City of Auburn, Indiana

SmartGRID Project

Abstract

City of Auburn SmartGRID project involves a city-wide deployment of advanced metering infrastructure (AMI) and implementation of distribution automation equipment, which includes circuit switches, capacitors, voltage regulators, fault indicators, smart relays, and equipment sensors. The City of Auburn (Auburn) expects the smart meters to reduce meter-reading costs, lower vehicle emissions, and enable advanced electric services for its customers. These services include an enhanced Web portal and the introduction of time-based rate programs. Overall, the project aims to reduce operations and maintenance costs, improve reliability, reduce outage duration, reduce peak loads, and reduce overall energy usage across the Auburn's service territory.

At-A-Glance

Recipient: City of Auburn

State: Indiana

NERC Region: ReliabilityFirst Corporation

Total Budget: $4,150,160

Federal Share: $2,075,080

Project Type: Integrated and/or Crosscutting Systems

Equipment

- **7,109 Smart Meters**
- **AMI Communication Systems**
  - **Meter Communications Network**
  - **Backhaul Communications**
- **Meter Data Management Systems**
- **Enhancing Existing Customer Web Portal**
- **Distribution Automation Equipment for 10 out of 24 Circuits**
  - **Distribution Management System**
  - **DA Communications Network**
  - **SCADA Communications Network**
  - **Automated Distribution Circuit Switches**
  - **Automated Capacitors**

Time-Based Rate Programs under Consideration

- **Time-of-Use Pricing**

Key Targeted Benefits

- **Reduced Electricity Costs for Customers**
- **Reduced Meter Reading Costs**
- **Improved Electric Service Reliability**
- **Reduced Costs from Theft**

Smart Grid Features

Communications infrastructure provides communications to all the new smart meters, demand response devices, and distribution automation equipment, Auburn intends to utilize the existing fiber-to-the-home network to connect all the way to the meter. The meters also utilize the 900 MHz frequency to provide redundant coverage from meter to meter throughout the network.

Advanced metering infrastructure includes deployment of approximately 6,000 smart meters at residential locations and approximately 1,000 meters at commercial/industrial locations. A meter data management system is being installed to error check, store, and process interval load data for billing purposes and for use in the customer Web portal. Operational cost savings come from lower meter reading and customer services costs.

Time-based rate programs under consideration include time-of-use pricing subject to Indiana Utility Regulatory Commission approval. These time-based rate programs encourage consumers to reduce peak demands or shift consumption from on- to off-peak periods and then to measure and validate the demand response.

Distribution automation systems include the deployment of remote fault indicators, smart relays, feeder monitors, and automated feeder switches, regulators and capacitors. This equipment improves system reliability and operational efficiency through reduced restoration times and a reduction in the number of truck rolls required for performing field

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operations. A new supervisory control and data acquisition (SCADA) system includes digital technologies new smart grid applications.

Advanced electricity service options include an enhanced Web portal offering customers a way to view their electricity use and cost information. The Web portal facilitates two-way information exchange and enables customers to better manage their electricity consumption and bills.

Timeline

Key Milestones	Target Dates
AMI asset deployment begins	Q3 2011
Distribution automation asset deployment begins	Q2 2011
AMI asset deployment ends	Q2 2012
Distribution automation asset deployment ends	Q2 2012

Contact Information

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