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Ultrasonic Meter and Advanced Module Deployment Strategy

Overall strategy

The purpose is to perform targeted deployment of ultrasonic meters and rapid, mass deployment of advanced modules to move from manual meter reading and AMR to AMI.

Phased implementation by regions

Implementations will be phased by region based on need, current state capabilities, and capital deployment strategy.

There are two distinct types of rollout that will occur within Spire. A complete module and meter deployment within the regions of MOE and Gulf Coast, where there is not an existing population of meters and modules with Itron AMI capabilities. The alternative is a targeted deployment of ultrasonic meters within the regions of MOW and AL, where AMI capable advanced modules are currently installed on the majority of service points.

Analyze existing meter and module configurations and populations by region

In each region, the existing meter and module populations will be analyzed, and a model will be developed to prioritize the replacement of existing meters with ultrasonic meters. The majority of the criteria included in this model is applicable to all regions however the formula will need to be adjusted for regional considerations. The results of this analysis will allow us to identify which population of meters will be targeted for ultrasonic meter replacement, advanced module retrofitting, or those that have the capabilities to remain in use with AMI technologies.

For areas with AMI capable modules (AL and MOW), Workload Planning (WLP) will utilize the results of the above analysis to harvest existing opportunities to install ultrasonic meters and to target ultrasonic meter replacement above and beyond the organic opportunities.

For the Gulf Coast, where there are no existing AMI capable modules, the results of the analysis will determine a population of meters that will be retained for **ultrasonic** meter replacement. The remaining population will be retrofitted with advanced modules in mass-deployment. Analyzing the existing meter population is also necessary for determining the specific modules, indexes, and screws (for broken screw repair) that will be needed for each deployment route.

The MOE deployment will also result in a complete meter/module replacement strategy. The results from the analysis will determine which meters will be targeted for replacement with an ultrasonic meter. In addition to identifying populations of meters for targeted replacement, the scoring will be used to identify a population of meters that would be replaced if an opportunity arises for replacement. Anytime we have a meter in hand we would replace it with an ultrasonic meter. However, depending on

the impact to the customer, meter age, and meter characteristics, we would use the score to prioritize meter replacement opportunities when they arise. Eventually the deployment will incorporate mass installation of 500G modules on existing meters. The results of the analysis will help prioritize meters for replacement so that installation of modules on existing meters will occur on the population of meters that are in less need of replacement than those targeted for ultrasonic installs. Priority will be placed on those meters that are located inside a house. Any time we have an appointment with a customer to visit a meter located indoors we will use this opportunity to replace the existing meter with an Ultrasonic meter. This could include Ultrasonic meter replacements as part of our Atmospheric Corrosion Inspection program.

Technical test

Prior to deployment of modules in Gulf Coast and MOE, a technical test was completed to ensure the technology delivers the expected functionality and to affirm that the data is flowing as expected. This also gives us the opportunity to learn from issues encountered before we encounter these issues in mass. For the Gulf, the test will involve installing modules on a small population of meters and analyzing the results of capturing the reads of these meters by handheld, by mobile collector (van), and by network. For MOE, the test will involve a full end-to-end test on meters that will test functionality from procurement to install and finally through billing. Issues discovered in these technical tests will need to be investigated and the resolution documented so it can be avoided when mass-deployment begins.

Execution strategy

For MOW, AL, and Gulf Coast the deployment execution will be organized and scheduled by meter reading routes and billing schedules. It is critical to recognize these windows in order to ensure the deployment does not interfere with obtaining billing reads.

For MOE, the initial deployment of ultrasonic meters will be driven by organic opportunities for replacement. This includes but is not limited to any new meter installations, meter replacements, main replacement projects, scheduled ACI inspections, or other opportunities where a meter could be replaced with minimal impact to the customer. In order to capitalize on any opportunity available, initial deployment would be independent of the meter reading route and billing schedule. It is critical to recognize the billing windows and be prepared to react to updates that need to be made because changes were made within the billing window; however, they should not limit the deployment schedule.

