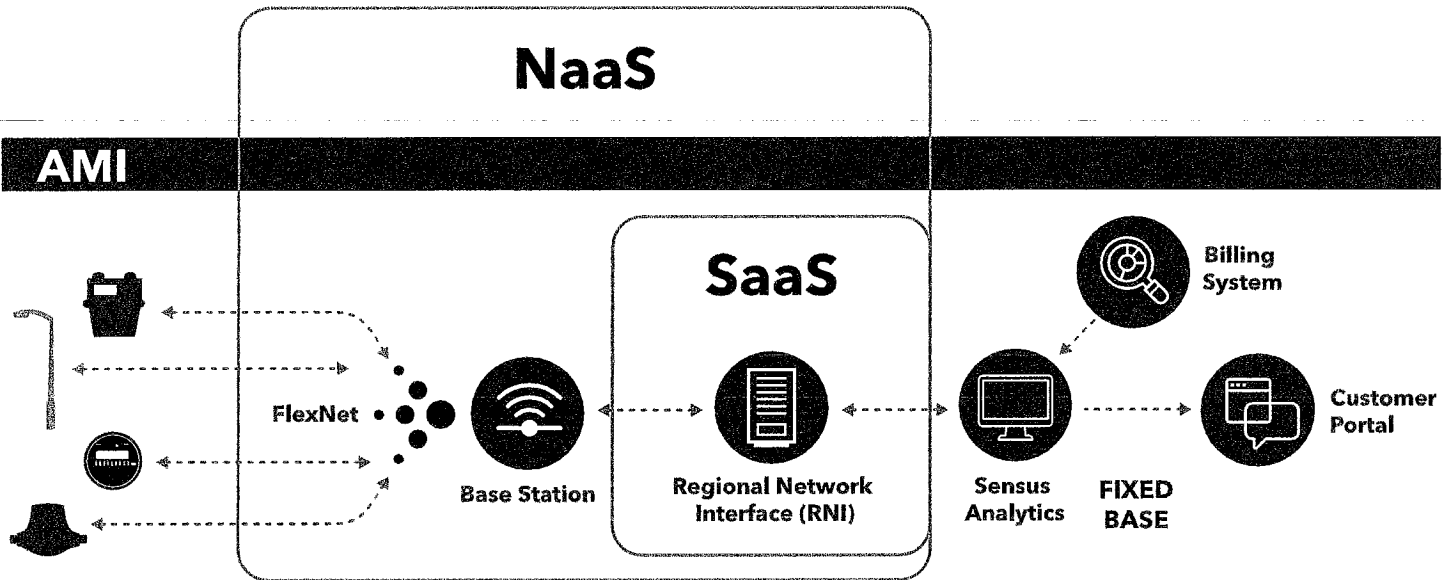
Regional Network Interface (RNI)

The nerve center of your FlexNet® communication network

Optional Managed Services

You have choices for hosting and managing the RNI. We can install the RNI at one of your data centers or other climate controlled environment. Or, with our Software as a Service (SaaS) offering, Sensus hosts the RNI through a secure cloud-based solution. When you select a SaaS model, we provide all the hardware and software required to operate the RNI through world-class, Tier IV data centers.

To take it a step further, you have the option to own and manage your base stations or allow Sensus to do it for you with our Network as a Service (NaaS) offering. With NaaS, all network base stations, firmware RF spectrum and system health are managed and maintained 24/7/365 by our Network Operations Center (NOC) engineers.

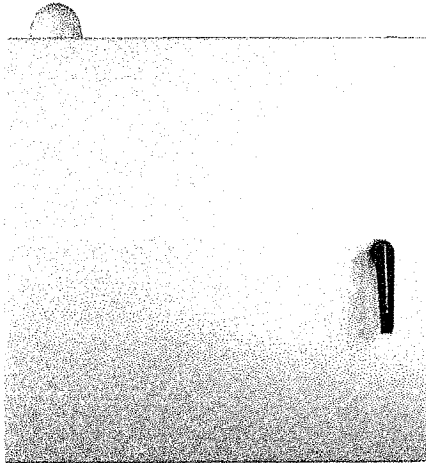


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FlexNet M400B2 Base Station

Compact Point-to-Multipoint Base Station

The Sensus FlexNet® M400B2 Base Station offers a strategic communications option for public service providers with endpoints deployed in remote or densely populated areas.

The efficient transceiver can transmit and receive in a 200kHz band of spectrum. 200kHz enables more dedicated channels, resulting in higher network capacity, allowing more granular data and more channels of data. And the Sensus FlexNet communication network delivers double the transmit power of competitive systems over primary-use licensed spectrum - ensuring reliability for mission critical applications.

The tower-based architecture enables reliable communication of status and usage information with fewer access points than other network architectures. These compact, efficient base stations fit in space-constrained environments and require no air conditioning.

FEATURES

- GPS receiver for time synchronization
- Duplexer for single antenna
- IP-addressable power supply with hot-swap capability
- 8-hour battery backup
- Alarms and reporting capability
- Backhaul via Ethernet/IP
- Heated battery for cold weather environments
- Modular construction for easy serviceability

APPLICATIONS

- Two-way Advanced Meter Infrastructure (AMI)
- Distribution Automation (DA)
- Demand Response (DR)
- Home Area Networks (HAN)
- Sensus VantagePoint® Lighting Control

Licensed Radio Spectrum

In North America, FCC/IC protected primary-use spectrum avoids competition with other wireless services, interference from other radio devices and the risk of being taken over by emergency service providers

Fewer Access Points

Our point-to-multipoint architecture directly connects base stations to endpoints over large geographic areas - greatly reducing the number of network backhaul connections as well as O&M costs

Resilient Network Design

Sensus Base Stations continue to provide real time data during outages and emergencies because of eight hour plus battery backup - enabling better workforce management and faster service restoration

Small Footprint

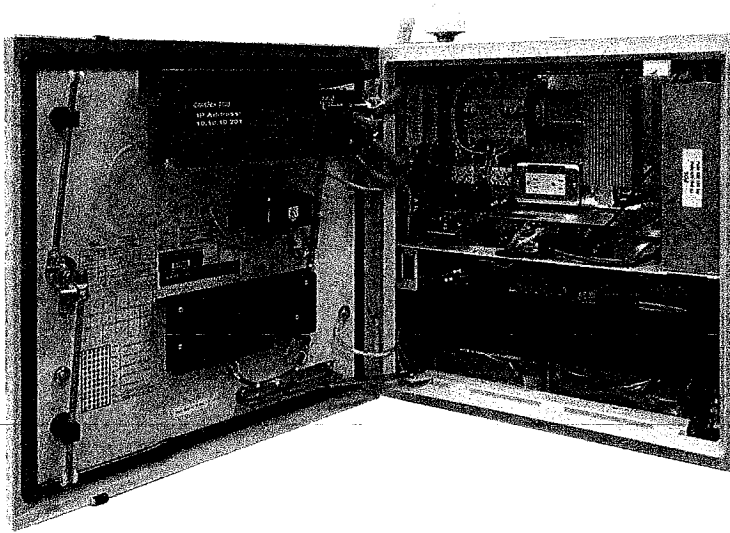
Flexible pole or wall-mounting options enable strategic deployment with a discreet appearance

Industry Leading Security

Sensus has achieved GE/Wurldtech™ Achilles® communications certification for critical infrastructure security against cyber threats

FlexNet® M400B2 Base Station

Compact Point-to-Multipoint Base Station



Properties

Receive bandwidth	200 KHz
Transceivers	Single
Spectrum	Licensed 900 MHz PCS/MAS
Duplexing	Single transmit Sixteen receivers - simultaneous/dedicated
Applications	Single
Expandability	No
Compatibility	SNMP
FlexNet	Requires RNI 3.x or newer

Enclosures - Outdoor - Pole/Wall Mount

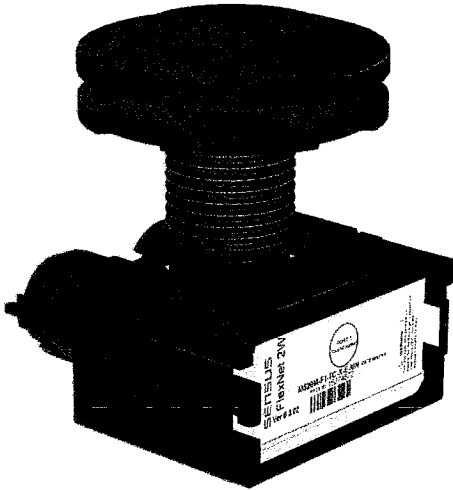
Height	22" (55.9 cm)
Width x Depth	22" (55.9 cm) x 10.5" (26.7 cm)
Capacity	One transceiver
Temperature	-40° to +122° F (-40° to +50° C)
Voltage	120 VAC
Battery backup	8 hours
NEMA rating	4
Air conditioned	No



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SmartPoint 520M

Pit Set Module

The SmartPoint® 520M Pit Set Module is a radio transceiver that provides water utilities inbound and outbound access to water measurement and ancillary device diagnostics via radio signal. The SmartPoint 520M is designed for submersible, pit-set environments.

