Step Up IT/OT With Shared Solutions

APPA Joint Action Workshop
Mike Peters, President & CEO
WPPI Energy
January 8, 2018
Overview

- WPPI Energy and our member utilities
- WPPI’s “Customer Information Strategy”
- WPPI services tied to or supported by our “CIS”
- Staffing—what makes this all work
WPPI Energy

- Formed in 1980 with 23 Wis. municipals
- Today, 51 members in 3 states
- 200,000 meters
- 1,050 peak load, 5.25 MMWhs
WPPI Energy’s Members

- **Largest member**-Kaukauna Utilities (Wis.)
  - 100 MW; 551,500 MWh; 15,000 meters; 45 employees with dedicated IT staff; owns generation and operates 24-hr control center

- **Smallest member**-Preston Utilities (Iowa)
  - 1.8 MW; 7,628 MWh; 586 meters; 1 employee; contracts with cooperative for line services

- **Typical** WPPI member
  - 11.5 MW; 60,000 MWh; 2,750 meters; 6 to 8 employees; no dedicated IT staff and one staff for billing function
Customer Expectations

- Customers expect to do business online with their utility the way they do with retailers, travel agencies, banks, mobile service providers, etc.
- More options and personalization
- Surveys show Millennials want to manage their utility account and report outages online
- A more engaged customer is a more satisfied customer
WPPI’s “Customer Information Strategy”

- Critical initiative impacting WPPI’s ability to provide high quality services to members in a timely and cost-effective manner
- Critical initiative impacting members’ ability to meet future customer needs and expectations
- All of these issues can be addressed if we effectively collect, manage and use customer usage data
- Can be addressed most effectively through Joint Action
Customer Information Strategy

- Meet customer expectations (today / future)
- Provide proactive customer service
- Have more information on your customers
  - Allow customers to see how they use electricity
  - Allow accurate allocation of costs (rate cases)
  - Allow ESRs to help with and monitor efficiency programs
- Allow more effective demand response programs
Technology & Customer Engagement Initiatives

- NorthStar Customer Information System
- Siemens Meter Data Management System
- MyMeter, customer engagement platform
- Preparing to meet outage management needs
Customer Engagement Solution

- **MyMeter**
- Developed by Accelerated Innovations of St. Paul, MN
- Integration with CIS is key
  - Bill pay via single sign-on increases participation
  - As high as 60% vs. <10%
- Work toward large number of customer sign-ups
  - Online bill pay/paperless billing
  - Easier customer communications
  - Target marketing for programs and services
  - Increased program participation
- Industry surveys indicate that an engaged customer is a satisfied customer
Tracking your energy use has never been easier. On any device, at any time.

Using MyMeter, you can now easily and quickly track your energy usage, spot trends and receive alerts whenever your energy use reaches a pre-set threshold. Monitoring and managing your energy costs has never been easier. It’s your energy. Make the most of it.

Get Started Today. Already have a MyMeter account? Login at the top of the page.

Data & alerts where you are
Alerts and meter data are accessible across lots of different devices and our mobile app option keeps you up to date even when you’re on the road.

Customizable markers
Track important events and monitor associated energy changes with handy markers. Using markers helps you know how and when to provide important alerts.

Track & compare your usage
Track your usage against weather conditions and see how you compare to your own usage from previous years.

Benchmark
Access information about your building’s real-time energy usage, load factors and historical trends—and understand what those numbers actually mean.
My Account

Select from options to pay your bill, view your energy [and water] usage, see your payment history and manage all of your services. Our online account management system offers paperless billing and Autopay.

Pay My Bill  
My Usage  
My Billing History  
Manage My Services

Contact Us for more information about managing your service online and for other Payment Options.
Customer notifications

- Customers set up own notifications/preferences
- Utility can push out messages to customers
<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
<th>Usage</th>
<th>Period Ending</th>
<th>Bill #</th>
<th>View</th>
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<td>2/22/2017</td>
<td>4620143939 - Electric</td>
<td>474 kWh</td>
<td>2/15/2017</td>
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<td>4614036077 - Water</td>
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<td></td>
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<td>1/12/2017</td>
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</tr>
<tr>
<td></td>
<td>4614036077 - Water</td>
<td>3900 gal</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td>7/14/2016</td>
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<td>768 kWh</td>
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<td>3700 gal</td>
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<td>3700 gal</td>
<td></td>
<td></td>
<td></td>
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</table>
Energy Challenge
Started On: 12/13/2017

What is the Energy Challenge?
Take control of your usage by joining the Energy Challenge! This 6 month challenge allows you to set a savings goal and measure your progress against yourself from the same month last year. Plus you’ll be saving money while saving the planet! Who wouldn’t like that?

I'm going to save: 4%

Range | Last Year's Avg Temp. | Last Year's Usage | Your Challenge Goal | Goal kWh Savings | Goal $ Savings | Actual Usage to Date | This Year's Avg. Temp. | Achieved |
--- | --- | --- | --- | --- | --- | --- | --- | --- |
12/13/2017 - 1/13/2018 | 19°F | 709 kWh | 680.64 kWh | 28.36 kWh | $2 | 0 kWh | N/A | N/A
1/13/2018 - 2/13/2018 | 26°F | 539 kWh | 517.44 kWh | 21.56 kWh | $2 | 0 kWh | N/A | N/A
2/13/2018 - 3/13/2018 | 31°F | 409 kWh | 459.44 kWh | 19.56 kWh | $2 | 0 kWh | N/A | N/A
3/13/2018 - 4/13/2018 | 37°F | 404 kWh | 445.44 kWh | 18.56 kWh | $2 | 0 kWh | N/A | N/A
4/13/2018 - 5/13/2018 | 47°F | 409 kWh | 450.24 kWh | 18.76 kWh | $2 | 0 kWh | N/A | N/A
5/13/2018 - 6/13/2018 | 59°F | 459 kWh | 440.64 kWh | 18.36 kWh | $1 | 0 kWh | N/A | N/A
Challenge Results | 37°F | 3129 kWh | 3063 kWh | 28 kWh | $11 | 0 kWh | N/A | N/A

* The current month's achieved savings is an estimate based on your progress through the month.
Residential Service

Your Electricity Charges
- Basic Service Charge: $10.75
- Energy Charge: $45.75

Total Electricity Charges: $56.50

Click here to learn more and sign up!

