



Commission Meeting

JUNE 11TH, 2024

Commission Meeting Agenda

June 11th, 2024

Chair J. Hart	—	Commissioner J. Bayliss	—
Commissioner J. Stokes	—	Commissioner J. Babich	—
Commissioner J. Sandstede	—	Legal Counsel A. Borland	—
General Manager L. Peterson	—	Auditors Sterle & Co., LLP	—
Utility Operations S. Dickinson	—	Energy & Pricing P. Plombon	—
Safety & Facilities P. Rutchasky	—	Admin & Comm E. Dixon	—
City Administrator G. Pruszinske	—	Local 94 President Rich Kampsula	—

1. Management Updates: May 2024

- Samantha Adams – Electrical Operations Director
- Jill Zallar – Finance & Customer Service Supervisor
- Stefanie Dickinson – Utility Resource Manager
- Paul Plombon – HREC & Heat

2. Advanced Metering Infrastructure (AMI)

3. Other Items



Item 1 – HPU Management Updates

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June 11th, 2024

Jeff Hart, Chairman
Hibbing Public Utilities Commission
1902 E. 6th Avenue
Hibbing, MN 55746

RE: Item 1 – Management Updates

Dear Commissioners;

Please find attached for your reviewal the HPU Managerial Updates for the month of May 2024. Members of the management team will be present at the June 11th, 2024 Commission Working Session to provide updates and answer questions from Commissioners.

Sincerely;



Luke J. Peterson

Electrical Distribution Monthly Highlights

The Line Crew has been very busy as construction season is in full swing. We have multiple new services that are planned and scheduled to be installed. The crew also completed underground lighting replacement and repairs that had to carry over from the end of last construction season. There will be a break from collecting pole data as we catch up on new service installs. Pole inventory collection is at approximately 70% complete. Most of the pole inventory left to collect is on portions of the feeder that have more challenging access for collection.

Vegetation Management



Zielie's Tree Service is ahead of schedule on vegetation clearing. They report to be 50% complete. There has been a significant reduction in call-outs for unplanned interruptions on our system by wildlife or falling limbs due to vegetation maintenance since 2020.

Staffing

Charlie Karish started a 1000-hour apprentice line worker internship on May 29th. Please join me and our crew as we welcome him back. Charlie has been an intern over the past year while on breaks from line school.

Joint-Use Agreements

I am in the early stages of reviewing and updating existing HPU processes and agreements for joint use. Joint Use is where two or more utilities share the same asset, like a power poles and rights-of-way. At first look, the existing agreements communication companies need to reflect with current standards. The goal is to analyze trends during this construction season and research other utility agreements for comparison. Once analysis and research are complete I'll prepare documentation for review and approval.

There has been a significant increase in requests for joint use on poles and underground utility accommodation requests.

- **Lumen** (formerly CenturyLink) sent maps where they plan to submit permits to attach. Their initial proposed route covers fiber attachment on hundreds of poles in Hibbing proper. Their fiber expansion project did not include routes for HPU service territory poles in rural Hibbing.
- **CTC** is another most frequent requestor of underground utility accommodation.

Substations

Distribution substation projects are well underway. Most or all of the high-level decisions have been worked up regarding design and scope of work. We met recently with Iron Range Engineering to check on progress and our line operation leaders got a presentation of design and scope. The city is interested in HPU relocating the Beltline substation. During our meeting with Iron Range Engineering, we discussed the feasibility of the request to vacate that land. We are working up a summary and recommendation for feasibility to send to the city.

May Monthly Highlights

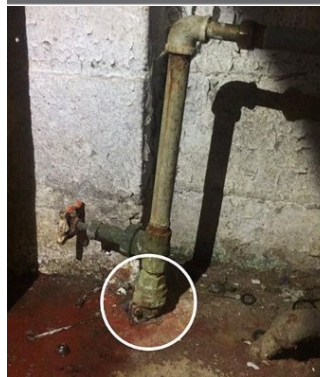
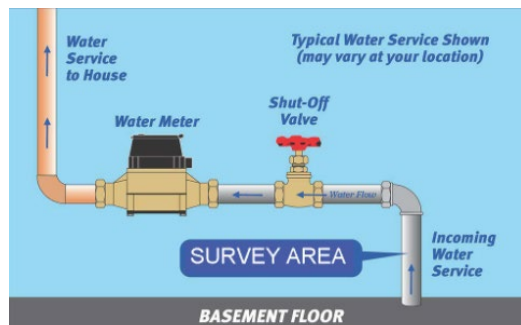
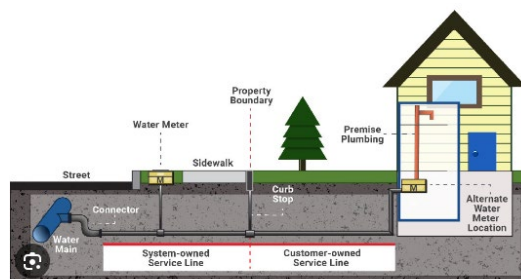
Customer Service

The HPU customer service staff is in full swing of summer disconnections after a refreshingly, mild winter, as CWR protection ended April 15th. Our staff is committed to working with our customers to get them on level payment plans or to an outside vendor for financial support in an effort to help them get caught up, current, and to avoid the disconnection.

