



Agenda
City of Charlevoix City Council Regular Meeting
Monday, March 20, 2023 - 5:00 PM
Council Chambers, 210 State Street, Charlevoix, MI

- 1. Roll Call**
- 2. Presentations**
 - A. AMI Presentation and Discussion
John Griffith, Electric Department Director
- 3. Adjourn**

Persons with disabilities who need an accommodation to fully participate in these meetings should contact the City Clerk's Office at 231-547-3250 or by email clerk@charlevoixmi.gov. A 24-hour notice may be needed for certain accommodations. An attempt will be made to grant all reasonable accommodations requests.

Charlevoix City Council

Presentations

Title: AMI Presentation and Discussion

Date: March 20, 2023

Presented By: John Griffith, Electric Department Director

Background:

We'll be discussing the final AMI agreement terms with Tom Asp and Kahara Franze of Power System Engineering. We expect to have the final agreement for your approval during the regular meeting on Monday.

Recommendation:

Attachments:

1. Charlevoix AMI Approval Presentation



City of Charlevoix

Aclara AMI Recommendation



Forward-Thinking Professionals
Helping Clients and Colleagues **ACHIEVE** Their
Goals.
www.powersystem.org

Kahara Franze
Tom Asp
March 20, 2023

Outline of Agenda

- AMI Project Overview
 - RFP Process Start - Finish
- Potential AMI Benefits
 - Features and Advantages
- Agreement Key Points
- Next Steps

AMI Vendor Selection

RFP Responses

- A total of 6 AMI vendors and solutions were considered:
 - Aclara
 - Eaton
 - Honeywell
 - Sensus
 - Nighthawk
 - Verizon/NextEra
- Using a list of 200+ separate AMI requirements & weighted scoring matrix, the initial list was narrowed down to 4 vendors
 - The “Best Fit” List

AMI Best Fit Vendor Ranking

- The raw total score takes into consideration the weighted percentages and total scores for each category on a scale of 1 to 10.
 - Pricing
 - Coverage/Read Rate
 - Outage and Restore
 - Overall Requirements
 - Future Ready Items and Growth
 - Integration to Existing Systems
- The Best Fit Vendors were asked to attend a meeting to further present their solution

Overall Scoring Rank	Aclara	Eaton	Honeywell	Nighthawk
Raw Total	7.96	7.77	7.44	6.83
Total Rank	1	2	3	4

Vendor Selection

- Each vendor prepared a 1-day predetermined presentation to showcase their solution and give the AMI Team more details on each submitted RFP.
- Based on the raw scores, the on-site presentation, the RFP responses, and follow up clarification questions.
- Submitted follow up and clarifications to vendors for a final evaluation

Section 1: Presentation Agenda

8:00-8:30am Vendor Set Up

8:30-8:40 Introductions and the City of Charlevoix Review of AMI Project

Members of the City of Charlevoix project team will explain the project drivers, key functionality needs, challenges, status of the communications infrastructure plans, AMI system deployment timeframe, and overall vendor selection process and contracting plan.

8:40-9:00 Vendor Background

Provide a brief company background overview such as your company vision, mission statement, market focus, and other background, including:

- How many US and Canadian utility deployments do you have with your proposed solution? Please do not include pilots or tests in these numbers. We would like to have the permission to contact any of these utilities for a reference.
 - Please provide three (3) references where you have deployed your proposed system at utilities whose terrain, density, topology, etc. are the most similar to the City of Charlevoix's. Including water and electric.

9:00-10:30 Review AMI System Design and Core Infrastructure Components

Explain how the wireless system works as to its components:

- Briefly overview the entire the City of Charlevoix system design, including collectors, repeaters, and endpoints.
- Please explain the antenna size for your collector and mounting requirements.
- Provide an overview on your approach to Network Equipment deployment:
 - Electric meter deployment
 - Water node deployment
 - What is expected of the installation crew?
 - What is expected of the City?
- Please provide a photo of your typical collector and antenna installation. Is there a transmit antenna and a receive antenna?
- Explain the how you may encounter frequency interference and what tools are

Why Negotiate with Aclara?