BENEFITS:

- Easily receives input from either walk-by/drive-by or fixed-base collection device
- Controls both deployment and lifetime operation costs
- Compact installation that saves time, space and money - without reducing system performance
- Delivers a fast, efficient and reliable connection at minimal cost
- Minimizes new infrastructure investment
- Enables effective leak detection

TouchCoupler Design

The SmartPoint 520M Module utilizes TouchCoupler, the patented Sensus inductive coupling communication platform, to interface with the encoded meter. With TouchCoupler, the SmartPoint 520M Module can connect to the meter using existing two wire AMR installations instead of requiring utilities to access the meter to install a new three-wire connection. This results in a fast, efficient and reliable connection at minimal cost.

Operation

With its migratable, two-way communication ability, the M-Series SmartPoint functions as a walk-by/drive-by endpoint, fixed-base endpoint, or combination of the two. This flexibility increases utility data collection capabilities and streamlines operations. The SmartPoint 520M Module receives input from the meter register and remotely sends data to a walk-by/drive-by or fixed-base collection device. The SmartPoint 520M Module easily migrates from walk-by/drive-by to fixed base by simply installing a Base Station.

In walk-by/drive-by mode, the SmartPoint 520M Module collects data and awaits an activation signal from the Vehicle Gateway Basestation (VGB) or Hand-Held Device (HHD). Upon signal receipt, it transmits readings, the meter identification number and any alarms.

As a fixed-base endpoint, the SmartPoint 520M Module interacts with one or more strategically placed Base Stations located in the utility service area. Top of the hour readings and other diagnostics are instantly forwarded to the Regional Network Interface (RNI)[™] at time of transmission. The FlexNet® communication network provides unmatched reliability by using expansive tower receiver coverage of metering end points, data/message redundancy, failover backup provisions and operation on FCC primary use (unshared) RF spectrum.

SmartPoint 520M

Pit Set Module



Powerful Transmission, Flexible Platform

The SmartPoint® 520M Pit Set Module offers several advantages that control both deployment and lifetime operation costs. Its powerful, industry-leading two watt transmitter broadcasts over large distances and minimizes collection infrastructure. And after the SmartPoint is installed, its migratable, two-way system platform can be updated without requiring personnel to visit each meter and/or inconveniencing customers.

readings and can monitor continuous flow over a programmable period of time, alerting the utility to leak conditions. In addition, the SmartPoint stores up to 840 consumption intervals (35 days of hourly consumption), providing the utility with the ability to extract detailed usage profiles for consumer information and dispute resolution. The SmartPoint also incorporates a two-port design, allowing the utility to connect multiple registers and ancillary devices (such as acoustic monitoring) to a single SmartPoint. This results in a compact installation that saves time, space and money - without reducing system performance.

Additional Smartpoint 520M Module Features

The SmartPoint 520M Module obtains hourly

Specifications

Service	Pit set installation interfacing the utility meter to the Sensus FlexNet communication network. Unit requires 1.75" diameter hole in pit lid; fits pit lid thicknesses up to 1.75"
Physical characteristics	Width: 4.43" x Height: 5.09" x Depth: 3"
Weight	1.0 lbs/16.0 oz
Color	Black
Frequency range	900 - 950 MHz, 8000 channels X 6.25 kHz steps
Modulation	Proprietary Narrow Band
Memory	Non-Volatile
Power	Lithium Thionyl Chloride batteries
Approvals	US: FCC CFR 47: Part 24D, Part 101C, Part 15 Licensed operation Canada: Industry Canada (IC) RSS-134, RSS-119
Operating temperature	- 22° F to +185° F - 30° C to + 85° C
Options	Dual or single port availability; TouchCoupler only, wired only
Installation environment	100% condensing, water submersible
Compatibility	TouchCoupler and Wired Version: Sensus Encoder Registers, Badger ADE water registers, Master Meter AccuLinx, and Hersey Translator (approved TR/PL Lead) Wired Version Only: Elster Encoder (Sensus protocol), Neptune ARB VI (ProRead), Hersey Translator, Zenner PMN Nitro 01, McCrometer flowcom FC100-00M, and Kamstrup flowIQ 2100 Refer to the 510M/520M SmartPoint® Module Water Meter and Ancillaries Compatibility Quick Guide for the latest compatibility information.
Warranty	20 years - Based on six transmissions per day. Refer to Sensus G-500 for warranty.



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510M/520M SmartPoint® Module

Water Meter and Ancillaries Compatibility Quick Guide

Sensus

Register Type	Model	Meter Type
ICE & ICE Opto	All meters that accept ICE & ICE Opto 3-wire.	Positive Displacement, Multi-jet, Compound, Turbine, Propeller, Fire Service
OMNI™	T2, C2, F2, R2	Floating Ball Technology
accuMAG™	accuMAG	Mag
iPERL®	iPERL	Mag
Permalog	Permalog+	Acoustic Technology
Sensus® Electronic Register+™ and E-Register	accuSTREAM, SR II	Positive Displacement
ally	ally	ally
Hydroverse	Hydroverse	Mag

Badger

Register Type	Model	Meter Type
ADE	All meters that accept ADE 3-wire and TouchCoupler support, Sensus Approved TR/PL lead, up to 8 wheels.	Disc, Turbine, Compound, Fire Service
HR-E LCD	All meters that accept HR-E LCD 3-wire, up to 8 wheels. Must be at least SmartPoint firmware version R1.2.1f or higher.	Disc, Turbo Series, Compound Series, Combo Series, Fire Service
E-SERIES 8 digits	All models with firmware version 1.36. 3-wire**	Ultrasonic

Neptune

Register Type	Model	Meter Type
Proroad 4 wheel	All meters that accept Proroad registers. 3-wire support	Positive Displacement, Turbine, Compound, Fire Service
E-coder with TouchCoupler 4 wheel	All meters with firmware version 01.02. Manufactured after 1/2016.	Positive Displacement, Turbine, Compound, Fire Service
Proroad 6 wheel	All meters that accept Proroad registers. 3-wire support	Positive Displacement, Turbine, Compound, Fire Service
E-coder 6 wheel	All meters that accept E-coder registers. 3-wire support (Proroad protocol only)	Positive Displacement, Turbine, Compound, Fire Service
E-coder with TouchCoupler 6 wheel	All meters with firmware version 01.02. Manufactured after 1/2016.	Positive Displacement, Turbine, Compound, Fire Service
E-coder 8 wheel	All meters that accept E-coder registers. 3-wire support*	Positive Displacement, Turbine, Compound, Fire Service
E-coder with TouchCoupler 8 wheel	All meters with firmware version 01.02. Manufactured after 1/2016.	Positive Displacement, Turbine, Compound, Fire Service
ProCoder 8 wheel	All meters with firmware version 63.16. Manufactured after 7/2018. TouchCoupler and 3-wire**	Positive Displacement, Turbine, Compound, Fire Service

*SmartPoint firmware version 1.2 and above only

**SmartPoint firmware version 1.7 and above only



Elster/Amco

Register Type	Model	Meter Type
Scancoder	All meters that accept Scancoder 3-wire support (Sensus protocol only).	Positive Displacement, Turbine, Multi-jet, Bulk combo, Fire service
InVision	All meters that accept InVision 3-wire support (Sensus protocol only).	Positive Displacement, Turbine, Multi-jet, Bulk combo, Fire service

Master Meter

Register Type	Model	Meter Type
AccuLinx V1.19	All meters that accept AccuLinx 3-wire and TouchCoupler, Sensus approved TR/PL lead.	Positive Displacement
Sonata 8 digits	3-wire and TouchCoupler, firmware version 5.01 or greater.**	Ultrasonic
Octave 8 digits	3-wire only.**	Ultrasonic

