

**BEFORE THE NORTH CAROLINA UTILITIES COMMISSION
DOCKET NO. E-2, SUB 1142**

In the Matter of:)	
Duke Energy Progress, LLC Application)	NCSEA’S PARTIAL
for Adjustment of Rates and Charges)	PROPOSED ORDER
Applicable to Electric Utility Service in)	
North Carolina)	

NCSEA’S PARTIAL PROPOSED ORDER

NOW COMES the North Carolina Sustainable Energy Association (“NCSEA”), by and through counsel, who submit the following partial proposed order in the above captioned docket.

FINDINGS OF FACT AND CONCLUSIONS

Base Customer Charge for Residential Ratepayers

1. The Commission has never formally adopted a position on the proper methodology for calculating the base customer charge.
2. There is conflicting evidence in the record as to the proper methodology for calculating the base customer charge.
3. Further investigation of the various methods of calculating the base customer charge is necessary.
4. The \$19.50 base customer charge for residential customers proposed by the Company is unjust and unreasonable and should be rejected.
5. The record lacks sufficient evidence for the Commission to determine a base customer charge for residential customers that adequately reflects cost causation.
6. Because the record lacks sufficient evidence for the Commission to determine a base customer charge for residential customers that adequately reflects cost

causation, it is just and reasonable for the Commission to adopt a percentage increase in the base customer charge for residential consumers no larger than the percentage rate increase for that customer class.

Grid Investments

7. The Company has not demonstrated that their proposed grid investment plan is outside the scope of standard utility operations.

8. The Company has not presented the Commission with the precise, quantifiable benefits of the Company's proposed grid investment plan.

9. The Company has not demonstrated that their proposed grid investment plan is cost effective or that it is reasonable and prudent.

10. The Company has not demonstrated that the process used in developing its proposed grid investment plan is reasonable and prudent or is in the best interest of customers.

11. The level of spending set forth in the Company's proposed grid investment plan is unprecedented and warrants extensive Commission oversight.

AMI and CIS

12. The Company has demonstrated a need for a new Customer Information System ("CIS").

13. The Company has not demonstrated that its proposed Customer Connect program is a reasonable and prudent way of meeting the Company's need for a new CIS.

14. The Company's request for cost recovery for Customer Connect should be denied at this time.

Cross Subsidization

15. There is no evidence in the record to demonstrate unreasonable cost-shifting or cross subsidies between the Company's residential customers.

16. Proper examination of cross subsidies occurring within a customer class requires a cost of service study.

Coal Ash Remediation Costs

17. Costs associated with coal ash remediation are appropriately classified as energy-related costs.

EVIDENCE IN SUPPORT OF FINDING OF FACT AND CONCLUSION NO. 1

The evidence supporting this finding and conclusion is contained in historical Commission orders.

In previous rate cases, the Commission consistently found that the methodology used to calculate the base customer charge was appropriate given the unique circumstances of each proceeding. In its 1987 Order granting a partial rate increase requested by Carolina Power & Light Company, a predecessor of Duke Energy Progress, LLC ("Company" or "DEP"), the Commission concluded "that the SWPA method, including the minimum system, is still the most appropriate method of allocating the cost of production plant **in this case.**" *Order Granting Partial Increase in Rates and Charges*, p. 30, Docket No. E-2, Sub 526 (August 27, 1987) (emphasis added). However, the Commission also cautioned that the "reflection of minimum distribution plant costs in the basic customer charges would result in residential customer charges at least double the current \$6.65 per month, and the Commission has never approved residential customer charges approaching the

levels indicated by the minimum system technique.” *Id.* at 29-30. The Commission directed the Company’s predecessor in its next general rate case application to include cost allocation studies both with and without the minimum system technique. *Id.* at 83.

In its subsequent rate case, Carolina Power & Light Company included in its application cost allocation studies, both with and without the minimum system technique, and proposed to discontinue the use of the minimum system technique. *Order Granting Partial Increase in Rates and Charges*, pp. 128-130, Dockets No. E-2, Sub 333 and E-2, Sub 537 (August 5, 1988). Similar to its finding the year before, the Commission concluded that “[t]he Summer/Winter Peak and Average method, including the minimum system technique, is the most appropriate method for allocating costs between jurisdictions and between customer classes within the North Carolina retail jurisdiction **in this proceeding.**” *Id.* at 9 (emphasis added). In the most recent rate case filed by the Company’s predecessor¹, the Commission did not address the methodology for calculating the base customer charge. See generally, *Order Granting General Rate Increase*, Docket No. E-2, Sub 1023 (May 30, 2013).

