505 Sims St.
Truth or Consequences, New Mexico 87901
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www.torcnm.org

JOINT WORKSHOP WITH PUBLIC UTILITY ADVISORY BOARD

THE WORKSHOP OF THE CITY COMMISSION AND PUBLIC UTILITY ADVISORY BOARD OF THE CITY OF TRUTH OR CONSEQUENCES, NEW MEXICO, IS TO BE HELD IN THE COMMISSION CHAMBERS, 405 W. 3RD ST., ON WEDNESDAY, JUNE 28TH, 2017; TO START AT 1:30 P.M.

A. CALL TO ORDER

B. ROLL CALL

City Commission	**Public Utility Advisory Board**
Hon. Steve Green, Mayor	George Szigeti – Chair
Hon. Sandra Whitehead, Mayor Pro-Tem	Jeff Dornbusch – Vice Chair
Hon. Kathy Clark, Commissioner	Gil Avelar – Member
Hon. Rolf Hechler, Commissioner	Ron Pacourek – Member
Hon. Joshua Frankel, Commissioner	Randy Ashbaugh - Member

C. INTRODUCTIONS

D. PRESENTATION BY SCOTT GRIFFITH, YEAROUT ENERGY SERVICES COMPANY (YESCO)

E. PRESENTATION BY PAUL CARROL & JERRY UHLMAN – MOUNTAIN STATES PIPE & SUPPLY (MSPS)

F. QUESTIONS FROM PUAB

G. QUESTIONS FROM COMMISSION

H. QUESTIONS FROM THE PUBLIC

I. NEXT STEPS FOR THE PROJECT

J. ADJOURNMENT

TRUTH OR CONSEQUENCES NEW MEXICO

Utility Meter Replacement Project
IGA Workshop

presented jointly to City Commission and the PUAB

June 28th, 2017

YEAROUT ENERGY SERVICES

Agenda

TRUTH OR CONSEQUENCES NEW MEXICO

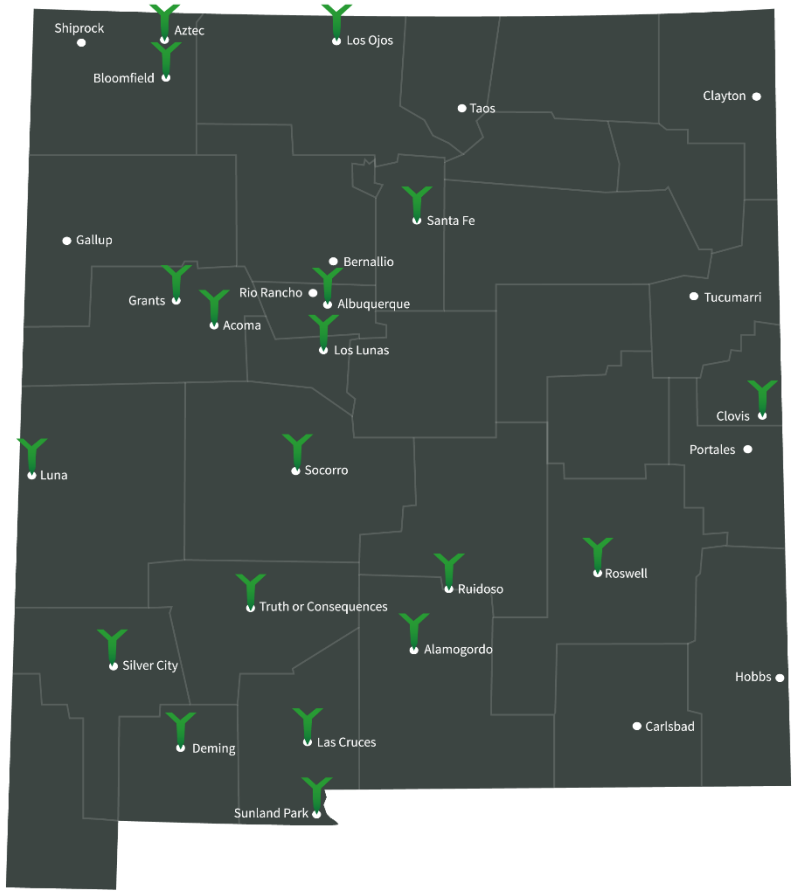
- Introductions – YESCO Project Team
- The Challenge
- ESPC for Utility Meter Projects
- Investment Grade Audit (IGA)
  - Milestones
  - Testing Results / Improved Access to Billable Gallons
  - Vendor Selection by City Staff
- Project Budget & Scope
- Next Steps

YEAROUT ENERGY SERVICES

Introductions - YESCO Team

TRUTH OR CONSEQUENCES NEW MEXICO

- Scott Griffith - Solution Sales
- Colby Geer - YESCO General Manager
- Alex Montano – Project Director
- Danny Alkon - Project Development Engineer



YEAROUT ENERGY SERVICES

The Challenge

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Issues

- Declining Natural Resources (Water & Fuel)
- Fiscal Constraints / Lack of Resources
- Legislative Demands / Compliance
- Environmental stewardship/climate change

Unwavering Expectations

Despite these challenges, you are still expected to deliver:

- Uninterrupted reliable service
- Immediate response time / Highest quality customer service
- Lowest possible utility rates
- Persistent maintenance and replacement of aging equipment and infrastructure
- Financial stability and health

The Opportunity

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Utility Meter Replacement

- Avoid increasing rates to compensate for inaccurate meters
- Immediately resolve lost revenue issues due to inaccurate meters (Customer Billed for Actual Consumption)
- Reallocate annual meter replacement budgets to other needed capital improvements
- Assure constituents and staff that resources are generated, delivered and accurately measured. (Not wasted)
- Lead-Free metering devices

AMI System

- Improve billing accuracy / reduce accidental human errors
- Provide better and faster customer service
- Full Integration with Billing Platform
- Enhance leak detection capabilities
- Reduce operational costs (vehicles, personnel, inventory, safety)
- Redeploy staff to maintain the system (Leak Detection & Remediation) rather than read & replace meters
- Increase awareness, real-time monitoring for staff and customers

ESPC Benefits

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Contrast Between Conventional and Performance Contracting

Performance Contracting is a time-proven 40 year old innovative project funding mechanism

Financial /Risk Factors	Conventional Bid /Specs Method	Performance Contracting
Financial Source	Immediate Capital Outlay	No Capital Outlay (Budget Neutral)
Bond/Tax Increase	Yes	No
Accuracy Guarantee	No	Yes
Guaranteed Pricing	No (Potential for Change Orders)	Yes (No Change Orders)
Preferred Equipment Selection	No	Yes
Contractors	Low bid	Most qualified / Best Value
Risk Level	High (All Risk on City)	Low (Shared with ESCO)
Realized Benefit	Non-Measured	Immediate (Guaranteed)

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EPC Reference Laws

Energy Performance Contracting Reference:

Chapter 6, Article 23 of the
New Mexico Statutes
Public Facility Energy Efficiency and
Water Conservation Act
Amended July 1, 2009

Also House Bill 603
July 1, 2009

EPC Reference Laws - Colorado and Texas

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- Silver City Project, developed and implemented by YESCO, has been nominated by the Western States Resource Advocates as best practices for Water Conservation in the South West (Currently projected at 17% revenue target as of Q4 of Year 1 Performance Period).
- SB17-252 has been passed in Colorado to include Smart Meters, and accounts the new accuracy as the funding source.
- LGS Code 302 in Texas has been governing Water Meter Projects for over twenty years under SECO.