McCrometer

Register Type	Model	Meter Type
McCrometer flowcom FC100-00M 8 digits	3-wire reading. Firmware 2.4. Manufactured after 4/2015.	Propeller
ML255 battery powered register 8 digits	3-wire reading only. Firmware 5.09 or greater.**	Propeller
ML Series converter, AC powered 8 digits	3-wire reading only. Firmware 3.03 or greater.**	Propeller

Kamstrup

Register Type	Model	Meter Type
flowIQ 2100 4, 6 and 8 wheel	3-wire reading. Version C1.	Ultrasonic
flowIQ 2100 4, 6, and 8 wheel	3-wire and TouchCoupler version H1.**	Ultrasonic

Diehl

Register Type	Model	Meter Type
Hydrus 8 digits	3-wire support only.** Manufactured after 4/2018.	Ultrasonic

Zenner

Register Type	Model	Meter Type
PMN Nitro 01 4 wheel, 6 wheel	3-wire support only. Manufactured after 8/2015.	Multi-jet

Hersey/Mueller Systems

Register Type	Model	Meter Type
Translator	All meters that accept Translator 3-wire and TouchCoupler support, Sensus approved TR/PL lead.	Positive Displacement, Mag

*SmartPoint firmware version 1.2 and above only

**SmartPoint firmware version 1.7 and above only



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Sensus Limited Warranty

1. **General Product Coverage.** Unless otherwise provided herein, Sensus USA Inc. ("Sensus") warrants its products and parts to be free from defects in material and workmanship for one (1) year from the date of Sensus shipment and as set forth below. All products are sold to customer ("Customer") pursuant to Sensus' Terms of Sale, available at: sensus.com/TC ("Terms of Sale").

2. **SR II[®] and accuSTREAM[™] 5/8", 3/4" & 1" Meters** are warranted to perform to new meter accuracy level set forth in the SR II and accuSTREAM Data Sheets available at sensus.com for five (5) years from the date of Sensus shipment or until the registration shown below, whichever occurs first. Sensus further warrants that the SR II and accuSTREAM meters will perform to at least AWWA Repaired Meter Accuracy Standards for fifteen (15) years from the date of Sensus shipment or until the registration shown below, whichever occurs first:

	New Meter Accuracy	Repair Meter Accuracy
5/8" SR II Meter and accuSTREAM Meter	500,000 gallons	1,500,000 gallons
3/4" SR II Meter and accuSTREAM Meter	750,000 gallons	2,250,000 gallons
1" SR II Meter and accuSTREAM Meter	1,000,000 gallons	3,000,000 gallons

3. **SR II maincases** are warranted to be free from defects in material and workmanship for twenty-five (25) years from the date of Sensus shipment. **accuSTREAM maincases** will be free from defects in material and workmanship for fifteen (15) years from the date of Sensus shipment.

4. **ally[®] Meters** that register water flow are warranted to perform to the accuracy level set forth in the ally data sheet available at sensus.com for fifteen (15) years from the Date of Installation, but no longer than sixteen (16) years from date of manufacture, not including the meter's sensors, valve, and gear motor, which are warranted under different terms described below. As used herein, "Date of Installation" means the date after which the ally Meter has been out of empty pipe for seven (7) consecutive days, as those days are measured by the ally Meter and stored in the meter's nonvolatile memory.

5. **IPERL[®] Meters** that register water flow are warranted to perform to the accuracy levels set forth in the IPERL data sheet available at sensus.com for twenty (20) years from the date of Sensus shipment. The IPERL System Component warranty does not include the external housing.

6. **Sensus OMNI[™], OMNI+ Meters and Propeller Meters** are warranted to perform to as set forth in OMNI and Propeller data sheets for eighteen (18) months from the date of Sensus shipment.

7. **Sensus Cordone! Meters** are warranted to perform to the accuracy levels as set forth in the Cordone! data sheet available at sensus.com for twenty (20) years from the date of Sensus shipment. The Cordone! System Component warranty does not include the external housing.

8. **Sensus Cordone! maincases** are warranted to maintain their structural integrity for a period of twenty (20) years from the date of Sensus shipment.

9. **Sensus accuMAG[™] and Hydroverse[™] Meters** are warranted to be free from defects in material and workmanship, under normal use and service, for 18 months from the date of Sensus shipment or 12 months from startup, whichever occurs first.

10. **Sensus Registers** are warranted to be free from defects in material and workmanship from the date of Sensus shipment for the periods stated below or until the applicable registration for AWWA Repaired Meter Accuracy Standards, as set forth above, are surpassed, whichever occurs first:

5/8" thru 2" SR II, accuSTREAM Standard Registers	25 years
5/8" thru 2" SR II, accuSTREAM Encoder Registers	10 years
All HSPU, IIMP Contactor, R.E.R. Elec. ROFI	1 year
Standard and Encoder Registers for Propeller Meters	1 year
OMNI and OMNI+ Registers with Battery	10 years

11. **Sensus Electric and Gas Meters** are warranted pursuant to the General Limited Warranty available at sensus.com/TC.

12. **Batteries, IPERL System Components, AMR and FlexNet[®] Communication Network AMI Interface Devices** are warranted to be free from defects in material and workmanship from the date of Sensus shipment for the period stated below:

Electronic TouchPad	10 years
Act-Pak [®] Remote Monitoring Instruments	1 year
Gas SmartPoint [®] Modules and Batteries	20 years ¹
7500 series Hand-Held Device	2 years
Vehicle Gateway Base Station (VGB) and other AMR Equipment	1 year
EasyLink Reader	1 Year
CPTP100	20 Years ²
FlexNet Base Station (including the R100NA and M400 products)	1 year
RM4160	1 Year
IPERL System Battery and IPERL System Components	20 years ³
Sensus [®] Electronic Register+ [™]	20 years ⁴
Sensus [®] Smart Gateway Sensor Interface	1 year ⁵
SmartPoint [®] 510M/520M/515M/512M Modules and Batteries	20 year ³

¹ Sensus will repair or replace non-performing Gas SmartPoint Modules (configured to the factory setting of six transmissions per day under normal system operation of up to one demand read to each SmartPoint Module per month and up to five firmware downloads during the life of the product) and batteries, for the first ten (10) years from the date of Sensus shipment, and for the remaining ten (10) years, at a prorated percentage, applied towards the published list prices in effect for the year product is accepted by Sensus under warranty conditions according to the following schedule:

Years	Replacement Price	Years	Replacement Price
1 – 10	0%	16	55%
11	30%	17	60%
12	35%	18	65%
13	40%	19	70%
14	45%	20	75%
15	50%	>20	100%

² Sensus will repair or replace non-performing CPTP100 modules (configured at factory setting of four transmissions per day under normal system operations of up to one demand read per month and up to five firmware downloads during the life of the product) and batteries.

³ Sensus will repair or replace non-performing:

- IPERL System Batteries, and/or the IPERL System flowtube, the flow sensing and data processing assemblies, and the register ("IPERL System Components") with hourly reads manufactured after April 2018
- Cordone! System Batteries, the flow sensing and data processing assemblies, and the register ("Cordone! System Components")
- SmartPoint 510M/520M/515M/512M-PLS/522M Modules manufactured after April 2018 (configured to the factory setting of six transmissions per day under normal system operation of up to one demand read to each SmartPoint Module per month and up to five firmware downloads during the life of the product) and batteries, unless the SmartPoint 510M/520M/522M Module is ever paired with an ally Meter, which immediately amends the warranty terms to those described in Section 13

at no cost for the first fifteen (15) years from the date of Sensus shipment, and for the remaining five (5) years at a prorated percentage, applied towards the published list price in effect for the year the product is accepted by Sensus under the warranty conditions according to the following schedule:

Years	Replacement Price	Years	Replacement Price
1 – 15	0%	19	60%
16	30%	20	70%
17	40%	>20	100%
18	50%		

⁴ Sensus will repair or replace non-performing Sensus Electronic Register+ with hourly reads for the first ten (10) years from the date of Sensus shipment, and for the remaining ten (10) years, at a prorated percentage, applied towards the published list prices in effect for the year product is accepted by Sensus under warranty conditions according to the following schedule:

Years	Replacement Price	Years	Replacement Price
1 – 10	0%	16	55%
11	30%	17	60%
12	35%	18	65%
13	40%	19	70%
14	45%	20	75%
15	50%	>20	100%

⁵ Sensus[®] Smart Gateway Sensor Interface warranty valid only for analog Meter Sample Rates of four times per hour with a Standard Transmit Rate of hourly or greater for the analog channel(s).