Based upon this examination of the Commission’s historical orders, it is apparent that the Commission has never formally adopted a position on the proper methodology for calculating the base customer charge, but rather has approved methodologies based on the unique circumstances of each case, and that the Commission has not adopted a policy that the minimum system methodology is to be used to calculate the base customer charge.

¹ Then named “Carolina Power & Light Company d/b/a Progress Energy Carolinas, Inc.”

EVIDENCE IN SUPPORT OF FINDING OF FACT AND CONCLUSION NOS. 2-3

The evidence supporting this finding and conclusion is contained in the testimonies of NCSEA Witness Barnes, North Carolina Justice Center et al. (“NCJC et al.”) Witness Wallach, and North Carolina Utilities Commission–Public Staff (“Public Staff”) Witness Floyd.

In this proceeding, the Commission heard testimony about several methods for calculating the base customer charge: the minimum system method, as proposed by the Company (Tr. Vol. 10, pp. 285-289); the minimum intercept or zero intercept methodology (Tr. Vol. 16, pp. 93-94 and Tr. Vol. 17, p. 221); and the direct customer methodology (Tr. Vol. 16, p. 95).

The Commission believes that it is important to maintain flexibility in future rate design, particularly as the Company moves forward with significant investments with the goal of providing customers greater control over their monthly electricity bills. The Company has testified that it will propose more innovative rate designs in future rate cases. (Tr. Vol. 9, p. 145 and Tr. Vol. 10, pp. 194-195). Further, Company Witness Wheeler testified that customer-related costs that are not recovered in the base customer charge can be positioned in a way that sends price signals to consumers. (Tr. Vol. 11, p. 103). Based upon the testimony received in this case, it is apparent that the base customer charge is an integral part of innovative rate designs and that it can be leveraged to send economic signals to ratepayers. However, this benefit can only be utilized if the base customer charge is set properly. NCJC et al. Witness Wallach testified that the base customer charge, as proposed by the Company, would dampen economic signals to ratepayers. (Tr. Vol. 17, p. 206). Thus, it is appropriate for the Commission to examine the methodology utilized in

calculating the base customer charge to ensure that said methodology is consistent with the ideals of flexibility and innovation to be implemented in future rate designs.

The Commission has concerns about the use of the minimum system methodology to calculate the base customer charge. The evidence in this proceeding makes clear that the use of the minimum system method to set the base customer charge is subject to discretion by the utility and is susceptible extreme variations based on utility assumptions. In the current proceeding, these variations based on utility assumptions are explicitly shown in the difference between the \$27.28 base customer charge for residential customers that DEP claims is supported by the evidence (Tr. Vol. 11, p. 97) and the \$8.54 base customer charge that NCJC et al. claims is supported by the evidence (Tr. Vol. 17, p. 211).

The Commission's concerns are highlighted by the unreasonableness of the Company's assertion that a \$27.82 base customer charge for residential ratepayers would be appropriate if requested. Company Witness Wheeler testified that such a base customer charge of \$27.82, if approved, would be the highest in the nation. (Tr. Vol. 11, p. 123). While all utility service territories and systems are unique, the Company has not shown that its service territory and system are unique such that it would require the highest base customer charge in the nation.

The Commission is also concerned about the impact of the Company's proposed grid investment plan on the base customer charge for residential ratepayers if the use of the minimum system methodology is continued. Company Witness Wheeler, testifying on rate design issues, expressed his concern that the Company's grid investment plan will put upward pressure on the residential base customer charge. (Tr. Vol. 11, pp. 124-125). Similarly, Public Staff Witness Floyd testified of his concern that the Company's grid

investment plan would put upward pressure on the base customer charge for residential ratepayers. (Tr. Vol. 19, p. 169). The Commission shares this concern.

In addition to the minimum system methodology, the Commission heard testimony about two other methodologies for calculating the base customer charge: the minimum intercept or zero intercept methodology and the direct customer cost methodology. NCSEA Witness Barnes testified that the minimum intercept or zero intercept methodology would more accurately reflect cost causation than the minimum system methodology proposed by the Company. (Tr. Vol. 16, pp. 93-94). Similarly, NCJC et al. Witness Wallach testified that the minimum intercept methodology would produce more reliable results than the minimum system method. (Tr. Vol. 17, p. 221). NCSEA Witness Barnes recommended the use of the direct customer methodology because it eliminates subjective judgment from the proper level of a base customer charge. (Tr. Vol. 16, p. 95). The Commission agrees that the calculation of the base customer charge should involve as few subjective decisions as possible, given the disparity in the base customer charges produced under the minimum system methodology, as discussed above.

