

**STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH**

DOCKET NO. E-100, SUB 126

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of
Smart Grid Technology Plans Pursuant to) ORDER AMENDING RULES
Commission Rules R8-60(i)(10) and R8-60.1)

BY THE COMMISSION: On November 5, 2015, the Commission issued an Order Approving Smart Grid Technology Plans, Declining to Schedule a Hearing, and Requesting Comments on Rule Revisions (the Smart Grid Order) in Docket No. E-100, Sub 141. Among other things that Order stated:

The Commission has a need to understand new technology and its economic and policy implications. As a means of expanding the Commission's understanding of new grid technologies, this first smart grid proceeding has had some limitations. Short of presiding over an evidentiary hearing, there is no mechanism in the current rules for the Commission to pose questions or dialogue with the utilities and parties about the issues posed by technology choices. The Public Staff's numerous recommendations that future SGTPs [smart grid technology plans] contain additional information inform the Commission's finding that the current rules are deficient. While the Commission could increase the SGTP filing requirements, this approach could become burdensome for the utilities because of the wide range of questions that the Commission and parties might want addressed. In addition, while evidentiary hearings can be valuable, that aspect of the current rule appears to invite litigation, which in this sphere the Commission believes is unproductive. Therefore, the Commission requests that parties file comments suggesting ways the smart grid rules could be amended to enhance the informative aspects of future smart grid proceedings while reducing the litigious aspects of the current rules.

On December 1, 2015, comments were filed jointly by Duke Energy Carolinas, LLC, and Duke Energy Progress, LLC (Duke); Dominion North Carolina Power (Dominion); the North Carolina Sustainable Energy Association (NCSEA); and the Public Staff.

Duke stated that

... in the interest of eliminating litigation ... the Companies are willing to consider other means to share information with the Commission and other interested stakeholders in addition to the formal written SGTP filings. For

example, the Commission could choose to have the Companies make biennial presentations to the Commission about the status of their SGTPs, which would allow the Commission to ask any questions in an informative and non-litigious setting.

Duke stated that these presentations could occur without a rule change. Dominion stated that rule changes are not necessary at this time. NCSEA advocated rule changes in order to:

- 1) Require utilities to describe the technologies and provide the cost-benefit analyses for the technologies that it has decided to deploy, as well as those it has decided not to deploy in the next five years.
- 2) Require utilities to describe in each biennial SGTP: (a) the details of all historical customer usage information that is regularly provided on customer bills; (b) all customer usage information that is available to customers; (c) the communications modes that customers can use to receive their usage information; and (d) whether the utility offers real time pricing and/or data and the details of such offerings.
- 3) Require utilities to explain whether and how a third party would have access to customer usage data.

The Public Staff recommended the following:

- 1) Expanding the definition of smart grid technologies to include the frameworks, architectural platforms, interactive media and other data exchanges that allow utilities and customers to access, interpret and respond to data related to the operation and consumption of electric utility services.
- 2) Increasing the amount of information on projects or initiatives that are under consideration, but not necessarily planned or scheduled for implementation in the next five years.
- 3) Increasing information on the rollout of automated metering infrastructure (AMI) in the State, and the functionality of the AMI systems.
- 4) Including information on the availability of customer usage information to customers as well as the process by which customers can authorize release of that information to third parties.

Reply comments were due on January 8, 2016. On January 5, 2016, the Public Staff filed a motion requesting that the date for reply comments be extended to January 29, 2016. The Public Staff noted that it was working with the utilities and NCSEA to develop a consensus as to the rule changes that are needed, but that the group needed more time to develop that consensus proposal. The Commission granted the request, and on January 29, 2016, the Public Staff filed proposed rule revisions on behalf of all of the parties. The proposed amendments provided that:

- 1) Rather than provide a “cost-benefit analysis” for each planned smart grid investment, the revised rules would require the utility to provide the analysis it used to decide whether to pursue (or not pursue) a particular smart grid initiative and the schedule of its planned capital expenditures.
- 2) The utilities would file more information about pilot projects and their results.
- 3) The revised rules would incorporate requirements from the Commission’s November 5, 2015 Smart Grid Order that required the utilities to file more information about the status of their AMI deployments in their 2016 SGTPs.

The Commission has reviewed the parties’ consensus proposal and finds that it is appropriate to adopt all of the proposed rule changes with the exception of the parties’ proposed section (d). This is section (d) as proposed by the parties:

(d) Review of Plans and Update Reports.