Sensus Limited Warranty

13. **ally® Meter Batteries and Components, including SmartPoint 510M/520M Modules** are warranted to be free from defects in material and workmanship from the Date of Installation, as defined in Section 4, for the period stated below:

Batteries	15 years ⁶
Sensors	5 years
Valve & Gear Motor	5 years ⁷
SmartPoint 510M/520M Modules and Batteries in service w/ally	15 years ⁶

14. **CordoneL Meter Batteries and Components** are warranted to be free from defects in material and workmanship from the Date of Installation, as defined in Section 7, for the period stated below:

Batteries	20 years ³
Sensors	5 years
SmartPoint 510M/520M Modules and Batteries in service w/CordoneL models with pressure	15 years ⁶

15. **IPERL and ally Connectors and Cables** are warranted to be free from defects in materials and workmanship, under normal use and service, for ten (10) years from the date of Sensus shipment. Nicor or Itron connectors included with a Sensus product are warranted according to the terms for Third-Party Devices in Section 16.

16. **Third-Party Devices** are warranted to be free from defects in materials and workmanship, under normal use and service, for one (1) year from the date of Sensus shipment. As used in this Sensus Limited Warranty, "Third Party Devices" means any product, device, or component part used with a Sensus product that is manufactured or sold by any party that is not Sensus. Failure of a Third-Party Device which subsequently causes failure to a Sensus device shall be the responsibility of the manufacturer of the Third-Party Device.

17. **Software.** Software supplied and/or licensed by Sensus is supported according to the terms of the applicable software license or usage agreement. Sensus warrants that any network and monitoring services shall be performed in a professional and workmanlike manner.

18. **Return.** Sensus' obligation, and Customer's exclusive remedy, under this Sensus Limited Warranty is, at Sensus' option, to either (i) repair or replace the product, provided the Customer (a) returns the product to the location designated by Sensus within the warranty period; and (b) prepays the freight costs both to and from such location; or (ii) deliver replacement components to the Customer, provided the Customer installs, at its cost, such components in or on the product (as instructed by Sensus), provided, that if Sensus requests, the Customer (a) returns the product to the location designated by Sensus within the warranty period; and (b) prepays the freight costs both to and from such location. In all cases, if Customer does not return the product within the time period designated by Sensus, Sensus will invoice, and Customer will pay within thirty days of the invoice date, for the cost of the replacement product and/or components.

The return of products for warranty claims must follow Sensus' Returned Materials Authorization (RMA) procedures. Water meter returns must include documentation of the Customer's test results. Test results must be obtained according to AWWA standards and must specify the meter serial number. The test results will not be valid if the meter is found to contain foreign materials. If Customer chooses not to test a Sensus water meter prior to returning it to Sensus, Sensus will repair or replace the meter, at Sensus' option, after the meter has been tested by Sensus. The Customer will be charged Sensus' then current testing fee. All products must be returned in accordance with the RMA process. For all returns, Sensus reserves the right to request meter reading records by serial number to validate warranty claims.

For products that have become discontinued or obsolete ("Obsolete Product"), Sensus may, at its discretion, replace such Obsolete Product with a different product model ("New Product"), provided that the New Product has substantially similar features as the Obsolete Product. The New Product shall be warranted as set forth in this Sensus Limited Warranty.

THIS SECTION 18 SETS FORTH CUSTOMER'S SOLE REMEDY FOR THE FAILURE OF THE PRODUCTS, SERVICES OR LICENSED SOFTWARE TO CONFORM TO THEIR RESPECTIVE WARRANTIES.

19. **Warranty Exceptions and No Implied Warranties.** This Sensus Limited Warranty does not include costs for removal or installation of products, or costs for replacement labor or materials, which are the responsibility of the Customer. The warranties in this Sensus Limited Warranty do not apply to and Sensus has no liability for goods that have been: installed improperly or in non-recommended installations; installed to a socket that is not functional, or is not in safe operating condition, or is damaged, or is in need of repair; tampered with; modified or repaired with parts or assemblies not certified in writing by Sensus, including without limitation, communication parts and assemblies; improperly modified or repaired (including as a result of modifications required by Sensus); converted; altered; damaged; read by equipment not approved by Sensus; for water meters, used with substances other than water, used with non-potable water, or used with water that contains dirt, debris, deposits, or other impurities; subjected to misuse, improper storage, improper care, improper maintenance, or improper periodic testing (collectively, "Exceptions"). If Sensus identifies any Exceptions during examination, troubleshooting or performing any type of support on behalf of Customer, then Customer shall pay for and/or reimburse Sensus for all expenses incurred by Sensus in examining, troubleshooting, performing support activities, repairing, or replacing any Equipment that satisfies any of the Exceptions defined above. The above warranties do not apply in the event of Force Majeure, as defined in the Terms of Sale.

THE WARRANTIES SET FORTH IN THIS SENSUS LIMITED WARRANTY ARE THE ONLY WARRANTIES GIVEN WITH RESPECT TO THE GOODS, SOFTWARE, SOFTWARE LICENSES AND SERVICES SOLD OR OTHERWISE PROVIDED BY SENSUS. SENSUS EXPRESSLY DISCLAIMS ANY AND ALL OTHER REPRESENTATIONS, WARRANTIES, CONDITIONS, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE, REGARDING ANY MATTER IN CONNECTION WITH THIS SENSUS LIMITED WARRANTY OR WITH THE TERMS OF SALE, INCLUDING WITHOUT LIMITATION, WARRANTIES AS TO FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, NON-INFRINGEMENT AND TITLE.

SENSUS ASSUMES NO LIABILITY FOR COSTS OR EXPENSES ASSOCIATED WITH LOST REVENUE OR WITH THE REMOVAL OR INSTALLATION OF EQUIPMENT. THE FOREGOING REMEDIES ARE CUSTOMER'S SOLE AND EXCLUSIVE REMEDIES FOR THE FAILURE OF EQUIPMENT, LICENSED SOFTWARE OR SOFTWARE SERVICES, AND OTHER SERVICES TO CONFORM TO THEIR RESPECTIVE WARRANTIES.

20. **Limitation of Liability.** SENSUS' AGGREGATE LIABILITY IN ANY AND ALL CAUSES OF ACTION ARISING UNDER, OUT OF OR IN RELATION TO THIS AGREEMENT, ITS NEGOTIATION, PERFORMANCE, BREACH OR TERMINATION (COLLECTIVELY "CAUSES OF ACTION") SHALL NOT EXCEED THE TOTAL AMOUNT PAID BY CUSTOMER TO SENSUS UNDER THIS AGREEMENT. THIS IS SO WHETHER THE CAUSES OF ACTION ARE IN TORT, INCLUDING, WITHOUT LIMITATION, NEGLIGENCE OR STRICT LIABILITY, IN CONTRACT, UNDER STATUTE OR OTHERWISE.

AS A SEPARATE AND INDEPENDENT LIMITATION ON LIABILITY, SENSUS' LIABILITY SHALL BE LIMITED TO DIRECT DAMAGES. SENSUS SHALL NOT BE LIABLE FOR: (I) ANY INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES; NOR (II) ANY REVENUE OR PROFITS LOST BY CUSTOMER OR ITS AFFILIATES FROM ANY END USER(S), IRRESPECTIVE OF WHETHER SUCH LOST REVENUE OR PROFITS IS CATEGORIZED AS DIRECT DAMAGES OR OTHERWISE; NOR (III) ANY IN/OUT COSTS; NOR (IV) MANUAL METER READ COSTS AND EXPENSES; NOR (V) DAMAGES ARISING FROM MAINCASE OR BOTTOM PLATE BREAKAGE CAUSED BY FREEZING TEMPERATURES, WATER HAMMER CONDITIONS, OR EXCESSIVE WATER PRESSURE. "IN/OUT COSTS" MEANS ANY COSTS AND EXPENSES INCURRED BY CUSTOMER IN TRANSPORTING GOODS BETWEEN ITS WAREHOUSE AND ITS END USER'S PREMISES AND ANY COSTS AND EXPENSES INCURRED BY CUSTOMER IN INSTALLING, UNINSTALLING AND REMOVING GOODS. "END USER" MEANS ANY END USER OF ELECTRICITY/WATER/GAS THAT PAYS CUSTOMER FOR THE CONSUMPTION OF ELECTRICITY/WATER/GAS, AS APPLICABLE.

The limitations on liability set forth in this Agreement are fundamental inducements to Sensus entering into this Agreement. They apply unconditionally and in all respects. They are to be interpreted broadly so as to give Sensus the maximum protection permitted under law.

