

MINUTES FROM THE ADVANCED METERING INFRASTRUCTURE WORKSHOP
THE UTILITY BOARD OF THE CITY OF KEY WEST, FLORIDA,
WEDNESDAY, SEPTEMBER 7, 2022 - 3:00 P.M.
KEYS ENERGY SERVICES BOARD ROOM
1001 JAMES STREET, KEY WEST, FLORIDA

The above referenced workshop of the Utility Board of the City of Key West, Florida, convened at 3:06 P.M., on the above date and was called to order by Utility Board Chair Ms. Mona Clark.

Utility Board Members Present

Mona Clark, Utility Board Chair
Timothy Root, Utility Board Vice Chair (virtual)
Robert Barrios, Member
Pat Labrada, Member
Steve Wells, Member

Staff Present

Lynne Tejeda, General Manager/CEO
Nathan Eden, Utility Board Attorney
Dan Sabino, Director Engineering/Control Center & Asst GM
Nick Batty, Director of Legal & Regulatory Services
Edee Delph, Executive Assistant to GM/CEO & UB
Jessie Perloff, Director of Finance / CFO
Julio Torrado, Director of HR & Communications
Erica Zarate, Director Customer Services
Rob DePhillips, Supervisor of T&D Substations
Hugo Valdez, Supervisor of Meter Services
Sam Gaccione, Project Engineer
Jay Hudkins, Project Engineer
Michael Wedincamp, Communications Coordinator

Others Present

Kyle Kopczyk, Power System Engineering

Mrs. Tejeda stated that today's workshop is to discuss the Utility Board's potential benefits of having an Automated Metering Infrastructure (AMI).

Mrs. Tejeda said that Power System Engineering (PSE) has worked with staff for the last several months regarding a Request for Proposal (RFP) for AMI. PSE was on site for two days working with staff to gather additional information which will be presented today.

Mrs. Tejeda stated that today's goal is to provide the Board with a broad overview of what AMI is, to discuss the gap between what KEYS currently has and would like to have, to review several business cases prior to staff issuing the RFP and to confirm the Board wants to pursue AMI after today's presentation.

Mrs. Tejada introduced Mr. Kyle Kopczyk, Project Manager for PSE.

Agenda Item 2 - Introduction to AMI

Mr. Kopczyk informed the Board that AMI is an integrated system of smart meters, communications networks, and data management systems that enables two-way communication between utilities, customers and allows you to make fact-based and informed asset management decisions, helping to proactively protect your utility infrastructure.

Mr. Kopczyk explained the Evolution of Meter Reading Technology and how it works with other systems such as, Customer Information System (CIS) / Billing, Outage Management System (OMS), Geographic Information System (GIS) and Work Service Orders.

Mr. Wells asked about the customers' right to privacy. Mr. Kopczyk said that one percent of customers complain, and customers have options. Mrs. Tejada stated that there is an opt-out option which is an additional fee and passed to the customer.

Mr. Kopczyk informed the Board there are three network options when using AMI, point-to-multipoint communication, mesh/ multipoint-to-multipoint and cellular-based. He reviewed the advantages, disadvantages, and AMI vendors for each.

Mr. Wells asked if there is an estimated cost when using the cellular. Mr. Kopczyk answered yes and said that it depends on the usage and currently it is \$1.50 to \$2.00 per meter per month.

Mr. Labrada asked if this is based on real-time data. Mr. Kopczyk replied the data is available within a one-minute timeframe.

Mr. Labrada asked if the data allows you to see the customer usage during peak time. Mr. Kopczyk said yes, absolutely.

Mr. Kopczyk stated that 60% to 80% of the Country is currently using AMI.

Agenda Item 3 - AMI Benefits

Mr. Kopczyk explained that an AMI network also enables the efficient and effective transport of information from the field into the office for various systems. General, areas of improvement exist for:

Customer Service Improvements:

- Outage & Restoration Information
- High Bill Complaint, Services and Information

Operational and Technical Improvements:

- Transformer Loading and Sizing Calculations

Overall Safety Improvement:

- Back Feeding During Outage (Load Side Voltage)

Additional Future Programs (Demand Response, Street Lights, Etc.)

Mr. Kopczyk provide the Board with Potential Customer Benefits:

Faster Outage Restoration

Dynamic pricing and rate options:

- Time of Use (TOU)
- Demand
- Critical Peak Pricing (Load Management)
- Prepaid Metering

Provide more options, increased flexibility, and data to better manage energy usage and monitor consumption:

- Customer Portal
- Prepaid Metering
- Billing Date Selection
- Better Customer Bill Understanding/Education
- High Bill Complaint Resolution

Provide proactive responses to issues:

- Outage and restoration responses
- Immediate meter response for no-light calls
- Alerts (Hot Socket, Under or Over Voltage Issues)

Automated Move-in/Move-out/Final Readings

Real time disconnect/reconnect

More Detailed Information and Data Available Immediately

Improved Power Quality (Blink vs. Outage)

Load Management Savings

Billing and the use of complex rates and data:

