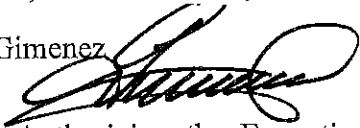


# Memorandum



**Date:** January 20, 2016

**To:** Honorable Chairman Jean Monestime  
and Members, Board of County Commissioners

**From:** Carlos A. Gimenez  
Mayor 

**Subject:** Resolution Authorizing the Execution of an Automatic Meter Reading Antenna Installation and Access Agreement between Miami-Dade County and the City of North Miami Beach

Agenda Item No. 8(0)(1)

## Recommendation

It is recommended that the Board of County Commissioners (Board) approve the attached resolution authorizing the County Mayor or County Mayor's designee to execute an Automated Meter Reading Antenna Installation and Access Agreement (Agreement) between the County and the City of North Miami Beach with a contract term of five (5) years, and three (3) five-year renewal option periods.

## Scope

The Agreement authorizes the installation of automated meter reading equipment in the water service area of the City of North Miami Beach located in Commission District 4, which is represented by Commissioner Sally Heyman.

## Fiscal Impact/Funding Source

The approval of this resolution will have a positive fiscal impact to the County. The City of North Miami Beach will pay a rental rate to the County of \$540.00 per year, payable in 12 equal monthly installments of \$45.00.

## Track Record/Monitor

Miami-Dade Water and Sewer Department's (WASD) Assistant Director of Water, Luis Aguiar, will oversee the implementation of this Agreement.

## Background

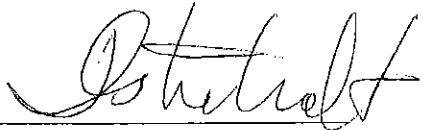
The Department provides wholesale sewage disposal services to the City of North Miami Beach and operates and maintains the sewer collection and disposal system. The City of North Miami Beach owns and operates a water treatment plant and subsequently provides water service to its customers in the City's water service area.

The City of North Miami Beach is looking to replace outdated water meters installed throughout the City's water service area with a new, state-of-the-art wireless system to collect, store and transmit water consumption data to the City. In that regard, the City of North Miami Beach has requested that the County allow the City to install and maintain an Automated Meter Reading Collector/Repeater Antennas System at 11 WASD pump station sites installed throughout the City to enable the City to collect meter reading data and transmit that data over a low-frequency radio signal. The City will be responsible for all costs and expenses related to the operation, maintenance, repair, connection/disconnection, replacement and/or removal of the equipment. The County will not incur any expenses.

Honorable Chairman Jean Monestime  
and Members, Board of County Commissioners

Page 2

The terms and conditions of the Agreement gives the County the right to enter and inspect the premises where the City of North Miami Beach installs their equipment at any time to ensure compliance with WASH standards, and the right for either party to cancel the Agreement with or without cause with 30 days written notice.



Jack Osterholt, Deputy Mayor

2



# MEMORANDUM

(Revised)

**TO:** Honorable Chairman Jean Monestime  
and Members, Board of County Commissioners

**DATE:** January 20, 2016

**FROM:** Abigail Price-Williams  
County Attorney

**SUBJECT:** Agenda Item No. 8(0)(1)

Please note any items checked.

- "3-Day Rule" for committees applicable if raised
- 6 weeks required between first reading and public hearing
- 4 weeks notification to municipal officials required prior to public hearing
- Decreases revenues or increases expenditures without balancing budget
- Budget required
- Statement of fiscal impact required
- Statement of social equity required
- Ordinance creating a new board requires detailed County Mayor's report for public hearing
- No committee review
- Applicable legislation requires more than a majority vote (i.e., 2/3's \_\_\_\_, 3/5's \_\_\_\_, unanimous \_\_\_\_ ) to approve
- Current information regarding funding source, index code and available balance, and available capacity (if debt is contemplated) required