The evidence and testimony presented in this proceeding support a conclusion that it is necessary for the Commission to exercise greater oversight over the calculation of the base customer charge, particularly for residential customers. The Commission therefore directs the Company to file in all future rate applications an analysis to identify the customer-related costs in its cost of service study under each of the three methodologies discussed in this section. In addition, the Company shall include in all future rate applications a justification for and explanation of why it is recommending a certain methodology for calculating the base customer charge.

EVIDENCE IN SUPPORT OF FINDING OF FACT AND CONCLUSION NOS. 4-5

The evidence supporting this finding and conclusion is contained in the testimonies of NCSEA Witness Barnes, NCJC et al. Witness Wallach, and Public Staff Witness Floyd.

NCSEA Witness Barnes testified that the base customer charge for residential ratepayers proposed by the Company of \$19.50 is extreme based on a number of factors. (Tr. Vol. 16, pp. 49-50). NCJC et al. Witness Wallach stated that the cost of service study, when modified to remove the minimum plant costs, supports a base customer charge for residential ratepayers of \$8.54 (Tr. Vol. 17, p. 203), which is less than half of the base customer charge for residential ratepayers proposed by the Company. Public Staff Witness Floyd testified that the \$19.50 base customer charge for residential ratepayers proposed by the Company represents a 75% increase from the existing base customer charge for residential ratepayers established in the prior rate case, which itself represented a 65% increase in the base customer charge for residential ratepayers. (Tr. Vol. 19, p. 104).

In adjusting rates, “it is important to consider the impact upon customers and, therefore, to employ the principle of ‘gradualism.’” *Order Granting General Rate Increase*, p. 59, Docket No. E-2, Sub 1023 (May 30, 2013). Based on the evidence presented in this proceeding, it is evident that the Company’s proposed \$19.50 base customer charge for residential ratepayers violates the principle of gradualism and therefore should be rejected.

The Commission has received extensive testimony about the various methodologies for calculating the base customer charge for residential customers. However, the Commission has only received evidence of the single cost of service study incorporating the minimum system methodology both with the minimum system,

suggesting a \$27.28 base customer charge for residential customers, and without the minimum system, suggesting an \$8.53 base customer charge for residential customers. The Commission has not received cost of service studies incorporating the minimum intercept or zero intercept methodology or the direct customer methodology. Therefore, the Commission is left without sufficient evidence in the record to determine a base customer charge for residential ratepayers that appropriately reflects cost causation.

EVIDENCE IN SUPPORT OF FINDING OF FACT AND CONCLUSION NO. 6

The evidence supporting this finding and conclusion is contained in the testimonies of NCSEA Witness Barnes, Public Staff Witness Floyd, and Company Witness Wheeler.

Because the Commission does not have sufficient evidence in the record to determine a base customer charge for residential ratepayers that reflects cost causation, it is necessary for the Commission to set a base customer charge for residential ratepayers based on public policy considerations.

NCSEA Witness Barnes recommended that the base customer charge for residential customers be maintained at its current amount. (Tr. Vol. 16, p. 49). If an increase was deemed necessary, Witness Barnes recommended that the Commission increase the base customer charge for residential customers by no more than the percentage increase set forth in the overall revenue requirement adopted for the residential class. Public Staff Witness Floyd recommended that the Commission adopt a base customer charge for residential customers that did not assign more than 25% of the Company's approved revenue increase for the residential class to the base customer charge. (Tr. Vol. 19, p. 105). This

recommendation results in a base customer charge for residential ratepayers of \$15.00. (Tr. Vol. 19, p. 105).

The settlement entered into between the Company and the Public Staff endorsed a base customer charge for residential ratepayers of \$14.00 (See Tr. Vol. 18, Ex. 1) (“Second Revised Settlement”). Company Witness Wheeler testified that the proposed settlement’s \$14.00 base customer charge for residential customers is more gradual than the Company’s initial \$19.50 request. (Tr. Vol. 11, p. 97). However, the \$14.00 base customer charge is not based on cost causation, but rather is the result of a negotiated settlement. (Tr. Vol. 19, pp. 161-162).