Disconnection season is always busy and coupled with multiple customer requests like line drops for siding, tree removals, etc. Our team is very busy!

Meter readers

Meter readers are out in the field assisting our engineering company, Bolten & Menk, collect all of the lead service line inventory. A huge undertaking, but with our meter readers already going door to door, we expect this process to be completed in July. They will be using an app called Survey123 to guide them in collecting this information. For those customers not home, literature will be left at the door of who to contact to set up an in-home appointment. Bolten & Menk will also be publishing a “media sweep” to help get information to the public of how they can help collect the data we need and answer the questions of why we are collecting it. Some diagrams showing what we are collecting are below:



Finance

Our HPU finance team welcomed a new employee this month, Travis Marsh. Travis has “hit the ground running” and is an excellent addition to our team. We have put into procedure a solid process addressing/eliminating our audit findings, and will continue to build written procedures as we move through training.

Reconciliation for the month of April & May have resulted in no adjustments being made – this is *fantastic!!*

Looking Forward

My goal moving forward is to bring forward a metric system for presenting on how the team is doing. I am working

on providing information of what we want to measure and the best process for communicating the performance indicators data (KPI's) with other management members.

What are KPI's? KPI's or key performance indicators are quantifiable measures that gauge a company's performance against a set of targets, objectives, or industry peers. Some common Customer Service KPI's are customer satisfaction, average resolution time, or cost per resolution to name a few.

Our team is also looking into ways of how to provide more information to our customers by getting out into the public – some thoughts are a booth at the St Louis County fair & AEOA/Salvation Army Senior Expo to display project processes, discuss Cold Weather rule, and just be present to gather information from our constituents of how we're doing.

MONTHLY UTILITY RESOURCES UPDATE

IT PROJECTS WORKFLOW

Maximo go live was over a month ago now. The new asset management and workflow software is being used utility wide. Staff continue to monitor improvements and efficiencies to implement during the initial stages. Later in 2024 a mobile version can be rolled out for crews to process their work away from their desks.

FLEET

Our Fleet Mechanic has been very busy with up fitting our newest additions to our fleet. Our last 2024 add is still projected to be road ready this summer for the water crew. Pic below ~



FACILITY PROJECT UPDATES

Facilities Long Range Planning started earlier this year and we have most of our 2024 project budgets ready to share with the commission and the structural analysis reports for the service center and warehouse. Look forward to more info in the very near future.

HUMAN RESOURCES UPDATES

HPU had 4 new full time regular and 12 temporary summer workers start work last

month. Onboarding and training has been going well.

Earlier in 2024 management staff and Local 94 agreed to collaborate on Job Description reviews and evaluations. During June staff will work on completing the Job Description reviews and issue an RFP for a consultant to assist in the evaluation process.

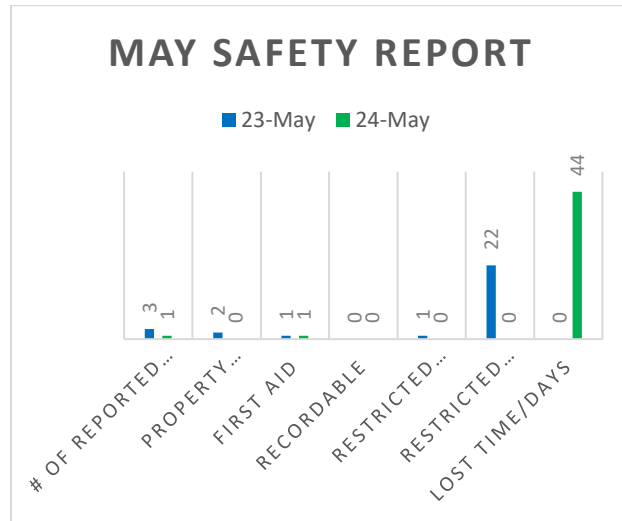
MONTHLY SAFETY HIGHLIGHTS

HPU had one incident for the month of May. This incident was a first-aid injury, was non-recordable, and there were no lost time days.

May has a total of 22 working days, with two employees out on workman's comp., there are a total of 44 restricted days for the month.

The monthly safety topic for May was Heavy Equipment Basic Skills with Operator Competency.





LOOKING AHEAD...

MMUA's safety training topic for June is fall protection and hurt man rescue. Training will be held June 26 & 27, 2024.

Human Resources key priorities for the remainder of 2024 will be:

- *Leadership Training*
- *Compensation & Benefits*
- *Organizational Development*
- *Training and Development*

Hibbing Renewable Energy Center

Operations

HREC is continues to run Turbine 6, which is generating up to 6.5 Mw and fully supplying the city's heat line. Turbine 3 is undergoing additional callback work by ST Cotter. Boiler 4 is running on mostly biomass with Boiler 2 as backup.