Approved \_\_\_\_\_ Mayor  
Veto \_\_\_\_\_  
Override \_\_\_\_\_

Agenda Item No. 8(0)(1)  
1-20-16

RESOLUTION NO. \_\_\_\_\_

RESOLUTION APPROVING AUTOMATIC METER READING ANTENNA INSTALLATION AND ACCESS AGREEMENT BETWEEN MIAMI-DADE COUNTY AND THE CITY OF NORTH MIAMI BEACH WITH AN INITIAL CONTRACT TERM OF FIVE YEARS AND THREE FIVE-YEAR RENEWAL OPTION PERIODS; AND AUTHORIZING THE COUNTY MAYOR OR COUNTY MAYOR'S DESIGNEE TO EXECUTE SAME AND TO EXERCISE THE PROVISIONS CONTAINED THEREIN

**WHEREAS**, this Board desires to accomplish the purposes outlined in the accompanying memorandum, a copy of which is incorporated herein by reference,

**NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF MIAMI-DADE COUNTY, FLORIDA**, that this Board hereby approves an Automatic Meter Reading Antenna Installation and Access Agreement with the City of North Miami Beach with an initial contract term of five (5) years and three (3) five-year renewal option periods, in substantially the form attached hereto and made a part hereof; and authorizes the County Mayor or County Mayor's designee to execute same for and on behalf of Miami-Dade County, Florida and to exercise the provisions contained therein.

The foregoing resolution was offered by Commissioner \_\_\_\_\_ who moved its adoption. The motion was seconded by Commissioner \_\_\_\_\_ and upon being put to a vote, the vote was as follows:

Jean Monestime, Chairman

Esteban L. Bovo, Jr., Vice Chairman

Bruno A. Barreiro

Jose "Pepe" Diaz

Sally A. Heyman

Dennis C. Moss

Sen. Javier D. Souto

Juan C. Zapata

Daniella Levine Cava

Audrey M. Edmonson

Barbara J. Jordan

Rebeca Sosa

Xavier L. Suarez

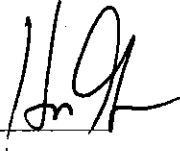
The Chairperson thereupon declared the resolution duly passed and adopted this 20<sup>th</sup> day of January, 2016. This resolution shall become effective upon the earlier of (1) 10 days after the date of its adoption unless vetoed by the County Mayor, and if vetoed, shall become effective only upon an override by this Board, or (2) approval by the County Mayor of this Resolution and the filing of this approval with the Clerk of the Board.

MIAMI-DADE COUNTY, FLORIDA  
BY ITS BOARD OF  
COUNTY COMMISSIONERS

HARVEY RUVIN, CLERK

By: \_\_\_\_\_  
Deputy Clerk

Approved by County Attorney as  
to form and legal sufficiency.



Henry N. Gillman

**AUTOMATED METER READING ANTENNA INSTALLATION AND ACCESS AGREEMENT  
BETWEEN THE CITY OF NORTH MIAMI BEACH AND MIAMI-DADE COUNTY**

This Automated Meter Reading (AMR) Antenna Installation and Access Agreement (this "Agreement") is made effective as of the \_\_\_\_\_ day of \_\_\_\_\_, 2015, ("Effective Date") by and between The City of North Miami Beach, a municipal corporation of the State of Florida hereinafter referred to as "City," and Miami-Dade County, a political subdivision of the State of Florida, hereinafter referred to as the "County," (collectively, the "Parties")

**WHEREAS**, the City desires to replace existing water meters with new, state of the art Automated Meter Reading ("AMR Equipment" or "Equipment") meters in the City's water service area; and

**WHEREAS**, the new AMR meters will collect water consumption information wirelessly over a secure radio frequency by the City's water utility; and

**WHEREAS**, the County, through its Miami-Dade Water and Sewer Department ("Department"), owns and operates wastewater pump stations at the following locations (the "Premises"):

<b>Pump Station Locations</b>	<b>Pump Station Number</b>
502 Golden Beach Drive, Golden Beach, Florida 33160	491
399 Center Island, Golden Beach, Florida 33160	494
19550 Collins Avenue, Sunny Isles Beach, Florida 33160	315
275 Navona Avenue, Golden Beach, Florida 33160	493
18022 N.E. 31 Court, North Miami Beach, Florida 33160	472
18419 N.E. 28 Court, Miami, Florida 33180	470
202 S. Island Drive, Golden Beach, Florida 33160	492
300 Golden Beach Drive, Golden Beach, Florida 33160	495
350 Kings Point Drive, Sunny Isles Beach, Florida 33160	317
18868 N.E. 29 Avenue, Miami, Florida 33180	1321
3101 North Country Club Drive, Miami, Florida 33180	321