It is apparent that the Company’s fixed costs to serve customers have increased since the previous rate case. Therefore, it is reasonable for the Company’s base customer charge for residential ratepayers to increase as well. When faced with that reality, the Commission believes that, in the absence of sufficient evidence to establish a base customer charge for residential ratepayers that is based on cost causation, it is appropriate in this case that the percentage increase should be no greater in percent than the percentage increase in the overall revenue requirement adopted for the residential class.

EVIDENCE IN SUPPORT OF FINDING OF FACT AND CONCLUSION NO. 7

The evidence supporting this finding and conclusion is contained in the testimonies of NCSEA Witness Golin and Company Witness Simpson.

The Company is proposing to upgrade their grid by investing in the following:

- A full deployment of advanced metering infrastructure (“AMI”)
- Enterprise system upgrades

- System intelligence and communications uplift
- Transmission improvements
- Distribution hardening and resiliency
- Targeted undergrounding of lines
- Self-optimizing grid

(Tr. Vol. 13, pp. 23-24).

However, within these categories, NCSEA Witness Golin stated that “the ‘types’ of investments proposed by the Company are out of step with the types of investments typically classified as grid modernization and rather fall under ‘business as usual’ investment patterns.” (Tr. Vol. 13, p. 20). NCSEA Witness Golin specifically identified the Company’s proposed grid investments in distribution hardening and resiliency, vegetation management, and undergrounding as the continuation of historical business practices and not grid modernization. (Tr. Vol. 13, p. 46).

The Company handles issues of aging facilities within the ordinary course of its business. Company Witness Simpson asserted that managing aging assets is a fundamental part of the Company’s operations process. (Tr. Vol. 6, p. 79). Similarly, Witness Simpson testified that the Company engages in targeted undergrounding in the ordinary course of business. (Tr. Vol. 9, p. 122). Thus, the Commission concludes that some of the Company’s proposed grid investments would occur in the usual course of business and do not constitute “modernization” of the electric grid.

EVIDENCE IN SUPPORT OF FINDING OF FACT AND CONCLUSION NO. 8

The evidence supporting this finding and conclusion is contained in the testimonies of NCSEA Witness Golin and Company Witness Simpson.

NCSEA Witness Golin testified that “the Company has yet to put forward clear and measurable goals with which to assess the Power/Forward investment plans. The Company has put forward a few vague objectives within its proposal but the Company has not articulated definitive goals nor has it submitted metrics.” (Tr. Vol. 13, p. 32). Company Witness Simpson responded that the goals of the Company’s grid investment plan are to reduce outage events by 30 to 40 percent and SAIDI and SAIFI scores by 40 to 60 percent. (Tr. Vol. 9, p. 53). While these benefits have been quantified, they are presented within a band of expected outcomes, such that a precise expected benefit cannot be quantified.

Furthermore, other benefits asserted by the Company have not been quantified. Company Witness Simpson stated that other benefits from the Company’s grid investment plan consist of customer control and convenience and reliability improvements. (Tr. Vol. 9, p. 85). During cross examination, Company Witness Simpson asserted that the benefits of the Company’s proposed grid investment plan had been established. (Tr. Vol. 9, p. 85). However, the document referenced by Witness Simpson quantifies only \$42 million in benefits annually associated with reduced outages, and that figure is presented without supporting calculations. (Exhibits Vol. 9, p. 49). The remainder of the benefits cited by Witness Simpson are indirect benefits that are not reflected in the Company’s electric service and thus should not be considered by the Commission. (Exhibits Vol. 9, p. 52).

Accordingly, the Commission concludes that it has not been presented with quantifiable and precise information about the benefits of the Company's proposed grid investment plan.

EVIDENCE IN SUPPORT OF FINDING OF FACT AND CONCLUSION NO. 9

The evidence supporting this finding and conclusion is contained in the testimonies of Carolina Utility Customers Association ("CUCA") Witness O'Donnell and NCSEA Witness Golin.

In determining whether an investment is cost effective, both the cost and the benefits must be known and quantifiable. It is clear that the Company has quantified the total cost of its proposed grid investment plan: \$13 billion (Exhibits Vol. 9, p. 46). However, as discussed in support of Finding of Fact and Conclusion No. 8, the Commission has not been presented with quantifiable, precise information about the benefits of the Company's proposed investments. Thus, it is impossible for an adequate cost benefit analysis to be performed.

