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Barbara Klemstine
Director
Regulation & Pricing

Tel. 602-250-4563
Fax 602-250-3003
e-mail Barbara.Klemstine@aps.com

Mail Station 9708
PO Box 53999
Phoenix, Arizona 85072-3999

September 10, 2007

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

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2007 SEP 10 P 1: 20
AZ CORP COMMISSION
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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 attached to Decision No. 68112, Arizona Public Service is submitting the September 2007 AMI Plan Biannual ACC Report.

If you have any questions on the enclosed information, please contact David Rumolo at (602) 250-3933.

Sincerely,

Barbara Klemstine

BK/dt

Attachments

CC: Brian Bozzo
Barbara Keene

Arizona Corporation Commission
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Arizona Public Service
AMI Plan Biannual ACC Report
September 2007

Introduction

Decision No. 68112 (Proposed Settlement Agreement, paragraph 32(e)) 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 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 fourth biannual filing addressing the current status of the AMI Plan and the progress since March 2007.

Overview

Since the last biannual report, APS has continued to move forward with the remote metering project. APS attended the first ACC sponsored Smart Metering workshop held on June 7th 2007. The workshop provided the attendees an opportunity to engage in discussions with the Commission related to AMI and time based rates. APS has responded to an inquiry by the Commission related to how the Commission can help accelerate the deployment of AMI to APS customers. The APS response identified four specific areas that if addressed by the Commission would help in accelerating APS' AMI deployment.

The number of customers with automated meters in the project has increased and APS has continued to install additional AMI meters in Flagstaff after cold weather testing proved successful. AMI Meters have also started to be installed in the Yuma area to help offset the spike in field orders due to winter visitors. APS is continuing to review other AMI vendor products to identify the optimal solutions for the wide range of geography in the APS service territory. APS is in the final selection process for a Meter Data Management System (MDMS) which will provide a foundation to support multiple AMI solutions. The MDMS will also provide a single integration point for all of the APS backend systems as well as provide new functionality. A few of the future features offered by an MDMS will be revenue protection analysis, distribution asset optimization, and forecasting tools.

Project Status

APS has installed more than 40,000 AMI meters since the last filing of this report. The phased installation of AMI meters has ramped up to approximately 7,500 meters per month. Phase 2 of the interfaces between the P1D system and APS' CIS is scheduled to be installed in December, 2007. This limited update is focused on enhancing the current features as APS is limiting the functionality added to the system prior to installing an MDMS which will act as the interface for AMI data to all other APS legacy systems.

P1D has delivered a new web application allowing APS to more effectively manage the P1D system. APS has recently received beta versions of two new meter form factors. A network meter (form factor 12S) and a three phase meter (form factor 16S) are currently undergoing testing at the APS meter shop. Once comprehensive testing is completed, APS expects to start installing these meters early in 2008.

APS has also successfully updated the firmware in more than 30,000 installed AMI meters. The ability to remotely upgrade firmware in the meter is one of the critical aspects of any AMI system. One of the features installed in this new firmware version allows APS to better manage the placement and redundancy of hub meters in the network.

Deployment Plan

APS' total installed AMI meter base has climbed to over 70,000. The deployment continues to focus on high density areas. This focus has provided significant benefit in reduction of truck rolls to address the high customer turn-over rate in multi-unit residential housing complexes in the Phoenix area. During the last six months, the AMI system has remotely processed 29,155 service orders without a field visit.

This deployment strategy has maintained the hub to client ratio at approximately 45:1. This means that for each installed hub meter, there are approximately 45 client meters installed. APS has increased the size of the AMI installation team from five to seven employees. This has allowed the team to increase the installation rate to approximately 7,500 meters per month.

The meters that were installed in Flagstaff in November, 2006 consistently performed as expected and proved the system can be successfully deployed in cold weather climates. In August, APS began installing additional AMI meters in apartment complexes in Flagstaff to help offset the high volume of move-ins and move-outs experienced from college students. The three automated meters set on top of the remote, difficult to visit Neuman Peak have also continued to successfully provide reads during the last six months. APS has begun setting AMI meters in the Yuma area to address the extremely high volumes of move-ins and move-outs experienced twice a year from customers who make Yuma their home during the winter months. Initial installations are being deployed in large mobile home parks.

During the next six months APS will be reviewing and where needed, altering its current deployment plan.

Costs

This project consists of four main cost components: meters, monthly GPRS communications, meter installation and administration, and building the interface with the current APS applications.

Meters:
APS has purchased 82,672 meters at an average cost of $96.20 per meter through August 2007.

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. As the client to hub ratio has leveled off at around 45:1, the effect has been one of stabilizing our monthly per meter communication costs. In August, the communications cost per meter was approximately $0.16. This compares with the current monthly cost per meter read of approximately $0.90 using the meter reading workforce. This decrease in meter reading cost is achieved while significantly increasing the value of the data received from the meter.

Meter Installation / Administration:
The AMI field operations team has installed 41,599 meters in the last six months at an average installation cost per installed meter of approximately $8.00. This cost per meter for installation is low based on the high-density deployment strategy. When deployment progresses from high density multi-unit complexes to single family homes the cost per installation will increase based on the lower density of meters as well as meter access issues.

Integration:
APS spent approximately $585,000 in the last six months on AMI related initiatives ranging from development of Phase 2 of the P1D interfaces to defining requirements for an MDMS solution. One of the major functions in Phase 2 will provide the ability for APS to perform automated turn-on and shut-off orders for customers who are not associated with a landlord agreement. APS is referring to this type of order as a "soft" shut off since the order is processed entirely by software and no order is actually sent to a field service person. The process is similar to the transfer of service that APS has already automated with the AMI meters. Further, the soft shut off process will monitor for energy consumption after a soft shut off has been executed. If energy consumption is detected and exceeds a predefined threshold an actual field order will be generated to physically disconnect service at the customer site. APS has also been testing the P1D outage and restoration notification process for future integration.

Operational Efficiencies

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 future rate structures. 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
2007/03	2,699	170	2,869
2007/04	3,330	184	3,514
2007/05	4,224	282	4,506
2007/06	4,718	378	5,096
2007/07	5,670	385	6,055
2007/08	6,696	419	7,115
Total	27,337	1,818	29,155

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

On May 21, 2007 the Commission approved Decision No. 69570 related to the Access Improvement Plan (AIP). One of the approved solutions to resolve meter reading access issues is to provide customers with an AMI meter that will be read remotely thereby eliminating the need to access the meter on a month basis. APS is finalizing the processes 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.

Summary

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 set out in the response. First, the Commission should take steps to address APS' financial condition. 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. These rules should be modified to permit APS (at the customer's discretion) to continue to provide metering service to all direct access customers. The first of these steps was partially accomplished by Decision No. 69663.

In conclusion, APS is continuing the AMI project. Deployment will continue within multi-family residential settings within metro Phoenix and state areas that have high occupant turn over. 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.