**WHEREAS**, the City desires to install AMR Collector/Repeater antennas on the pump stations mast at the above locations in order to accomplish this objective; and

**WHEREAS**, the County has agreed to allow the City to install said antennas at the County's facilities under the conditions described herein;

NOW, THEREFORE, in consideration of the mutual covenants and agreements contained herein, the Parties hereto agree as follows:

1. COMPLIANCE WITH THE LAW: The City and its Contractor shall observe, obey and comply with all laws, rules, and regulations of all governmental authorities having jurisdiction in and around the Premises which may pertain to this Agreement, including but not limited to:
  - a) Rules and Regulations of the Miami-Dade Water and Sewer Department and Chapter Thirty-Two (32) of the Miami-Dade Code
  - b) Environmental Regulations, as applicable to this Agreement
  - c) Florida Building Code (FBC), as applicable to this Agreement
  - d) Federal Communications Commission (FCC)
  - e) Occupational Safety and Health Administration (OSHA)

The City shall permit inspectors or other authorized representatives of the County, State, and Federal agencies to make inspections for the purpose of determining compliance, as reflected in this provision.

2. USE OF PREMISES: The City and its Contractor shall use the Premises solely for the purpose of erecting or installing and operating fixed network collector antennas and supporting equipment at certain mast space at pump station locations listed above for transmitting water consumption information.
3. TERMINATION: Either Party may terminate this Agreement with or without cause at any time for convenience upon thirty (30) days written notice to the other party. In the event the City terminates this Agreement, the City shall reimburse the County for all outstanding costs incurred by the County up to and including costs incurred during the thirty (30) days notification period. Any personal property, equipment, apparatus, fittings, fixtures, trade fixtures, or other improvements installed or stored by the City on the Premises must be removed upon the termination of the Agreement at the City's sole cost and expense.
4. DURATION OF AGREEMENT: The term of the Agreement will be for a five (5) year period, commencing on the effective date, with three (3) additional five (5) year renewal option periods upon the same terms and conditions, by the City giving the County notice in writing thirty (30) days prior to the expiration of the Agreement or any extension thereof.
5. RENTAL RATE: The City shall pay to the County the annual rental amount of \$540.00 plus applicable sales tax, payable in twelve (12) equal monthly installments of \$45.00, on the first of the month, plus applicable sales tax, payable in advance to the Water and Sewer Department, c/o Controller Office, 3071 S.W. 38 Avenue, Suite 403, Miami, Florida 33146, or at such other place and to such other person as the County may from time-to-time designate in writing. The County reserves the right to revise the annual rental rate from time-to-time depending on utility rates established by Florida Power and Light; and including but not limited to, any percentage increase in the Consumer Price Index, as published by the United States Department of Labor, Bureau of Labor Statistics. The County will give the City thirty (30) days notice of any change in the rental rate.

