AFFIDAVIT

The undersigned, James G. Robinson Jr, under oath states as follows:

1. I, James Robinson, am over the age of 18 and of sound mind. I have personal knowledge of the facts set forth in this affidavit. I could competently testify to the facts set forth herein if called to do so in court or at an evidentiary hearing.

2. I am familiar with the Complainant's complaint and the facts surrounding the dispute.

3. I have been an employee of North Shore Gas and The Peoples Gas Light and Coke Company for 39 years.

4. I am, and at all relevant times have been, employed by North Shore Gas Company, an Illinois corporation ("North Shore Gas" or "Company") as Director of Metering and Gas Measurement.

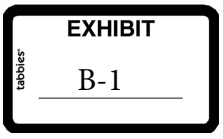
5. North Shore Gas has authorized me to direct and oversee the installation of new encoder receiver transmitters ("ERTs"), a type of automated meter reading ("AMR") device, on customers' existing meters in the North Shore Gas service territory.

6. I am familiar with AMR technology and North Shore Gas' policies and procedures related to the Company's use of Commission-approved ERT devices as part of my job as the Director of Metering and Gas Measurement and through the implementation and oversight of the ERT deployment in the North Shore Gas service territory.

7. Similarly, as part of my job requirement as the Director of Metering and Gas Measurement, I am familiar with the rules and regulations of the Illinois Commerce Commission ("Commission") related to AMR technology and Federal Communication Commission ("FCC") safety standards as related to Commission-approved ERT devices.

8. Historically, meters were read individually by North Shore Gas employees. However, since the size of the North Shore Gas service territory is extensive, meters were often read every other month, resulting in estimated bills on the months the meters were not actually read.

9. "Actual Reading" means a direct meter reading taken by utility personnel or a meter service provider at the customer's location or by use of a remote reading device. AMR technology is used to ensure customer meters are actually read every month.



10. AMR devices transmit encrypted gas consumption data from the meter to the North Shore Gas network. Because the device transmits information automatically, a single truck can receive a large area's worth of readings at once by driving down a single street, providing an environmentally friendly reduction in emissions and carbon footprint.

11. All Commission-approved ERTs installed have been stringently evaluated for radio frequency ("RF") safety and meet all FCC standards. Moreover, ERT devices transmit for very short intervals spread throughout the day. This results in RF exposure levels that are a fraction of the limits specified by the FCC.

12. The device in question is an OpenWay Riva 500G ERT Module.[1] I, like other professionals in my field, am familiar with these devices and rely on the information provided in the technology specifications by the manufacturer for these Commission-approved ERT devices.

13. As installed, this device will operate on traditional AMR technology. The OpenWay Riva 500G ERT Module is capable of utilizing some of the functions associated with Advanced Metering Infrastructure ("AMI") technology, such as providing interval meter data to the Company, if programed to do so.

14. The OpenWay Riva 500G ERT Module does not allow for remote disconnection of gas service and it does not allow the Company to regulate usage or charge more for gas service when demand is higher than average.

15. The OpenWay Riva 500G ERT Module is not a "5G" meter, does not utilize cellular technology, and cannot be connected to a "5G" cellular network in the future.

16. Additionally, the meters do not currently operate on the "1G" network. Again, this is a cellular based technology that is referenced, and the current AMR devices do not utilize use this technology.

17. The OpenWay Riva 500G ERT Module is approved for use under the Public Utilities Act and by the Illinois Commerce Commission's ("Commission") rules and regulations.

18. The ERT meter reading devices to be installed on all customer meters in the North Shore Gas service territory have been proven safe, reliable, unobtrusive, and have been in use by other utilities around the nation for over 20 years.

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[1] It is important to note that the "G" in the name of the OpenWay Riva 500G ERT Module product produced by Itron stands for "gas" and is no way related to "5G" cellular technology which is 5th Generation wireless phone technology. For example, Itron makes a similar product for use on a water meter that is titled "OpenWay Riva 500W ERT Module".

19. Specifically, the OpenWay Riva 500G ERT Module has been in use in Chicago in The Peoples Gas Light and Coke's service territory since 2011 and has been operating in basements and sub-basements in that service area as well.

20. The signal strength of every ERT meter reading device used by North Shore Gas and The Peoples Gas Light and Coke Company is the same, and within approved, safe levels, regardless if the device is installed outdoors or indoors below grade.

