ADVANCED METERING INFRASTRUCTURE (AMI) WHAT CAN IT DO FOR YOU?

suez environnement

United Water

Advanced Metering Infrastructure (AMI) What Can It Do For You?

Introduction to AMI

How does AMI differ from AMR?

What does AMI look like – United Water Idaho Pilot Project

What capabilities does AMI bring that are unavailable now?

How would AMI change your day-to-day operation?

Why should your customers support AMI?

Introduction to AMI

Badger Meter, Inc. began operations in 1905

Neptune Meters produced their first Trident meter in 1892

Since that time huge technological advances have taken place:

- **sent men to the moon,**
- **travel by air has become routine,**
- **invented computers,**
- **achieved unimaginable developments in communications and medical treatments,**
- **and the list goes on and on……**

Introduction to AMI

But…for the most part, water meter reading & billing have not changed in 110 years

We read the meter every month, two months or quarter and produce a water bill

So, no more interim information now than 110 years ago

AMI changes that…with both daily and hourly usage between bill dates

How does AMI differ from AMR?

AMI is an acronym which draws a distinction from AMR

AMI – Advanced Metering Infrastructure
AMR – Automated Meter Reading

AMI is, as the name implies, an advanced form of AMR

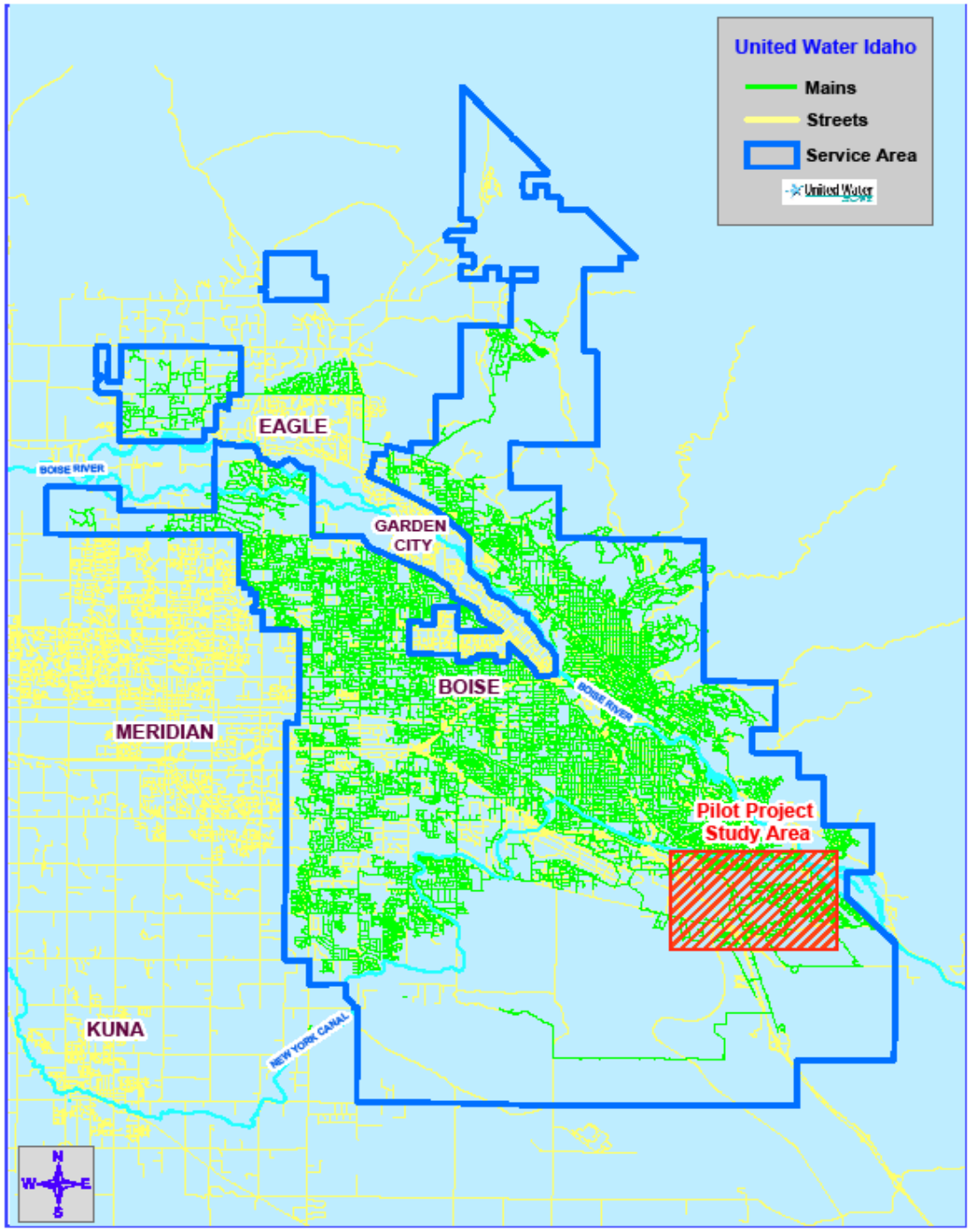
AMI provides ongoing water consumption data
AMR enhances existing meter reading process