6. PAYMENT GUARANTEE: Prior to the use of the Premises, the City will furnish to the County a Payment Guarantee for the rental of the space equivalent to one (1) years rent to be renewed each year for the term of the Agreement. Rental rate includes electric, maintenance, grounds, housekeeping, and inspections.
7. NON-PAYMENT: In the event the City disputes a bill, the City will provide the County with notice of the reasons for non-payment within thirty (30) days of receipt of the bill and will escrow such portion of the bill that is disputed in an interest bearing account. All past due invoices may be subject to a late charge, as established by the County, such charge to reimburse the County for costs in processing and otherwise administering late payments.
8. FORCE MAJEURE: Neither the County nor the City shall be liable for any consequences caused by force majeure, inevitable accident or occurrence or cause beyond the reasonable control of the County or City, and such an act shall not constitute a breach of this Agreement on the part of the County or the City. Additionally, neither the County nor the City shall be liable to the entity, its agents, its inhabitants or its customers for any damage resulting from such act or its consequences. As used herein, force majeure shall mean an act of God, which includes but is not limited to: sudden, unexpected or extraordinary forces of nature such as floods, washouts, storms hurricanes, landslides, epidemics, explosions or other forces of nature. Inevitable accidents or occurrences shall mean those which are unpreventable by the County or the City and shall include but is not limited to: strikes, lockouts, other industrial disturbances, wars, blockages, acts of terrorism, insurrections, riots, federal, state, county and local governmental restrictions, regulations and retrains, military action, civil disturbances, explosions, and conditions in federal, state, county and local permits.
9. ACCESS TO PREMISES: The County hereby grants to the City and its Contractor a right of entry to use certain mast space at the Premises in order to construct, install, own, operate, maintain, repair, disconnect, replace and remove certain Itron CCU100/REPEATER100 fixed network collector antennas equipment during reasonable working hours as more fully described in Exhibit "A" attached hereto and incorporated herein by reference. The City shall provide the County with five (5) days written notice to enter the Premises to perform work on the antennas.
10. EMPLOYEES ARE THE RESPONSIBILITY OF THE CITY: All employees of the City and its Contractor shall be considered to be, at all times, employees of the City and its Contractor, respectively, under their sole direction and not employees or agents of the County. The City and its Contractor shall supply competent employees. Miami-Dade County may require the City and its Contractor to remove an employee it deems careless, incompetent, insubordinate or otherwise objectionable and whose continued employment on County property is not in the best interest of the County. Each employee shall have and wear proper identification. Neither the City, its Contractor nor their employees have the power to bind the County in any promise, agreement or representation other than specifically provided for in this Agreement.
11. RIGHT OF ENTRY: The County and any of its agents, authorized by the Director, have the right to enter said Premises at any time for any purpose relating to the operations, maintenance, and alteration or repair of the pump stations including any and all underground and above ground utility facilities located on the Premises.



12. CONDITION OF PREMISES: The City hereby accepts the Premises in "as is" condition as such Premises exists at the beginning of the Agreement. The City acknowledges that the Premises contain underground and above ground utility facilities. The County shall have access to the Premises in order to access the underground and above ground utility facilities for maintenance, repair or alteration. The City shall be responsible for and shall repair any damage caused to the Premises as a result of the City's use of the Premises, ordinary wear and tear expected. The County shall notify the City after discovering any damage which the City is responsible for repairing. The City shall have thirty (30) days to complete the repairs unless an extension is given by the County in writing.

13. EQUIPMENT AND INSTALLATION: The City and its Contractor shall be solely responsible for all costs and expenses related to the operation, maintenance, repair, connection/disconnection, replacement and/or removal of the Equipment. The County shall not be held responsible for any damage, claims, and/or losses of any nature to such Equipment. All property placed or moved in the Premises shall be at risk of the City. The County shall not be liable to the City or third party for any damage to said property unless solely caused by or due to the negligence of the County.

The Equipment installed by the City and its Contractor shall be and remain the property of the City unless the City and/or its Contractor fails to operate the Premises in accordance with the approved use. The City and/or its Contractor agree to maintain the Equipment in good working order at all times and at no cost to the County. The City and its Contractor shall install the Equipment in the manner and to the extent necessary or appropriate to enable the City to provide the collection and transmission of water consumption information wirelessly over a secure radio frequency by the water utility provider, as herein provided. The Equipment shall be installed in accordance with good engineering practices.

The City and its Contractor shall use its best efforts to install all of its Equipment in a manner so as to be reasonably inaccessible to unauthorized persons and to pose no threat or hazard to life, safety or property with respect to persons and property on or about the Premises.

The City and its Contractor shall ensure the Equipment is installed a minimum of three (3) feet from other equipment on the Premises.

If existing antenna masts from the pump stations need upgrade or improvement, the City shall complete the task per the County's standard after the County's approval, and at no cost to the County.

The installation and operation of any temporary and permanent antenna(s) and support equipment shall in no way adversely impact any equipment or facilities on the Premises. In the event of any interference to any equipment or facilities on the Premises, the City shall be required to relocate the Equipment at its sole cost and expense upon five (5) days written notice from the County.

14. UTILITIES: Electric power to operate the City's Equipment at the Premises shall be furnished by the County at no cost to the City. However, the County does not guarantee that power will be supplied to the Equipment in the event of failure of electric power at the Premises. Under no circumstances shall the County be liable

to the City for any damages claimed due to loss of electric power necessary to operate the Equipment.