Residential Time Of Day

Your Current Rate
- Basic Service Charge: $10.75
- Off Peak @ $0.00574/kWh: $20.75
- On Peak @ $0.02764/kWh: $34.78

Total Electricity Charges: $66.29

Residential Time Of Day Demand Service

Your Electricity Charges
- Basic Service Charge: $10.75
- Energy Charge: $0.04370/kWh: $193.40
- Demand Charge:
  - Off Peak @ $0.370/kW: $148.70
  - On Peak @ $1.395/kW: $26.10

Total Electricity Charges: $71.06

The calculator uses your historic usage to perform the analysis, select the timeframe to use for your calculations.
Operations Data

- Detailed usage data
- Distribution losses
- Outage information
- Water leak reports
- Predictive maintenance
Distribution Loss Report
Outage Information
Water Leaks Report

Oconomowoc Water Leak Report

Water meter report showing meters with at least 92% of hours (44 of 48) water usage for the previous 2 calendar days. Report excludes approximately 100 water meters that are not programmed for hourly interval data.

VEE Service: VEE Service, Water Residential

<table>
<thead>
<tr>
<th>Account</th>
<th>Name</th>
<th>Phone</th>
<th>Min Usage</th>
<th>Max Usage</th>
<th>Percent of Hours Using Water</th>
<th>Total Hours</th>
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<td></td>
<td>7</td>
<td>60</td>
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<td>100</td>
<td>96%</td>
<td>48</td>
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<td>1140000</td>
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<td></td>
<td></td>
<td>4</td>
<td>50</td>
<td>100%</td>
<td>48</td>
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</tbody>
</table>

Sample Data
Outage Management

- **Bronze Level**
  - Outage map to customers without OMS
  - Utilize existing AMI infrastructure
  - Realization that it will be basic, involve manual steps

- **Silver**
  - Includes OMS for improved outage identification

- **Gold**
  - Fully integrated systems
  - Include all in the roadmap, let members choose how far they want to go
Interface for Customers

- Outage Map
  - # customers affected in each area
- Outage Reporting
- Mobile Device Support
Interface for Field Staff

- Mobile View of Outage Information
  - Up/Downline protection devices
  - Extent of outages
  - Crew locations

- Automatically Provides
  - Assigned Outages
  - Status Updates
  - Closure Codes

- Several questions arise
  - What tool(s) do crews look at?
  - Does it work without cellular?
Billing Support Service

- Option 1: Tariff compliance review
- Option 2: Retail billing for only large/industrial customers and tariff compliance review
- Option 3 (targeting 2019): Retail billing for all retail customers (includes electric, water, sewer and all other services) and tariff compliance review
STAFFING: THE KEY TO SUCCESS
2013 Support Levels – CIS, AMI, MDM

3 members using AMI
28 members using NorthStar
2017 Support Levels – CIS, MDM, AMI
20+ members using AMI
32 members using NorthStar
WPPI & Member IT Support

- Director of Information Technology
  - Telecom Analyst
  - System Administration (2)
  - Network Engineer (2)
  - Desktop Support Analyst
  - Application Developers (3)
Distribution Services

- Director of Distribution Services
  - Manager of Metering Services
    - Metering Electrician (3)
    - Metering Engineer
Rates & Billing

- Vice President
  Rates & Special Projects
  - Director of Rates
    - Rate Analysts (2)
  - Director of Billing Services
    - Billing Analyst
    - Billing and Data Analyst
Member Feedback - AMI

- Remote disconnects improved efficiency
- More process changes than anticipated
- Those that have implemented, want to move to the next steps with AMI
  - Want more customer focused use of the data
  - Want outage notifications for customers
  - Want more system monitoring
    - Voltage
    - Losses
    - Transformer Loading
Lessons Learned

- Billing from Interval Data
  - Different comfort levels among members
  - Challenges merging new technology with old rules

- Reporting
  - Several meter wiring issues uncovered
  - Meter tampers, voltage issues, hot sockets
  - Water leaks report – proactive customer service

- Reads Map
  - Aid in troubleshooting field & system problems
Lessons Learned (2)

- Steep learning curve
  - AMI puts new tasks on the members plate
  - Systems evolving – Staff always learning

- Implementations all have some unique feature
  - Different billing schedules; read vs bill lag times
  - Different staffing levels & capabilities

- Technology challenges
  - Upgrades costly; must be coordinated across vendors
  - Integrations challenging
Lessons Learned

- Joint action benefits
  - Dedicated staff work with AMI systems daily
  - Upgrades & testing are continuous; dedicated staff provides efficiency
- Change in thinking on technology costs
  - Investment for the future
  - Building a base for future services
  - Improved customer service – difficult to measure
- Look at all your options
  - Cloud based providers have emerged
  - “Enterprise” providers have emerged
Questions?