- Cost (competitive pricing)
 - Upfront and TCO
- Functionality and Current Support
 - Water Support and Enhancements (very strong)
 - Impact on IT (very little)
 - Billing Integration
 - VPN and Software Installation
 - Database Setup
 - New Application and Database Server (avoided)
 - Distribution Automation Application Potential
 - Street/Security Light Application Potential
 - Over-the-Air Configuration Changes
 - Coverage for water only areas if needed in the future

Why Negotiate with Aclara?

- Long Term Data Storage and Retention w/o the Need for Additional Systems
- Native Reporting Features
- Ability to Export Data and Build Analytics Offerings
 - Outage and Restoration & Water Leak Detect
 - Internal Metrics (PSE Support)
 - External Board and Customer Visualizations (Future Support)
- Easier Migration Path
 - Smaller Impact to Billing and Meter Change Out Process
 - Single System for Water and Electric Readings
- Turn-Key Solution
 - Residential, Poly-Phase, and Water Meter Exchange Included in Bid
 - AMI Network/Communications Installation (w/limited Electric Department help)
- Onsite Training During and After Project Roll-Out

AMI Benefits

Potential Benefits of AMI Overview

- Among other uses, an AMI network enables the efficient and effective transport of information from the field into the office for various systems. In general, areas of improvement exist for:
 - Billing and Reporting
 - Customer Support Services and Information
 - Outage & Restoration
 - Overall Safety Improvement
 - Additional Programs – Demand Response, Distribution Automation, Street Light Controls, Internet of Things (IoT), etc.

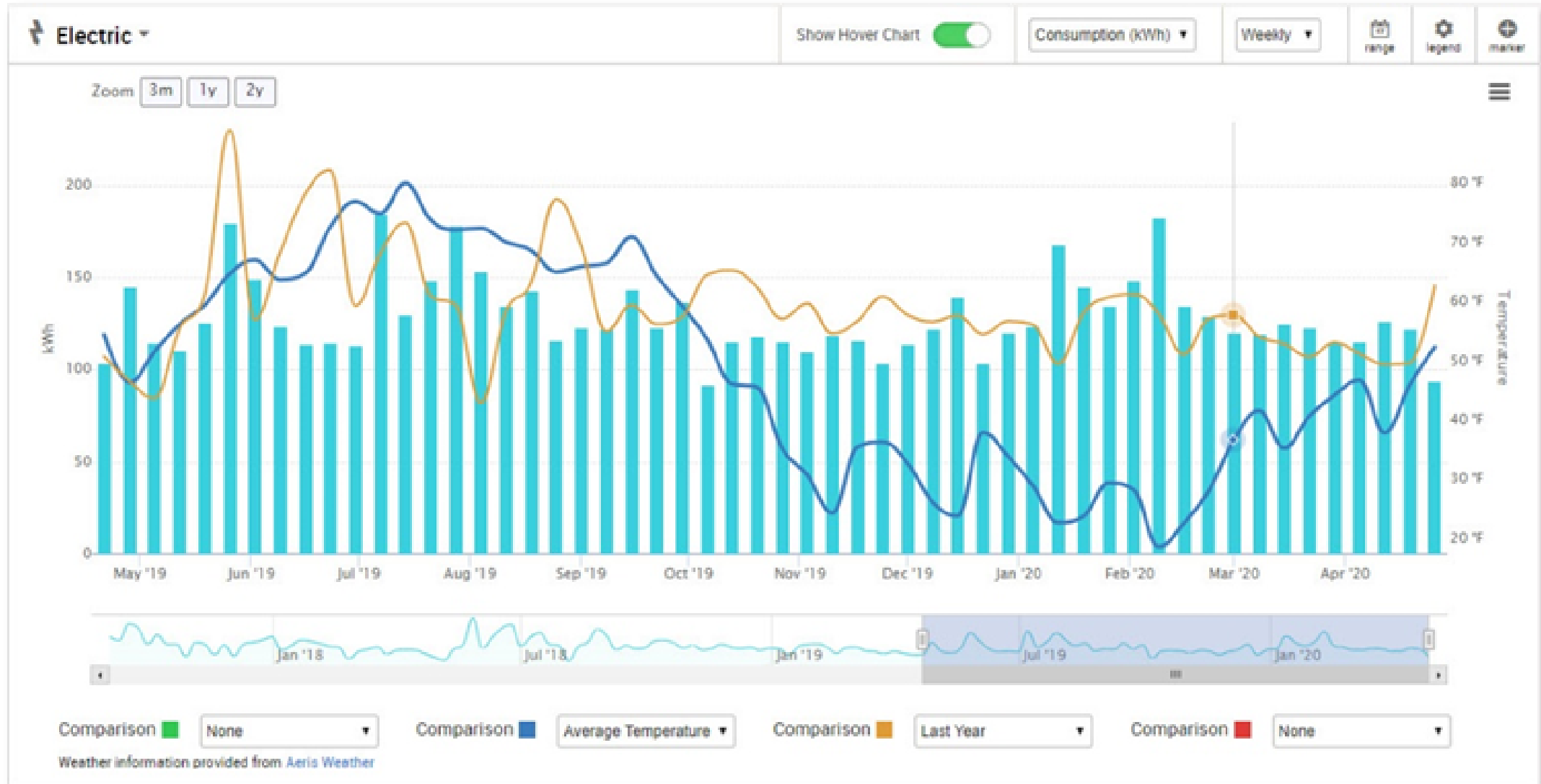
Potential Benefits of AMI (Continued)