15. ADJUSTMENTS FOR UNUSUALLY HIGH ELECTRIC BILL: The County reserves the right to dispute an unusually high bill as a result of an unexplained event that occurs during the billing period and undetected until the bill is received. The City shall provide the County an adjustment to any electrical bill that exceeds the average quarterly consumption whether or not the bill is due to an incorrect reading, vandalism or wiring from the outlet side of the Equipment. The adjustment shall be calculated based on subtracting the average electrical bill from prior billing periods to the higher bill for all above locations.
16. ASSIGNMENT AND SUBLETTING: The City shall not assign, transfer any rights or privileges granted, pledge or otherwise encumber any of the terms and conditions of this Agreement without written consent of the County, nor shall the City enter into a contract with a third party involving the Premises without prior written approval by the County.
17. INDEMNIFICATION AND INSURANCE: To the extent allowed by Section 768.28, Florida Statutes, the City shall indemnify and hold harmless the County and its officers, employees, agents and instrumentalities from any and all liability, losses or damages, including attorney's fees and costs of defense, which the County or its officers, employees, agents or instrumentalities may incur as a result of claims, demands, suits, causes of actions or proceedings of any kind or nature arising out of, relating to or resulting from the performance of this Agreement by the City or its officers, employees, agents, instrumentalities, contractors or subcontractors. To the extent allowed by Section 768.28, Florida Statutes, the City shall pay all claims and losses in connection therewith and shall investigate and defend all claims, suits or actions of any kind or nature in the name of the County, where applicable, including appellate proceedings, and shall pay all costs, judgments, and reasonable attorney's fees which may issue thereon. The City expressly agrees and understands that any insurance protection provided at the option of the County shall in no way limit the responsibility to indemnify, defend and hold harmless the County or its officers, employees, agents and instrumentalities as herein provided to the extent allowed by Section 768.28, Florida Statutes.

The City will provide or require any Contractor used in the performance of this contract to indemnify the County and provide the following insurance throughout the term of this Agreement:

- a) Worker's Compensation Insurance for all employees of the Contractor as required by Florida Statute 440.
- b) Commercial General Liability Insurance on a comprehensive basis in an amount not less than \$1,000,000 combined single limit per occurrence for bodily injury and property damage. Miami-Dade County must be shown as an additional insured with respect to this coverage.
- c) Automobile Liability Insurance covering all owned, non-owned and hired vehicles used in connection with the work, in an amount

not less than \$1,000,000 combined single limit per occurrence for bodily injury and property damage.

18. **EQUIPMENT REMOVAL:** In the event of termination of this Agreement, the City shall recover its Equipment from the Premises. In such an event, the City shall be required to remove the Equipment from the Premises upon thirty (30) days written notice from the County. The City shall be solely responsible for the cost and expense of removing its Equipment and shall, at its own sole cost and expense, restore the Premises occupied by the City's Equipment to the condition in which it was found prior to the installation of the City's Equipment.
19. **NOTICES:** All notices and other communications required or permitted to be given under this Agreement by either party to the other shall be in writing and shall be sent (except as otherwise provided herein) (i) by certified or registered mail, first class postage prepaid, return receipt requested, (ii) by guaranteed overnight delivery by a nationally recognized courier service, or (iii) by facsimile with confirmation receipt (with a copy simultaneously sent by certified or registered mail, first class postage prepaid, return receipt requested or by overnight delivery by traditionally recognized courier service), addressed to such party as follows:

<b>If to the County:</b>	Miami-Dade County Director Miami-Dade Water and Sewer Department 3071 S.W. 38 Avenue Miami, FL 33146
<b>If to the City:</b>	City of North Miami Beach City Manager 17011 N.E. 19 Avenue North Miami Beach, FL 33162

20. **PRESS RELEASE OR OTHER PUBLIC COMMUNICATION:** Under no circumstances shall the City or its Contractor without the express written consent of the County:
- a) Issue or permit to be issued any press release, advertisement or literature of any kind which refers to the County, or the work being performed hereunder, unless the City first obtains the written approval of the County. Such approval may be withheld if for any reason the County believes that the publication of such information would be harmful to the public interest or is in any way undesirable;
  - b) Communicate in any way with any Contractor, department, board, agency, commission or other organization or any person whether governmental or private in connection with the Services to be performed hereunder except upon prior written approval and instruction of the County; and
  - c) Except as may be required by law, the City and its employees, agents or subcontractors will not represent, directly or indirectly, that any product

or service provided by the City or such Parties has been approved or endorsed by the County.

