Tampa Electric

Realizing the Value of Smart Meter Operations

PROJECT OVERVIEW

Tampa Electric Company's (TECO) AMI Operations team, known as the Smart Meter Operations Center (SMOC), is a team built to manage the AMI system and other smart grid technologies such as Smart Streetlighting. The SMOC is comprised of multiple groups and interfaces with other legacy teams such as Meter Operations, Billing and the SAP Center of Excellence. The SMOC is dedicated to maintaining data integrity and has assumed ownership of data stewardship for AMI applications— developing extensive documentation (e.g. business processes) which have been used within TECO and communicated to the wider organization as part of enhanced data governance that was introduced through the AMI project. TECO is realizing operational savings, understanding the state of their distribution system and applying corrective actions where and when needed with AMI Operations.

Specifically, TECO will utilize AMI Operations to:

Increase Back-office Efficiency

Maximize Field Efficiency

Maintain Read Rate SLA

Automate Tasks

CUSTOMER

Tampa Electric Company

GOALS

» Provide more choice, control and convenience to customers

» Efficiently use company resources related to outage management and response, meter connects and disconnects, etc.

» Improve demand-side management

» Enable proactive system maintenance and improved outage response times with detailed, near real-time information on the state of the system

» Evolve with visionary analytics

» Meet increasing regulatory expectations

SOLUTION

» AMI Operations

Increase Back-office Efficiency

AMI Operations improves the efficiency of back-office analysis and decision making by combining endpoints with like issues, together with the data necessary to make decisions, into consolidated work queues. With that data, analysts can determine the best means to interrogate endpoint issues as a group or as an individual issue.

At TECO, a team dedicated to managing AMI data and understanding new applications optimizes business processes managed by other teams (ex: meter operations). The SMOC performs back-office mitigation steps to avoid truck rolls or to ensure that the truck roll is warranted prior to executing the process.

Continually managing the AMI data ensures that data is available for daily billing practices and enables the organization to implement new Service Level Agreements across the organization, such as targets for improved estimation rates (i.e. lower number of estimated bills for TECO customers). The SMOC team has created use cases for data analytics that combine endpoint health with other decision-making metrics to optimize processes and further reduce truck rolls while still finding business case benefits such as reduced theft and an overall reduction in losses.

Maximize Field Efficiency

AMI Operations improves efficiency in the field by providing the ability to first interrogate endpoint issues in the back office, thereby reducing field service work and creating logical work queues to make the most efficient use of field crew and equipment. Here are some examples of how the SMOC is providing immediate returns and value to TECO:

» Over 97% of installations were successful, with only 1.22% having system change meter order (CMO) exceptions and 1.86% having meter reading exceptions

» 216,140 truck rolls saved via remote disconnect

» 212,035 truck rolls saved via remote reconnect

9,000+ post-installation exceptions managed and resolved in AMI Ops (versus in the field)

Maintain Read Rate SLA

AMI Operations provides the tools to predict read rates through a 21-day bill cycle and proactively identifies issues that will cause a drop in meter-reading performance so that these issues can be remediated before their scheduled read date.

Maintaining SLAs ensures consistent and reliable delivery of meter data to the billing process. It also minimizes the number of exceptions while helping the operations team understand and anticipate potential impact to upcoming bill cycles.

When reads are missing, estimations occur. However, when read rates are high, having visibility to non-communicating endpoints allows TECO to minimize and keep their estimations low. Meanwhile, the billing team depends on the AMI system to achieve and maintain SLAs to ensure consistent and reliable delivery of meter data to billing. TECO's average read performance rates are 99.8% with approximately 783,000 of 805,000 total meters deployed.

Out of 5.2M accounts billed and sent to TECO's AMI customers, only .25% of those are estimated. This exceeds the goal of estimating less than 0.3% of accounts.

Over 98% of deployment complete with 99.8% read rate

Automate Tasks

AMI Operations provides a number of tools to automate repetitive tasks, allowing the AMI Operations team to focus only on outlier issues and on developing new automations as trends emerge. One of these automated tasks is remote connect/disconnect (RCD) commands. These commands can fail due to communication errors, meter configuration errors, the mesh network not being fully saturated and other reasons.

5.2M accounts billed in 2021 with only .25% of those estimated

TECO completes automated low-side voltage checks after receiving failed RCD commands. They also use Action Manager to perform contingency reads when reads are missing and plan on automating demand reset failures via Action Manager as well.

» Remote Connect/Disconnect Statistics
- 242,499 Disconnect Requests
  – 94% Success Rate
- 221,323 Reconnect Requests
  – 95.8% Success Rate

Taken together, these RCD statistics show that prior to moving to production processes, the SMOC have enabled technology to save more than 425,000 truck rolls, which equates to an estimated savings of over 57,000 field visit hours (assuming eight minutes per visit) and a reduced carbon footprint due to the avoided truck rolls.

CONCLUSION

TECO's SMOC utilizes AMI Operations to assist in the management of their daily processes. By following best practices built on the pillars of synergizing people, process and technology, resources are now able to focus on more high-value work while moving low-value repetitive work to new workflow automation via AMI Operations.

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