Historic interval information not readily available from AMR, but is available from AMI

What does AMI look like?

United Water Idaho Pilot Project

Fixed Network Pilot Project
United Water Idaho


United Water Idaho
Mains
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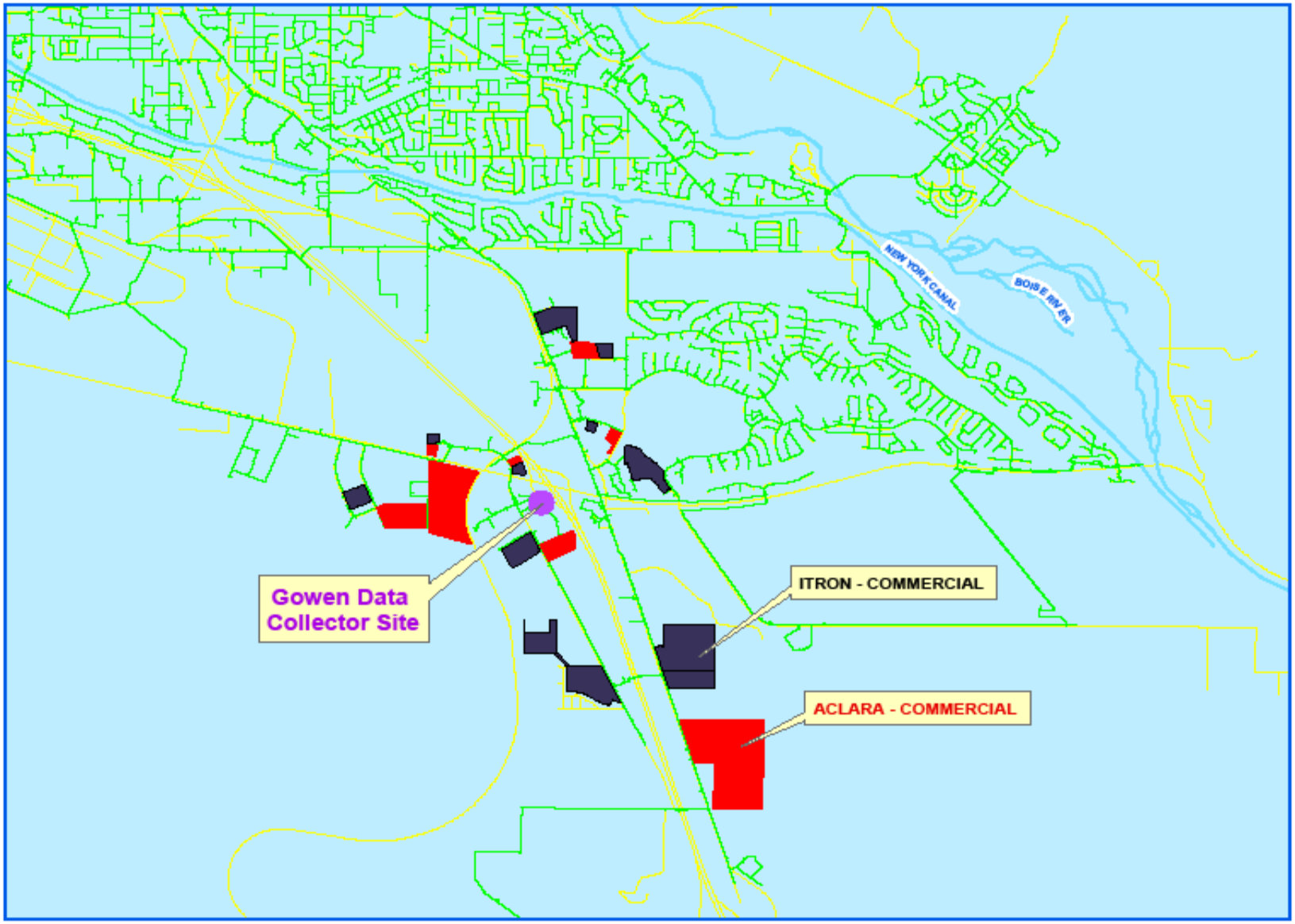
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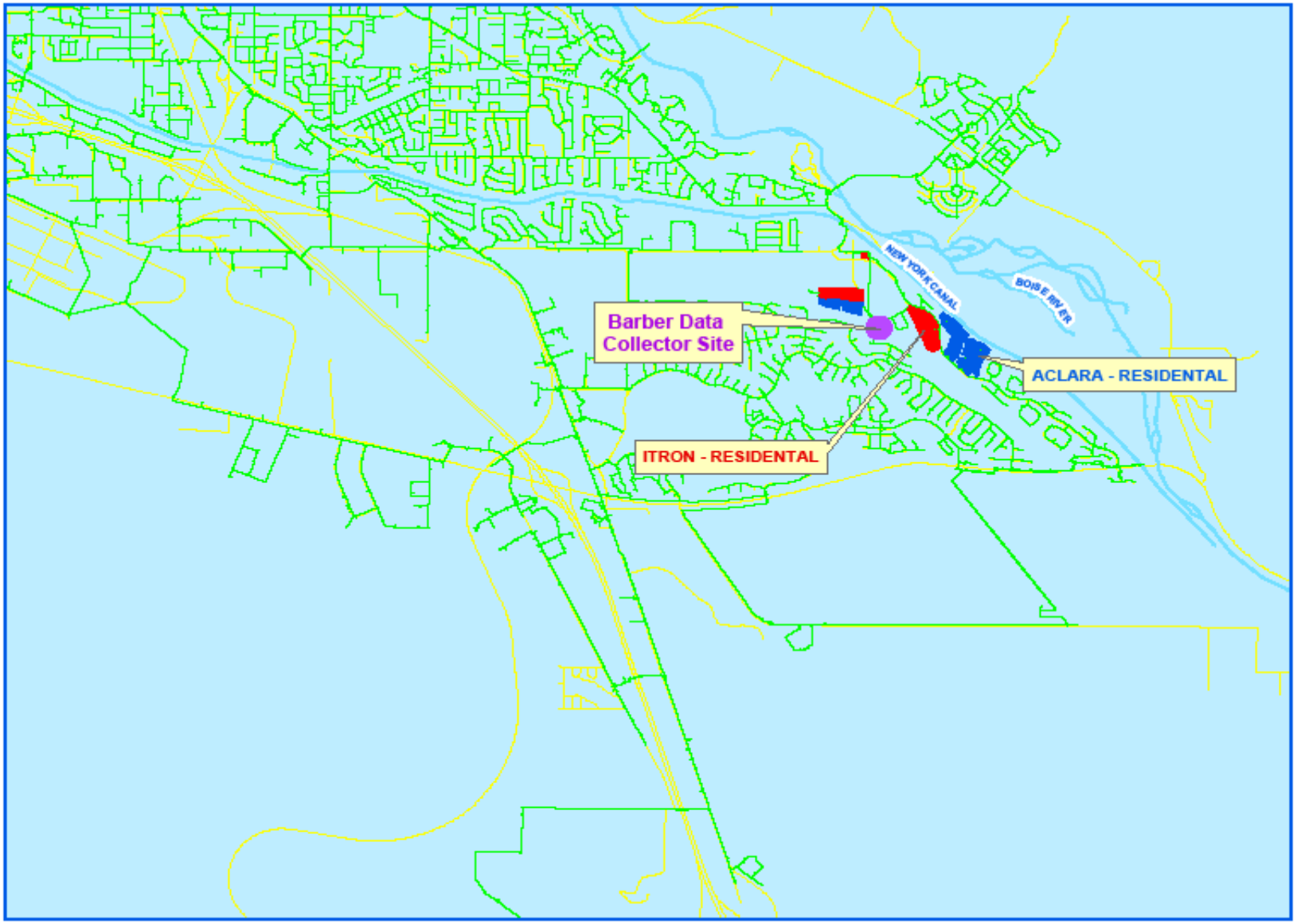
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ITRON - RESIDENTAL
NEW YORK CANAL
BOISE RIVER