Monthly Highlights

HREC is attempting to wrap up the major inspection of Turbine 3. Exit meetings/discussions are planned for the coming weeks to go over strategic plans and lessons learned from this overhaul. Turbine 3 will be brought back to an emergency ready status once the GVTC test is satisfactorily completed. Boiler 4 had a mini summer shutdown to address maintenance issues and to complete the yearly FM Global boiler inspection. Boiler 3 also was taken down to address a few minor issues and complete the annual boiler inspection as well. Both boilers passed inspections with only a few minor takeaways. During the mini outage the Boiler 2 isolation valve was replaced with the old valve scheduled to be sent out for repairs. Summer students have also started and have begun to attack the list of summer projects.

Upcoming Schedule

June:

- TG 3 Recommissioning
- Address Inspections Results
- GVTC Test
- Relocation of Wood Stockpile Yard
- Summer Students Began Work
- Bid Planning TG 6 Major
- Bid Planning TG 3 Rotor Repair

July:

- MN Annual Gas Report Due
- TG 5 SRV Prep Work
- Bid Planning for Plant Water System
- Boiler Blowdown Structural Work

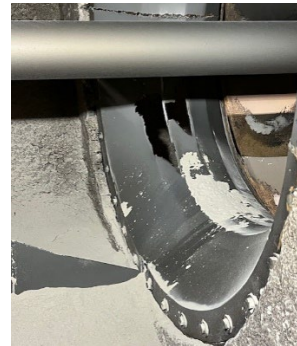
- Boiler 2 ID Fan Replacement Planning
- Boiler 4 ID Fan Replacement Planning
- TG 5 Isolation Replacement Prep

Heat Crew

HPU Heat Crew replacing a steam and condensate line to the ISD 701 Bus garage. Crew members will direct their focus to the remainder of the library condensate project when weather permits. Cast Corp recently received a new gas main which required directional drilling underneath Highway 37.

Notable Projects

4A ID Fan Shroud Isolation



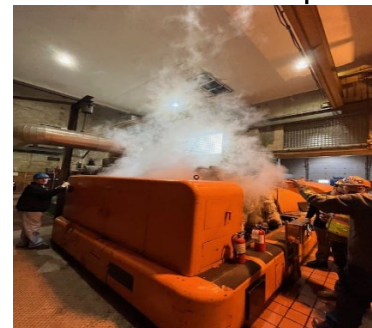
New Boiler 2



Bus Garage Steam Line Boiler 4 Grate Work



TG 3 Startup





Item 2 - Advanced Metering Infrastructure

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June 11th, 2024

Jeff Hart, Chairman
Hibbing Public Utilities Commission
1902 E. 6th Avenue
Hibbing, MN 55746

RE: Item 2 - Advanced Metering Infrastructure

Dear Commissioners,

I am writing to introduce the upcoming working session on Advanced Metering Infrastructure (AMI), scheduled for Tuesday, June 11th. This session will introduce HPU's plan, timing and budgetary considerations to move forward with AMI.

AMI represents a significant advancement in utility management, integrating state-of-the-art metering technology with real-time data analytic potential. The implementation of AMI can yield substantial benefits, including:

1. **Improved Accuracy:** Enhanced meter reading accuracy, reducing the potential for human error and ensuring precise billing.
2. **Operational Efficiency:** Automated meter reading eliminates the need for manual data collection, enabling more efficient resource allocation.
3. **Real-Time Data:** Instant access to consumption data facilitates better demand forecasting and load management, helping to optimize grid performance.
4. **Customer Engagement:** Provides customers with detailed usage information, empowering them to make informed decisions about their energy consumption and potentially reduce their utility bills.
5. **Enhanced Reliability:** Early detection of outages and other issues allows for quicker response times and improved service reliability.
6. **Conservation Benefits:** By enabling more efficient energy usage information and reducing the need for physical meter reading, AMI will enable customers tools to improve energy efficiency through knowledge as well expanded product offerings like demand response products in the future

As part of this initiative, I would like to highlight that Core & Main would be our sole-source vendor as a licensed redistributor of Sensus metering technology. Sensus is renowned for its cutting-edge solutions in the AMI space, offering robust, reliable, and secure metering systems. HPU has been implementing Sensus meters since 2015. Partnering with Core & Main ensures that we have access to the latest innovations and support necessary for a successful AMI deployment.

HPU has engaged with EPE to initiate a Due Diligence review of the cost estimates and technical aspects of the Core & Main Proposal. EPE will be in attendance of the the June Working Session to present this review and answer Commission questions.

We are confident that the transition to AMI will significantly enhance our operational capabilities and customer satisfaction. Your participation and insights during the working session will be invaluable as we move forward with this important project.

Thank you for your attention to this matter. We look forward to a productive discussion and to your continued support in advancing our infrastructure.

Sincerely;

A handwritten signature in black ink that reads "Luke J. Peterson". The signature is written in a cursive style with a large, stylized "L" and "P".