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EPC Procurement: GSD State ESCO Contract

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NM General Services Dept.
Prequalification of ESCO's Contract
 # 15-05759

Announcement By GSD
April 14th 2015

Projects are under the Jurisdiction of the EMNRD and OSE

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UPDATE: ESPC Projects in New Mexico

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Projects Complete / Under Construction

- City of Bloomfield – Energy
- Silver City – Water Meters | AMI
- City of Roswell – Water Meters | AMI
- McKinley County – Energy
- New Mexico State University – Energy
- City of Farmington – Energy
- San Juan Community College – Energy

Under Final Audit Current Projects

- Bernalillo County – Energy
- UNM – Energy
- T or C – Water & Electric Meters | AMI
- City of Santa Fe – Energy
- NMMI – Energy
- Clovis Community College – Energy

Under Preliminary Audit

- New Mexico Institute of Mining & Tech
- Grant's Schools
- Rio Arriba County
- Lincoln County
- Las Vegas Schools
- Luna Community College
- NM General Services Department
- Santa Fe Community College

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UPDATE: Advanced Metering Solutions in NM

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With ESPC Process

- Silver City – 6,500 Meters | AMR Drive-By System
- City of Roswell - 19,500 Meters | Leak Detection | AMI System

In Process with ESPC

- Truth or Consequences - 3,406 Water | 5,015 Electric | AMI System
- City of Espanola - 3,800 Water Meters | AMI System
- City of Las Cruces - 27,000 Water Meters | AMI System

Project Milestones to Date

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- 03-16-2015 PUAB Board Recommends Project to Commission for Approval
- 09-21-2015 PUAB Board Recommends LOA be Sent to Commission for Approval
- 10-13-2015 LOA Approved by City Commission
- 06-14-2016 PDA/IGA Approved & Scope Expanded to Include Electric
- 10-15-2016 IGA Meter Testing Begins / Data Analysis
- 04-05-2017 IGA Preliminary Findings Presented to City Staff
- 05-05-2017 Vendor Interviews / Presentations with City Staff
- 06-01-2017 Vendor Selected by City Staff
- 06-28-2017 PDA/IGA Workshop and Vendor Equipment Review

IGA Step

TRUTH OR CONSEQUENCES NEW MEXICO

Investment Grade Audit – Baseline Meter Testing & Utility Data Analysis

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IGA - Baseline Water Loss

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Item	2014 – 2016 Baseline Average
Total Water Produced (kGal)	432,545
Total Water Metered (kGal)	317,518
Total Water Losses	115,028
Percent Total Water Losses	26.6%

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IGA – Baseline Meter Accuracy Testing Results

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Meter Size	Low Flow		Medium Flow		High Flow	
Scenario	Baseline	Year 1 Guaranteed	Baseline	Year 1 Guaranteed	Baseline	Year 1 Guaranteed
¾”	51.69%	97.00%	60.00%	97.00%	78.17%	95.00%
1”	95.74%	97.00%	89.20%	97.00%	91.16%	95.00%
2”	94.05%	97.00%	91.94%	97.00%	92.27%	95.00%

Baseline meter testing performed to AWWA M6 Guidelines

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IGA - Water Revenue Increase by Meter Size

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Meter Size	Year 1 Improved Access to Billable Water Gallons (kGal)*	Water Rate ($/kGal)**	Year 1 Improved Revenue
¾”	46,421	$1.75	$81,237
1”	4,275	$1.75	$7,481
2”	1,526	$1.75	$2,670
Total	**52,222**	----------	**$91,389**

* Improved Access to Billable Water Gallons conservatively only includes the meter sizes tested during the Investment Grade Audit. Additional revenue captured from the other meter sizes will go directly to further benefit the City.

**Improved revenue is conservatively based on the lowest water billing rate tier.

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IGA - Sewer Revenue Increase by Meter Size

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Meter Size	Year 1 Improved Access to Billable Sewer Gallons (kGal)*	Sewer Rate ($/kGal)**	Year 1 Improved Sewer Revenue
¾”	24,979	$3.44	$85,927
1”	2,300	$3.44	$7,931
2”	1,526	$3.44	$5,248
Total	28,805	----------	$99,089

* Improved Access to Billable Sewer Gallons conservatively only includes the meter sizes tested during the Investment Grade Audit. Additional revenue captured from the other meter sizes will go directly to further benefit the City.

**Improved revenue is based on new sewer rates effective July 2017.

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Total Revenue Increase by Meter Size

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Meter Size	Water Revenue	Sewer Revenue	Total Revenue	Percent of Total Revenue
¾”	$81,237	$85,927	$167,165	87.76%
1”	$7,481	$7,913	$15,395	8.08%
2”	$2,670	$5,248	$7,918	4.16%
Total	$91,389	$99,089	$190,477	100%

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Investment Grade Audit Findings

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The table below summarizes the Year 1 water and sewer revenue increase to be $91,389 for water and $99,089 for sewer, totaling $190,477. Adding the combined $92,000 O&M savings, the total projected savings and increased revenue is $282,477 in year one.

Improved Water and Sewer Revenue	**$190,477**
Water Department O&M Savings	**$46,000**
Electric Department O&M Savings	**$46,000**
Total Improved Revenue & O&M Savings	**$282,477**

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Scope Selection Process

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City Staff who participated in the vendor selection process:

Staff	Title	Department
Jesus Salayandia	Water/Wastewater Director	Water/Wastewater Department
Arnie Castaneda	Water/Wastewater Supervisor	Water/Wastewater Department
Ruby Otero-Vallejos	Water/Wastewater Admin Asst.	Water/Wastewater Department
Marty Davis	Water Foreman	Water Department
Bo Easley	Electric Dept. Director	Electric Department
Tammy Gardner	Electric Dept. Admin Asst.	Electric Department
Traci Burnette	Grants/Project Coordinator	Community Development
Sonya Williams	Utility Office Manager	Utility Department
Melissa Torres	Finance Director	Finance Department

Scope Selection Process

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- City staff has been visited by several vendors for many years.
- Staff visited other sites where similar technology has been installed to better understand available solutions and gain critical feedback on experience dealing with vendors/equipment.
- YESCO provided staff with analysis to determine what project scope could supported through improved revenue and O&M contribution.
- Staff narrowed the selection to 2 out of 5 vendors.
- YESCO coordinated interviews with vendors preferred by Staff. Staff formulated questions for preferred vendors including billing considerations and customer service upgrades.
- Staff selected the awarded vendor by unanimous vote from all departments
- YESCO provided final scope and costs based on Staff's final vendor selection.

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City Staff Feedback on Vendor Selection

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- Staff felt the selected vendor better understands the needs of the City, and would provide the best overall solution and implementation.
- Staff has experienced some performance issues with other products in the past.
- Staff felt the build quality of the selected meters was unmatched.
- Staff felt the customer facing portals, which provides real-time monitoring and communication to the City's customers, would deliver a significant benefit to overall operations.
- City of Aztec, NM – Walkthrough and Reference
  - City staff had the opportunity to meet with the City of Aztec, NM who recently had similar technology installed. The City of Aztec delivered a glowing reference on the selected vendor, and noted they had received excellent customer service support throughout the process.

kamstrup

elster

Itron

SUS SMART UTILITY SYSTEMS

Project Scope of Work – Water System

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Meter Size	Quantity	Manufacturer
¾”	3,294*	Kamstrup
1”	56	Kamstrup
1½ ”	6	Kamstrup
2”	35	Kamstrup
3”	7	Elster Q4
4”	7	Elster Q4
6”	0	----------
8”	1	Elster Q4
Total	3,406	----------

* Includes remote shut-off valves on (100) meters to be selected by the City prior to install.