Multiple witnesses provided testimony about the cost information set forth in the Company's proposed grid investment plan and made suggestions to the Commission about how to ensure cost effectiveness. CUCA Witness O'Donnell testified that he has not seen a detailed financial analysis of the Company's proposed grid investment plan. (Tr. Vol. 16, pp. 12-13). NCSEA Witness Golin recommended that the Commission require all utility grid modernization proposals, including the Company's current proposed grid investment plan, "be predicated on thorough and detailed evaluations of the costs and benefits of a wide range of alternative investment proposals[.]" (Tr. Vol. 13, p. 21). NCSEA Witness

Golin defined a cost-benefit analysis as “an appraisal of the costs, including the opportunity costs, and benefits of investing in a specific technology.” (Tr. Vol. 13, p. 39).

The Commission notes that the Company’s “Executive Technical Overview” of its proposed grid investment plan does not quantify its impacts on rates paid by customers. (Exhibits Vol. 9, pp. 38-65). CUCA Witness O’Donnell testified that he had calculated the impact on rates to range from an 8.94% increase for the Company’s industrial customers to a 48.74% increase for the Company’s residential customers. (Tr. Vol. 15, p. 131). The Commission notes that the Company did not provide testimony to rebut Witness O’Donnell’s testimony on the impact of its proposed grid investment plan on rates. By failing to provide compelling evidence that the proposed grid investment plan will result in meaningful benefits to ratepayers despite its cost, the Commission concludes that the Company has failed to show that its proposed grid investment plan is reasonable and prudent.

EVIDENCE IN SUPPORT OF FINDING OF FACT AND CONCLUSION NO. 10

The evidence supporting this finding and conclusion is contained in the testimonies of Company Witness Fountain, Company Witness Hevert, Company Witness Simpson, Company Witness Schneider, and NCSEA Witness Golin.

Despite its claims to the contrary (Tr. Vol. 9, p. 63), the Company has not engaged in an open and transparent planning process, which concerns the Commission. The Company’s proposed grid investment plan had never been presented to the Commission until it was included in the Company’s application in this docket. Company Witness Fountain asserted in his testimony that there is no analog to integrated resource planning

for distribution planning (T. Vol. 6, p. 267), but Company Witness Simpson contradicted Witness Fountain in his testimony that the Company has engaged in integrated distribution planning since 2015 (T. Vol. 9, p. 89) and that it is a key commitment the Company has made for the future (T. Vol. 9, p. 92). The fact that the Company has engaged in integrated distribution planning for more than two years without making it known to the Commission or stakeholders calls into doubt the assertion that the Company has engaged in an open and transparent planning process.

A compounding factor leading the Commission to question the credibility of the Company's assertion that it has engaged in an open and transparent planning process is the testimonial inconsistencies regarding when the Company began developing its grid investment plan. Company Witness Fountain testified that the Company began developing its plan for grid investments in 2016, following an abnormal storm season. (Tr. Vol. 6, p. 265). However, Company Witness Simpson testified at various times that the Company began its planning around 2012 (Tr. Vol. 9, p. 77), in late 2013 (Tr. Vol. 9, p. 82), and in late 2016 (Tr. Vol. 9, p. 78). The Commission finds it highly concerning that the Company's witnesses cannot agree on when the Company began developing its proposed grid investment plan.

Based on the testimony and evidence presented in this case, it appears that the Company's planning process for grid investments has occurred largely outside of the Commission's oversight—despite earlier opportunities to elicit Commission guidance—and therefore circumvents the Commission's authority to guide the process for such consequential expenditures. The deployment of AMI is one of the components of the Company's proposed grid investment plan. (Tr. Vol. 6, p. 61). However, AMI did not

appear as a technology under consideration in any of the Company's smart grid technology plans that were filed prior to the Company's rate application in this proceeding. (Tr. Vol. 12, p. 246). Company Witness Schneider asserted that the lack of discussion of AMI in the Company's smart grid technology plans is irrelevant, and that stakeholders should have been on notice that the Company would deploy AMI because the smart grid technology plans filed by Duke Energy Carolinas, LLC ("DEC") discussed AMI. (T. Vol. 12, p. 248). However, inasmuch as they are two separate operating utilities, the Commission is of the opinion that the appearance of AMI in DEC's smart grid technology plans is insufficient to notify stakeholders that the Company is planning to deploy AMI. Company Witness Schneider further attempted to justify the Company's failure to include AMI in its smart grid technology plans by testifying that the Company's Board of Directors did not approve a full deployment of AMI until October 2017. (Tr. Vol. 12, p. 253). However, the Commission notes that the Company's application in the current proceeding included a full deployment of AMI and was filed prior to the approval by the Company's Board of Directors.