Luke J. Peterson

Hibbing Sensus Overview

SENSUS FLEXNET OVERVIEW

The FlexNet system is a point-to-multipoint communication network that uses a primary-use, FCC-licensed RF spectrum. The FlexNet system is the most complete communication network solution available today that can support multiple applications. Sensus develops and manufactures a full complement of AMI communication network products. This includes water and gas meters, communication network modules, solutions for distribution automation communications, lighting control, and communication products that support third-party products and applications that meet the utilities business and operational requirements. The bottom of the following diagram shows the FlexNet-enabled endpoints that can be deployed as a part of a FlexNet system. The next layer is the FlexNet communication network, comprised of our long-range communication base stations. At the top of the diagram is the FlexNet Head End System software, which will interface with your utility software systems and passes the appropriate data to each (for example, billing data, outage data, and so on)

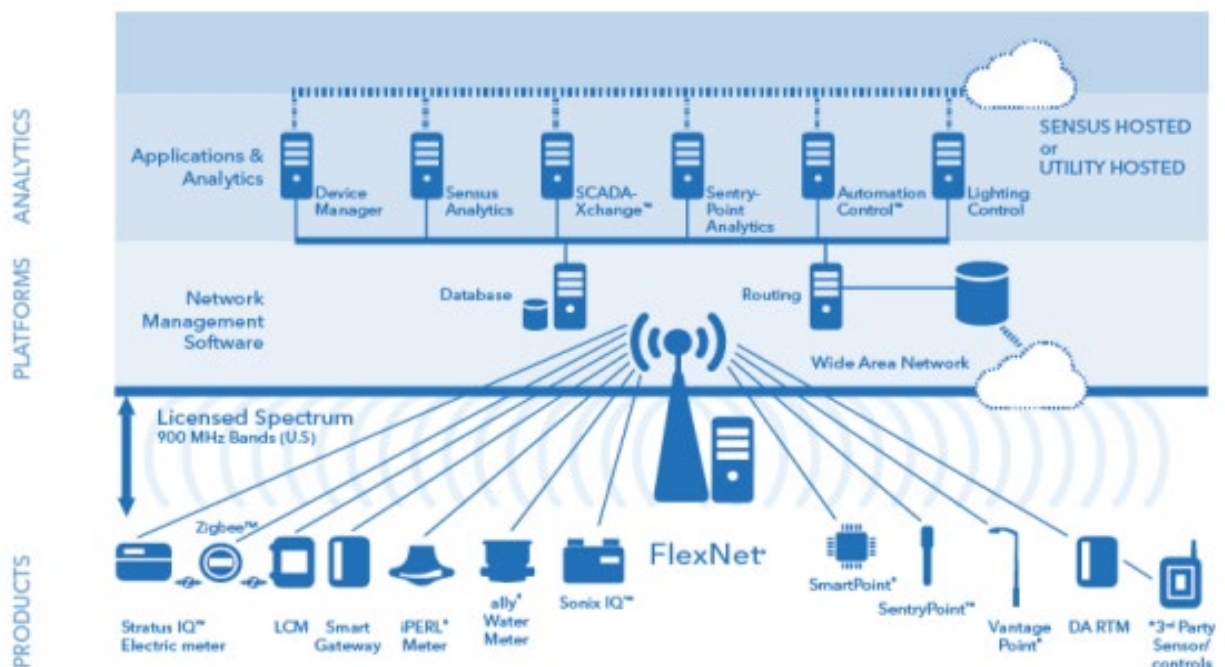


FIGURE: FLEXNET SYSTEM ARCHITECTURE

Sensus is committed to providing systems and solutions that enable utilities to mitigate the risk of stranded assets. 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. Obsolescence is avoided through the development of products that bring in new applications while maintaining backward compatibility with network devices in the field for the life of the FlexNet system.

FlexNet Network

Sensus' industry-leading, two-way wireless AMI communication network (the FlexNet system) consists of multiple synchronized, high-performance, 900-MHz, primary-use, FCC-licensed 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 - Primary Licensed Spectrum.
- No one else will be allowed to use the FCC RF frequencies assigned to Sunrise.
- FlexNet-enabled endpoints communicate directly to the FlexNet network.
- Deploy Network on hardened vertical assets that stay up during storms.
- Best performing outage AMI system for weather events.
- Forward-looking development roadmaps and backward compatibility for our customers (no endpoint obsolesce). The FlexNet network and the endpoints you install will be supported for the life of your system.
- FlexNet endpoints communicate at up to 2-watts of power, enabling the fewest number of AMI network equipment devices (base stations) of all AMI systems.
- Base Stations operate at up to 16 watts of power enabling overlapping RF coverage.
- The FlexNet network design divides your RF spectrum into separate channels that isolate different message types, reducing congestion on the network, improving message throughput, and enabling the immediate transmission of alarm notifications.