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Project Scope of Work – Electric System

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Meter Type	Quantity	Manufacturer
Residential – Single Phase	4,383	Itron
Commercial – Single Phase	408*	Itron
Commercial – Poly Phase	224*	Itron
Total	5,015	----------

* A-Base adapters included for all commercial meters.

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AMI Technology

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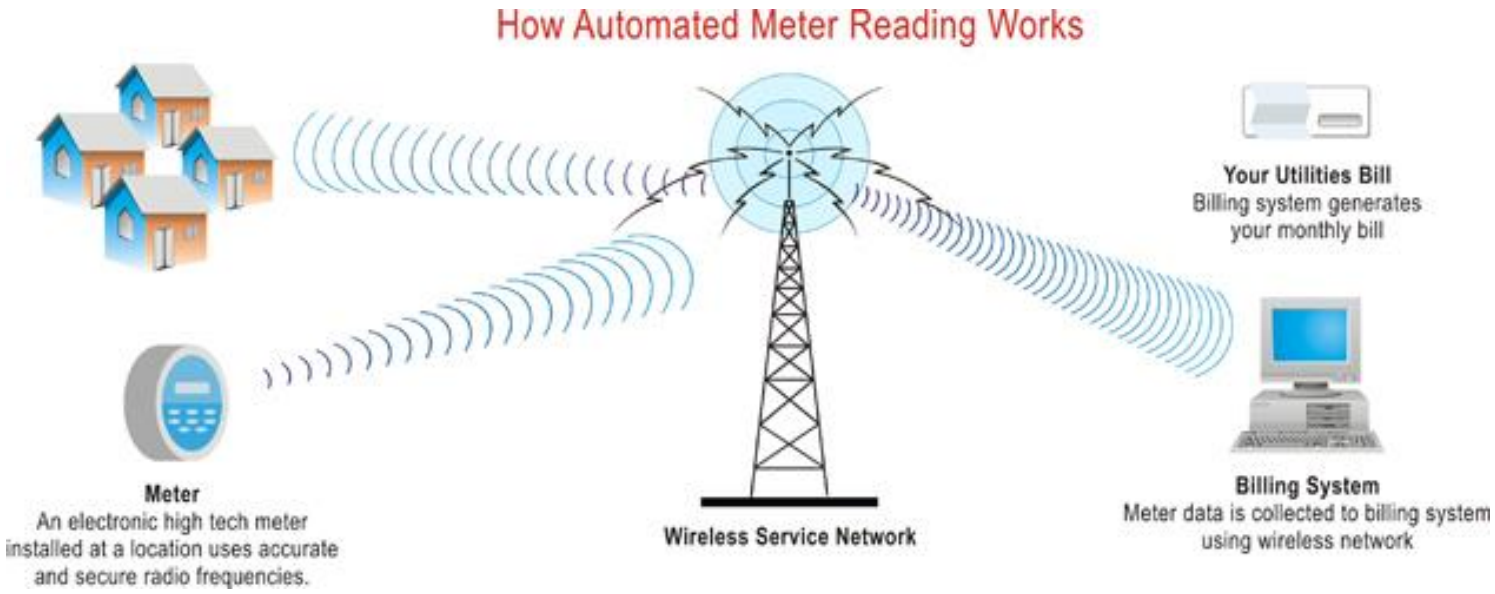
AMI Wireless Reading Meters



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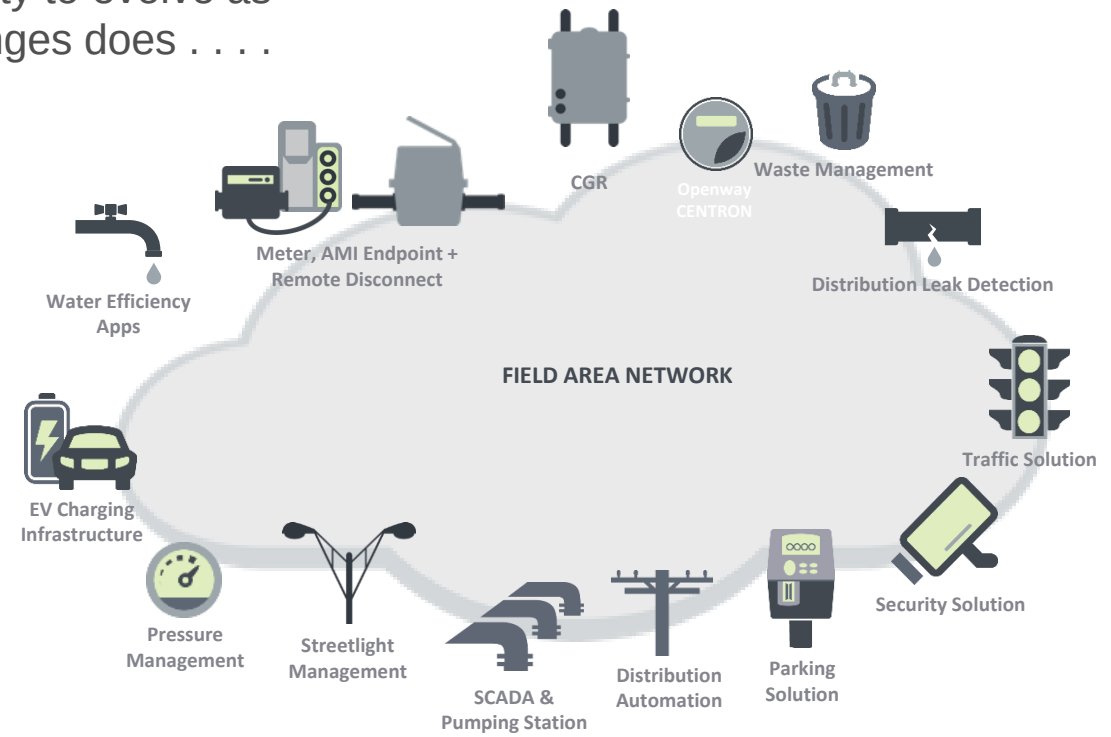
Itron Openway RIVA Platform

TRUTH OR CONSEQUENCES NEW MEXICO

A solution with the ability to evolve as technology and challenges does . . . .



COMMUNITY ENGAGEMENT

- Conservation Program
- City Initiatives
- City Statistics
- Parking Solutions
- Security
- EV Charging

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Project Financial Benefits

TRUTH OR CONSEQUENCES NEW MEXICO

Turn-Key Project Cost (Water Meters | Electric Meters | AMI System | Full Integration with Billing System)	$5,404,153
Total Improved Water & Sewer Revenue Over 20 Years	$5,741,986
Total Water Utility O&M Contribution Over 20 Years	$1,236,037
Total Electric Utility O&M Contribution Over 20 Years	$1,236,037
Total Benefit to City Over 20 Years	**$9,134,060**

- Cash Flow Positive Every Year
- Budget Neutral
- Fully Self-Funded Through Improved Revenue and O&M Contributions
- **No Capital Contribution From the City**

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Additional Project Benefits

TRUTH OR CONSEQUENCES NEW MEXICO

- Increase meter accuracy resulting in higher revenue and lower maintenance costs for the City.
- Installation of an AMI system will give the City the ability to provide real-time data for the entire meter inventory. This includes continuous data collection, report of tampering, and leakage reporting, all from the comfort and safety of the billing office.
- The system will have the ability to be shut off remotely for select ¾” water meters. All new electric meters will come with this capability.
- The City water employees can now be assigned to leak detection and system maintenance, if so determined by the City.
- The new AMI meters will give the City’s utility department very clear data on when water/electricity is used. This data will allow the utility department to become more efficient by trending usage data and delivery costs, and have more accurate and timely customer service. 15 minute interval data will allow the electric side to better set and prepare for demand rates, lowering cost of electricity purchased.
- Replacing the utility meters will reduce failures and result in fewer service calls.

