

JEA

Smart Energy Project

Scope of Work

JEA's Smart Energy Project involved the deployment of an advanced metering infrastructure (AMI) solution, including a territory-wide two-way communications network. JEA provided 40,000 customers with new smart meters and reconfigured 150,000 existing residential one way communicating smart meters to collect hourly usage data. A new meter data management system (MDMS) was installed to provide a software platform for organization and analysis of customer interval and meter data. The MDMS enables a new prepay service offering, as well as presentment of validated usage data to customers via an AMI-enabled energy management web portal.

Objectives

The Smart Energy Project was designed to leverage JEA's prior smart grid investments and technology deployments and serve as the foundation on which to build more meaningful customer relationships. JEA's primary goal was to provide customers with enabling tools and technology that allow them to better manage their energy consumption and monthly utility bills. The AMI system has also eliminated the need for manual meter reading, reduced associated operational costs and greenhouse gas emissions, and improved system reliability.

Deployed Smart Grid Technologies

- **Advanced metering infrastructure (AMI):** JEA installed 40,000 smart meters and reconfigured 150,000 existing residential one-way communicating smart meters to capture hourly data. (JEA is working to reconfigure all 390,000 existing residential one-way meters; the remainder will be completed outside the scope of the grant.) The meter data enables improved planning for distribution management and remote outage detection capabilities. The new smart meters also provide JEA with the ability to remotely connect and disconnect customers, which avoids truck rolls and associated vehicle emissions and saves customers' time.
- **Customer programs:** All customers with smart meters and reconfigured meters can view their electricity consumption data via the web portal, which provides information so that customers can better manage their electricity usage. JEA customers can also now choose to enroll in prepay services, which eliminates the need for monthly bills or for consumers to pay deposits, late fees, and reconnect fees. The customer is provided with alerts and daily usage information via a dedicated prepay portal, text messages to a cell phone, or an interactive voice response (IVR) system.

At-A-Glance

Recipient: JEA

State: Florida

NERC Region: Florida Reliability Coordinating Council

Total Project Cost: \$25,892,048

Total Federal Share: \$12,875,856

Project Type: Advanced Metering Infrastructure
Customer Systems

Equipment

- **40,000 Smart Meters**
- **Reconfiguration of 150,000 One-Way Residential Meters**
- **AMI Communications Systems**
 - **Meter Communications Network (RF (one way), Mesh (two way))**
 - **Backhaul Communications (Cellular)**
- **Meter Data Management System**
- **Customer Web Portal Access for Approximately 290,000 Customers**
 - *JEA will continue the reconfiguration of all 390,000 residential one-way meters outside of the scope of the grant project.*
 - *All residential customers with a jea.com login have web portal access.*

Key Benefits

- **Reduced Meter Reading Costs**
- **Reduced Operating and Maintenance Costs**
- **Reduced Truck Fleet Fuel Usage**

JEA (continued)

- **Cybersecurity:** JEA deployed several cybersecurity enhancements as part of the SGIG project, including an Oracle Identity Management platform, an application security appliance, advanced persistent threat detection, and a security repair and replacement system.

Benefits Realized

The remote connect/disconnect functionality of the AMI system has been leveraged to reduce the number of JEA truck rolls required for start/stop service requests and severance activities. Below are the results:

Total successful remote connects/disconnects (RCDs) April 2012–July 2013: 48,562

48,562	avoided truck rolls (at 1 avoided truck roll per successful RCD)
131,117.4	avoided miles (at 2.7 miles per average truck roll for an RCD)
\$558,463.00	avoided operations and maintenance costs (at \$11.50 per average truck roll for an RCD)

Lessons Learned

JEA chose to treat each of the grant project milestones as individual projects, and each of the projects followed the utility’s established and proven methodology for project management. JEA follows a modified system development life cycle (SDLC) model for IT project implementation. For the grant project, JEA formed a program team—the Internal System Integration (ISI) team—that had oversight of and integration responsibility for all individual efforts. Since this was a departure from normal IT deployment protocol, the highest level of sponsorship and buy-in was required to overcome any internal resistance. JEA formed a Smart Grid Steering Committee to provide oversight and guidance for the program. The Committee consisted of JEA’s chief executive officer, chief information officer, chief financial officer, and chief operating officer. In addition, the program was assigned a full-time program director and a vice president as a sponsor, ensuring ongoing organizational support for the systems once they went live.

Future Plans

JEA plans to spend about 12 months fully operationalizing and stabilizing the recent technology investments in customer-facing programs before embarking on additional programs. During this time, JEA will reassess several strategic items, including their electric vehicle and distributed generation strategies, as well as possible enhancements to the utility’s outage management and customer notification capabilities. It is anticipated that over the next several months, JEA will begin to leverage the foundational work that has been accomplished in the past three years and continue to develop and deploy systems, tools, and processes that enhance the utility’s relationship with its customers.

Contact Information

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