21. GOVERNING LAW AND VENUE: It is agreed that this Agreement shall be governed by, construed and enforced in accordance with the laws of the State of Florida. The venue for any legal proceeding shall be in Miami-Dade County, Florida.
22. ENTIRE AGREEMENT: This Agreement contains the entire agreement of the Parties, and may be amended, waived, changed, modified, extended or rescinded only in writing, signed by the Party against whom any such amendment, waiver, change, modification, extension and/or rescission is sought. This Agreement may be executed in multiple identical counterparts, each of which shall be deemed an original for all purposes.
23. ENFORCEABILITY OF AGREEMENT: In the event any provision of this Agreement is found to be void and unenforceable by a court of competent jurisdiction, the remaining provisions of this Agreement shall nevertheless be binding upon the parties with the same effect as though the void or unenforceable provisions had been severed and deleted.
24. PRIORITY OF AGREEMENT: The terms, statements, requirements, and provisions contained in this Agreement shall prevail and be given superior effect and priority over any conflicting or inconsistent terms, statements, requirements or provisions contained in any other document, exhibit or attachment hereto, including but is not limited to the attached Exhibit "A".
25. PREPARATION OF AGREEMENT: This Agreement is the result of negotiation between the Parties hereto and has been typed by one Party for the convenience of both Parties, and the Parties covenant that this Agreement shall not be construed in favor of any of the Parties hereto.
26. INCORPORATION IN INSTALLATION CONTRACT: The City shall incorporate the terms of this Agreement in any contract for the installation of the AMR Collector/Repeater antennas. The City's Contractor that installs the AMR Collector/Repeater antennas shall also indemnify the County and include the County as an additional insured.

*[remainder of page intentionally left blank]*

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement on the day and year first written above.


ATTEST:

BY:   
Pamela L. Latimore, CMC, City Clerk

CITY OF NORTH MIAMI BEACH

BY:   
Ana M. Garcia, City Manager

APPROVED AS TO FORM AND  
LEGAL SUFFICIENCY

BY:  8/21/15  
Jose Smith, City Attorney

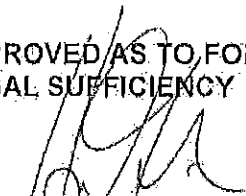
ATTEST:

BY: \_\_\_\_\_  
Harvey Ruvin, Clerk of the Board

MIAMI-DADE COUNTY, FLORIDA  
BY ITS BOARD OF COUNTY  
COMMISSIONERS

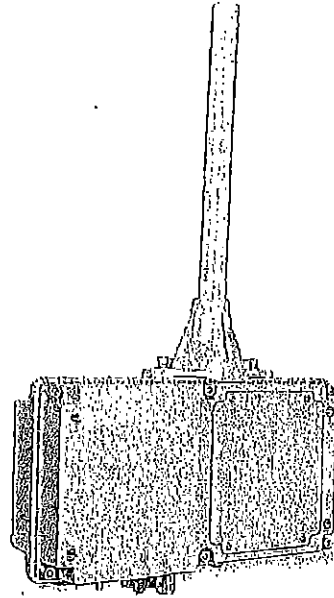
BY: \_\_\_\_\_  
Carlos A. Gimenez, County Mayor

APPROVED AS TO FORM AND  
LEGAL SUFFICIENCY

BY:  10/21/15  
Henry G. Gillman,  
Assistant County Attorney



# EXHIBIT A



## CCU 100

Acquiring meter data is one half of the equation in a successful fixed network system. The other half is delivering that information back to the utility. With the onset of advanced metering initiatives and more robust collection of interval and event data, ensuring your information arrives where and when it should becomes critical. Devices that transport data across the network are a critical link, connecting utility and consumer.

