This presentation premiered at WaterSmart Innovations

watersmartinnovations.com



Advanced Metering Infrastructure

Creating a Successful Business Case





Technology Review

Study Process and Results

Recommendation



AMI Team

Consultants – Experts in the Field

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City of Santa Rosa Team Members

- Utilities Operations
- Water Use Efficiency
- Information Technologies
- Utility Billing
- Utilities Finance Team
- Board of Public Utilities Member



Meter Reading Options







Traditional Reading (manual & TouchRead[®])

Automated Reading (AMR –drive by) Advanced Metering Infrastructure (AMI)



Santa Rosa's Meter Reading History





AMI Components

- Radios (MIUs) at each Meter
- Radio receivers (DCUs) forwarding readings
- Central computer collecting data
- Database (MDMS) organizing & analyzing data
- IT interfaces to existing systems, customer portal



Utilities Department

Three Tiers of AMI Benefits

- **Proactive system optimization**
- Zone analysis
- · · ENPANCE/ engewates analysis
- CG965traffeetiyeentaryinging
- ABersonalized notifications

- etc.
 - Customer self-service, etc. Required track rolls
- - Constant billing periods
 Improved worker safety
- - **Reduced truck rolls**
 - Improved worker safety ۲





Santa Rosa's AMI Model

Financially

- Staff was aware we would be entering a break even scenario
 - water loss is low in the City's system
 - City of Santa Rosa

□ 6.3%

- accurate meter reading
- Very conservative estimate
 - break-even over life of project



Business Case Process – Data Review

Business Operations

- Metering practices
- Field operations costs
- Customer service costs
- Standard Operating Procedures

Workshops

- Process Analysis
 & Redesign
- Software & IT Needs
- Risks & Implementation Considerations
- Triple-Bottom-Line





Business Case Process

Financial Model

- Capital Costs
- Management Cost
- Maintenance Costs
- Operational Savings
- Life-Cycle Evaluation
- Internal Rate of Return



AMI Benefit Analysis - Financially

- Savings in Operations
 - eliminate routine field meter reading
 - > 25% lower call center volume
 - > 39% fewer field work orders



- streamlined Water Use Efficiency (WUE) audits
- Savings in Programs
 - meter replacements
 - AMI-enabled conservation offsets WUE rebates
- Revenue Increase

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 improved metering accuracy due to correctly sizing meters



AMI Benefit Analysis – Triple Bottom Line

Lower GHG emissions

- 1,000,000 pounds over project life
 - ▶ 39.5 tons/year
- Water use efficiency
 - early detection of leaks
 - water shortage tracking
 - water budgeting / e-notification

Customer satisfaction

- minimize high bills
- proactive issue resolution
- customer portal / e-notifications





Customer Portal

My Water Usage Over the Last 30 Days 30 24 20.1 18 18 15 12 9.1 ñ 6 4.1 0.6 0.6 1.2 1.3 2.4 2.3 2.5 2.3 2.3 0.6 1.4 1 1.1 0.4 0.9 0.5 0.9 1.2 0.7 0.9 0.8 0.6 0.3 0.9 0 Aug.22 Aug.23 Aug.25 Aug.26 Aug.28 Aug.29 Aug.30 Sep.01 Sep.06 Aug.19 Aug.20 Aug.24 Aug.31 Sep.02 Sep.03 Sep.04 Sep.05 Sep.07 Sep.08 Sep.12 Sep.16 Sep.18 Aug.21 Aug.27 Sep.09 Sep.10 Sep.13 Sep.15 Sep.14 Sep.17 Sep.11 1 Tier-1



Library

If you replace your Washing Machine ...

September 10, 2012



Most front-loading machines are energy- and water-efficient, using just over 20 gallons a load, while most top-loading machines, unless they are energy-efficient, use 40 gallons per load.

Read More ...

Water Rates

Tier-1	60¢
Tier-2	100¢
Tier-3	150¢

Water Conservation

AMI Benefit Analysis – Triple Bottom Line

- Employee satisfaction
 - better customer relationships
 - empower CSRs to resolve concerns with live data
 - sewer caps easily set
 - WUE able to base analysis on detailed data

Planning efforts

- demand detail supports informed design
- offsetting future needs
- Simplified rate cases
 - ease of developing & applying tiers
 - constant billing cycles (30-31 days, not 28-35)





Recommendations

On the basis of...

- City is already incrementally implementing AMR
- Benefits of AMI outweigh those of AMR
 - economically
 - socially
 - environmentally



Recommendations

Consider...

- System-wide AMI implementation
- Begin development of vendor RFP and planning
- Complete deployment of manually read meters ASAP
- Replace or retrofit remainder of meters with staff





Questions ?