- *Voltage Monitoring*
(Min, max, average)
- *Transformer Loading Analysis*
- *Number of customers out of power*
- Current demand savings from load control (kW)
- *Outage Index Reporting (SAIDI, SAIFI, MAIFI) at multiple levels*
- *General line loss analysis*
- Demand Response (CVR, Peak Reduction, Etc.)
- *Improved rate design data*
- *Support of EV and DG*
- *Power quality investigation*
- *Number of blinks, sags, etc. (over time specified)*
- *Peak condition tracking*
- *Power factor by circuit or time of day*
- Pattern detection (Algorithm to detect patterns in voltage, demand, blinks, etc.)
- *System efficiency by circuit*
- *Remote Disconnect/Reconnect*
- *Meter base arcing and hot sockets*
- Phase Detect
- *Water Leak and Burst Pipe Reporting*

Potential Consumer Benefits

- Accuracy – fewer read errors
- Fewer estimates
- Less intrusion
- Billing date flexibility
- Better customer bill understanding/education
- Rate stability/flexibility
- Increased efficiency
- Load management options
- Internet of Things (IoT)
- Support of Electric Vehicle charging
- Support of Distributed Generation
- Improved Power quality
- Faster outage restoration
- Demand Response savings for the customer
- More detailed information available immediately
- Expanded service to attract new businesses and residents
- More options for customers in need (example: pre-paid metering)
- Future online portal