21. The North Shore Gas ERT deployment, including deployment of the OpenWay Riva 500G ERT Module, began in 2018 as a result of Commission-approved tariffs and rules and regulations.

Further affiant sayeth not.

James G. Robinson Jr.

James G. Robinson Jr.

Subscribed and sworn to before me
this 17th day of January, 2020.

Agatha M Szewczyk
Notary Public

"OFFICIAL SEAL"
AGATHA M SZEWCZYK
NOTARY PUBLIC, STATE OF ILLINOIS
MY COMMISSION EXPIRES 2/23/2023



OpenWay® Riva 500G ERT® Module

The OpenWay® Riva 500G ERT® module is an IPv6 open standards based gas module that offers the most flexibility in RF reading options of any Itron gas module. It is designed to be read under Itron's OpenWay Riva multi-purpose Internet of Things (IoT) network or by legacy ChoiceConnect handheld, mobile and fixed network readers. With new features for OpenWay Riva Network operation like firmware download, high flow alarm, sub hourly interval data, ability to hop to a neighboring module for hard to read applications, extended data storage, Itron's OpenWay Riva 500G ERT module offers additional value while continuing to offer the highest in reliability, accuracy, battery life, security standards and intrinsic safety that you have come to expect from the industry leader in gas modules.

The OpenWay Riva 500G ERT module is built on the legacy 100G platform, leveraging the same proven mechanical housings and counting mechanism which boasts an accuracy of 99.999 percent between the index read and ERT read—an unprecedented benchmark in Advanced Metering Infrastructure (AMI) and Automated Meter Reading (AMR). The module also achieves the industry's highest UL rating for intrinsic safety. The OpenWay Riva 500G ERT module brings together the best of the old with the best of the new in a two-way communications module. When programmed to OpenWay Riva Network mode, it uses an IPv6 open standards based protocol and can be read by Itron's point-to-point star network for gas areas or by Itron's OpenWay Riva Electricity Meter mesh network for areas where gas and electric overlap. Alternatively, OpenWay Riva 500G ERT modules can be programmed to 100 series mode where they operate identical to the 100G DLS Datalogging ERT module and can be read by legacy ChoiceConnect handheld, mobile and network readers, leveraging existing reader investments. This allows utilities the flexibility of intermixing 500G modules with existing ERT populations while setting the foundation for less network reading infrastructure in the future and the ability to connect you to the Internet of Things.

Battery life, the traditional hurdle to IPv6 non-electric networks is a full 20 year life, regardless of being read by star or mesh network.

SPECIFICATIONS

IoT FEATURES

- IPv6 open standards based for reading flexibility
- Downloadable firmware assures future proofing and latest features without replacing the module
- Programmable interval data from 1 minute to 1 hour for increased granularity to support investigations, and load studies along with meter right sizing support (any interval length evenly divisible by 60 minutes)
- Continually stores and updates the last 3,840 intervals of data (160 days of hourly data or 40 days of 15 minute data etc) which can be read by the network or programming device
- AES 256 enhanced security with authentication of command and encryption of communications data
- Narrow band and fewer transmissions for improved RF range
- Refer to 100G DLS spec sheet for 100 series mode features

Features

- Operates in bubble-up mode and does not require a license from the Federal Communications Commission (FCC) or Industry Canada (IC)
- Designed for a 20-year battery life regardless of data collection solution to ensure low operating and maintenance costs
- Module design makes installation fast and easy, especially when gas is flowing through the meter
- Made in the USA at Itron's facility in Waseca, Minnesota

Residential Meters

Itron provides the most extensive line of direct mount OpenWay Riva 500G ERT modules for use with residential diaphragm gas meters. Capacities range from 75 to 630 CFH for popular models from Honeywell/Elster American Meter, Sensus/Invensys/Equimeter/

Rockwell, Itron/Actaris/Schlumberger/ Sprague and National/Lancaster. Direct mount modules are also available for older Sprague 1A and Sprague 175RM meters. The compact design and direct engagement with the meter drive assure the unparalleled accuracy that makes Itron gas ERT modules the industry standard. A remote mount module is available for some less common meter types where a direct mount solution is not available.