⁶ If applicable, any SmartPoint 510M/520M Modules ever paired with an ally meter or CordoneL with pressure meter are warranted with the following limitations:

- When configured to the default installation setting of six transmissions of metrology and pressure per day and one update of temperature per day, the SmartPoint module is warranted to perform up to five (5) firmware upgrades for the SmartPoint module and up to five (5) firmware upgrades for the ally meter or CordoneL (with pressure) meter;
- 2500 Operational Commands, where "Operational Commands" include on demand reads (such as consumption, pressure, temperature), an ally meter valve command, or a configuration command; and
- 15 Diagnostic Commands, which includes two-way communications tests and installations

for the first ten (10) years from Date of Installation at no cost. For the remaining five (5) years, Customer will pay the reduced Replacement Price of the then-current list price in effect at the time the product is accepted for return in accordance with the following schedule:

Years	Replacement Price	Years	Replacement Price
1 - 10	0%	14	65%
11	35%	15	75%
12	45%	>15	100%
13	55%		

⁷ Notwithstanding the foregoing, valve and gear motor components of ally meters are not warranted beyond two thousand (2000) Valve State Operations, even if the warranty period provided herein has not yet expired. As used herein, "Valve State Operations" means adjustments of the Meter to open, close, or reduce flow.

General Limited Warranty

Revised November 2019

1. Terms of Sale. Sensus USA Inc. ("Sensus") warrants its products and parts as set forth below. All products are sold to the buyer ("Customer") pursuant to Sensus' Terms of Sale, available at: sensus.com/tc.
2. Electricity Meters and Electricity SmartPoint™ Modules. Sensus warrants the Sensus electricity meters and Sensus electricity SmartPoint Modules to be in compliance with their respective specifications under normal use and service, and to be free from material defects in materials and workmanship for a warranty period of twelve (12) months from the date of the installation or eighteen (18) months from the date of shipment, whichever occurs first. The warranty period for new spare parts and components sold by Sensus is twelve (12) months from the date of shipment. The warranty period for repaired or refurbished parts repaired by Sensus is ninety (90) days from the date of shipment, unless repaired pursuant to a warranty, in which case the repair is warranted for the time remaining of the original warranty period.
3. Gas Products and Gas SmartPoint Modules.
 - a. Except for the Sonix meters, Sensus warrants the Sensus gas products to be in compliance with their respective specifications under normal use and service, and to be free from material defects in materials and workmanship for a warranty period of twelve (12) months from the date of the installation or eighteen (18) months from the date of shipment, whichever occurs first. Sensus warrants the Sensus Sonix meters to be free from material defects in materials and workmanship for a warranty period of fifteen (15) years from the date of shipment. Sensus warrants the batteries in the Sensus Sonix meters to be free from material defects in materials and workmanship for a warranty period of ten (10) years from the date of shipment. The warranty period for new spare parts and components sold by Sensus is twelve (12) months from the date of shipment. The warranty period for repaired or refurbished parts repaired by Sensus is ninety (90) days from the date of shipment, unless repaired pursuant to a warranty, in which case the repair is warranted for the time remaining of the original warranty period.
 - b. Sensus warrants the Sensus gas SmartPoint Modules as set forth in the "G500" warranty, as set forth at: sensus.com/tc, or available at 1-800-METER-IT.
4. Water Meters and Water SmartPoint Modules. Sensus warrants the Sensus water meters and Sensus water SmartPoint Modules as set forth in the "G500" warranty, as set forth at: sensus.com/tc, or available at 1-800-METER-IT.
5. VantagePoint® Lighting Control Module. Sensus warrants the Sensus VantagePoint® Lighting Control Module to be in compliance with their respective specifications under normal use and service, and to be free from material defects in materials and workmanship for a warranty period of ten (10) years from the date of shipment. The warranty period for new spare parts and components sold by Sensus is twelve (12) months from the date of shipment. The warranty period for repaired or refurbished parts repaired by Sensus is ninety (90) days from the date of shipment, unless repaired pursuant to a warranty, in which case the repair is warranted for the time remaining of the original warranty period.
6. DA Devices and HAN Devices. Sensus warrants the Sensus DA Devices and Sensus HAN Devices to be in compliance with their respective specifications under normal use and service, and to be free from material defects in materials and workmanship for a warranty period of twelve (12) months from the date of shipment. The warranty period for new spare parts and components sold by Sensus is twelve (12) months from the date of shipment. The warranty period for repaired or refurbished parts repaired by Sensus is ninety (90) days from the date of shipment, unless repaired pursuant to a warranty, in which case the repair is warranted for the time remaining of the original warranty period.
7. RF Field Equipment. Sensus warrants the Sensus RF Field Equipment to be in compliance with their respective specifications under normal use and service, and to be free from material defects in materials and workmanship for a warranty period of twelve (12) months from the date of shipment.
8. Server Hardware. Sensus provides no warranty on the Server Hardware.
9. Third Party Goods. Notwithstanding anything to the contrary herein, Sensus does not warrant any goods manufactured or software supplied by third parties. For example, if Customer elects to buy meters from a third party, the Sensus SmartPoint Modules installed in such third party meters shall, subject to Section 11, below, be covered by the warranty above, but any warranty on the meter itself shall be a matter directly between Customer and such third party meter supplier.
10. Services. Sensus warrants that its services shall, at the time of performance, materially conform to the contract requirements, and shall be performed in a professional and workmanlike manner, free from material defects in workmanship.
11. Remedy.
 - a. If any Field Device or RF Field Equipment fails during the applicable warranty period (a "Failed Good"), Sensus' obligation, and Customer's exclusive remedy, is, at Sensus' option, to either (i) repair or replace the Failed Good, provided the Customer (a) returns the product to the location designated by Sensus within the warranty period; and (b) prepays the freight costs both to and from such location; or (ii) deliver replacement components to the Customer, provided the Customer installs, at its cost, such components in or on the Failed Good (as instructed by Sensus). In all cases, Customer shall be responsible for returning the Failed Good to Sensus, including all costs associated with the return of the Failed Good, and Sensus shall be responsible for shipping the repaired or replaced good back to Customer's warehouse. Customer shall, in all cases, be responsible for the In/Out Costs. If Sensus determines that the returned good is not defective, Customer shall pay and/or reimburse Sensus for all expenses incurred by Sensus in the examination of the returned good.