(1) Within 30 days after the filing of each utility’s biennial smart grid technology plan, the Public Staff or any other intervenor may file comments on any or all of the plans. Within 14 days after the filing of initial comments, the parties may file reply comments addressing any substantive or procedural issues raised by any other party. A hearing to address issues raised by the Public Staff or any other intervenors may be scheduled at the discretion of the Commission. The scope of such hearing shall be limited to such issues as identified by the Commission.

(2) Within 30 days after the filing of each utility’s smart grid technology update report, the Public Staff shall report to the Commission whether each utility’s update report meets the requirements of this rule. Intervenors may request leave from the Commission to file comments. Comments will be received or expert witness hearings held on the update reports only if the Commission deems it necessary. The scope of any comments or expert witness hearing shall be limited to issues identified by the Commission.

(3) Any approval of a smart grid technology plan shall not constitute an approval of the recovery of costs or of any specific technology or program associated with the plan.

While the parties’ proposed section (d) is an improvement over the current rules, the Commission prefers to simplify this provision even further by: 1) eliminating the filing of comments for update reports, 2) stating that the Commission may schedule presentations by the utilities, and 3) clarifying that the Commission would conclude a smart grid plan proceeding by “accepting” a plan rather than by “approving” a plan in order to reinforce that the Commission is not approving the recovery of any costs associated with the accepted plan. Therefore, the Commission adopts a modified version of section (d) as shown below:

(d) Review of Plans and Update Reports.

(1) Within 30 days after the filing of each utility’s biennial smart grid technology plan, the Public Staff or any other intervenor may file comments on any or all of the plans. Within 14 days after the filing of initial

comments, the parties may file reply comments addressing any substantive or procedural issues raised by any other party. The Commission may schedule smart grid technology plan presentations by the utilities. A hearing to address issues raised by the Public Staff or any other intervenors may be scheduled at the discretion of the Commission. The scope of the hearing shall be limited to issues as identified by the Commission.

(2) Within 30 days of the filing of each utility's smart grid technology update report, the Public Staff shall report to the Commission whether each utility's update report meets the filing requirements of this rule. The Commission may schedule smart grid technology plan update presentations by the utilities.

(3) Any approval acceptance of a smart grid technology plan or update report shall not constitute an approval of the recovery of costs or of any specific technology or program associated with the plan.

With these changes, as well as those proposed by the parties, the Commission finds that the amended rules will better focus the SGTP proceedings as an informative effort to assist the Commission and parties in anticipating the potential impact of new technologies on customers.

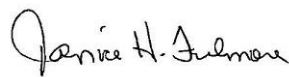
Therefore, the Commission finds good cause to issue this Order amending Commission Rules R8-60.i(10) and R8-60.1 as shown in the attached Appendix A (redline version) and Appendix B (final version).

IT IS, THEREFORE, SO ORDERED.

ISSUED BY ORDER OF THE COMMISSION

This the 13th of June, 2016.

NORTH CAROLINA UTILITIES COMMISSION

A handwritten signature in cursive script, reading "Janice H. Fulmore".

Janice H. Fulmore, Deputy Clerk

Rule R8-60 INTEGRATED RESOURCE PLANNING AND FILINGS.

...

(i) Contents of Biennial Reports. — Each utility shall include in each biennial report the following:

...

- (10) Smart Grid Impacts. — Each utility shall provide information regarding the impacts of its smart grid deployment plan on the overall IRP.
- (i) For purposes of this requirement, the term “smart” in smart grid ~~shall be understood to mean, but is not limited to,~~ a system having the ability to receive, process, and send information and/or data — essentially establishing a two-way communication protocol.
- (ii) For purposes of this requirement, smart grid technologies that are implemented in a smart grid deployment plan may include those that:
- a. ~~(1)~~ utilize digital information and controls technology to improve the reliability, security and efficiency of an electric utility’s distribution or transmission system;
 - b. ~~(2)~~ optimize grid operations dynamically;
 - c. ~~(3)~~ improve the operational integration of distributed and/or intermittent generation sources, energy storage, demand response, demand-side resources and energy efficiency;
 - d. ~~(4)~~ provide utility operators with data concerning the operations and status of the distribution and/or transmission system, as well as automating some operations; and/or
 - e. ~~(5)~~ provide customers with usage information or retail energy pricing information in order to allow them to interpret and adjust their energy consumption.
- (iii) The information provided shall include:
- a) ~~(i)~~ A description of the technology installed and for which installation is scheduled to begin in the next five years and the resulting and projected net impacts from installation of that technology, including, if applicable, the potential demand (MW) and energy (MWh) savings resulting from the described technology.
 - b) ~~(ii)~~ A comparison to “gross” MW and MWh without installation of the described smart grid technology.
 - c) ~~(iii)~~ A description of MW and MWh impacts on a system, North Carolina retail jurisdictional, and North Carolina retail customer class basis, including proposed plans for measurement and verification of customer impacts or actual measurement and verification of customer impacts.