ITRON ENDPOINT INSTALLATION

Itron

Done 3/4"

WATER
METER
FORD METER BOX CO. INC.
RODANZA

ACLARA ENDPOINT INSTALLATION

United Water

United Water

United Water

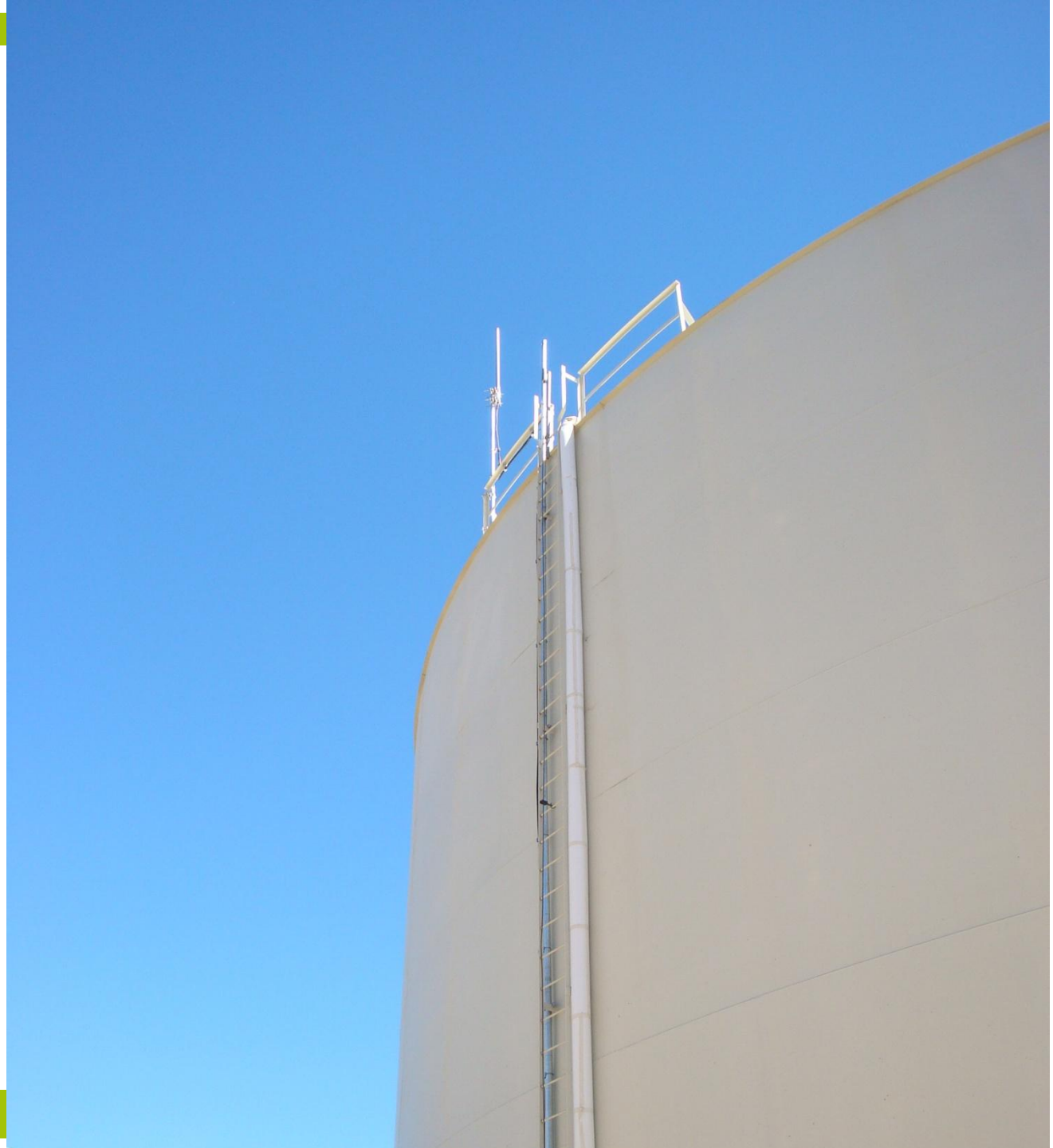
WATER
METER

United

Star
HEXAGRAM, INC.
CLEVELAND, OH.

FORD METER BOX CO. INC.
WATER
METER
WABASH
INDIANA

BARBER DATA COLLECTOR SITE ITRON



CONSTRUCTION
SUPPLY & RENTAL

GOWEN DATA COLLECTOR SITE ITRON

BOISE
FACTORY
OUTLETS

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Itron
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What capabilities does AMI bring that are unavailable now?

DATA, DATA, DATA AND MUCH, MUCH MORE DATA!!!!

Now, you get 4 or 6 or 12 meter readings per year for each meter in your system

With AMI: 24 readings x 365 days/yr = 8,760 hourly interval readings for each meter

The key: AMI system organizes this information for you

What capabilities does AMI bring that are unavailable now?

With that data, several areas of water system operations are enhanced:

1. **Inside customer service**
2. **Outside customer service**
3. **Administration/Engineering**
4. **Security**

What capabilities does AMI bring that are unavailable now?

INSIDE CUSTOMER SERVICE

1. Provides current register reading, enabling:
    1. Final read/bill while customer is still on phone
    2. Initial read when setting up new customer account
2. Historic consumption with mouse click, enabling:
    1. Customer service representative (CSR) to investigate water usage over billing period
    2. Download & mailing/emailing historic data to customer
3. Makes online access possible

What capabilities does AMI bring that are unavailable now?

OUTSIDE CUSTOMER SERVICE

1. **Provides leak check analysis without requiring a field visit**
2. **Identifies backflow events, times, volumes and addresses**
3. **Identifies addresses with usage on inactive accounts**
4. **Identifies addresses with no usage on active accounts**

What capabilities does AMI bring that are unavailable now?

ADMINISTRATION/ENGINEERING

1. Unaccounted for water volume calculations on a daily basis
2. More accurate revenue forecasts
3. Improved information for engineering design
4. More accurate hydraulic modeling
5. Future sensors can be added for:
    1. Acoustic leak detection
    2. Pressure
    3. Temperature
    4. Etc……

What capabilities does AMI bring that are unavailable now?