- Outage and Restoration Improvement
- Time of Use (TOU)
- Critical Peak Pricing (Load Management)
- Pre-paid Metering
- Automated Move-in/Move-out/Final Readings
- Alerts/Events
 - Flag suspected theft or after a storm
 - Usage - when there should be zero or no-usage and there should be
 - Tilt or removal from the meter base

Disconnect and Reconnect (Load Management, Non-Pay, Vacant Services)

Mr. Kopczyk provided the Board with the Operational and Technical Benefits of AMI:

- Customer Out of Power Detection
- Remote Disconnect/Reconnect
- Meter Base Arcing and Hot Sockets
- Power Quality Investigation
 - Number of blinks, sags, etc. (over time specified)
 - Voltage Monitoring (*min, max, average*)
- Transformer Loading Analysis
- General Line Loss Analysis
- Power Factor by Circuit or Time of Day

- Pattern Detection (Algorithm to detect Patterns in Voltage, Demand, Blinks, etc.)
- Phase Detection
- Accurate Outage Reporting versus Predicted Outage
- Interoperability/IoT

Mr. Kopczyk provided the Board with the Overall Safety Improvements of AMI:

Increased Safety – Reduced Unnecessary Field Time

Remote Disconnect and Reconnect

- Disconnect and reconnect power from the office vs. a manual cut-off
- Could be used as an emergency load reduction effort

Reduced Truck Rolls - Accidents

- Final/Move-in/Move-Outs
- Verifies
- High bill complaints
- “No Light Calls”

Identify Bad Equipment and Code Violations

- Identify overheating meters

Load Side Voltage Detection

- Disconnect Meter to Prevent Back Feeding of Power

Agenda Item 4 – Guidelines Applied to Practice (GAP) Analysis

Mr. Kopczyk discussed the following with the Board:

1. Power Quality Issues (Customer Reported)
 - Outage & Restoration
 - No-Lights
 - Blinking Lights
 - High or Low Voltage
2. Move-in / Move-Out (Final and First Billing Readings)
3. High Bill Complaint Resolution
4. Billing and Rate Options

Most GAP’s, come from data collection and reporting

Outage and Restoration

- 2-way information is limited and needs to be collected on a route
- Outage and restore messages get reported immediately and unsolicited
 - ‘Real-time’

No Light-Calls

- Similarly, to above, collecting data is intentional and infrequent
- AMI data can be read on-demand and/or exception reports sent

High Bill Complaint

- Readings limited to ~30 days apart
- AMI meters provide 5 – 60 min interval readings every few hours (and have reports)

Agenda Item 5 - AMI Use Case

Mr. Kopczyk discussed AMI process enhancement and discussed the following:

- Current/Future Outage & Restore Process
- Current/Future Blink or Lights-Out Calls
- Future Move-in/Move-out
- Future High-Bill Complaint

Agenda Item 6 - AMI Business Case

Mr. Kopczyk provided the Board with an explanation of the AMI Business Case and divided into three categories:

1. Benefits

- These are the cost savings based on the current cost of business and better efficiencies that AMI provides; reconnect/ disconnect, no light calls, system operation costs, etc.

2. Estimated Costs

- The cost of the system; meter costs, software integrations and setup, communication hardware costs, etc.
- On-going or recurring fees for operating the system; communications cost (cellular data rates), system fees, etc.

3. Years to Roll-out

- The difference in capital costs to roll-out the AMI system in 2, 3, and 4 years

Mr. Kopczyk stated that PSE is currently working on Grant Application Assistance for KEYS.

Mr. Kopczyk reviewed an Estimated Capital Budget for AMI and review six different scenarios with the Board.

Mrs. Tejada asked Mr. Kopczyk if he has worked with any of the vendors discussed here today. Mr. Kopczyk said he has contracted with all vendors mentioned today except for two.

Mr. Kopczyk said in conclusion he wants to leave the Board with the following information:

Information is important:

- Empowers Customer Service with better information immediately
 - Bill information, future pre-paid program, etc.
- Improves system load forecasting and engineering designs
- Faster response to outages and confirms restorations
- Quicker complaint resolution – the value of a “5-Star” review

AMR drive-by readings:

- Reducing field visits and time, not replacing employees – response to other tasks
- Reduce time spent driving routes & special visits

Better data for better decision making

Data to support a better customer experience (and education)

Agenda Item 7 - Public Input

There was no Public Input.

After Board discussion it was the consensus of the Board to develop a Request for Proposal (RFP) with PSE and continue to work with PSE on grant applications for KEYS.

Mrs. Tejada stated that she will provide the Board with updates at future Utility Board meetings.

(Power point presentation is available upon request)

ADJOURNMENT

Motion to adjourn the Utility Board Automated Metering Infrastructure (AMI) Workshop of Wednesday, September 7, 2022, at 5:18 p.m. Moved by Mr. Robert Barrios and seconded by Mr. Steve Wells.

APPROVE:

Timothy Root, Utility Board Chair

ATTEST:

Lynne E. Tejada, General Manager/CEO & Secretary

/ed