The Company also failed to show that its planning process is likely to produce the best outcomes for ratepayers. NCSEA Witness Golin testified that the scope and salience of the Company's proposed grid investment plan necessitates a more thoughtful planning process to avoid wasteful and unnecessary investments. (Tr. Vol. 13, p. 19). Further, NCSEA Witness Golin testified that the Company's proposed grid investment plan has been developed without engaging in the best practices for grid modernization. (Tr. Vol. 13, p. 20). Witness Golin stated that these best practices are (1) establishing clear outcomes and defined goals; (2) including input from third-party stakeholders; (3) utilizing integrated

distribution planning; (4) including robust cost-benefit analyses to determine cost effectiveness; and (5) advancing the growth and use of innovative technologies as well as access to data. (Tr. Vol. 13, pp. 28-29). The Commission will address these best practices in turn.

CLEAR OUTCOMES

Company Witness Simpson asserted that the goals of the Company's grid investment plan are to reduce outage events by 30 to 40 percent and SAIDI and SAIFI scores by 40 to 60 percent. (Tr. Vol. 9, p. 53). While these are certainly worthwhile goals, the Commission notes that these goals are not, in themselves, clear outcomes because they are not precise. Furthermore, the goals noted by Witness Simpson do not address any of the policy goals set forth in G.S. 62-2 except to promote reliable service.

STAKEHOLDER ENGAGEMENT

NCSEA Witness Golin testified that almost every grid modernization process occurring nationwide has had some form of stakeholder engagement, including the grid modernization process engaged by Duke Energy Ohio, Inc. (Tr. Vol. 13, p. 35). However, as discussed in the evidence in support of finding of fact and conclusion number 11, the Company's planning process did not include stakeholder engagement.

INTEGRATED DISTRIBUTION PLANNING

NCSEA Witness Golin testified that best practices for grid modernization include utilization of integrated distribution planning. (Tr. Vol. 13, pp. 28-29). Witness Golin specifically asserted that: "Integrated distribution planning is a process that utilities undergo to map out their existing systems through a detailed engineering assessment, at the highest resolution, of the current and forecasted dynamics of the grid under multiple

scenarios. The purpose of integrated distribution planning is to identify infrastructure changes that may be needed to achieve grid modernization goals. To properly plan for a grid of the future, and the impact of new technologies, integrated distribution planning must include forecasting and assessment of the role of [distributed energy resources].” (Tr. Vol. 13, p. 36).

Finally, NCSEA Witness Golin testified that, to the best of her knowledge, the Company did not engage in integrated distribution planning. (Tr. Vol. 13, p. 38). In response, Company Witness Simpson asserted that the Company has engaged in integrated distribution planning since 2015. (Tr. Vol. 9, p. 60). However, the Company has not provided evidence to support Witness Simpson’s assertion, nor has it discussed its integrated distribution planning process in either its integrated resource plans or its smart grid technology plans. The Commission is troubled by the lack of transparency about the Company’s integrated distribution planning and believes that it is necessary for the Company to provide the Commission with additional information about its integrated distribution planning process. Furthermore, because of the lack of transparency, the Commission believes that it may be necessary to amend either its integrated resource planning rule or its smart grid technology rule to ensure that the Company is transparent about its planning process.

COST BENEFIT ANALYSES

The issue of cost benefit analyses is discussed in support of Finding of Fact and Conclusion No. 9.

GROWTH OF INNOVATIVE TECHNOLOGIES

NCSEA Witness Golin testified that the Company's proposed grid investment plan does not include investments in distributed energy resources or investments to utilize distributed energy resources as grid resources. (Tr. Vol. 13, p. 47). While Company Witness Simpson testified that the Company's grid investment plan is designed to change the way the Company distributes and stores energy (Tr. Vol. 9, p. 80), the Company's grid investment plan does not appear to include any investments in energy storage (Exhibits Vol. 9, pp. 38-65). Company Witness Hevert testified that the Company's grid investment plan focuses on the grid's ability to accommodate distributed energy resources. (Tr. Vol. 8, p. 358). However, Company Witness Simpson was unable to quantify the amount of distributed generation that would be accommodated by the Company's proposed grid investment plan. (Tr. Vol. 9, pp. 87-88). Thus, it does not appear that the Company's proposed grid investment plan is designed to incorporate the growth of innovative technologies.