Customer Data and High-Bill Complaints



Agreement Features

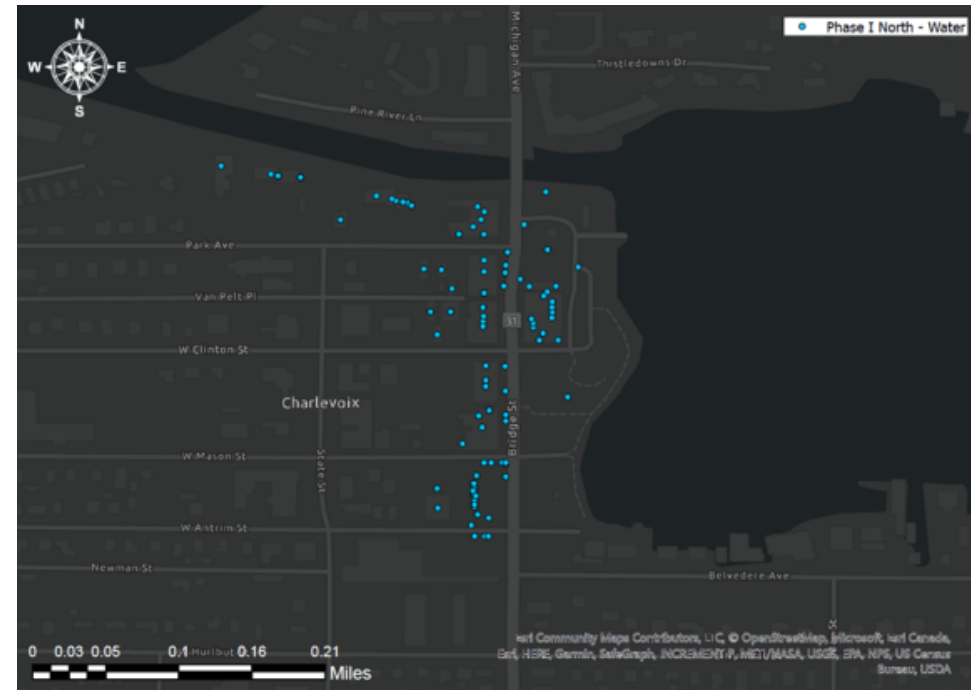
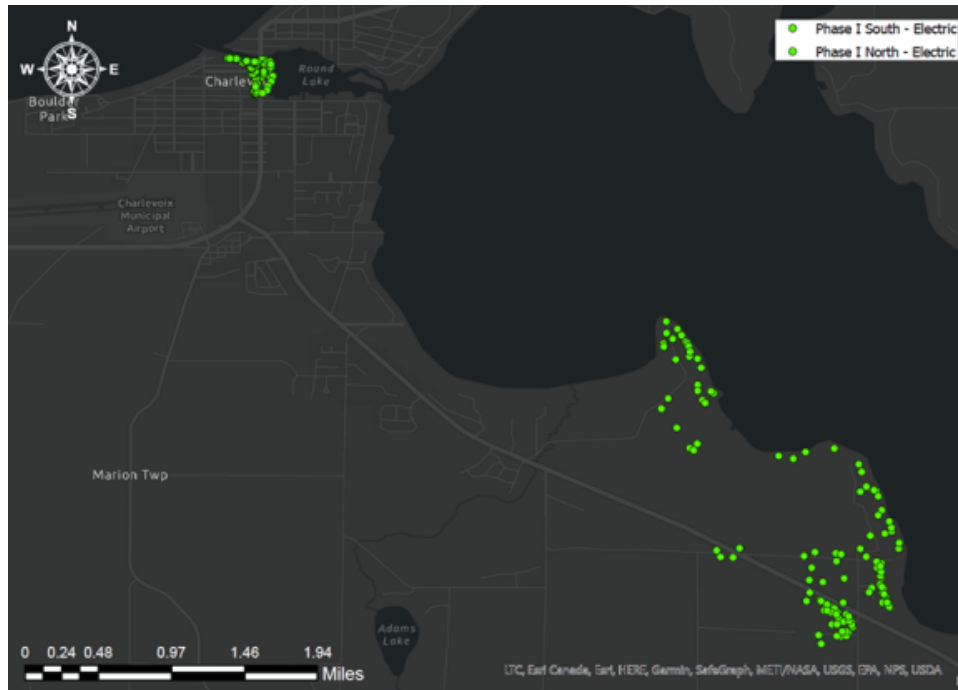
Agreement Key Features

- Turnkey supply, installation, and commissioning of an AMI system
 - Allows City staff to concentrate on training and leverage of system capabilities
- 15-year system support commitment
 - Damages specified if commitment not meet
- Equipment, software, and system warranties
- Product and service fees have escalation caps
 - Fixed pricing for all PO's issued before end of year
- Phased performance testing
 - Commitments on system performance and growth capabilities
- Coverage commitments

Next Steps

Next Steps

- Execute Agreement
- Phase I (“Pilot”) AMI Deployment
 - AMI Initial Deployment Area
 - Roughly 425 Meters (125 Water and 300 Electric)



Additional Questions?

Thank you

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