Project Strategies for Funding

- AMI will Integrate both Water and Electric Meters into one billing system.
- Water & Electric Meter's enhanced functionality will provide $92,000 in O&M contribution to project
- Water/Sewer improved revenue streams serve as the focus of the guarantee, minimizing ongoing M&V costs for the entire project.
- The new AMI meters will give the utility department the ability to save money on emergency calls, truck rolls and improve customer service response.
- Customers will be able to monitor consumption in real-time, encouraging energy and water conservation.

Next Steps

TRUTH OR CONSEQUENCES NEW MEXICO

- Approve Scope and Proposal
- Execute Contract
- Finalize approval with OSE
- Close on Funding
- Implement Project

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Project Timeline

TRUTH OR CONSEQUENCES NEW MEXICO

- Commission / PUAB Workshop - 6/28/2017
- IGA Audit - OSE Approval - August 2017
- Final Funding - September 2017
- Installation Starts - November 2017

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Thank-You!

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Itron

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MSPS

GORMANCO

High Voltage Electrical & Specialty Equipment

OPENWAY RIVA™

DISCOVER THE **ACTIVE NETWORK**

Truth or Consequences, NM

Introductions

- Scott Griffith
  Year Out Energy Services

- Paul Carroll
  Mountain States Pipe & Supply, CEO

- Jerry Uhlman
  Mountain States Pipe & Supply, VP

- Jim Rolph
  Gorman Co., Manufacturer's Rep

Automated Meter Reading

- Obtain the REAL revenue for the water you are pumping and power you are generating.
- Customer Interaction where you have all the water and electric meter data in your hands when speaking to your customers.
- Ability to remotely shut off and turn on meters from the office
- Allow your customers to take control of their usage patterns with smart devices
- Discover leaks on the customer and distribution water lines and create water conservation

MSPS MOUNTAIN STATES PIPE AND SUPPLY

AGENDA

- Why AMI
- What is our solution for Truth or Consequences
- Success Stories
- Itron RIVA for Water and Electric
- Electric Metering
- Water Metering
- RIVA Components
- Customer Engagement – Bringing it all together
- Closing
- Questions

Why AMI

Openway Riva Solution

What are the benefits of AMI in addition to increased revenue from new static – solid state Water and Electric Metering points

OpenWay Riva meter

Reduced Meter-reading costs

- Greatly reduced truck rolls
  - Ability to turn on and off Electric Meters from the office
  - Ability to read the water and electric meters from the office
  - Ability to shut off Water Meters from the office

- Ability to re-deploy personnel to other more critical tasks

Instant meter reads

- Faster response to customer inquiries
  - Discuss account with customer while viewing current reading data with them.
    - Data viewable in hourly or daily increment’s to discuss high bills
- RIVA Network offers two way communication to water and electric meters for an instant meter reading

Remote Disconnect/Reconnect

- No truck rolls required
  - Electric and Water turn off and on completed from office
- Will record meter read at time of both disconnect & reconnect

Archived Historical Data

- Can query database at any time for customer meter history
- Faster response to customer inquiries
- Quicker problem resolution
- Portal allows customer to be proactive to view own usage

Interval data recorded by Water and Electric meters

- Better-informed load studies
- Improved information for customer disputes

Instantaneous outage notification

- Know about Electric outages *before* customers call
- Data can be shared with an OMS (outage management system) for more sophisticated response models

Theft/tamper notification

- Reduce monetary losses
- Improved customer safety

  - Water Meters will alert utility of reverse flow activity as well as water temperatures and leaks.
  - Electric Meters will alert utility of tampers at meter

More accurate meter data (compare to electromechanical)

- Higher revenue
  - Electromechanical Electric Meters can slow up to 5% over time
  - Mechanical Water Meter can slow up to a complete stop
  - Ability with Electric Solid State meter to pick up the low power outputs of new electronic devices that get by the older meter technology
  - New Static – Solid State Water Meters will read to the 1/60th of a gallon compared to ¼ gallon with a mechanical meter
- Compliance with PUC regulations

Supports Specialty Billing

- AMI allows for Custom billing schedules
  Data from all meters every day
- Multi-location billing
- Aggregated customer accounts

Improved safety

- No monthly visits for meter-reading
  - Eliminate injuries that occur from reading water and electric meters
  - Eliminate spiders and snake encounters in meter pits
- Less hazard exposure
- Reduced interface with potentially hostile customers

Over the Air capabilities

- Meters can be upgraded, reprogrammed
- New capabilities can be loaded for specific rate structures
  e.g. Demand & TOU

Opens up Prepay as an option

- ❑ Remote read, disconnect etc. support prepay
- ❑ Third-party providers of Prepay offer many creative payment and reminder options

- Reduce write offs and bad debts
- Recover outstanding debt
- Improve cash flow
- Reduce delinquent account risks and fraud
- Offer Convenient Payment options

Exceleron MyUsage Prepaid Summary Page

Our Solution - Itron RIVA

What is our Solution for Truth or Consequences

Openway RIVA for Electric and Water Utilities

Itron Electric Meters

Building on Itron's proven Openway platform

18+ million Openway CENTRONs shipped

OpenWay Riva meter

Ultrasonic Metering for Residential Water

20 Year Accuracy Warranty since 1991

Remote Shut off for Residential Water

What is our Solution for Truth or Consequences

Honeywell elster

Static Metering for Commercial Water

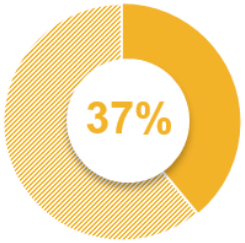
Accuracy at all flow levels

Customer Engagement

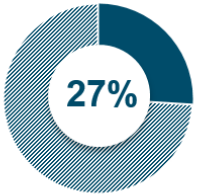
One common Platform to view Water and Electric usages and demands. Customer engagement with usage efficiencies

Energy Sustainability and Water Conservation through one platform

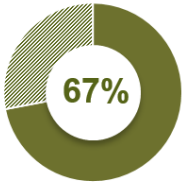
Leading North American communications provider