Based on the foregoing discussion, the Commission concludes that the Company has not demonstrated that the process used in developing its proposed grid investment plan is reasonable and prudent or is in the best interest of customers.

EVIDENCE IN SUPPORT OF FINDING OF FACT AND CONCLUSION NO. 11

The evidence supporting this finding and conclusion is contained in the testimonies of NCSEA Witness Golin, Company Witness Fountain, Environmental Defense Fund ("EDF") Witness Alvarez, and CUCA Witness O'Donnell.

NCSEA Witness Golin testified that the Company's proposed grid investment plan "marks a fundamentally different investment strategy for the Company and will substantially impact the nature and the cost of electricity service moving forward. Therefore, greater attention by the Company and stronger oversight from the Commission is warranted." (Tr. Vol. 13, p. 20). NCSEA Witness Golin asserted that the Company's proposed grid investments represent the largest capital expenditure ever proposed by the Company (Tr. Vol. 13, p. 20), and Company Witness Fountain testified that the Company's proposed grid investment plan would be the largest non-generation investment in which he has been involved (Tr. Vol. 6, p. 266).

Given the magnitude of the Company's proposed grid investment plan, multiple witnesses recommended that the Commission exercise an increased level of oversight. NCSEA Witness Golin testified that the scope and salience of the Company's proposed grid investment plan necessitates a stronger evaluation process. (Tr. Vol. 13, p. 19). To perform this evaluation, Witness Golin recommended that the Commission "open a separate, generic proceeding to thoughtfully and thoroughly plan for the future of North Carolina's grid." (Tr. Vol. 13, p. 21). Witness Golin further recommended that this proceeding incorporate a stakeholder process that would generate an independent study to examine modernizing the electric grid. Similarly, EDF Witness Alvarez recommended "the Commission establish a distinct proceeding to enable Commission review of, and stakeholder participation in, so-called 'grid modernization' plans before investments are made." (Tr. Vol. 7, p. 128). Finally, CUCA Witness O'Donnell testified that the Commission should adopt a step-by-step approach to modernizing the grid. (Tr. Vol. 15, p. 258).

While the Company is not required by law to seek Commission approval before making its proposed grid investments, the Commission is afforded broad authority to oversee the Company's activities. In particular, G.S. 62-30 states that:

The Commission shall have and exercise such general power and authority to supervise and control the public utilities of the State as may be necessary to carry out the laws providing for their regulation, and all such other powers and duties as may be necessary or incident to the proper discharge of its duties.

The Commission is of the opinion that the magnitude of the cost of the Company's proposed grid investment plan necessitates oversight to ensure that ratepayers are adequately protected. Furthermore, under G.S. 62-30, the Commission has the authority to exercise the general power necessary to regulate the Company.

EVIDENCE IN SUPPORT OF FINDING OF FACT AND CONCLUSION NO. 12

The evidence supporting this finding and conclusion is contained in the testimony of Company Witness Hunsicker. Witness Hunsicker testified that the Company's current CIS is more than thirty years old and no longer meets the needs of the Company or its customers. (Tr. Vol. 9, p. 138). Witness Hunsicker provided extensive testimony about the deficiencies of the Company's current CIS. (Tr. Vol. 9, pp. 141-142). No witnesses provided testified that the Company's current CIS is sufficient to meet the needs of the Company and its customers. Therefore, the Commission concludes that the Company has demonstrated a need for a new CIS.

EVIDENCE IN SUPPORT OF FINDING OF FACT AND CONCLUSION NO. 13

The evidence supporting this finding and conclusion is contained in the testimonies of Company Witness Fountain, Company Witness Simpson, Company Witness Hunsicker, NCSEA Witness Murray, and Public Staff Witness Floyd.

The evidence makes clear that deployment of AMI and the adoption of a new CIS must be considered together. Company Witness Fountain testified that AMI and CIS are interlocking assets that provide services to ratepayers. (Tr. Vol. 6, pp. 268-269). Company Witness Simpson similarly testified that both AMI and CIS are necessary to provide customers with greater convenience, control, and transparency to their energy usage. (Tr. Vol. 9, p. 94).