WATER METERS

iPERL Residential Water Meter (3/4" – 1")

iPERL smart water meters offer unparalleled, low-flow accuracy with high-flow durability. iPERL meters use innovative magnetic technology to capture previously unmeasured low flow. iPERL meters increase returns while maximizing operational efficiency. With no moving parts, lead-free iPERL meters maintain their accuracy over a 20-year lifetime. With Advanced Metering Infrastructure (AMI) connectivity—as well as 14-condition, diagnostic, and lifetime alarms—iPERL meters provide a quick resolution to issues you may experience in the field. Features include:

- Improves operational efficiency and customer service
- Reduces non-revenue water, measuring flow rates as low as .1-.3 gpm
- Reduces maintenance and cost



- Installs horizontally, vertically or diagonally
- Prevents removal and tampering attempts to obtain free water
- Detects system leaks
- Allows remote management, monitoring and diagnosis
- Collects and logs system and customer data
- Preserves energy and optimizes power

FIGURE: IPERL WATER METER

OMNI Commercial & Industrial Water Meter (8" and up)

The OMNI™ meter is the most technologically advanced large water meter on the market today. The key to this optimal measurement performance is the application of the new Floating Ball Technology (FBT). FBT employs an impeller with a ball design, which makes the impeller weightless in the waterline. The technology enables the impeller to begin moving with very little water flow or force through the meter. The result is that OMNI has an extended flow range with better low-flow sensitivity, as well as the ability to capture extended high flow rates – all with virtually no wear.

Improve your accuracy ranges in schools, hospitals, retail centers and more with our OMNI™ Compound (C²) and OMNI Turbo (T²) water meters. OMNI C² meters are one of the most technologically advanced, large water meters on the market, providing longer service life than all other comparable meters. OMNI T² meters are made of epoxy-coated ductile iron and are available in 1.5"-10" sizes. Stainless steel versions come in 1.5", 2" and 3" sizes.



FIGURE: OMNI C² WATER METER (LEFT) AND OMNI T² WATER METER (RIGHT)

ENDPOINTS

510M SmartPoint Communication Module

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 transmissions give SmartPoints the ability to transmit 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.

The 510M SmartPoint Communication Module features an internal antenna, enabling the unit to communicate directly to the FlexNet communication network, and doesn't require a separate antenna or booster. The SmartPoint and the water meter communicate via a direct connection.



FIGURE: 510M SMARTPOINT COMMUNICATION MODULE FOR WATER

SENSUS SMART UTILITY GAS SOLUTION OVERVIEW

Sensus' smart gas system combines smart gas meters (such as our Sonix IQ ultrasonic meter and diaphragm meters equipped with gas SmartPoint communication modules), advanced sensors, software analytics, and services with the FlexNet communication network. This system enables utilities to go beyond AMR or AMI and maximize their return on intelligence through improved cost reductions, asset utilization, risk mitigation, revenue capture, and customer service.