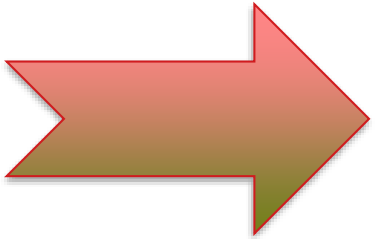
ELECTRICITY
59.2 million



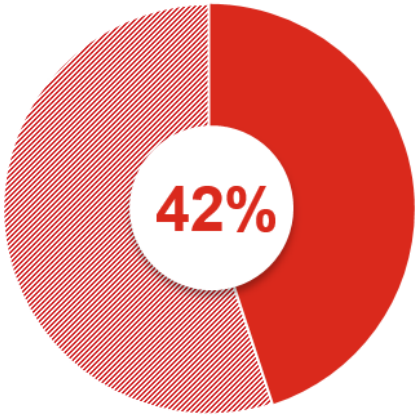
WATER
19.2 million



GAS
55.3 million



ITRON TOTAL



134 million

Source: The Scott Report, AMR/AMI Deployments Q4 2015 Cumulative Shipments

SUCCESS STORIES

Large Local New Mexico – Colorado Utilities

City of Aztec

- Water and Electric
- 100% Mobile

El Mirage Arizona

- 25k meters
- Choice Connect Network

ZIA Natural Gas

- 80k Gas ERTs
- Multiple-state deployments
- Proven migration

City of Tucson

- 125k ERTs
- Mobile Deployment

City of Roswell

- 20k ERTs
- Itron RIVA Network
- SUS
- Kamstrup
- Smart Earth Shut off Valves

New Mexico Gas

- Itron Mobile AMR implemented

PNM

- Itron RIVA AMI implemented for Electric Meters

Farmington NM

- Itron Mobile AMR implemented for Electric and Water Meters

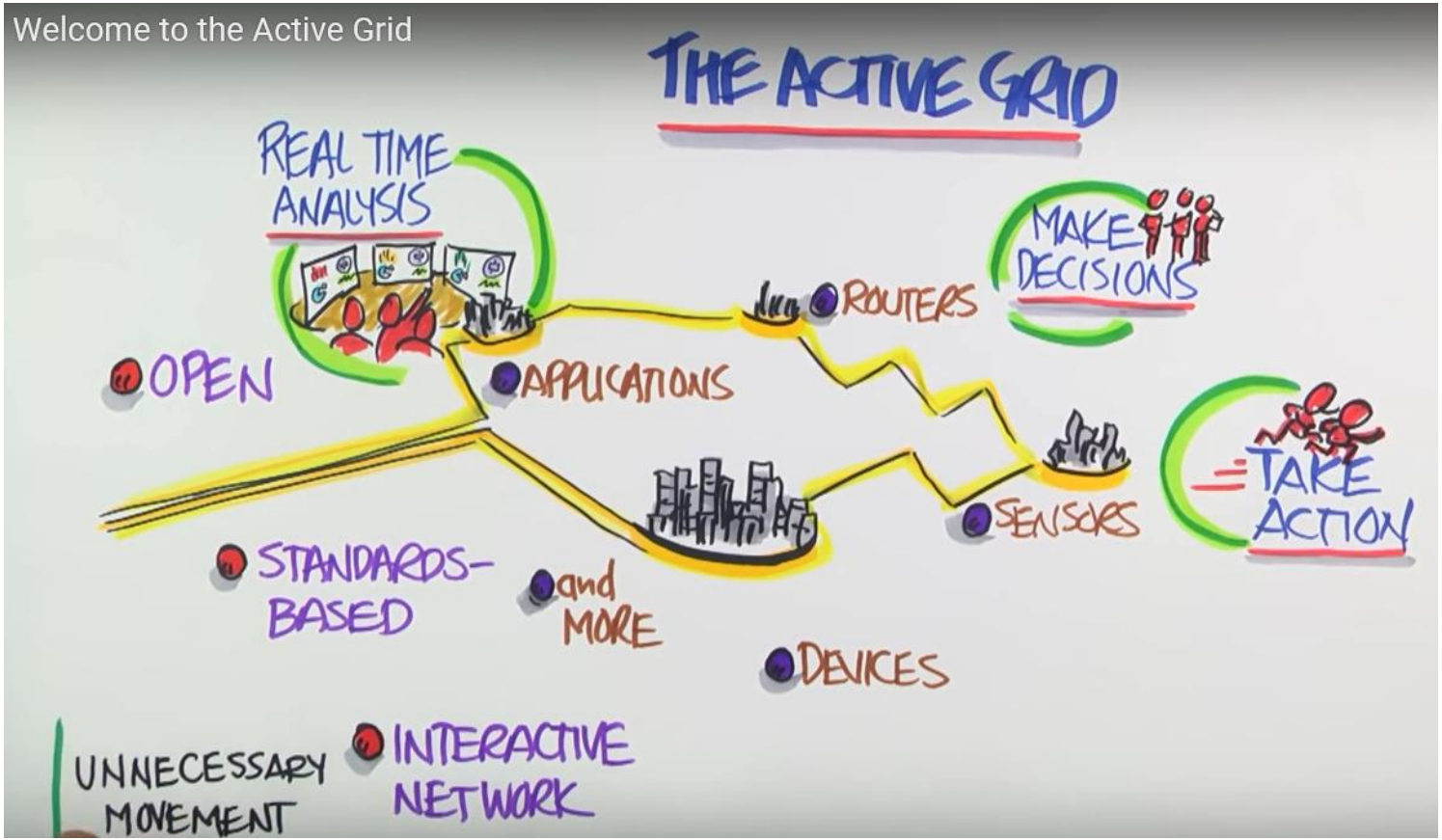
Las Cruces NM

- Itron Choice Connect Network Gas and Water

Itron RIVA

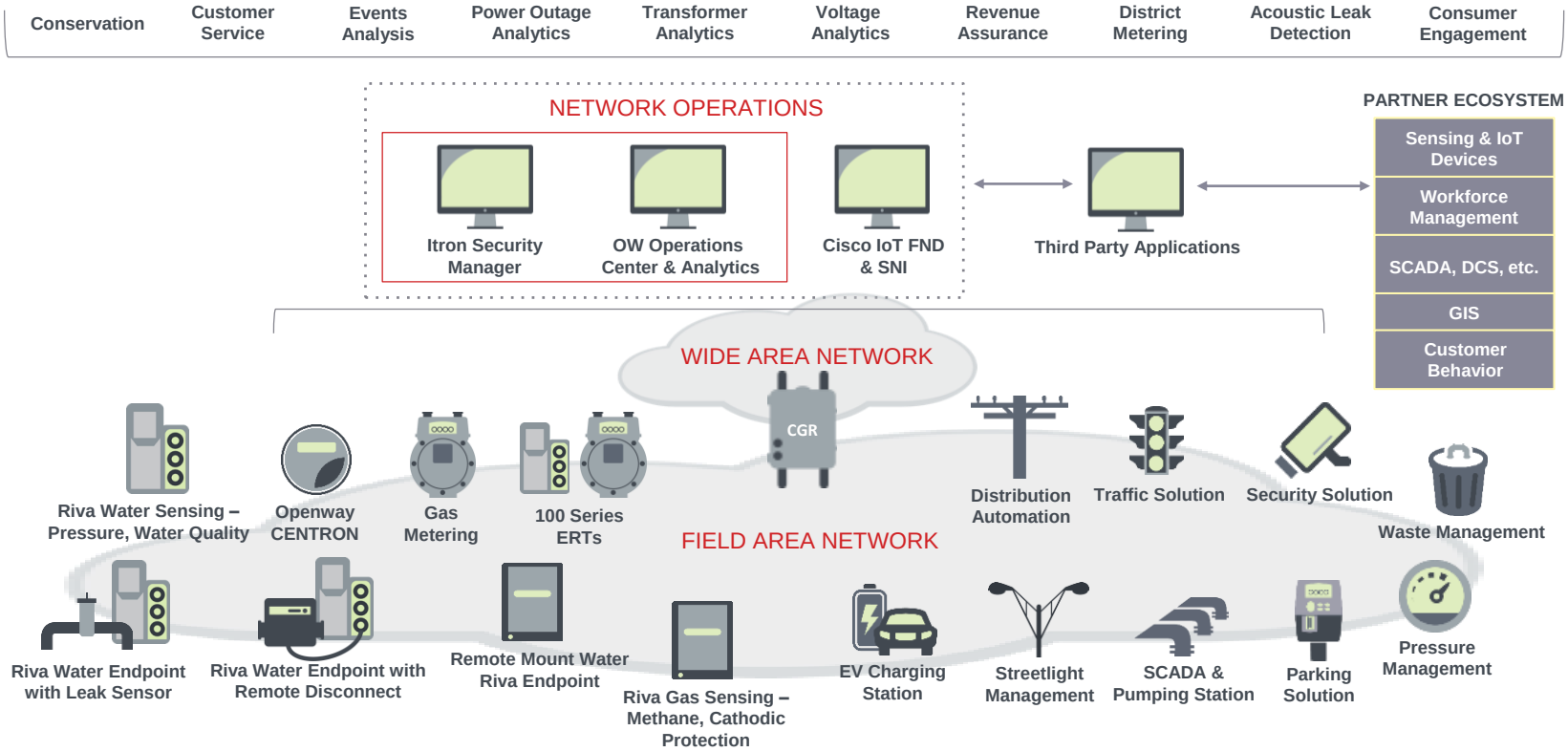
INTRODUCING…

OPENWAY RIVA™ Itron's next generation communications system for smarter water, electricity and gas. Openway Riva brings true interoperability and distributed intelligence over the Cisco IPv6 network - delivering the active grid for utility customers and beyond.



https://www.youtube.com/watch?v=u4CkiqTFCYw

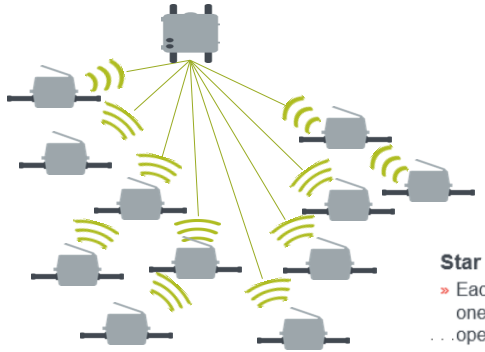
ITRON OPENWAY RIVA™



ADAPTIVE COMMUNICATION TECHNOLOGY

What is Adaptive Communication Technology:

- Single network solution for gas/water/electric
- Electric devices incorporate two communications technologies - RF and PLC - on the same chip set
- Continuously monitors for most reliable & fastest path
- Dynamically selects best communication path
- Assured connectivity at highest available speed
- Performance to support applications beyond smart metering (i.e. smart grid, smart cities applications)
- Water/Gas can communicate directly to CGR or as “Leaf Nodes” through electric devices



Star Mode:

- Each node connects direct to CGR or one hop through another battery operated device.

