

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

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

COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION
TO NOLIN RURAL ELECTRIC COOPERATIVE CORPORATION

Nolin Rural Electric Cooperative Corporation ("Nolin"), pursuant to 807 KAR 5:001, is to file with the Commission the original and ten copies of the following information, with a copy to all parties of record. The information requested herein is due within 14 days from the date of issuance of this request. Responses to requests for information shall be appropriately bound, tabbed and indexed. Each response shall include the name of the witness responsible for responding to the questions related to the information provided.

Each response shall be answered under oath or, for representatives of a public or private corporation or a partnership or association or a governmental agency, be accompanied by a signed certification of the preparer or person supervising the preparation of the response on behalf of the entity that the response is true and accurate to the best of that person's knowledge, information, and belief formed after a reasonable inquiry.

Nolin shall make timely amendment to any prior response if it obtains information which indicates that the response was incorrect when made or, though correct when

made, is now incorrect in any material respect. For any request to which Nolin fails or refuses to furnish all or part of the requested information, it shall provide a written explanation of the specific grounds for its failure to completely and precisely respond.

Careful attention should be given to copied material to ensure that it is legible. When the requested information has been previously provided in this proceeding in the requested format, reference may be made to the specific location of that information in responding to this request. When filing a paper containing personal information, Nolin shall, in accordance with 807 KAR 5:001, Section 4(10), encrypt or redact the paper so that personal information cannot be read.

1. Refer to the Proposed Sample Meter Testing Plan supplied with the Application, section labeled "Rules and Regulations."

a. State whether Nolin intends to comply with the Commission's requirements related to the sampling and testing of meters as provided for in 807 KAR 5:006 and 807 KAR 5:041. If not, specifically identify the regulatory requirements with which Nolin does not intend to comply, and include a detailed explanation justifying the deviation from the Commission's regulations.

2. Refer to the section labeled "Procedure."

a. Fully explain how the Acceptance Quality Limit¹ ("AQL") of 2.5 percent applied to in-service meter lots is "due to the" upper and lower specification limits of +/- 2 percent established for measuring the accuracy characteristic of single-phase electric meters.

¹ According to the latest version of ANSI/ASQ Z1.9-2008 (R2013) ("ANSI/ASQ Z1.9-2008"), the correct terminology is Acceptance Quality Limit. See A2.1, Definitions and Terminology – Acceptance Quality Limit (AQL).

b. With the understanding that the AQL represents the worst tolerable average percentage of electric meters found non-conforming over a continuous series of lots for a single quality characteristic (e.g., measured accuracy) and that the concept of the AQL is applicable only for the purpose of evaluating the need to switch between normal and tightened inspection levels or to suspend sampling,² describe the basis for specifying the AQL at 2.5 percent for in-service meter lots and 1.0 percent for new meter lots.

(1). Confirm that every new meter will be tested by the manufacturer and provide an example of the test information supplied by the manufacturer with new meters.

(2). For the proposed sampling plan, what will Nolin use for the upper and lower specification limit for new meters?

c. At various points of the discussion, the term “group” is inconsistently used to describe the collection of units from which samples will be drawn, e.g., “[e]ach test group will be randomly sampled”; “[Nolin] will use an Excel spreadsheet to randomly select meters from each test group”; “[n]ew groups may be added to maintain group size limitation of 1,000 meters”; “[t]he maximum population of any group will not exceed 1,000”; “determine the sample size for each test group” (Emphasis added). Clarify whether consistent with ANSI/ASQ Z1.9-2008, Nolin recognizes that the term group represents a homogenous set or population of units that are further divided (or formed) into one or more lots of established quantities from which samples are to be drawn for testing.

² ANSI/ASQ Z1.9-2013, A4.2, Note on the Meaning of AQL.

d. Explain in detail how damaged and non-registering meters will be evaluated to determine the operating condition of the meters and the extent to which such meters may represent a statistically significant non-conformity or defect that should be explored by the utility.

(1). Explain how replacing any non-registering meter with another randomly selected functioning meter is consistent with ANSI/ASQ Z1.9-2008, A7.2 (Drawings of Samples).³

(2). Provide generally accepted statistical principles that support the statistical validity of removing a non-registering (nonfunctioning/defective) unit randomly selected from a lot and replacing it with a registering (functioning) unit.

(3). Explain how the presence of non-registering meters randomly sampled from a lot may or may not represent the same meter conditions existing in the lot being sampled.

e. Clarify whether sampled meters and additional meters selected pursuant to 807 KAR 5:041, Section 16(4), will be tested at full load, light load, and at 50 percent power factor in accordance with 807 KAR 5:041, Section 17(1).

f. If tested meters will be "retired when the error in registration exceeds 1% at either light load or full load," explain why the upper and lower specification limits for the proposed sampling plan should not coincide with an acceptable accuracy quality characteristic (i.e., acceptability criterion) of +/- 1 percent instead of the 2 percent proposed.

³ A sample is one or more units of product drawn from a lot. Units of the sample shall be selected without regard to their quality.

g. Nolin states that “[w]hen a group is classified as failed, Nolin RECC will test the entire control group of meters within 18 months” (Emphasis added). Explain whether Nolin intends to test the entire lot (formed from homogenous groups of meters with lot size less than or equal to 1,000) from which the sample was selected or the entire group of meters from which the various lots were formed.

h. Refer to 807 KAR 5:041, Section 16(5). Explain in detail how Nolin will comply with this requirement and the process intended for recording and reporting to the Commission any necessary billing adjustments.

i. Nolin indicates that meters in group 1 (Class 200) would contain a population of 34,523 units, and meters in group 2 (Class 320) would contain 1,560 units. Based on Nolin’s previously identified process of dividing groups of meters into lots of 1,000 or less for sampling, provide a list showing each of the lots and how they will be determined based on the serial number break points. Does Nolin also plan to maintain lot sizes above 500 units to ensure consistency in applying the sampling plan as prescribed in ANSI/ASQ Z1.9-2008 at Table A-2?

j. Provide the manufacturer’s accuracy specifications and estimated service life for each meter type that will be subject to the proposed sampling plan.

k. Provide a detailed copy of Nolin’s meter testing procedures.

l. Provide a copy of the Excel spreadsheet that Nolin proposes to use to randomly select meters for testing.

3. Refer to the section labeled “Cost Savings/Conclusion.”

a. Explain the difference in the number of meters to be tested in the "Assumptions" of 1,365 units and the total number of meters represented in the "Proposed Sample Testing Costs" of 2017 meters.

b. Describe how the \$6 cost to test for the "Current Annual Costs" and the \$35 cost to test for the "Proposed Sample Testing Costs" were developed and provide any supporting documentation available. If either cost is based on contract, identify the third-party contractor and provide a copy of the contract.

c. Is the "Full time Meter Tech" position identified under "Current Annual Costs" currently filled? If so, will the person in this position be reassigned to other job functions within the utility? If not, how long has the position been vacant?

d. Provide a detailed explanation of the cost components that make up the fully burdened meter tech cost of \$147,201.60. Provide all supporting documentation and calculations.

e. If additional testing is required per the sample plan (which may occur due to failure of a lot and/or a greater percentage of meters being selected for testing because of a group's prior year performance per 807 KAR 5:041, Section 16(4)(a)), state whether Nolin has planned for the potential of additional testing required.

f. If additional meters are required to be tested based on the results of sample testing for that year, estimate the additional costs that could be incurred, including any contracted costs due to the additional demand.



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cc: Parties of Record

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