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March 9, 2007

Docket Control Center
Arizona Corporation Commission
1200 West Washington
Phoenix, Arizona 85007

RE: Compliance Filings as Required by Decision No. 68112
(Docket Nos. E-01345A-03-0775 and E-01345A-04-0657)

Pursuant to Paragraph 32(e) of the Proposed Settlement Agreement and Decision in Docket No. E-01345A-04-0657, Arizona Public Service is submitting the following document:

- Attachment 1 – AMS Plan Biannual ACC Report

If you have any questions on the enclosed information, please call me at 602-250-4563.

Sincerely,

Barbara Klemstine

Barbara A. Klemstine
Director, Regulatory Affairs

Attachment

CC: Compliance Section
Barbara Keene

Arizona Public Service
AMI Plan Biannual ACC Report
March 2007

Introduction

Decision No. 68112 requires Arizona Public Service (APS) to provide the Commission with biannual reports through 2011 related to the status of APS' remote meter reading implementation. This report provides such a description of the meter reading technology being installed, APS' plan for implementation, the number and type of customers involved in the program, the costs associated with implementation, and the operational efficiencies associated with implementation. This is the third biannual filing under Decision No. 68112 and addresses AMI deployment since September 2006.

Overview

Since the last biannual report, APS has continued to move forward with the remote metering project. To better reflect the technological direction of the smart metering industry, APS has renamed the project from Advanced Metering System (AMS) to Advanced Metering Infrastructure (AMI). Phase 1 of the automated interfaces between the PowerOneData (P1D) AMI system and APS' Customer Information System was installed in December, 2006.

The number of customers with automated meters in the project has increased, and APS has also installed AMI meters in Flagstaff for cold weather testing. APS has continued to review other AMI vendor products to identify the proper solutions for the wide range of geography in the APS service territory. In February of 2007, APS sent a Request For Information (RFI) to five Meter Data Management System (MDMS) vendors.

Project Status

In October of 2006 APS began increasing the installation of AMI meters. The phased installation of AMI meters has ramped up to approximately 5,000 meters per month through February, 2007. The installation of phase 1 of the interfaces between the P1D system and APS' CIS provided two main objectives, the automation of billing and the completion of field orders for AMI meters. APS is currently identifying requirements for Phase 2. APS is planning on installing an MDMS to manage the large amount of meter read data provided by AMI systems.

P1D is providing a new web application which will allow APS to more effectively manage the P1D meters. Final testing of this system is currently being completed. APS has also been provided with the first version of a handheld diagnostic device that allows APS field personnel to determine GPRS cellular and 900 MHZ Radio Frequency (RF) signal strength at any given location. This feature has enabled APS service personnel to determine the most advantageous locations to set hub meters and determine if sufficient cellular coverage exists in an area to support P1D meters.

Deployment Plan

The total number of AMI meters installed is now more than 27,000. Due to the receipt and use of the handheld diagnostic device, APS has obtained a better understanding related to the communication of the meter network. Hub meters have a cellular GPRS modem that allows the client meters attached to the hub to communicate with the APS network. Each hub meter is similar to a cell phone having a cellular contract for billing. Therefore, the higher the client-to-hub ratio, the lower the monthly cellular costs for the meters to communicate with APS. Use of the diagnostic device has resulted in an increase of the client-to-hub ratio from 20:1 as of the last filing to 44:1 today. This ratio has also improved because the vast majority of AMI meters are installed within multi-unit residential housing to help offset the high number of service orders associated with customer move-ins and move-outs at these locations. APS expects the client-to-hub ratio to eventually level out at approximately 35:1 once additional single family dwellings are included in the deployment plan.

The strategy to initially deploy in multi-unit residential housing complexes has provided significant benefit. In the last six months APS has automatically worked 6,076 service orders without a field visit by a service person. This deployment strategy has also allowed APS to install a large number of meters with a small team of employees. The lack of access issues and the density of meters in one location enable a team of five installers to manage the deployment.

APS has installed AMI meters in most of the newly constructed multi-unit residential housing complexes in metro Phoenix during the past six months. There are also a few select single family home growth areas within metro Phoenix where AMI meters have been installed. Because different work groups install meters at newly constructed single family home sites, APS is evaluating the existing procedures in order to create the best process for implementation.

In November 2006, APS installed 201 AMI meters at an apartment complex in Flagstaff. This installation was done to test the effects of cold weather, snow, and pine trees on the system. Pine needles have been identified as a deterrent to RF communications success in other RF systems. Since installation, these meters have shown nightly communication success exceeding 99.9% and 100% overall success in collecting interval reads. If a meter fails to communicate on a specific night, it stores its reads internally. The reads are then uploaded during the next successful communication. The three automated meters set on top of the remote and difficult to visit Newman Peak have also continued to successfully provide reads during the last six months. In the next six months, APS is planning to install AMI meters in the Yuma area to help offset the high volume of move-ins and move-outs experienced by winter visitors in the Yuma area.