A complete implementation plan will be developed and made available for review by all leaders impacted by the deployment prior to the execution of the strategy.

Process standardization

All processes involved in the deployment of AMI technology will be standardized and documented to ensure alignment in AMI technology across the Spire footprint. The Continuous Improvement team will lead the standardization efforts to drive consistency by detailing repeatable processes that can be executed in any of the regions of the company.

Organizational readiness

Prior to deployment, an organizational readiness checklist will be performed to ensure internal operations are organizationally prepared. The checklist will include confirming that Field Operations, Workload Planning, Customer Experience, Communications and Billing are all aware of their

responsibilities and are organizationally ready to support the deployment. This will also include a “tabletop” exercise where we will walk through a day in the life of deployment to confirm all parties have the tools and capacity to handle the situations that will arise as part of a mass deployment. Following this exercise, a process flow of the deployment activities will be created that will document the flow of work throughout the deployment process. Prior to deployment, business owner signoff will be required to acknowledge that the business units are prepared to meet their deployment responsibilities.

Training

A training plan will be created for both internal and third-party resources on the advanced module and meter installation procedures, module/meter programming tools, customer communication guidelines and troubleshooting and maintenance of equipment and any additional training needs that are identified. The training documentation will live on and evolve as the AMI deployment progresses through the stages of deployment. Ultimately the training documentation created will be institutionalized as our enterprise training content for internal resources.

Customer communication

A customer communication plan will be developed that will detail the communication to customers before, during, and after AMI deployment. This communication plan will detail the communication provided by internally as well as guidelines for third party customer communication. It will also cover the process to be followed for customer complaints that arise as part of AMI deployment and the transition from manual meter reading to AMI or from Landis+Gyr meter reads to Itron meter reads.

Work Scheduling

Workload Planning will be responsible for scheduling any of the internal ultrasonic meter/advanced module deployments. For installations performed by a third party, an internal employee will manage the assignment of work daily to the third party based on the deployment schedule.

Removed Meters

Diaphragm meters removed will follow the normal process for meters removed from a service point. Meters will be collected and returned to the meter shop in St. Louis for testing. Additional meter storage will be acquired in St. Louis to meet the demand for the influx in removed meters. Additionally, the Next Generation Measurement workstream will develop a long-term strategy for expanded meter testing capacity due to increased meter equipment replacement.

Change Management

Change management will be responsible for supporting the people side of the changes and creating the strategies and plans to support the stakeholders with the adoption of AMI. They will assist by building the Change Advocate Network, a network of leaders and employees from across Spire who will help champion the AMI Program and drive successful change. Impact analyses will be conducted to understand how the different audiences / stakeholder groups will be impacted by the AMI program and

to inform a change strategy for each region's deployment. The change strategy and plans will include the following components: sponsorship, communication, training, coaching and support, as well as feedback and reinforcement.

*The following two provisions do not apply to MO-East at this time. We will revisit these once we get closer to our network deploy (2023 on the 5-year plan)

***Return to utility (RTU) (Gulf)**

For any module installations performed by a third party, an RTU process will be established and agreed upon by both parties. An RTU is when a third party is not able to perform an installation due to access constraints, safety concerns, compatibility with modules, evidence of tamper, or broken screws. A detailed plan must be developed for the handling of each of these uses cases as the RTU rate can be as high as 5%. Additionally, a review process will be set up to ensure RTUs are legitimate and RTU rate does not exceed the rate agreed upon in the deployment SOW.

***Create mobile and network mode acceptance criteria (Gulf)**

An endpoint acceptance process will be defined and agreed upon by all parties prior to mass deployment. The process will detail what is considered accepted for an endpoint installation in mobile mode and again when transitioned to network mode. Once an endpoint is accepted, third party installation payment can be made, and the maintenance of that endpoint is the responsibility of Spire. A formal acceptance process will be approved by Spire and deployment contractors that will track the acceptance and rejection of all endpoints.