SECURITY

1. Backflow events serious threat to system security
    1. AMI backflow alarms within, at minimum, 1 hour
    2. Providing:
        1. Address
        2. Volume
        3. Duration
        4. Time it began
        5. Time it ended or when the service was turned off

How would AMI change your day-to-day operation

AMI will affect most areas of the water system's operations:

1. **Interaction between customers and CSRs**
2. **Reduced outside service orders**
3. **Improved/targeted water conservation efforts**
4. **Reduced risk exposure for employees**
5. **Changes in job descriptions/training requirements**
6. **Creates new tasks**

How would AMI change your day-to-day operation

INTERACTION BETWEEN CUSTOMERS AND CSRs

1. **CSRs empowered to resolve customer's issue during first phone call**
2. **Much more information available to CSRs**
3. **Overall, AMI enables CSRs to enhance the customer service experience**

How would AMI change your day-to-day operation

REDUCED OUTSIDE SERVICE ORDERS

Because there is no need:

1. **To roll a truck for final read or initial read**
2. **For rereads**
3. **To retrace a meter route for missed reads**
4. **For leak checks to resolve high bill complaints**

How would AMI change your day-to-day operation

IMPROVED/TARGETED WATER CONSERVATION EFFORTS

1. **AMI Systems can help identify high water users to:**
    1. **More efficiently target conservation efforts**
    2. **Reduce costs for generic conservation messages**
2. **Evaluate the effectiveness of conservation efforts (before and after analysis of targeted groups)**

How would AMI change your day-to-day operation

REDUCED RISK EXPOSURE FOR EMPLOYEES

1. **Reduced risk for meter readers and outside service personnel from:**
    1. **Bee stings**
    2. **Dog bites**
    3. **Slips and falls – especially in winter**
    4. **Repetitive motion injuries (meter readers)**
    5. **Passing automobile traffic**
    6. **Traffic accidents**
    7. **Needing to access private property**

How would AMI change your day-to-day operation

CHANGES IN JOB DESCRIPTIONS/TRAINING REQUIREMENTS

1. CSR training on both customer information system and AMI
2. Database management training and/or experience
    1. Several reports are generated daily that will need to be managed
        1. Leak reports
        2. Usage on inactive accounts
        3. No usage on active accounts
        4. Backflow reports
        5. System status reports
        6. Various data requests

How would AMI change your day-to-day operation

CHANGES IN JOB DESCRIPTIONS/TRAINING REQUIREMENTS

3. **In-house training on radio equipment or assignment to outside contractor**
4. **Training for:**
    1. **field equipment installation,**
    2. **maintenance and**
    3. **trouble-shooting**

How would AMI change your day-to-day operation

NEW TASKS

New tasks or job assignments necessary to support AMI, as mentioned previously:

1. **Managing customer leak reports**
    1. **Establishing customer notification criteria**
    2. **Filtering daily reports, new leaks vs ongoing/unrepaired leaks**
2. **Generate service orders to investigate:**
    1. **Usage on inactive accounts**
    2. **No usage on active accounts**
    3. **Inactive AMI transmitters and receivers**

How would AMI change your day-to-day operation

NEW TASKS

3. **Analyze historic data on request, for water usage by:**
   1. **Customer class**
   2. **Irrigation customers vs. non-irrigation customers**
   3. **Pressure zone**
   4. **Lot size, by home size**
   5. **Sanitary sewer collection zones**
   6. **Etc……**

Why should your customers support AMI?

This is probably the most difficult and challenging question regarding AMI.

It may be helpful to pose a hypothetical question?

A new water customer has a choice System A or System B:

System A: the water meter is read every month, but no other information available

System B: the account is billed every month, but hourly water usage information available

Why should your customers support AMI?

Plus additional capabilities from System B because of hourly info:

1. **Leak detection on the their side of the meter,**
2. **Protection from backflow events in their neighborhood,**
3. **Usage history will be available on request or online,**
4. **CSRs better able to answer their inquiries,**
5. **System B's conservation programs effectively addressing excessive water users,**
6. **System B is, overall, better equipped to operate in an efficient and consumer responsive manner.**

Why should your customers support AMI

Additional costs for System B:

System B has had to invest about $120 per customer for the AMI system

Consequently, their water bill $2-$3 higher with System B than System A

The family then has to decide, "Is it worth the cost?"

ADVANCED METERING INFRASTRUCTURE (AMI) WHAT CAN IT DO FOR YOU?

QUESTIONS