Itron's new CCU 100 makes that link stronger than ever. The CCU 100 (also known as a collector) reads data from Itron electricity meters, gas and water endpoints, and repeaters. Data is forwarded from the collector to the utility over a public wide area network (cellular-based WAN or broadband) or a private WAN supporting IP-addressable packet data. Data is automatically uploaded to the Itron Fixed Network Software and can be used for billing as well as advanced applications and analysis in a meter data management system. Data uploads occur at scheduled intervals. The CCU 100 can also facilitate on-demand requests when needed.

Collectors operate on a 120/240 auto-sensing volt service and are equipped with a backup battery. In the event of an outage, the collector sends an alarm to the Itron Fixed Network Software with information describing various events, including power loss, restoration, and low-battery conditions.

### FEATURES AND BENEFITS

Itron's latest fixed-network collector, the CCU 100, supports the needs of today's evolving utility by providing:

- » Two-way communication to endpoints and to the repeater to collect on-demand reads and issue network commands
- » Robust collection of time-synchronized interval data, when coupled with a meter data management system, helps utilities:
  - Improve customer service
  - Refine forecast consumption
  - Manage and control tamper and theft
  - Develop new rate-based and customer incentive programs
  - Better respond to customer "what-if" questions
- » Time-synchronization of endpoint clocks, ensuring data collected territory-wide is accurately time-stamped
- » Retrieval of missing interval data in the event of a network outage
- » A compact device footprint that is lightweight and unobtrusive
- » Flexible and easy installation including tower, building or utility pole-mount options
- » Low power consumption
- » Solar-powered configurations for locations where hard-wired power is not readily available
- » Multiple communication options for public and private WAN backhauls. Public and private technologies can be combined in a deployment, providing a hybrid approach best suited to the communication strengths of a given area

Page 1 of 4

## SPECIFICATIONS

### Functional

- » Power Requirements
  - Power source: 90VAC to 265VAC/ 47 Hz to 63 Hz
  - Power consumption: 12 Watts Maximum 7.5 Watts Typical
  - Power cable with photocell adapter for street light mount
  - Power connectors: watertight and keyed
  - Backup battery: 6 VDC, 4.6 AH lead-acid, 1.5 hour operating duration
- » Operating Environment
  - Operating and storage temperatures: -40C to +60C (-40F to 140F) ambient
  - Operating humidity: 0 to 95% non-condensing relative humidity
- » Product Details
  - Product life: 15 years
  - Product identification: numeric and bar code serial number
  - Certification: meets or exceeds applicable ANSI C12.1 or equivalent standards

### Operational

- » Endpoint Transceiver Operating Frequency
  - 903.0-926.8 MHz

### » Backhaul Specifications

- Ethernet
- Flexible Private LAN options via Ethernet connection
- HSPA/UMTS
- EDGE/GPRS/GSM
- CDMA EV-DO Rev A
- CDMA 1xEV-DO Rev 0
- CDMA 1xRTT
- CDMA IS-95

### Regulatory and Standards

- » FCC, CFR 47, Part 15 Class B certified

### Physical

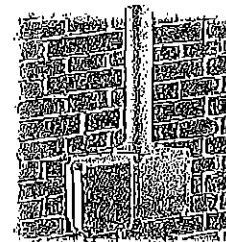
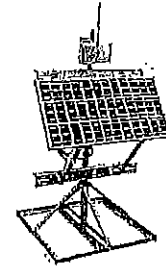
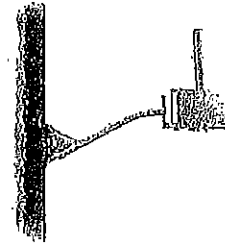
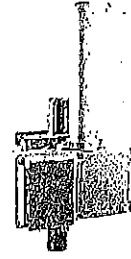
- » Dimensions
  - 11.6" x 6.3" x 3.9" (29.5 cm x 16.0 cm x 9.9 cm)
- » Weight - 6.3 lbs. (2.9 kg) with battery

### Installation Methods

- » Utility pole mount
- » Street light pole mount, optional photocell power adapter
- » Roof mount
- » Wall mount
- » Tower configuration

### Host Processing Software

- » Itron Network Software
- » Optional Hosted Services



Mounting Options



At Itron, we're dedicated to delivering end-to-end smart grid and smart distribution solutions to electric, gas and water utilities around the globe. Our company is the world's leading provider of smart metering, data collection and utility software systems, with over 8,000 utilities worldwide relying on our technology to optimize the delivery and use of energy and water.