P1D is currently developing a three-phase meter solution to add to their current single-phase offering. APS expects to start deploying three-phase P1D meters in early 2008.

Costs

AMI consists of four main cost components; meters, monthly GPRS communications, meter installation, and building the interface with the current APS applications.

Meters:

APS has purchased 29,872 P1D meters at an average cost of about $97 per meter. The cost per meter will continue to decline as additional meters are purchased based on the contract with P1D.

Communications:

APS has a contract with KORE Wireless to provide GPRS service that allows the meters to communicate with APS through the Cingular cellular network. Due to the increase in the client-to-hub ratio achieved during the last six months, APS has been able to significantly decrease the monthly communication costs. In February, the communications cost per meter was approximately $0.15 per month. This compares with the current monthly cost per meter read of approximately $0.90 using the meter reading workforce. The decrease in meter reading cost is achieved while significantly increasing the value of the data received from the meter. With manual meter reading, APS receives one meter read per month as compared to approximately 720 hourly meter reads per month using AMI meters.

Meter Installation:

The AMI field operations team has installed 27,350 meters through February 2007.

Integration:

APS spent approximately $700,000 in the last six month to finalize the integration of phase 1. Phase 1 was comprised of building a redundant server environment for the system and created the foundation to allow future integration with P1D. Major functions that were implemented in phase 1 were the automation of providing meter reads to the billing system and completion of field orders processes for AMI meters. One of the main objectives of phase 2 will be to integrate the outage and restoration notification information from the P1D meters with APS' Distribution Operations Management System (DOMS).

Operational Efficiencies

AMI systems provide opportunities to improve operational efficiency. The ability to read and remotely program meters to facilitate customer rate changes provides immediate operating costs savings as well as the potential to significantly reduce the cost of implementing new rate structures in the future.

In addition to the meter reading savings described earlier, the table below shows the number of field visits eliminated during the last six months for customers with AMI meters. This includes trips for transfer of service, meter exchanges for rate changes, and read verifies.

YYYY/MM	Transfer of Service	Rate Change & Verify	Total
2006/09	227	4	231
2006/10	277	7	284
2006/11	603	16	619
2006/12	1,118	13	1,131
2007/01	1,662	11	1,673
2007/02	2,114	24	2,138
Total	6,001	75	6,076

Fewer trips to the field result in less mileage, reduced fuel consumption, fewer emissions and possibly a reduction in vehicular accidents.

APS will continue to evaluate these efficiencies as well as others that may come from areas such as reductions in energy theft, outage notification, and fewer OSHA recordable accidents due to the reduction in manual meter reading.

The Access Improvement Plan (AIP) filed with the ACC in December, 2005 is pending Commission approval. If approved by the Commission, this plan will allow APS to begin deploying AMI meters to address chronic meter reading access issues as identified in the AIP. This will improve customer satisfaction, reduce estimated billing, and reduce potential safety issues by eliminating the need for meter readers to physically visit difficult to access locations.

In December, 2006 APS responded to a Commission request to identify steps the Commission could take to facilitate the roll out of AMI. Four issues were identified in the response. First, the Commission should take steps to address APS' financial condition such that it can finance system expansion, including AMI. Second, the Commission should accelerate depreciation for AMI meters and meters being prematurely removed in favor of AMI. Third, consider authorization of an alternative funding mechanism such as a per meter surcharge or a pre-approval of recovery of investment of an AMI system. Lastly, the Commission's Electric Competition Rules prohibit APS from providing metering service to many non-residential customers selecting direct access. This rule should be modified to permit APS (at the customer's discretion) to continue to provide metering service to all direct access customers. This, along with accelerated depreciation, will minimize the potential for stranded AMI investment.

Summary

In conclusion, APS is continuing the AMI project and phased installation of additional meters. Deployment will continue within multi-family residential settings both within metro Phoenix and state areas that have high occupant turn over rate. Apartment complexes that serve Northern Arizona University in Flagstaff and recreational vehicle parks that provide winter housing for customers in the Yuma area will be a focus in the next six months. APS will select and implement an MDMS to manage meter data from the current APS meter reading systems and provide an interface platform for any future AMI system. APS is also activity monitoring the AMI market for other advances in technology as well as identifying the best AMI solution for deployment into rural service territory.

APS will begin developing the processes to resolve customer access issues with AMI once final approval of the Access Improvement Plan is received. APS is also looking forward to working with the Commission to address policies and rules that currently impede a full-scale implementation of AMI in the APS service territory. The next report per Decision No. 68112 will be submitted in September 2007.