 - b. Customer's remedy under the warranty for services shall be, at Sensus' sole cost and expense, to correct or re-perform any defective or non-conforming services to assure compliance with the contract requirements.
 - c. THIS SECTION 10 SETS FORTH CUSTOMER'S SOLE REMEDY WITH RESPECT TO A FAILED GOOD OR ANY DEFECTIVE OR NON-CONFORMING SERVICE.
12. Warranty Exceptions. This General Limited Warranty does not include costs for removal or installation of products, or costs for replacement labor or materials, which are the responsibility of the Customer. The warranties in this General Limited Warranty do not apply to, and Sensus has no liability for, goods that have been: installed improperly or in non-recommended installations; installed to a socket that is not functional, or is not in safe operating condition, or is damaged, or is in need of repair; tampered with; modified or repaired with parts or assemblies not certified in writing by Sensus, including without limitation, communication parts and assemblies; improperly modified or repaired (including as a result of modifications required by Sensus); converted; altered; damaged; read by equipment not approved by Sensus; for water meters, used with substances other than water, used with non-potable water, or used with water that contains dirt, debris, deposits, or other impurities; subjected to misuse, improper storage, improper care, improper maintenance, or improper periodic testing (collectively, "Exceptions."). If Sensus identifies any Exceptions during examination, troubleshooting or performing any type of support on behalf of Customer, then Customer shall pay for and/or reimburse Sensus for all expenses incurred by Sensus in examining, troubleshooting, performing support activities, repairing or replacing any Equipment that satisfies any of the Exceptions defined above. The above warranties do not apply in the event of Force Majeure, as defined in the Terms of Sale.
13. THE WARRANTIES SET FORTH IN THIS GENERAL LIMITED WARRANTY ARE THE ONLY WARRANTIES GIVEN WITH RESPECT TO THE GOODS, SOFTWARE LICENSES AND SERVICES SOLD OR OTHERWISE PROVIDED BY SENSUS. SENSUS EXPRESSLY DISCLAIMS ANY AND ALL OTHER REPRESENTATIONS, WARRANTIES, CONDITIONS, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE, REGARDING ANY MATTER IN CONNECTION WITH THIS GENERAL LIMITED WARRANTY OR WITH THE TERMS OF SALE, INCLUDING WITHOUT LIMITATION, WARRANTIES AS TO FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, NON-INFRINGEMENT AND TITLE.
14. SENSUS ASSUMES NO LIABILITY FOR COSTS OR EXPENSES ASSOCIATED WITH LOST REVENUE OR WITH THE REMOVAL OR INSTALLATION OF EQUIPMENT. THE FOREGOING REMEDIES ARE CUSTOMER'S SOLE AND EXCLUSIVE REMEDIES FOR THE FAILURE OF EQUIPMENT, LICENSED SOFTWARE OR SERVICES TO CONFORM TO THEIR RESPECTIVE WARRANTIES.
15. Limitation of Liability
 - a. SENSUS' AGGREGATE LIABILITY IN ANY AND ALL CAUSES OF ACTION ARISING UNDER, OUT OF OR IN RELATION TO THIS AGREEMENT, ITS NEGOTIATION, PERFORMANCE, BREACH OR TERMINATION (COLLECTIVELY "CAUSES OF ACTION") SHALL NOT EXCEED THE TOTAL AMOUNT PAID BY CUSTOMER TO SENSUS UNDER THIS AGREEMENT. THIS IS SO WHETHER THE CAUSES OF ACTION ARE IN TORT, INCLUDING, WITHOUT LIMITATION, NEGLIGENCE OR STRICT LIABILITY, IN CONTRACT, UNDER STATUTE OR OTHERWISE.
 - b. AS A SEPARATE AND INDEPENDENT LIMITATION ON LIABILITY, SENSUS' LIABILITY SHALL BE LIMITED TO DIRECT DAMAGES. SENSUS SHALL NOT BE LIABLE FOR: (I) ANY INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES; NOR (II) ANY REVENUE OR PROFITS LOST BY CUSTOMER OR ITS AFFILIATES FROM ANY END USER(S), IRRESPECTIVE OF WHETHER SUCH LOST REVENUE OR PROFITS IS CATEGORIZED AS DIRECT DAMAGES OR OTHERWISE; NOR (III) ANY IN/OUT COSTS; NOR (IV) MANUAL METER READ COSTS AND EXPENSES.
 - c. The limitations on liability set forth in this Agreement are fundamental inducements to Sensus entering into this Agreement. They apply unconditionally and in all respects. They are to be interpreted broadly so as to give Sensus the maximum protection permitted under law.
 - d. To the maximum extent permitted by law, no Cause of Action may be instituted by Customer against Sensus more than TWELVE (12) MONTHS after the Cause of Action first arose. In the calculation of any damages in any Cause of Action, no damages incurred more than TWELVE (12) MONTHS prior to the filing of the Cause of Action shall be recoverable.
16. Definitions. Any terms used in this General Limited Warranty as defined terms, and which are not defined herein, shall have the meanings given to those terms in the Terms of Sale.
 - a. "Agreement" means this General Limited Warranty, Customer's purchase order (except any Additional Terms), Sensus' Acknowledgement Form (if any), Sensus' invoice and the Terms of Sale.
 - b. "DA Devices" means RTMs and RTUs.
 - c. "Echo Transceiver" (formerly "FlexNet Network Portal" and "FNP") identifies the Sensus standalone, mounted relay device that takes the radio frequency readings from the SmartPoint Modules and relays them by radio frequency to the relevant FlexNet Base Station.
 - d. "End User" means any end user of electricity/water/gas that pays Customer for the consumption of electricity/water/gas, as applicable.
 - e. "Equipment" means the Field Devices, RF Field Equipment, Server Hardware, and any other goods sold hereunder.
 - f. "FlexNet Base Station" (formerly "Tower Gateway Base Station" and "TGB") identifies the Sensus manufactured device consisting of one transceiver, to be located on a tower that receives readings from the SmartPoint Modules (either directly or via an Echo Transceiver) by radio frequency and passes those readings to the RNI by TCP/IP backhaul communication.
 - g. "Field Devices" means the meters, SmartPoint Modules, DA Devices and HAN Devices.
 - h. "Force Majeure" shall have the meaning set forth in the Terms of Sale.
 - i. "HAN Devices" means the PCTs, IHDs and LCMs.
 - j. "IHDs" means the in-home displays.
 - k. "In/Out Costs" means any costs and expenses incurred by Customer in transporting goods between its warehouse and its End User's premises and any costs and expenses incurred by Customer in installing, uninstalling and removing goods.
 - l. "LCMs" means the load control modules.
 - m. "PCTs" means the programmable controllable thermostats.
 - n. "Remote Transceiver" (formerly "FlexNet Remote Portal" and "FRP") identifies the Sensus standalone, distributed automation equipment and demand/response devices located at Customer's End Users' premises that take the readings of the meters and transmit those readings by radio frequency to the relevant FlexNet Base Station, Remote Transceiver or Echo Transceiver.
 - o. "RNI" identifies the regional network interfaces consisting of hardware and software used to gather, store, and report data collected by the FlexNet Base Stations from the SmartPoint Modules.
 - p. "RF Field Equipment" means, collectively, FlexNet Base Stations, Echo Transceivers and Remote Transceivers.
 - q. "RTMs" means the telemetric remote telemetry modules.
 - r. "RTUs" means telemetric MicroRTU (T866).
 - s. "Server Hardware" means the RNI hardware and the FlexServer hardware.
 - t. "SmartPoint™ Modules" identifies the Sensus transmission devices installed on devices such as meters, distribution automation equipment and demand/response devices located at Customer's End Users' premises that take the readings of the meters and transmit those readings by radio frequency to the relevant FlexNet Base Station, Remote Transceiver or Echo Transceiver.