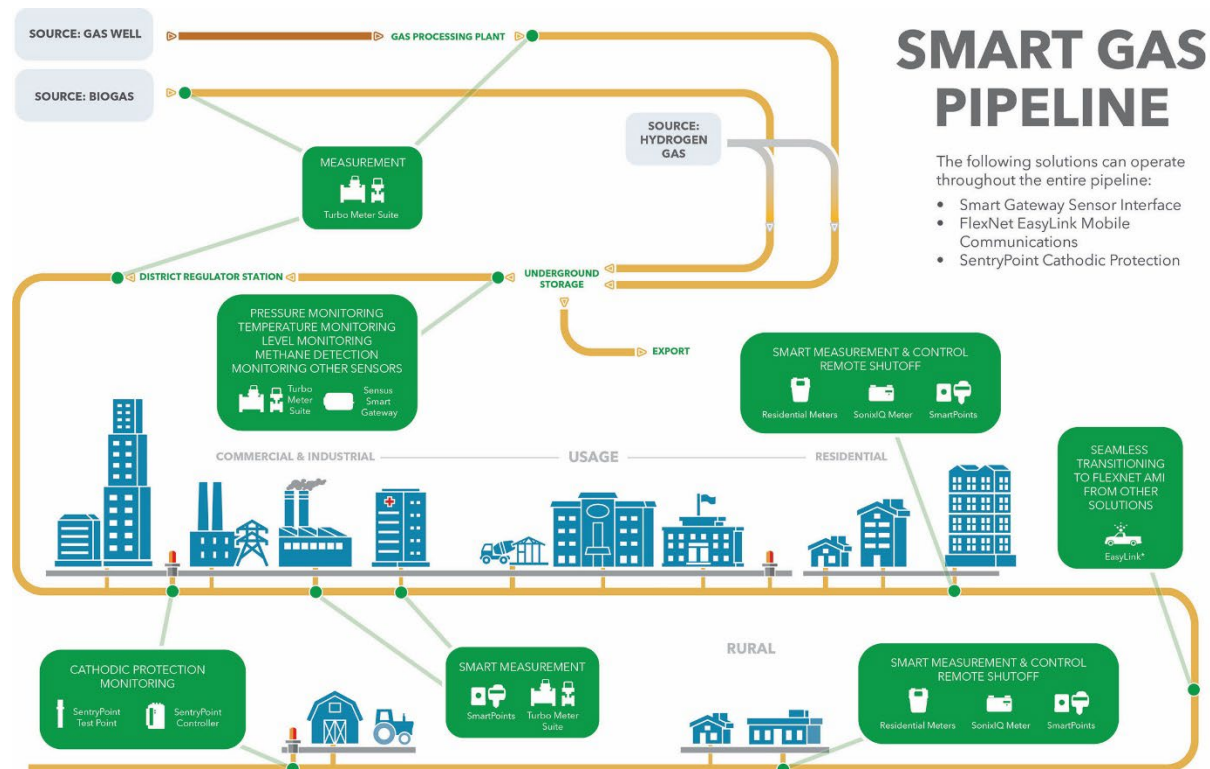
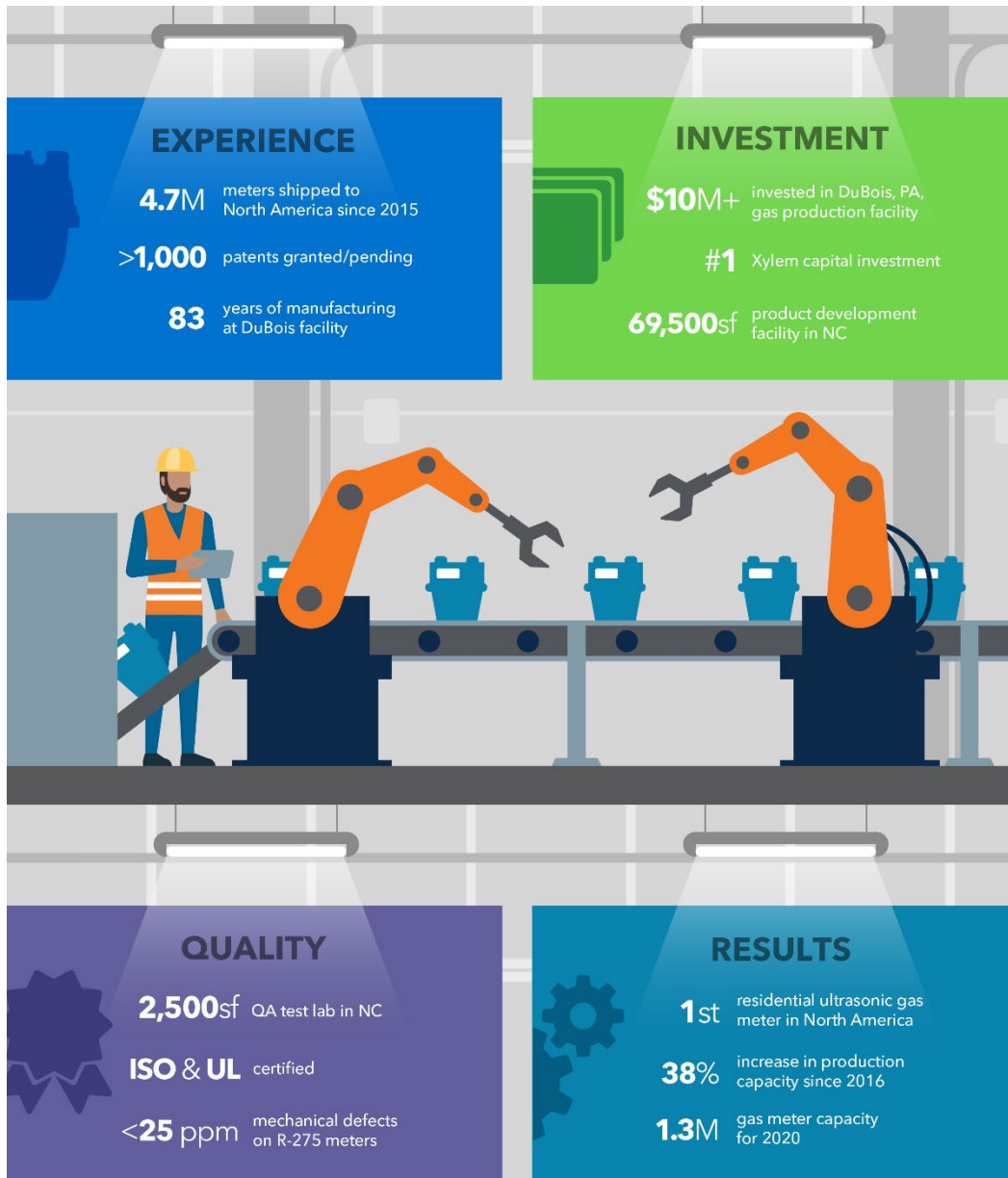


Figure 1: Smart Gas Pipeline

Sensus has been in the gas metering business for more than 100 years, and our advanced metrology – including residential smart gas meters and our industry-leading commercial and industrial gas meters – are trusted to capture more revenue, detect customer leaks, and deliver more accurate billing.

