COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

REQUEST OF NOLIN RURAL ELECTRIC COOPERATIVE CORPORATION TO ADOPT SCIENTIFIC SAMPLE METER TESTING FOR SINGLE PHASE METERS	))))	CASE NO. 2016-00275

ORDER

The matter is before the Commission upon an application filed by Nolin Rural Electric Cooperative Corporation ("Nolin") requesting approval to implement a sample meter-testing procedure for its single-phase Class 200 amp and Class 320 amp meters. Commission Staff issued, and Nolin responded to, one round of discovery requests. An informal conference was conducted on November 22, 2016 to clarify certain discovery responses provided by Nolin. The matter now stands submitted for a decision based upon the evidentiary record.

In support of its request, Nolin states that it currently tests its single-phase meters periodically on an eight-year cycle as required under 807 KAR 5:041, Section 15(3), and that it is on schedule with the periodic testing of its single-phase meters. Nolin proposes to adopt a sample meter-testing program utilizing statistical protocols established under American National Standard Institute/American Society for Quality Control ("ANSI/ASQC") Z1.9-2003 (R2013) (Sampling Procedures and Tables for Inspection). Nolin states that it has 34,523 GE Class 200 amp, Type I210+ meters and 1,560 GE Class 320 amp, Type I210+ meters. Nolin also states that each set of its single-phase meters will be divided into lots, or groups, of between 501 and 1,000

meters, with each lot representing a homogenous population of meters consisting of the same type, size, and manufacturer. The lots will also include meters that have serial numbers with a range of values, which would indicate similar manufacturing methods and controls for the lots. Similar meters may be further divided by serial number break points. Newly purchased and/or installed meters will be added to the proper lot and will be eligible for sample testing the following year. New meters, as purchased and prior to being placed in service, will be sample tested in lots established for those meters and will be subject to a more stringent Acceptance Quality Level of 1.0 percent nonconforming. New lots may be added to maintain a group size limitation of 1,000 meters.

According to Nolin, each test lot will be randomly sampled by a computerized process, and Nolin will use software to randomly select meters from each test lot. The randomly selected meters will be tested under full load, light load, and at 50 percent power factor at full load consistent with the requirements of 807 KAR 5:041, Section 17(1). Non-registering meters[1] would be replaced with another randomly selected sample meter from the lot under inspection. Under the proposed sample meter-testing program, a lot performance will be deemed acceptable if the full-load and light-load performance of the meters tested satisfies the acceptability criteria of the ANSI/ASQC Z1.9-2003 (R2013) standard.[2] Nolin states that when a sample fails to

[1] Nolin defines a non-registering meter as one that is not registering due solely to external forces such as being struck by lightning or by a falling tree, which cannot be attributed to a manufacturer defect. Nolin states that it will track non-registering meters to determine if there is any pattern related to external forces, which may be a root cause for non-registering meters.

[2] The relevant acceptable level is measured by the Acceptance Quality Level ("AQL"), which is defined as the quality level that is the worst tolerable product average when a continuing series of lots is submitted for acceptance sampling. Nolin states that the meter lots will tested using an AQL of 2.5, which reflects a range that includes a plus or minus 2 percent accuracy.

meet the specified AQL, the entire lot (i.e., 1,000 meters) will be tested within 18 months. Nolin also states that any meter found to have an accuracy of less than 99 percent will be retired. In addition to the sample testing, Nolin states that at least 2 percent of all meters will be tested annually so that no meter will remain in service for more than 25 years without testing.[3] Last, Nolin commits to submitting annual reports showing the testing performance of each lot, or group, along with providing a copy of the manufacturer's meter test data associated with any new meters.

Nolin maintains that the sample meter-testing program proposed would result in substantial cost savings through reduced labor costs. Nolin estimates that it would save, over an eight-year testing cycle, $829,332, or approximately $83,000 annually. Nolin also maintains that the resultant cost savings would not compromise meter-testing accuracy or the overall integrity of its metering system.

Having reviewed the record and being otherwise sufficiently advised, the Commission finds that Nolin's proposed sample meter-testing program is reasonable and in conformity with 807 KAR 5:041, Section 16. The Commission further finds that Nolin's application should be approved. However, to ensure that the proposed sample meter-testing plan effectively measures the accuracy of meters in service, the Commission will require additional reporting requirements from Nolin.

[3] Nolin's protocol under its proposed meter sample testing program is consistent with the requirements of 807 KAR 5:041, Section 16(4)(a), which requires a percentage of meters to be tested in addition to the samples selected from each group based on the prior year's test results. The Commission notes, however, that 807 KAR 5:041, Section 16(4)(a), requires that these additional meters should be selected from meters in each group that has been in service the longest since the last test or those meter types known to be affecting a group's accuracy performance.

Lastly, the Commission will review the level of savings that Nolin expects to achieve as a result of the sample meter-testing program in its upcoming rate cases, including the pending rate case.

IT IS THEREFORE ORDERED that:

1. Nolin's application requesting approval to implement a sample meter-testing program for its single-phase meters is approved.

2. Nolin shall comply with all applicable meter-testing requirements set forth in 807 KAR 5:006 and 807 KAR 5:041, including maintaining all test records related to its sample meter testing in accordance with 807 KAR 5:006, Section 18.

3. Nolin shall provide the additional information below with its Quarterly Meter Reports, which are required to be filed by 807 KAR 5:006, Section 4(4), and include an electronic version compatible with Microsoft Excel.

a. A detailed report in tabular format that records the following information for each meter, including new meters, tested under the sampling plan:

(1) Serial Number;

(2) Date/Time of Test;

(3) Manufacturer;

(4) Model/Form/Type;

(5) Version/Firmware;

(6) As-Found Meter Registration, Full Load, Light Load, and Power Factor Results;

(7) As-Left Meter Registration, Full Load, Light Load, and Power Factor Results;

(8) Description of Any Billing Adjustment.

b. An "exception" report in a tabular format that lists the following information for each meter removed from a sample and replaced with another unit due to a "non-registering" condition or any other condition that prevents the meter from being tested:

(1) Serial Number of Replaced Meter;

(2) Manufacturer;

(3) Model/Form/Type;

(4) Version/Firmware;

(5) Serial Number of Replacement Meter;

(6) Date of Replacement;

(7) Description of Meter Condition and Suspected Cause of Damage/Defect; and

(8) Description of any Billing Adjustment.

4. Nolin shall notify the Commission in writing of any intentions to adjust, alter, amend, or otherwise deviate from the sample testing plan approved herein, including notice of a decision to abandon sample testing and return to periodic testing as prescribed by 807 KAR 5:041, Section 15.

5. The Commission will review the level of savings anticipated to be achieved by Nolin as a result of implementing the meter sample-testing program in Nolin's upcoming rate cases, including the current pending rate case.

By the Commission

ENTERED

MAY 04 2017

KENTUCKY PUBLIC SERVICE COMMISSION

ATTEST:

Executive Director

*Nolin R.E.C.C.
411 Ring Road
Elizabethtown, KY 42701-6767

*Michael L Miller
President & CEO
Nolin R.E.C.C.
411 Ring Road
Elizabethtown, KY 42701-6767