1. **DEFINITIONS.** "Customer" means the party purchasing goods or services pursuant to these Terms of Sale ("Terms"). "Aqua-Metric" means Aqua-Metric Sales Company, a subsidiary of Thirkettle Corporation. "Deliverables" and "Products" means the goods and/or services sold or otherwise provided pursuant to this Agreement. "Manufacturer" refers to Sensus Inc. unless otherwise stated. Software licenses are provided solely through a separate software license agreement.
2. **CONTRACT OF SALE.** All Deliverables offered for sale are subject to the prices and other terms specified in (i) an applicable Aqua-Metric quotation or proposal and (ii) the Terms defined herein (collectively, the "Proposal"), all of which are subject to the correction of clerical errors. A Customer's purchase order or similar writing shall constitute an acceptance of the offer to sell; however, any inconsistent, additional or different terms to the Proposal contained in a Customer's request for quotation or purchase order (collectively, "Additional Terms") are hereby objected to and rejected by Aqua-Metric. Such Additional Terms will not become part of the contract of sale unless accepted by Aqua-Metric in a writing.
3. **PROPOSALS AND QUOTATIONS.** Proposals and quotations are inclusive of only the Deliverables included in a formal Aqua-Metric quotation form. Proposals and quotations will remain valid for a period of thirty (30) days unless otherwise noted. All pricing is subject to changes based on the manufacturer's suggested retail price. Aqua-Metric reserves the right to apply a price adjustment to all quotes or orders received and not delivered to the Customer as a result of economic price increase or decrease in cost of raw materials, labor, or transport at the time imposed by Aqua-Metric's suppliers. Any incidental product, materials, and/or labor required but not included will be subject to additional costs to the Customer. **AQUA-METRIC MAKES NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT PROPOSAL OR QUOTED PRICING IS ALL INCLUSIVE.**
4. **INVOICES.** Unless otherwise agreed upon in writing between Aqua-Metric and Customer, Aqua-Metric shall invoice Customer for 1) product(s) shipped within fifteen (15) days of shipment; 2) software within fifteen (15) after successful installation of software on Customer owned device(s); 3) implementation and support services within fifteen (15) days of completion of service; or 4) annual subscription services as defined in Section 6 within fifteen (15) days of successful installation and not less than thirty (30) days in advance of subscription anniversary date.
5. **ANNUAL SUBSCRIPTION SERVICES.** Annual Subscriptions Services are defined as recurring fees or cost of services required to operate, maintain, or support Customer's product and/or software; including but not limited to Aqua-Metric Annual Support, Software-as-a-Service, Server/Data Hosting, or any fee requiring a recurring commitment. Unless otherwise agreed upon in writing between Aqua-Metric and Customer, annual subscription services will automatically renew upon the anniversary date of the first invoice containing annual subscription services and each subsequent year annually thereafter unless canceled by Customer in writing prior to sixty (60) days of subscription renewal. Annual subscription services will be subject to an automatic annual increase of three percent (3%) of the previous installment.
6. **TAXES.** All prices quoted are exclusive of federal, state and municipal taxes. Customer shall be liable for all sales, use, and other taxes (whether local, state or federal) imposed on this Agreement or on the Deliverables. If Customer is exempt from tax, Customer is required to provide a tax exemption form prior to invoicing.
7. **PAYMENT TERMS.** Customer shall pay all undisputed invoices in US Dollars within thirty (30) days of the invoice date. Aqua-Metric reserves the right to establish credit limits for Customer and may require full or partial payment prior to provisioning of any Deliverables. All payments shall be made via credit card (VISA or MasterCard), check or electronic payment according to instructions provided by Aqua-Metric. The Customer must notify Aqua-Metric, in writing, within seven (7) days of receipt of an invoice if the Customer disputes such invoice. In the absence of such notice the Customer shall not be entitled to dispute an invoice. Save for any invoices disputed in good faith in accordance with the previous sentence, if the Customer does not pay within the time allotted in this Agreement, the amount due shall bear interest at the lower of (i) one percent (1%) per calendar day past due; or (ii) the highest rate permitted by applicable law. Should Customer become delinquent in payment of sums due hereunder, Aqua-Metric shall not be obligated to continue performance.
8. **TITLE.** Unless agreed upon in writing between Aqua-Metric and Customer, Customer shall assume title of deliverables from the date and time of product(s) shipment.
9. **PACKAGING.** Aqua-Metric reserves the right to select the manner in which Deliverables are packaged. Quoted prices include standard packaging. Special requirements for packaging will be subject to additional charges.
10. **SHIPPING AND HANDLING.** All stock Products and Materials will be shipped Freight on Board (FOB) Destination. Aqua-Metric will ship all Products on prepaid ground transportation. Expedited shipments, such as Next Day or Second Day, will be at the Customer's expense unless otherwise agreed upon by Aqua-Metric. All applicable Shipping and Handling charges will be included with the final invoice to the Customer. Aqua-Metric does not guarantee and therefore will not be liable for any delays in shipment.
11. **FREIGHT.** Aqua-Metric shall ship oversized Product(s) or bulk orders on standard Less-Than-Truckload ("LTL") freight carriers when applicable. The Customer is required to provide the necessary equipment required (i.e. loading dock, fork lift, pallet jack, etc.) to unload the shipment upon arrival. If the Customer does not have access to equipment necessary to unload the Product(s), Customer must inform Aqua-Metric in advance and prior to shipment. Customer will be responsible for any additional cost(s) or fee(s) incurred for special handling requirements.
12. **FREIGHT ALLOWANCE.** Single Sensus product orders exceeding \$20,000 will be shipped FOB Freight Allowed unless otherwise specified and agreed upon in writing. Freight allowance is only applicable to single orders shipped complete. Partial shipments must be specified in writing at the time of order placement. Aqua-Metric reserves the right to refuse freight allowance and/or bill partial freight costs on final invoice.
13. **LOSS OR DAMAGE CLAIMS.** The Customer is responsible for reporting lost or damaged deliverables as a result of improper packaging and/or handling to Aqua-Metric within fifteen (15) business days. Claims will become void if made more than fifteen (15) business days after the product has left Aqua-Metric facilities. Damaged product(s) will be returned to Aqua-Metric for inspection. Aqua-Metric reserves the right to repair or replace product(s) damaged in shipment.
14. **AMENDMENTS OR CANCELLATIONS.** Orders submitted to Aqua-Metric must be canceled or amended by Customer prior to the shipment of Deliverables. Aqua-Metric reserves the right to invoice shipping charges for orders cancelled after deliverables shipped.
15. **RETURNS.** No Deliverables may be returned for refund without the prior written authorization of Aqua-Metric. Aqua-Metric reserves the right to refund the cost of deliverables less a Restocking Fee and/or shipping and handling charges upon receipt of return product. Refunds will be processed and issued within thirty (30) days from the receipt of the returned Product(s). Authorized return shipments must be returned in "like-new" condition to Aqua-Metric's designated receiving point, must be shipped in suitable packaging, must be accompanied by a packing slip, including Aqua-Metric's Return Authorization Number, and must have transportation charges prepaid. All returned Product(s) will be inspected upon delivery for any indication of use or damage. Customer will be responsible for returning the Product(s) to Aqua-Metric's designated distribution warehouse and any cost(s) incurred to repackage and/or shipping carrier fees. Customer will be responsible for any damages incurred during shipment with exception to the terms detailed in Damage Claims herein. Aqua-Metric reserves the right to refuse Product(s) Refunds or Credits that have been installed, used, or otherwise returned in any condition other than New. Aqua-Metric reserves the right to deduct an adequate service charge to cover all inspection, testing and handling from any refund.
16. **RESTOCKING FEE.** Return Product(s) are subject to a twenty-five percent (25%) restocking fee and special order Product(s), including but not limited to: meter reading equipment, infrastructure, ActPaks, or any Product(s) requiring a unique configuration, are subject to fifty percent (50%) restocking fee.
17. **OBSOLESCENCE.** Aqua-Metric shall not be held liable for planned or unplanned obsolescence of product(s), parts, or software discontinued by any manufacturer.
18. **WARRANTIES.**
 - 18.1. EXCEPT AS SPECIFICALLY SET FORTH IN THIS AGREEMENT, THE SERVICES AND SOFTWARE ARE PROVIDED BY AQUA-METRIC ON