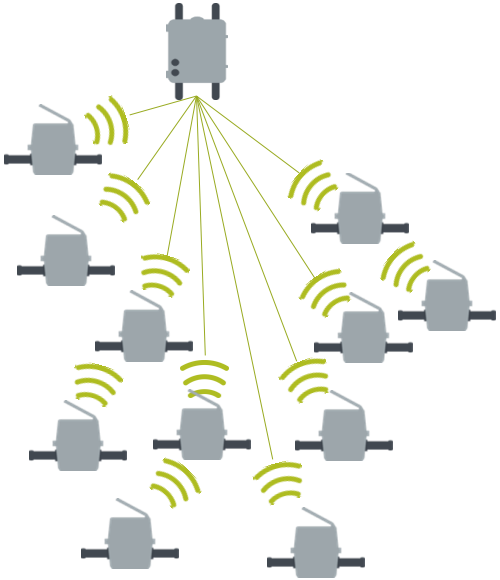
Mesh Mode:

- Nodes connect to nearest mains powered device/ meter as “Leaf Node“

DYNAMIC NETWORK CONNECTIVITY

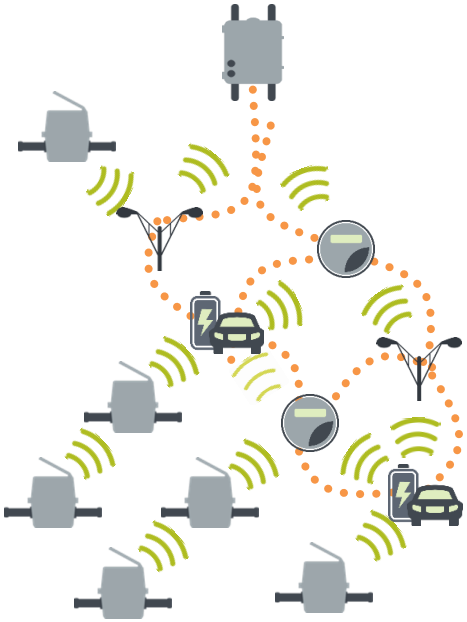
Star Mode:

» Each node connects direct to CGR or one hop through another battery operated device



Mesh Mode:

» Nodes connect to nearest mains powered device/ meter as “Leaf Node“



Electric meter products

OPENWAY CENTRON® RIVA METERS

- Building on Itron's proven Openway platform
  - 18+ million Openway CENTRONs shipped
  - IPv6
  - Made in the U.S.A.
- Edge Intelligence
  - Powerful Microprocessors
  - Embedded Linux Operating System
- Adaptive Communications Technology
  - Radio Frequency (RF)
  - Power Line Carrier (PLC)
  - Modulation Scheme
- Zero Touch Deployment

OpenWay Riva meter

OPENWAY® CENTRON® RIVA™ METERS

- Energy Quantities
  - Up to 12 Quantities
  - Wh, Del/Rec/Net
  - VAh, Del/Rec/Net
  - VARh, Del/Rec/Net/Q1-4
- Demand
  - Any Energy + Min PF
  - Block or Rolling
  - Intervals of 5, 10, 15, 30, 60 Min.
- Load Profiles
  - Up to 8 Channels
  - Intervals of 5, 10, 15, 30, 60 Minutes
- Voltage Monitoring and Profiling
  - Enable/Disable
  - Configurable Low/High Thresholds
  - Intervals of 5, 10, 15, 30, 60 Minutes
  - Min, Max, Average, Instantaneous
- Time of Use (TOU)
- Events and Alarms/Tamper
- Remote Connect/Disconnect
- Load Side Voltage Detection
- Fully Remote Configurability

INTEGRATED SERVICE SWITCH

OpenWay Riva meter

- Forms 1S, 2S, 12S, and 25S
- Meets ANSI C12.20 specification
- Switch Ratings (Full 200 Amp)
- Meter remains energized and records “zero consumption”
  - Load-side voltage monitoring
- Load Limiting via either Current-based shutoff or Time-based cycling

Water meter products

kamstrup

Ultrasonic Metering

We are inspired to be better

At Kamstrup, we always define our value by the progress we create for others. Our finest work is to help our customers run a better, more efficient business.