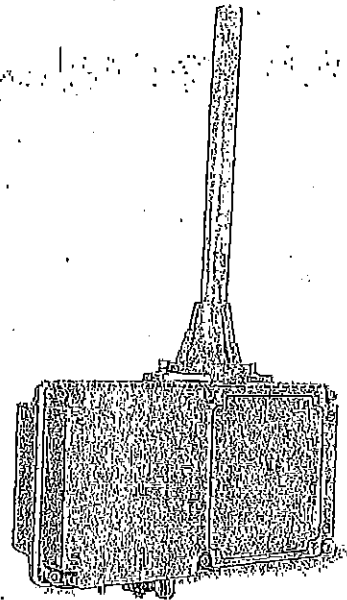
To realize your smarter energy and water future, start here: [www.Itron.com](http://www.Itron.com)

### CORPORATE HEADQUARTERS

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# Repeater 100

There are a variety of factors that play into a network's performance and reliability. Buildings, vegetation, RF interference and more can all impact data collection and transport. When collecting meter reading data, ensuring that you have the proper network coverage is mission-critical.

The Repeater 100 collects meter data from Itron electricity meters, gas and water endpoints and relays it to collectors within the network. Operating in the 900 MHz radio band, repeaters are used to extend the range of the network and add reliability and redundancy to the communication path between endpoints and collectors. This makes the ChoiceConnect network much more cost-effective by reducing the number of required collectors.

Repeaters can be installed on towers, buildings, poles or other structures. Once installed, repeaters automatically discover and connect to collectors and endpoints within range. The Repeater 100 also provides two-way communication capabilities with 2-way enabled endpoints, allowing for on-demand reads throughout the network.

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## FEATURES AND BENEFITS

The Repeater 100 helps to:

- » Expand network coverage in hard-to-read areas due to topography or other signal disturbances
- » Expand network coverage without additional backhaul costs
- » Low power requirements enable cost effective solar deployment
- » Enable auto-discovery of endpoints beneath the repeater footprint. Collectors discover repeaters in a similar process.
- » Forward positive out notification (PON) and positive restoration notification (PRN) messages for timely and accurate outage detection
- » Facilitate a cost-effective and flexible fixed network solution
- » Provide multi-channel frequency hopping that:
  - Scans for endpoint transmissions
  - Decodes and validates packets
  - Filters packets—reduces transmissions of recent and frequently heard meters
  - Retransmits packets on a new channel away from endpoint channels
- » Status message delivery to collectors for network troubleshooting
- » Offer increased reading redundancy at a lower cost

## SPECIFICATIONS

### Functional

- » Power source:
  - Single-phase 120-240V AC auto-ranging
  - Optional solar power configuration
- » Power consumption: 5 Watts typical
- » Operating and storage temperatures: -40°C to +60°C (-40°F to +140°F)\*
- » Operating humidity: 5 to 95% non-condensing relative humidity
- » Product identification: Numeric and bar-coded repeater module serial number
- » FCC compliance: Part 15 certified
- » ANSI compliance: C12.1 standards

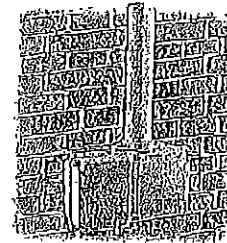
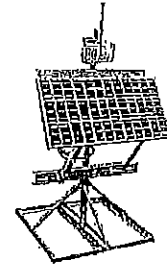
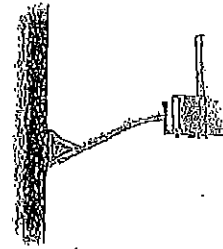
### Operational

- » Receive/transmit frequency range: 904-924 MHz
- » Data integrity: Verified in every message

### Dimensions

- » Height: 6.3" (16 cm) without antenna
- » Width: 11.6" (29.5 cm)
- » Depth: 3.9" (9.9 cm)
- » Weight: 6.31 lbs with battery

## Mounting Options



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