...

Rule R8-60.1 SMART GRID TECHNOLOGY PLANS AND FILINGS.

(a) Purpose. – The purpose of this rule is to establish guidelines for the reporting of information regarding a utility's smart grid technology plan in addition to that required in Rule R8-60(i)(10). The information included should describe the conceptual structure and overall organization and impact of the utility's smart grid plans and provide details about the smart grid technologies being evaluated, designed, or implemented.

(b) Smart Grid Technology Plan. – By October 1, 2014, and every two years thereafter, each utility subject to Commission Rule R8-60(i)(10) shall file with the Commission its biennial smart grid technology plan. Significant amendments or revisions to a smart grid technology plan shall be reported to the Commission in By October 1 of each year in which the biennial smart grid technology plan is not required to be filed, each utility shall file with the Commission a smart grid technology update report that includes significant amendments or revisions to its biennial smart grid technology plan.

(c) Biennial Smart Grid Technology Plan Contents -- For purposes of this Rule, smart grid technologies are as set forth in Rule R8-60(i)(10) and shall also include those that provide real-time, automated, interactive technologies that enable the optimization and/or operation of consumer devices and appliances, including metering of customer usage and providing customers with ~~control~~ options to control their energy consumption.

The plan shall include all of the following:

- (1) A summary of the utility's strategy for evaluating and developing smart grid technologies.
- (2) A description of how the proposed smart grid technology plan will improve reliability and security of the grid.
- (3) For all smart grid technologies currently being deployed or scheduled for implementation within the next five years:
 - (i) A description of the technologies for which installation is scheduled to begin in the next five years, including the goals and objectives of that each technology, options for ensuring interoperability of the technology with different technologies and the legacy system, and the expected life of the technology.
 - (ii) The status and timeframe for completion.
- (2) ~~A smart grid maturity model "roadmap," if applicable, or roadmap from a comparable industry accepted resource suitable for the development of smart grid technology.~~
- (3) ~~Approximate timing and amount of capital expenditures.~~
- (4) ~~Cost-benefit analyses for installations that are planned to begin within the next five years, including an explanation of the methodology and inputs used to perform the cost-benefit analyses.~~
- (5) (iii) A description of any existing equipment, if any, to be rendered obsolete by the new technology, its anticipated book value at time of retirement, alternative uses of the existing equipment, and the expected salvage value of the existing equipment.
- (6) ~~Status of pilot projects and projects, including a description of whether and to what extent these projects are or will be funded by government grants.~~

- ~~(7)~~ (iv) A description, if applicable, of how the utility intends the technology to transfer information between it and the customer while maintaining the security of that information.
- ~~(8)~~ (v) A description, if applicable, of how third parties will implement or utilize any portion of the technology, including transfers of customer-specific information from the utility to third parties, and how customers will authorize that information for release by the utility to third parties.
- ~~(9)~~ (vi) A description of how the proposed smart grid technology plan will improve reliability and security of the grid. Approximate timing and amount of capital expenditures, including those already incurred.
(vii) Analyses relied upon by the utility for installations, including an explanation of the methodology and inputs used to perform the analyses.
- ~~(4)~~ For all smart grid technologies actively under consideration for implementation within the next five years, the smart grid technology plan shall include a description of the technologies, including the goals and objectives of the technologies, as well as a descriptive summary of any completed analysis used by the utility in assessing the smart grid technology.
- ~~(5)~~ For each pilot project or initiative currently underway or planned within the next two years to evaluate smart grid technologies:
 - (i) A description, including its objective and an explanation of how it will improve grid performance or provide improved or additional utility goods and services.
 - (ii) The status and timeframe for completion.
 - (iii) The total cost incurred to date by the utility to conduct and investigate each pilot project or initiative, including whether and to what extent these projects are or will be funded by government grants.
 - (iv) A summary of the results of any pilot project or initiative that is completed if the final results of the pilot project or initiative have not yet been included in previous plans.
 - (v) An explanation of how the results of the pilot project or initiative will be used by the utility if the explanation has not yet been included in previous plans.
- ~~(6)~~ A description of each project or initiative described in a previous plan that is no longer under consideration by the utility, and the basis for the decision to end consideration of each project or initiative.
- ~~(7)~~ For automated metering infrastructure (AMI), in addition to the information required in subsections (3) or (4) of this section, as appropriate, the utility shall also provide:
 - (i) A table indicating the extent to which AMI meters have been installed in the utility's service territory and specifically in North Carolina, the North Carolina jurisdictional customer classes and/or tariffs of customers with AMI, and the predicted lifespans of these installations. This table should indicate the number of AMI meters that has been installed both cumulatively and since the filing of the last smart grid technology plan.