AN "AS IS" AND "AS AVAILABLE" BASIS WITHOUT WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

- 18.2. Aqua-Metric warrants that the services provided by Aqua-Metric will be performed in a professional and workmanlike manner with a degree of care, skill and competence that is consistent with the then generally accepted industry standards reasonably expected of similar types of engagements and the deliverables will substantially conform to the deliverables specified in the applicable purchase agreement.
- 18.3. Standard Manufacturer Warranty. Standard manufacturer product warranties shall apply to all product(s) furnished under this Agreement. Aqua-Metric and/or their supplier agrees to provide a repaired or replacement product of equal value and as provisioned within the manufacturer warranty terms.
- 18.4. Meter Services Warranty. Aqua-Metric warrants the quality of workmanship and services provided herein to be reasonably free from defects within twenty-four linear inches of the meter connection for a period of thirty (30) days from the date of meter exchange.
- A. Meter Services Warranty is only applicable to the services rendered during the time of meter exchange and only applicable if the failure is reasonably evident of a faulty meter exchange service provided by Aqua-Metric or its subcontractor.
- B. Aqua-Metric does not warrant defective product(s) or material(s) (including but not limited to piping, fittings risers, setters, curb stops, meter boxes, or similar) used to complete the meter exchange service. Such products will be subject to any applicable product warranty guidelines as provided by Aqua-Metric's suppliers.
- C. Aqua-Metric does not warrant pre-existing conditions; service line damage(s) resulting from non-approved materials or the service line is not up to code compliance; or damage(s) due to age or instability of galvanized lines on either the distribution or consumer side.
- D. Meter Services Warranty does not include defects as a result of tampering, vandalism, negligence, "Acts-of-God".
- E. The Customer shall notify Aqua-Metric of any warrantable concern(s) within five (5) days of Customer becoming aware of suspect failure.
- F. The Customer acknowledges Aqua-Metric is unable to determine pre-existing plumbing conditions, including but not limited to pipe condition, debris or hard water buildup in plumbing lines, unstable or faulty plumbing connections or plumbing fixtures, or water pressure, etc. Due to the unknown condition(s), Aqua-Metric does not warrant against damage(s) or defect(s) to plumbing, household fixtures, water heaters, water softening or filtration systems, Sloan valves, appliances, water pressure, or other related appurtenances which rely on the utility services provided by the Customer.
- G. Aqua-Metric reserves the right to inspect the project worksite prior to performing any work to determine the best course of action to correct the warranty concern. If such inspection is not indicative of Aqua-Metric or its contractor's faulty workmanship, Aqua-Metric, at its sole discretion, may invoice the Customer for any time and expense incurred to inspect the worksite. Aqua-Metric will not be held responsible for any unauthorized repair(s) performed by the Customer, Customer's resident or business customer, or any third-party repair company.
19. LIMITATIONS. Unless otherwise expressly provided herein, neither Aqua-Metric nor any of its service providers, licensors, employees or agents
20. warrant that the operation of the Services will be uninterrupted or error free. Aqua-Metric will not be responsible for any damages that Customer may suffer arising out of use, or inability to use, the Services.
21. RETURN MATERIAL AUTHORIZATION. Product(s) returned for Warranty within the limitations defined by the Manufacturer will be returned directly to the Manufacturer unless otherwise instructed by Aqua-Metric. Customer shall submit a list of defective items with Serial Numbers and or Identification Numbers required to identify the product in an Excel format to rma-norcal@aquametric.com; rma-socal@aquametric.com; rma-texas@aquametric.com; or rma-louisiana@aquametric.com. Aqua-Metric will generate a Return Material Authorization form for the Customer to include with the Product(s) shipment to the Manufacturer. Customer will be responsible for any cost(s) incurred to return the Product(s) to the Manufacturer for warranty concerns.
22. FORCE MAJEURE. If Aqua-Metric becomes unable, either wholly or in part, by an event of Force Majeure, to fulfill its obligations under this agreement, the obligations affected by the event of Force Majeure will be suspended during the continuance of that inability. "Force Majeure" means an event beyond the reasonable control of Aqua-Metric, including without limit acts of God, hurricane, flood, volcano, tsunami, tornado, storm, tempest, mudslide, vandalism, illegal or unauthorized radio frequency interference, strikes, lockouts, or other industrial disturbances, immigration, unavailability or delay of component parts of any Deliverables provided hereunder, acts of public enemies, border disputes, border disruptions, delivery vehicle impound, wars, blockades, insurrections, riots, pandemics, epidemics, earthquakes, fires, restraints or prohibitions by any court, board, department, commission or agency of the United States or any States, any arrests and restraints, civil disturbances and explosions.
23. LIMITATION OF LIABILITY.
- 23.1. AQUA-METRIC'S AGGREGATE LIABILITY IN ANY AND ALL CAUSES OF ACTION ARISING UNDER, OUT OF OR IN RELATION TO THIS AGREEMENT, ITS NEGOTIATION, PERFORMANCE, BREACH OR TERMINATION (COLLECTIVELY "CAUSES OF ACTION") SHALL NOT EXCEED THE TOTAL AMOUNT PAID BY CUSTOMER TO AQUA-METRIC UNDER THIS AGREEMENT. THIS IS SO WHETHER THE CAUSES OF ACTION ARE IN TORT, INCLUDING, WITHOUT LIMITATION, NEGLIGENCE OR STRICT LIABILITY, IN CONTRACT, UNDER STATUTE, OR OTHERWISE.
- 23.2. AS A SEPARATE AND INDEPENDENT LIMITATION ON LIABILITY, AQUA-METRIC'S LIABILITY SHALL BE LIMITED TO DIRECT DAMAGES. AQUA-METRIC SHALL NOT BE LIABLE FOR: (I) ANY INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES; NOR (II) ANY REVENUE OR PROFITS LOST BY CUSTOMER OR ITS AFFILIATES FROM ANY END USER IRRESPECTIVE OF WHETHER SUCH LOST REVENUE OR PROFITS IS CATEGORIZED AS DIRECT DAMAGES OR OTHERWISE, INCLUDING REVENUE LOST FROM THIRD PARTIES, PERSONS, OR ENTITIES, SUCH AS BILLS FOR ELECTRICITY, LIGHTING, GAS, OR WATER CONSUMPTION; NOR (III) ANY IN/OUT COSTS; NOR (IV) CLAIMS MADE BY A THIRD PARTY; NOR (V) MANUAL METER READ COSTS AND EXPENSES. "IN/OUT COSTS" MEANS ANY COSTS AND EXPENSES INCURRED BY CUSTOMER IN TRANSPORTING GOODS BETWEEN ITS WAREHOUSE AND ITS END USER'S PREMISES AND ANY COSTS AND EXPENSES INCURRED BY CUSTOMER IN INSTALLING, UNINSTALLING AND REMOVING GOODS. "END USER" MEANS ANY END USER OF ELECTRICITY/WATER/GAS THAT PAYS CUSTOMER FOR THE CONSUMPTION OF ELECTRICITY/WATER/GAS, AS APPLICABLE.
- 23.3. The limitations on liability set forth in this Agreement are fundamental inducements to Aqua-Metric entering into this Agreement. They apply unconditionally and in all respects. They are to be interpreted broadly so as to give Aqua-Metric the maximum protection permitted under law. (d) To the maximum extent permitted by law, no Cause of Action may be instituted by Customer against Aqua-Metric more than TWELVE (12) MONTHS after the Cause of Action first arose. In the calculation of any damages in any Cause of Action, no damages incurred more than TWELVE (12) MONTHS prior to the filing of the Cause of Action shall be recoverable. (e) If Customer is not the sole end user and ultimate owner of the Deliverables, then Customer shall ensure by its contract with the end user and ultimate owner (collectively, "Owner") that Aqua-Metric is given the benefit of the exclusions and limitations set out in these Terms. Customer agrees to indemnify, defend, and hold harmless Aqua-Metric from and against all Losses (defined below) alleged by any Owner to the

extent that Aqua-Metric would not be liable to Customer under these Terms if the claim had been made by Customer.

24. **INDEMNIFICATION.** Customer agrees to defend, indemnify and hold Aqua-Metric harmless from any and all losses, costs, fines, penalties, damages and other amounts (including reasonable attorney fees) incurred by, assessed against or imposed on Aqua-Metric arising from or in connection with any and all third party suits, claims, actions or demands (a "Claim"): (i) for personal injuries, death or damage to tangible personal and real property caused by the negligence or willful misconduct of Customer, its employees, contractors or agents other than Aqua-Metric; (ii) relating to or arising out of Customer's failure to comply with applicable law; and (iii) relating to or arising out of Customer's breach of its confidentiality obligations hereunder.
25. **CONFIDENTIAL INFORMATION.** Each party shall hold the other party's Confidential Information in confidence and shall not disclose such Confidential Information to third parties other than to consultants or contractors, subject to similar terms of confidentiality, when disclosure is necessary for the purposes set forth herein, nor use the other party's Confidential Information for any purpose other than the purposes set forth under this Agreement. The foregoing restrictions on disclosure shall not apply to information which is: (i) already known by the recipient, (ii) becomes, through no act or fault of the recipient, publicly known, (iii) received by recipient from a third party without a restriction on disclosure or use, (iv) independently developed by recipient without reference to the other party's Confidential Information, or (v) is a public record under applicable laws, subject to the terms of this Section. The Customer will maintain the confidentiality of all Aqua-Metric Confidential Information, and Aqua-Metric will maintain the confidentiality of all Customer Confidential Information, with each party taking all reasonable precautions to protect the same, at a minimum taking those precautions used to protect its own Confidential Information from unauthorized use or disclosure.
26. **ASSIGNMENT.** Customer may not assign, transfer or delegate this Agreement or any part of Customer's rights or duties without prior written consent of Aqua-Metric. Any attempted assignment in violation of this section shall be null and void.
27. **GOVERNING LAW AND DISPUTE RESOLUTION.** This Agreement shall be governed by, construed and enforced in accordance with the laws of the State of California, without regard to conflicts of law principles. Any and all disputes arising under, out of, or in relation to this Agreement or its performance ("Disputes") shall first be resolved by the Parties attempting mediation in California. If the Dispute is not resolved within sixty (60) days of the commencement of the mediation, it shall be litigated in the state or federal courts located in the State of California. TO THE MAXIMUM EXTENT PERMITTED BY LAW, THE PARTIES AGREE TO A BENCH TRIAL AND THAT THERE SHALL BE NO JURY IN ANY DISPUTES.
28. **COMPLIANCE WITH LAWS.** Customer shall comply with all applicable laws and regulations, as set forth at the time of acceptance and as may be amended, changed, or supplemented. Customer shall not take any action or permit the taking of any action by a third party, which may render Aqua-Metric liable for a violation of applicable laws. Customer will perform its obligations under this Agreement in a manner that complies with all Laws applicable to Customer's business, activities, and facilities. "Laws" shall include and refer to any and all federal (national), state, provincial, municipal or local laws, regulations, rules, judicial decrees, decisions and judgments, executive and government orders and ordinances, and any and all directives of regional legislative and regulatory bodies and implementing legislation, as well as rules and regulations of any self-regulatory organization by which any party may be bound.
29. **SEVERABILITY.** In the event any provision of this Agreement is held to be void, unlawful or otherwise unenforceable, that provision will be severed from the remainder of the Agreement and replaced automatically by a provision containing terms as nearly like the void, unlawful, or unenforceable provision as possible; and the Agreement, as so modified, will continue to be in full force and effect.
30. **NON-WAIVER.** Failure or delay of Aqua-Metric to exercise a right or power under this Agreement shall not operate as a waiver thereof, nor shall any single or partial exercise of a right or power preclude any other future exercise thereof.