With our continuous innovation in advanced measurement and monitoring technologies, we enable gas utilities to realize additional benefits beyond metering, including remote gas shutoff, pressure and temperature measurement (in areas without a power source), cathodic protection monitoring and control, safety and process monitoring and control, and smart city applications.



THE INTELLIGENT SONIX IQ GAS METER OFFERS CUTTING-EDGE CAPABILITIES

The Sonix IQ is a compact, solid-state gas meter with an integrated FlexNet communication module and an optional remote disconnect valve. The shutoff valve is triggered over the air upon request or autonomously for potentially dangerous service conditions, such as low pressure, high flow rate, or seismic activity. This is a feature that allows operators to alert emergency services and utility staff of a potentially hazardous condition in real time. Sensus recommends reconnecting gas services manually for health and safety purposes once the reported condition has been investigated.



Figure 2: Sonix IQ is the Smallest and Smartest Gas Meter on the Market

SENSUS GAS SMARTPOINT COMMUNICATION MODULE

Sensus has a full product family of SmartPoint communication modules that fit residential, commercial, and industrial-sized gas meters. Our SmartPoint module for residential, commercial, and industrial gas applications connects gas utilities with their customers by mounting directly onto the meters, interfacing with the meter drive assembly, and allowing re-use of the existing meter index.



Figure 3: Sensus Gas SmartPoints (Residential, Commercial, and Industrial)

Features of the gas SmartPoint module include:

- 20-year battery life
- Full two-way communications, enabling reconfiguration and firmware downloads remotely over the FlexNet communication network
- Operates without the need for neighboring electric meters
- Migratable from drive-by to fixed network without a field visit
- Hourly or daily reporting options
- 35 days of onboard hourly interval data storage
- Tilt, tamper, broken pipe, and battery alarms



- Up to 2 watts output power using Sensus' primary-use RF spectrum that we have exclusive rights to use
- Multiple transmit modes for optimum flexibility
- Multiple meter compatibility, including 900GM 3-Port remote mount

The 20-year operating life of Sensus' gas SmartPoint modules is based on adherence to the following characteristics:

- Hourly top-of-the-hour consumption interval reads
- Consumption transmission every 4 hours, with indication, if present, of a latched alarm and, if present, indication of a low battery voltage
- Over-the-air firmware updates – five successful firmware downloads over 20 years
- Immediate transmission of alarms upon detection
- On-demand query response to module interrogation (e.g., on-demand read) – one per month for 20 years

SENSUS ELECTRIC SOLUTION OVERVIEW

Sensus has your electric customers covered: from the most remote customers to the densest populations, the FlexNet communication network provides a private, high-powered system that covers everyone – with less infrastructure required. And with advanced smart meters, such as the Stratus IQ+ meter line, intelligent decisions can be made at the grid edge.

Go beyond billing by harnessing the power of distribution automation (DA), and remotely monitor and control grid assets such as voltage regulators' automated feeder switches, reclosers, and capacitor banks. Our electric solution enables utilities to take advantage of grid edge capabilities such as Conservation Voltage Reduction (CVR), phase detection, and much more.

FLEXNET TRANSCEIVER CAPABILITIES IN ELECTRIC METERS

The transceivers in FlexNet-enabled electric meters provide the following benefits:

- Superior Communication and Coverage
 - Full-duplex communications directly to the FlexNet system.
 - FlexNet transceivers broadcast their messages to all base stations in range, per our 'All Paths Always' network architecture.
- Backward-Compatible and Forward-Looking
 - Electric meters are fully upgradable to support continued FlexNet system improvements releases.
 - FlexNet transceivers for endpoints support deep integration with Sensus and third-party meters.
 - FlexNet transceivers have the ability to communicate (receiving and transmitting) over different RF frequencies, supporting the FlexNet system's ability to assign different message types – like billing messages, alarms, demand response, and DA – to their own RF channels, ensuring each message type does not impact others.

- FlexNet transceivers for electric meters are fully integrated with their respective meters and can retrieve the meter's data and pass it to the FlexNet Head End System software per its program configuration.
- Both the metrology board and the FlexNet transceiver board in FlexNet-enabled electric meters support full over-the-air FlexNet system configuration updates and firmware upgrades.
- Security
 - All FlexNet transceivers in endpoints and base stations fully support AES 256-bit encryption for end-to-end (endpoint to head end software) security.
- Outage Management Capabilities
 - FlexNet transceivers are powered by their onboard supercapacitors for 10 minutes following a permanent outage, enabling four outage alarms to be transmitted to the FlexNet system at randomized times to inform the utility of the location of each meter outage.
- Real-Time Alarms
 - FlexNet transceivers in electric meters can report their position to nearby meters, which supports the ability to find a meter that has been stolen and relocated for use as a second meter to steal power.
 - FlexNet transceivers in endpoints support a wide variety of real-time alarms and diagnostic reporting, acting as the utility's eyes and ears on the distribution lines to keep the team aware of conditions in the field.
 - Tamper reporting is supported. As an example, the Stratus IQ+ meter supports the ability to inform the utility when it has been removed from its meter socket when powered.
- Electric Utility Benefits
 - Sensus' solutions for electric utilities provide a comprehensive package of benefits to make your utility smarter and more efficient.
- Customer Billing Data and Options
 - Implement new rate structures by increased interval data (5-, 10-, 15-, or 60-minute intervals)
 - Third-party Customer Portal integration to provide usage and communication for your customers
 - Remote demand reset
 - Prepayment solution option
 - TOU and real-time pricing rates
 - Customer-preferred day billing
 - Customer consolidated billing option
 - On-request verification reads
 - On-request move-in and move-out reads
 - Vacation home daily power-on checks
- Operations and Engineering Benefits
 - Detect over-voltage and under-voltage issues
 - Substation, bus, and distribution feeder loading and balancing
 - Remote data and control of capacitor banks, reclosers, regulators, switches, pumps, gates, lift stations, and other distribution equipment