Building Ultrasonic Meters since 1991 with a proven track record

Manufactured for quality above all other Static Meters

Oldest manufacturer of Ultrasonic Meters for the World Market

MSPS MOUNTAIN STATES PIPE AND SUPPLY

kamstrup

Ultrasonic Metering

20 Year Accuracy Warranty
14 Data Alarms extracted from meter into RIVA Network

- ✓ *Active Leaks*
- ✓ *Reverse Flow*
- ✓ *Meter Temperatures*
- ✓ *Meter Flows*
- ✓ *Burst – Excess flow through meter – Broken Pipe*
- ✓ *Dry Meter – Meter taken out of service*
- ✓ *Datalogging: 460 days of daily and 36 months of monthly consumption – both can be transmitted through the Openway RIVA system*

1/60th [.015]of a Gallon Start Flow
5/8” x ¾” thru 2”

Building Ultrasonic Meters since 1991

Manufactured for quality above all other Static Meters

MSPS MOUNTAIN STATES PIPE AND SUPPLY

kamstrup *with Smart Earth Remote Shutoff*

Ultrasonic Metering with Remote Shutoff

Smart Earth Remote Shutoff

- 7-1/2” Lay Length
- Available for deployment under network or Cell Network
- Utilizes same ERT module as meter
- 15 Year Service Warranty
- Open, Closed and ½ Open Positions

Commercial Metering

Honeywell

elster

HONEYWELL ELSTER Q4

FOR ACCURATE COMMERCIAL INDUSTRIAL METERING

ELECTROMAGNETIC METER [1-1/2” – 12”]

Honeywell Elster Q4		
Size	Minimum Flow	Maximum Flow
1-1/2" LF	0.25	130
1-1/2" AL	0.5	220
2" LF	0.25	170
2" AL	0.5	220
3"	0.6	550
4"	1.7	880
6"	4	1400
8"	8	3500

MSPS MOUNTAIN STATES PIPE AND SUPPLY

Itron

HONEYWELL ELSTER Q4
ELECTROMAGNETIC METER [1-1/2” – 12”]

The evoQ4 is a single meter that meets the needs of traditional turbine, compound, single jet and magnetic meters.

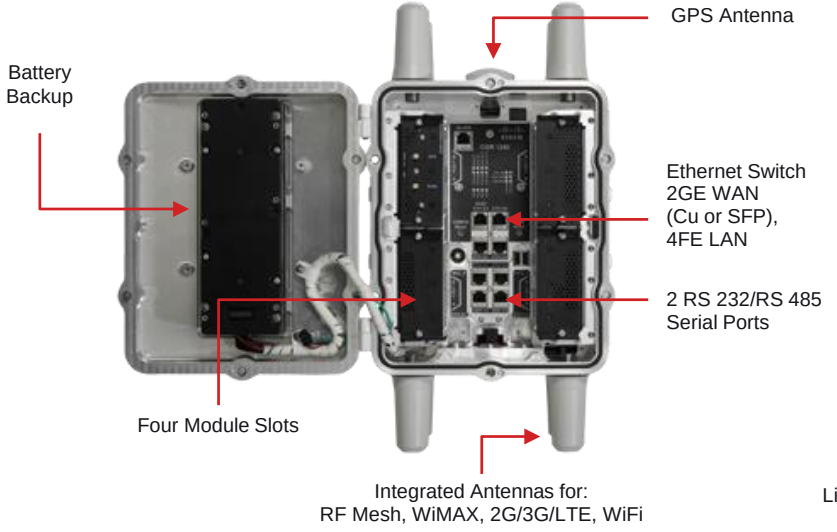
- No Moving Parts
- 10 Year Continuous Use Battery
- One register unlike typical compound meters
- Equipped with Itron Inline Connector
- Stainless Steel Grade 316 Body
- Stainless Steel Grade 304 Flow Tube
- Maintenance Free
- Available for fire service applications (UL/FM approved)
- Greater Low Flow accuracy than traditional PD, Turbine and Compound Meters

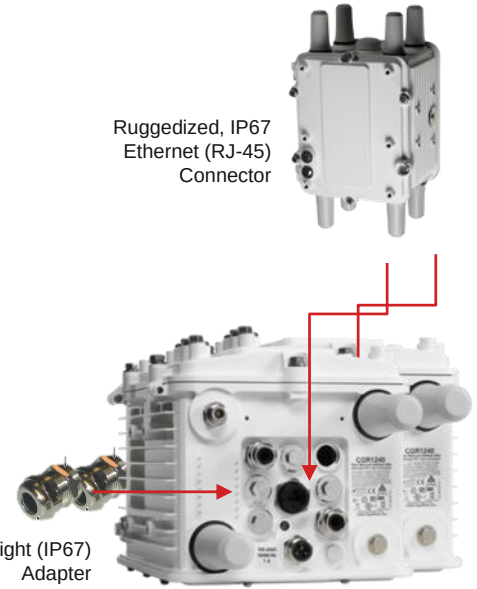
El Mirage Arizona had a 15% water loss prior to implementation of Q4 meters. Today – 3.5% water loss and a $500,000 annual savings because of a meter that collects all of the flow……

Itron RIVA Water Components

CISCO 1240 CONNECTED GRID ROUTER

Outdoor model (pole mounted)





Estimated dimensions: 30.5 cm (H) x 20.3 (W) x 19 cm (D) = 12“(H) x 8.0” (W) x 7.5” (D)
Antennas shown above are optional; can be deployed with external antennas

Source: Cisco.com

OPENWAY RIVA WATER MODULE

FEATURES

- » Utilizes standards-based IPv6 network
  - Proven 900 MHz ISM band
- » 160 days of interval data storage
  - Configurable intervals 15, 30, or 60 mins
  - Meter right sizing intervals 1 to 60 mins
- » Firmware download
- » Single endpoint for encoder or pulsar registers
- » Encoder auto-sensing
- » Leak, tamper and reverse flow flags
- » Extended meter alarms
- » Tamper investigation
  - Cut cable vs. register error
- » Remote disconnect capabilities
- » Operation modes:
  - IPv6 Network
  - Mobile 100S
- » Sensing capabilities
  - Leak, pressure, water quality

Pit Mount Module

Remote Mount Module

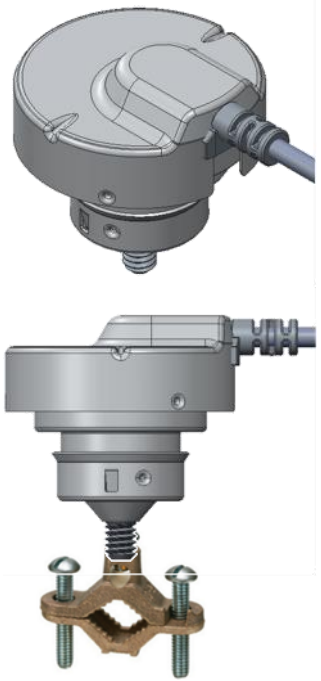
OPENWAY RIVA WATER MODULE

» Through the lid adapter kit
- Preferred installation method
- For use with RF Friendly lids
- Standard 1 5/8” dia. Hole
- Separate line item when ordering

» Remote Antenna Kit
- Anytime the Riva module is installed below the lid
- Rod mount kit required as a separate line item
- Can be installed on a rod or mounted to the side of the pit box

OPENWAY RIVA LEAK SENSOR

- New sensor technology has given us an opportunity to take the leak sensor performance to the next level
- More accurate noise detection
  - Reduction in false positives and false negatives
- Better performance on PVC and low pressure systems
- Scalable solution allows us to change parameters based on environment
- Increase in types of leaks detected
  - Hydrant leaks
  - Low pressure system leaks
- Expanded installation opportunities



Customer Engagement

CUSTOMER ENGAGEMENT

Analyze Customer Behavior

Predictive Analytics

Through in-built analytics, SCM® allows utility to assess customers' usage patterns, compare household consumption and delivers personalized water reports.

Keep Customers Informed

Real-Time Alerts

Real time leak and high use alerts help customers to opt for better choices and take informed decisions about water use efficiency.