Itron I-250



Sensus/Rockwell R275



Elster American AC250



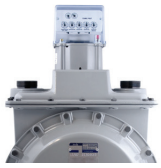
National 250

Commercial Meters

Itron also provides direct mount OpenWay Riva 500G ERT modules for use with the following commercial diaphragm meters: Honeywell/Elster American Meter, Itron/ Actaris/

Schlumberger and Sensus/Invensys/ Equimeter/Rockwell. The unobtrusive profile is easy-to-install and the direct meter drive engagement assures the highest level of accuracy. Built-in passive radiators are standard on all commercial, direct mount 500G modules.

Honeywell/Elster American Meter, and Itron/Actaris/Schlumberger commercial diaphragm meters with top-mount instrument drives utilize the same version commercial direct mount module. For Honeywell/Elster American Meter commercial diaphragm meters, the ERT mounts directly to the meter. For Itron/ Actaris/Schlumberger meters, an adapter kit must be purchased. A remote mount module is available for some less common meter types where a direct mount solution is not available.



Itron 1000A



Sensus/Rockwell 750



Elster American AL 800

Rotary Meters

Itron has several solutions for interfacing with rotary gas meters. For GE/Dresser LMMA, B3, and Romet rotary meters with Dresser or Romet supplied AMI/ AMR adapter, Itron offers the American residential 500G. For GE/Dresser rotary meters with Instrument Drive (ID), Itron offers the direct mount ERT designed for American commercial diaphragm meters. For GE/Dresser, Romet and Honeywell/ Elster American Meter rotary meters with pulse output (version 17 or higher required for Dresser) and a military connector pin, Itron offers the remote mount 500G.



Dresser B3 with Direct mount



Dresser LMMA with Remote ERT



Romet with Direct Mount

Correctors

Itron offers a remote mount 500G for Honeywell/Mercury Instruments EC-AT, Mini-P, Mini-AT, Mini-Max and TCI electronic correctors. The ERT can be connected to these devices for temperature- and/or pressure-corrected consumption (Form A board required). The ERT attaches easily to the Mercury corrector circuit board through the terminal strip connector already installed on Mercury units (module to TCI is wired). Itron offers a remote mount 500G for Dresser Micro Correctors (IMC/W, MC2), Eagle (MPplus, XARTU-1) and Romet AdEM. For Mercury, Dresser, Eagle and Romet, one 500G module can be used for uncorrected consumption and a second module can be used for corrected consumption.



Mercury Mini-AT



Dresser IMC



Eagle MPplus



Romet AdEM

Functional Specifications

- Power source:
  - Direct mount module: Two “A” cell lithium batteries
  - Remote-mount module: Four “A” cell lithium batteries
- Radio programming parameters: Utility ID, index reading, count rate, index rollover, pressure compensation, security level, datalogging interval (OpenWay Riva Network mode only), output power & bubble-up rate (100G DLS only)
- Tamper detection:
  - Direct mount module: mercury-free tilt tamper and magnetic tamper
  - Remote mount module: mercury-free tilt tamper and cut cable
- Battery Counter Indicator
- Operating temperature: -40°F to +158°F (-40°C to +70°C)
- Operating humidity: 5 to 95% non-condensing relative humidity
- 500G modules can be installed indoors or outdoors above grade
- Product identification: Numeric and bar-coded module type and up to 10 digit serial number

Datalogging Data

- OpenWay Riva Network Mode
  - 3,840 buckets of interval data configurable from 1 minute to 1 hour (i.e. 160 days of hourly data or 40 days of 15 minute data)
  - Interval options are 1-6, 10, 12, 15, 20, 30 or 60 minutes
- 100G DLS Mode
  - 960 buckets of hourly interval data (i.e. 40 days of hourly data)

Programming Mode Options

- OpenWay Riva Network Mode should be chosen when being read by OpenWay Riva. Output power is +27 dBm (500 milliwatts) and designed to transmit 3 times a day with a 20-year battery life.
- 100G DLS Mode should be chosen when being read by legacy ChoiceConnect readers – refer to 100G DLS spec sheet for specific programming options.