- Load control of water heaters, A/C units, pool pumps, irrigation pumps, and others
- Phase identification
- Identify overloaded and under loaded assets – distribution transformers, lateral fuses, reclosers, substation breakers, and transformers
- Gather information that allows for predictive maintenance and repairs before outages
- Improved tree trimming using voltage blink information
- Locate outages faster to get your customer's lights back on faster (Faulted Circuit Indicators (FCIs))
- Improved system power factor

SOFTWARE

Regional Network Interface (RNI) – Head End Software

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.

Sensus Analytics – Meter Data Management (MDM) Platform

Utilities know that collecting the right information from meters and sensors is the best way to optimize a system and make the most of every investment. But the data itself does not tell the whole story. The process of sorting through this data – the analytics – reveals relevant, actionable insights to help improve everything from operations to customer service. Sensus Analytics provides the functionality needed to do just that. Sensus' suite of applications provides user-friendly dashboards that help utilities make informed decisions quickly and confidently. The powerful data management tools aggregate information from all across the FlexNet system. A secure connection to the cloud delivers these intuitive apps right to a user's desktop, tablet, or smartphone. With intuitive applications that are quick to implement and easy to use, users can rely less on internal IT resources. Role-based access allows service providers to share information across the organization for improved productivity, operational efficiency, and customer satisfaction.

AMI INFRASTRUCTURE: BaseStations	Quantity	Each	Extended
M420 Base Station (includes antenna)	3	\$ 38,000.00	\$ 114,000.00
M420 Installation	3	\$ 50,000.00	\$ 150,000.00
Cellular backhaul modems	3	\$ 1,000.00	\$ 3,000.00
			\$ 267,000.00

NEW ELECTRIC METERS	Meter ANSI Form	Quantity	Each	Extended
Stratus IQ 2S-RD (includes Radio Module)	Single phase with remote disconnect. Extended warranty included (5 year total)	6,800	\$ 216.66	\$ 1,473,288.00
Aclara KV2C (includes Radio Module)	Polyphase meters all forms (extended warranty included, 5 year total) Includes reactive and power quality switches	300	\$ 626.73	\$ 188,019.00
		7,100		\$ 1,661,307.00

NEW WATER SMARTPOINT RADIOS	Meter Size and Type	Quantity	Each	Extended
Smartpoint - 510M TouchCouple Single Port		5,800	\$ 155.00	\$ 899,000.00
		5,800		\$ 899,000.00

NEW NATURAL GAS INDEX	Meter Size and Type	Quantity	Each	Extended
Sensus FlexNet Gas Index	Residential Gas Meter Index to retrofit existing	4,500	\$ 130.00	\$ 585,000.00
		4,500		\$ 585,000.00

TRAINING, DOCUMENTATION, and PROJECT MANAGEMENT	Quantity	Each	Extended
Field Hardware and Software Training	1	\$ 4,000.00	\$ 4,000.00
Project Management	1	\$ 25,000.00	\$ 25,000.00
Integration fees from Caselle (if applicable) are not included by C&M	0	\$ -	\$ -
			\$ 29,000.00

TEST EQUIPMENT, TOOLS, SHIPPING, MISC.	Description	Quantity	Each	Extended
Hand Held Package (Command Link w/ Android tablet)	Field tools and software for meter installation and programming	4	900	\$ 3,600.00
FMT	Field tools and software for meter installation and programming	2	450	\$ 900.00
UniPro	Field tools and software for meter installation and programming	2	350	\$ 700.00
				\$ 5,200.00

ANNUAL SYSTEM COSTS	Quantity	Each	Extended
Annual Sensus SaaS & SA fees for Year 1 (will increase by 3% annually)	1	\$ 79,000.00	\$ 79,000.00
			\$ 79,000.00

Year 1 SaaS Setup	Quantity	Each	Extended
Sensus Regional Network Interface (RNI) Head End Software	1	\$ 8,000.00	8,000.00
Sensus Analytics Setup	1	\$ 5,700.00	5,700.00
Billing Integration Fee to Caselle	1	\$ 8,000.00	8,000.00
			21,700.00

TOTAL \$ 3,547,207.00