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American Electric Power
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Columbus, OH 43215
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May 28, 2010

Ms. Renee J Jenkins
Secretary of the Commission
Public Utilities Commission of Ohio
180 East Broad Street
Columbus Ohio 43215-3793

Re: *In the Matter of the Commission Investigation into the
Testing and Verification of Advanced Metering
Infrastructure Installations, Case No. 10-325-EL-COI*

Steven T. Nourse
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Dear Ms. Jenkins:

The Commission's March 24, 2010 Entry in the above-captioned case directs each electric utility that is installing or proposing to install Advanced Metering Infrastructure (AMI) equipment, including Columbus Southern Power Company (CSP), to file a report in this docket by May 31, 2010. The AMI Report is to describe procedures, practices and capabilities relating to five specified AMI-related topics and address the standards with which the electric utility's AMI meters and the communication of meter data are designed to comply, testing procedures for AMI equipment acceptance, meter installation procedures, and any post-replacement tracking, temporary retention, or testing of removed meters. Enclosed is CSP's AMI Report that is submitted to comply with the Commission's directive.

Thank you for your attention to this matter.

Cordially,

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**BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO**

In the Matter of the Commission Investigation)
Into the Testing and Verification of)
Advanced Metering Infrastructure Installations)

Case No. 10-325-EL-COI

**COLUMBUS SOUTHERN POWER COMPANY'S
ADVANCED METERING INFRASTRUCTURE REPORT**

**(a) Meter testing and testing procedures for ensuring the
accuracy of AMI meters**

CSP ensures that AMI meters go through a rigorous testing process. Meter defects found from testing, such as accuracy, have historically been in the 0.3% range. Meters are first tested by the manufacturer and sent with their results which are provided to CSP.

Residential and Small Commercial AMI Meters

In addition to manufacturer testing, CSP conducts sample testing on single-phase AMI meters. Sample size is based on the quantity purchased and all AMI meters are held until the samples pass the testing stage. In addition, all Residential and Small Commercial AMI meters are also placed in what is known as a 'sample test program'. The sample test program separates meters into homogenous groups based on common characteristics such as type, manufacturer, and serial number range. AMI meters within these groups are randomly selected each year for testing as well.

Commercial and Industrial AMI Meters

In addition to manufacturer testing, CSP tests 100% of self contained and transformer-rated poly-phase AMI meters as part of the acceptance test for new purchases. All testing is done according to American National Standards Institute (ANSI) guidelines C12.1 and C12.2.

Additional Load Research Analysis

In order to verify that an AMI Meter is not recording more energy than previous meters installed, CSP's gridSMART team is looking at groups of customers with AMI meters and comparing recent billing usage to that of billing usage one year prior. A control group was also looked at for customers without AMI meters which compared the most recent billing usage to that of a year ago. Any changes in usage for those two groups are compared to see if there is a net effect of higher usage in regards to AMI meters. These preliminary results show no significant difference in usage between customers with AMI meters to those without AMI meters.

(b) Practices, procedures, and standards for ensuring that the information received by the electric utility's meter data management and billing systems will be accurate and consistent with the data recorded by its AMI meters

Data Management

In order to ensure information received in billing by the AMI meters are accurate, CSP performs several continuity tests. Macros are used in order to see if

the data sent appears to be in the same order as the data received in the Meter Data Management system and Marketing And Customer Service System (MACSS, CSP's Customer Information System) versus Utility IQ, the Silver Spring Networks' head end system. Spot checks are also performed to verify accuracy and reasonableness for the out meter readings on the file. Text formats are also reviewed regarding proper premise number, out and in readings, out and in serial numbers, service type, and service characteristics. CSP is also taking steps to verify premise numbers with out meter data, and installation meter data must match supplied meter pool. Daily checks are run to ensure there is no duplication and any mismatched or duplicate entries are addressed immediately. CSP also runs its normal customer information system which flags any high/low readings. CSP also plans on running two months of parallel readings so that information received is verified as accurate. CSP will validate meter register readings against interval data collected from the meters on a monthly basis, these checks will include all register readings (delivered and received), including KW KWH, RKVAH, etc.

Alignment of correct meter to account

CSP finds that it is also critical to ensure that the correct meter serial number is recorded with the correct account at the time of installation to ensure accurate billing. In order to achieve this needed accuracy, the contractors which perform the installation of the AMI meters do the following:

- field hand held units only accept data entry of installed meter numbers from the segmented group of available meters for installation that day by the contractor;
- system used by the contractor only allows one open order at a time which must be completed before moving to the next meter installation, this includes such items as taking pictures of the old and new meters, reading the meters, and entry of meter serial numbers;
- on-site supervision by the installation contractor is required by CSP allowing any problems or issues to be addressed immediately; and
- all contractors are equipped with cell phones in order easily to reach CSP or their own supervision if any issues arise.

(c) Practices and procedures for documenting meter readings made at the time of replacing meters and installing AMI equipment, including the verification of the final reading on the replaced meter

In order to assure accurate meter readings at the time of replacement, CSP takes a photograph of each meter removed. In addition to documenting final meter readings on the removed meter, a photograph is also taken of the newly installed AMI meter. These photographs capture not only the meter reading at time of installation/removal, but also the serial number of the meter, and the position of the installed AMI meter remote service switch. The photographs taken are all saved to an internal website for data archiving and used for reference by CSP employee's to help resolve any subsequent customer questions or issues.

(d) (d) Meter upgrade capabilities of the electric utility's AMI meters and compliance with National Electrical Manufacturers Association standard SG-AMI1-2009

CSP's AMI Meters meet the NEMA SG-AMI 1-2009 standard.

(e) (e) Any additional practices or procedures for avoiding or addressing any questions or potential disputes that might arise regarding the accuracy of AMI meter data

AMI Meter Archive Data and Testing

As mentioned above, CSP uses an internal website which houses information regarding the removed meter as well as the installed AMI meter to help answer any questions customers might have in regards to final meter reads or even verifying that the correct serial number of meter installed matches the serial number of record. Although retention of old meters was not included in the gridSMART Phase 1 project, CSP has made every effort to locate and test old meters in cases where it is believed the old meter was defective. In regards to meter testing at the customer's request, CSP will continue to use the guidelines set under OAC 4901:1-10-05 where one meter test is available to customers without an associated fee. A fee would only be incurred to the customer if an additional test is requested within 36 months of the prior test and the meter results are accurate and within specified tolerances. With the installation of an AMI meter, a customer will not be charged a fee for the initial test of the new meter, even if the customer had requested a meter test on the old meter which falls within a 36 month window.

Customer Awareness

It is also important for customers to be aware of the newly installed AMI meter so that if a change to their bill is detected, they know how and why to contact the company with any concerns or questions. CSP mails out notification of meter changes 30-60 days prior to the new AMI meter installation as well as communicating this information again with a phone call blast several days prior to installation. When the meter is replaced the contractors attempt to make customer contact by knocking on the door; after installation is completed, a door hanger with gridSMART meter information is left at every premise.