(ii) The number of meters in North Carolina that use traditional metering technology and/or automated meter reading (AMR) technology, and the predicted lifespans for these installations.

(iii) Any adjustment made by the utility to its capital accounting due to AMI, including the dollar amount of write-downs of its meter inventories.

(iv) A discussion of what AMI services or functions are currently being utilized, as well as any plans for implementing other AMI services or functions within the next two years.

(d) Review of Plans and Update Reports.

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(3) Any ~~approval~~ acceptance of a smart grid technology plan or update report shall not constitute an approval of the recovery of costs or of any specific technology or program associated with the plan.

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b. optimize grid operations dynamically;

c. improve the operational integration of distributed and/or intermittent generation sources, energy storage, demand response, demand-side resources and energy efficiency;

d. provide utility operators with data concerning the operations and status of the distribution and/or transmission system, as well as automating some operations; or

e. provide customers with usage information or retail energy pricing information in order to allow them to interpret and adjust their energy consumption.

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a. A description of the technology installed and for which installation is scheduled to begin in the next five years and the resulting and projected net impacts from installation of that technology, including, if applicable, the potential demand (MW) and energy (MWh) savings resulting from the described technology.

b. A comparison to “gross” MW and MWh without installation of the described smart grid technology.

c. A description of MW and MWh impacts on a system, North Carolina retail jurisdictional, and North Carolina retail customer class basis, including proposed plans for measurement and verification of customer impacts or actual measurement and verification of customer impacts.

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The plan shall include all of the following:

- (1) A summary of the utility's strategy for evaluating and developing smart grid technologies.
- (2) A description of how the proposed smart grid technology plan will improve reliability and security of the grid.
- (3) For all smart grid technologies currently being deployed or scheduled for implementation within the next five years:
 - (i) A description of the technologies, including the goals and objectives of each technology, options for ensuring interoperability of the technology with the legacy system, and the expected life of the technology.
 - (ii) The status and timeframe for completion.
 - (iii) A description of any existing equipment to be rendered obsolete by the new technology, its anticipated book value at time of retirement, alternative uses of the existing equipment, and the expected salvage value of the existing equipment.
 - (iv) A description of how the utility intends the technology to transfer information between it and the customer while maintaining the security of that information.
 - (v) A description of how third parties will implement or utilize any portion of the technology, including transfers of customer-specific information from the utility to third parties, and how customers will authorize that information for release by the utility to third parties.
 - (vi) Approximate timing and amount of capital expenditures, including those already incurred.
 - (vii) Analyses relied upon by the utility for installations, including an explanation of the methodology and inputs used to perform the analyses.

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 - (ii) The status and timeframe for completion.
 - (iii) The total cost incurred to date by the utility to conduct and investigate each pilot project or initiative, including whether and to what extent these projects are or will be funded by government grants.
 - (iv) A summary of the results of any pilot project or initiative that is completed if the final results of the pilot project or initiative have not yet been included in previous plans.
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 - (iii) Any adjustment made by the utility to its capital accounting due to AMI, including the dollar amount of write-downs of its meter inventories.
 - (iv) A discussion of what AMI services or functions are currently being utilized, as well as any plans for implementing other AMI services or functions within the next two years.
- (d) Review of Plans and Update Reports.
- (1) Within 30 days after the filing of each utility's biennial smart grid technology plan, the Public Staff or any other intervenor may file comments on any or all of the plans. Within 14 days after the filing of initial comments, the parties

may file reply comments addressing any substantive or procedural issues raised by any other party. The Commission may schedule smart grid technology plan presentations by the utilities. A hearing to address issues raised by the Public Staff or any other intervenors may be scheduled at the discretion of the Commission. The scope of the hearing shall be limited to issues as identified by the Commission.

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