Educate Your Customers

Learn and Save

SCM® helps you recommend customized savings programs based on usage analysis, and ensures increased customer participation in water conservation efforts.

Know Your Customer!

Analytic & Predictive

SCM® offers in-built analytic capabilities that help utilities keep track of consumption patterns, payment history, EE/ DR program enrollment, etc.

Keep Customers Informed

Alerts & Notifications

All map based! A convenient way to notify your customers about current and future outages.

Stay Connected!

Real-time, Two-way Communication

SCM® offers user-friendly interface, real-time and two-way communication that empowers customers to monitor and manage their data anytime, anywhere and on any device.

OVERVIEW OF OUR PROPOSAL

Provide an Itron RIVA Next Generation utilizing CISCO routers that allow for One Network with Unlimited automation possibilities including:

- 2 Way Meter Reading
- Pressure Sensing
- Remote Meter Shutoff
- Meter Analytics
- Streetlight Management
- SCADA and Pumping Control
- Parking Solutions
- Security Solutions

Provide a Kamstrup Static “Ultrasonic” meter that has been in the marketplace for over 25 years

- 20 year Meter Accuracy Warranty
- .025 GPM Low Start Flow Measuring *(lowest in the industry)*
- Ultrasonic metering principle – no moving parts – no wear and tear
- IP68 (NEMA 6P), waterproof and suitable for pit installation (submersible to 33ft)
- Built-in encoder for Sensus protocol output with Itron Connector for ease of installation
- Alarm codes (Leak, Burst, Dry, Reverse, Tamper)
- Eco-friendly and unleaded construction

MOUNTAIN STATES PIPE & SUPPLY

OVERVIEW OF OUR PROPOSAL

Provide Itron Electric Meters

The Itron Electric Meter provides a backbone for Mesh Technology with the Kamstrup and Elster Meters along with the Itron RIVA module

Voltage Monitoring and Profiling

- Enable/Disable
- Configurable Low/High Thresholds
- Intervals of 5, 10, 15, 30, 60 Minutes
- Min, Max, Average, Instantaneous

Time of Use (TOU)

Events and Alarms/Tamper

Remote Connect/Disconnect

Load Side Voltage Detection

Fully Remote Configurability

OpenWay Riva meter

MSPS MOUNTAIN STATES PIPE & SUPPLY

OVERVIEW OF OUR PROPOSAL

Provide a Smart Earth Technology “Shut-off” Valve

Smart Earth Remote Shutoff

- 7-1/2” Lay Length
- Strategic Deployment or Complete Deployment
- Available for deployment under network or Cell Network
- Utilizes same ERT module as meter
- 15 Year Service Warranty
- Open, Closed and ½ Open Positions

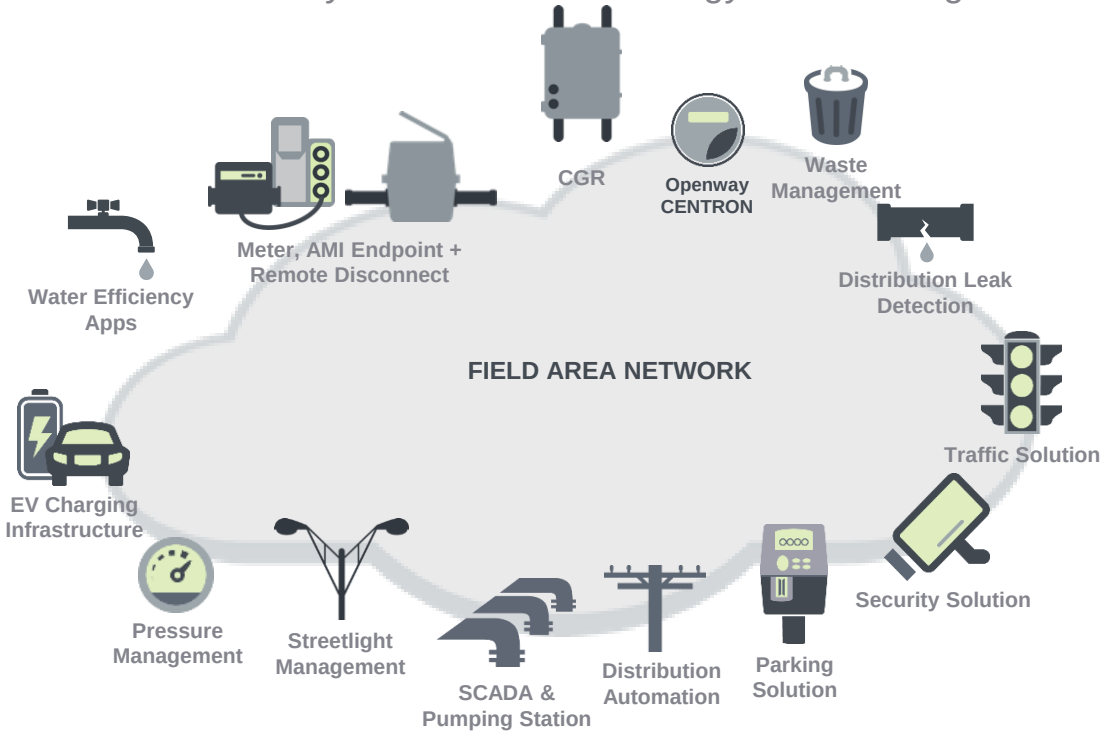
Provide Honeywell Elster Q4 Electromagnetic Commercial Meters

The evoQ4 is a single meter that meets the needs of traditional turbine, compound, single jet and magnetic meters.

- No Moving Parts
- 10 Year Continuous Use Battery
- One register unlike typical compound meters
- Equipped with Itron Inline Connector
- Stainless Steel Grade 316 Body
- Stainless Steel Grade 304 Flow Tube
- Maintenance Free
- Available for fire service applications (UL/FM approved)
- Greater Low Flow accuracy than traditional PD, Turbine and Compound Meters

ITRON OPENWAY RIVA WITH MSPS, GORMAN, KAMSTRUP, ITRON ELECTRIC METERING, SET AND SMART UTILITY SYSTEMS

A solution with the ability to evolve as technology and challenges does . . . .



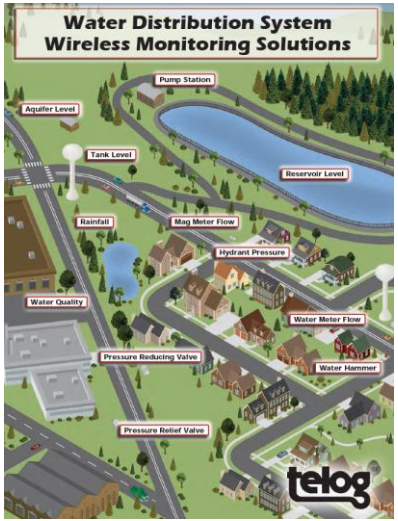
COMMUNITY ENGAGEMENT

- » Conservation Program
- » City Initiatives
- » City Statistics
- » Parking Solutions
- » Security
- » EV Charging

ADDITIONAL COMPONENTS TO MAKE MY WATER SYSTEM MORE EFFICIENT

Trimble water

Transforming the way the water industry works through smarter technology solutions



Fixed Leak Detection
Pressure Monitoring
Tank Levels
Rainfall Monitors
Water Quality
Lift Station Monitoring

For further questions
Please contact us at:
juhlman@msps.com
paulc@msps.com

Questions