Programming Device

- FC300SR: All models along with FDM v4.0.1 or higher
- IMR with FDM v4.0.1 or higher

Reading Devices

- OpenWay Riva Network Mode
  - OpeWay Riva Electricity Meter for mesh network reading
  - Cisco Connected Grid Router (CGR) for point-to-point star network reading
- 100G DLS Mode
  - Refer to 100G DLS spec sheet for approved hardware reading options
  - FCS v3.0 or higher when using basic security
  - FCS v4.0.3 (coming soon) when using enhanced security; this includes switching from mobile to OpenWay Riva Network Mode
  - MV-RS v8.7 or higher

Reading Applications

- OpenWay Riva Network Mode
  - OpenWay Operations Center (OWOC) or Collection Manager

Battery Life and Design Life

- 500G allows for replaceable “A” cell lithium batteries
- Network and mobile modes support a 20-year battery life (20+ years for remotes) for hourly interval data
- All 500G modules are designed for a 20-year total life

Regulatory & Standards

- FCC compliance: Part 15.247 and Part 15.249 (programming) certified
- FCC ID XXX, Industry Canada XXX; Measurement Canada pending
- Safety approvals: Intrinsically safe per UL Class I, Division 1, Group D

Operational

- All 500G modules operate without the need for an FCC or IC license
- Frequency Range: Frequency-Hopping Spread Spectrum 903 to 926.85 MHz in the ISM band
- Program frequency: 908 MHz
- Data integrity: Verified in every message

Physical

All 500G modules have encapsulated electronics for protection against environmental hazards and tampering. All 500G module housings are made of gray polycarbonate. For direct mount residential ERT modules, the gasket material is molded Sevrene™ and the index cover material is clear polycarbonate.

Meter Compatibility

Refer to Gas & Telemetry Module Compatibility List (PUB-0117-002) for detailed information on gas meter compatibility.

Additional Information

- OpenWay Riva 500G ERT Module Installation Guide: Direct Mount (TDC-1671)
- OpenWay Riva 500G ERT Module Installation Guide: Remote Mount (TDC-1678)
- Gas & Telemetry Module Ordering Guide (PUB-0117-001)
- Field Deployment Manager Endpoint Tools Mobile Application Guide (TDC-0934)
- Field Deployment Manager Endpoint Tools Configuration Guide (TDC-0935)
- Field Deployment Manager Endpoint Checklist

Physical (width x height x depth)

	Elster American	Sensus/Rockwell	Itron/Sprague	National	All
Residential	5.54” x 3.57” x 3.1”	4.3” x 3.8” x 2.9”	6” x 4.1” x 3.9”	6” x 3.3” x 3.9”	
Commercial	5.16” x 2.42” x 5.16”	5.38” x 4” x 2.5”	5.16” x 2.42” x 5.16”		
Remote					4.9” x 3.6” x 2.5”

Shipping Information

	Modules Per Box	Box Dimensions	Box Weight	Modules Per Pallet*	Pallet Dimensions	Pallet Weight
Residential Direct-Mount						
Elster American	10	20" x 11.75" x 4.25"	9.2 lbs / 4.2 kg	800	40" x 48" x 48” H	786 lbs / 357 kg
Sensus/Rockwell	10	20" x 11.75" x 4.25"	8.1 lbs / 3.7 kg	800	40" x 48" x 48” H	698 lbs / 317 kg
Itron/Sprague	10	21" x 12.625" x 4.25"	10 lbs / 4.5 kg	600	40" x 48" x 50” H	650 lbs / 295 kg
National	10	21" x 12.625" x 4.25"	10.8 lbs / 4.9 kg	600	40" x 48" x 50” H	698 lbs / 317 kg
Itron/Sprague 175 RM	10	22.625" x 11.25" x 4.75"	10.3 lbs / 4.7 kg	600	40" x 48" x 50” H	668 lbs / 304 kg
Commercial Direct-Mount						
Elster American & Itron	5	20" x 11.75" x 4"	7.5 lbs / 3.4 kg	300	40" x 48" x 52.5" H	501 lbs / 228 kg
Sensus/Rockwell	5	20" x 11.75" x 4"	7.7 lbs / 3.5 kg	300	40" x 48" x 52.5" H	510 lbs / 232 kg
Remotes	20	23" x 15.8" x 6.5"	23.7 lbs / 10.8 kg	500	40" x 48" x 37.5" H	643 lbs / 292 kg

* Modules are not stacked when shipped but can be stored two pallets high. Modules are to be stored indoors. If outdoor storage is necessary, modules must be sheltered from weather and damage.

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