While both AMI and an advanced CIS provide functions which are independent of each other, they will only provide the maximum benefit to ratepayers when they are utilized in tandem. Company Witness Hunsicker testified that the Company's new CIS will provide benefits to customers who do not have AMI, but that customers with AMI will have very different opportunities. (Tr. Vol. 9, pp. 225-226). For example, Company Witness Hunsicker testified that the CIS would only enable some innovative rate designs such as real-time pricing for residential customers if customers also have AMI. (Tr. Vol. 9, pp. 227-228). NCSEA Witness Murray further testified that "full realization of consumer benefits from efficiency or time-shifting of usage will not occur unless consumers have convenient access to their own energy data made available by advanced meters." (Tr. Vol. 13, p. 296). As discussed in detail below, Company Witness Hunsicker testified that this access to data occurs through the CIS.

While the Company has demonstrated a need for a modern CIS, the Company has not shown that their proposed method of meeting that need is reasonable and prudent because they have not provided sufficient evidence that the proposed CIS will meet customer needs, comply with industry standards, or is capable of complying with directives from this Commission. Company Witness Hunsicker testified that in planning its new CIS, the Company has attempted to anticipate all functions that will be needed in the future so that they can be integrated into the CIS, rather than “bolted-on” in the future. (Tr. Vol. 9, pp. 178-179). However, Company Witness Hunsicker further testified that the Company has not performed any customer outreach regarding the CIS. (Tr. Vol. 9, p. 231). Rather, the Company appears to be basing its examination of customer desires on current complaint information (Tr. Vol. 9, p. 235) and surveys that cover multiple utilities and jurisdictions (Tr. Vol. 9, p. 232). To that end, Company Witness Hunsicker conceded that information about customer desires upon which the Company is basing its decisions related to the new CIS may not be representative of the Company’s customer base. (Tr. Vol. 9, p. 236).

Specifically, the Company has not shown that its proposed CIS is capable of complying with industry standards for providing consumers with electronic access to their energy consumption data. Company Witness Hunsicker testified that CIS is the system that enables consumers to access data about their energy consumption (Tr. Vol. 9, p. 174), and Public Staff Witness Floyd testified that the Company is obligated to provide its customers with information about their energy consumption (Tr. Vol. 19, p. 173). However, Company Witness Hunsicker testified that the Company has not examined whether the new CIS would be able to accommodate customer access to their energy consumption data should North Carolina adopt such a requirement. (Tr. Vol. 9, p. 228). Company Witness Hunsicker

was able to explain that the new CIS will not allow third parties to access customer energy usage data in the Company's service territory. (Tr. Vol. 9, pp. 182-183).

The Commission has previously noted the importance of consumers having access to their energy consumption data. See *Order Accepting Smart Grid Technology Plans*, p. 22, Docket No. E-100, Sub 147 (March 29, 2017). The Commission finds Company Witness Hunsicker's testimony that the Company decided "several years back" not to pursue adoption of the Green Button protocol (Tr. Vol. 9, p. 182), the industry standard protocol for providing customer access to energy consumption data, very troubling. For these reasons, the Commission finds that the Company has not demonstrated that its proposed CIS is a reasonable and prudent expenditure.

EVIDENCE IN SUPPORT OF FINDING OF FACT AND CONCLUSION NO. 14

The evidence supporting this finding and conclusion is contained in the testimony of Company Witness Hunsicker.

The evidence presented by the Company does not support the conclusion that the Company considered either customer desires or industry standards in designing its CIS, in part because the Company is unable to provide basic information regarding the capabilities of its proposed new CIS. For example, Company Witness Hunsicker, head of the CIS program, could not state whether the CIS would enable customers to access their energy consumption data in a machine-readable format (Tr. Vol. 9, p. 183), a necessary prerequisite for most analytical tools. As such, the Commission will disallow recovery of CIS costs and tracking in a regulatory asset at this time. The Commission may reconsider this decision in a future rate application should the Company provide satisfactory evidence

that the proposed new CIS is capable of providing capabilities consistent with industry standards and that are reasonably foreseeable as necessary for the Company.

EVIDENCE IN SUPPORT OF FINDING OF FACT AND CONCLUSION NO. 15

The evidence supporting this finding and conclusion is contained in the testimony of Company Witness Wheeler.

Company Witness Wheeler testified that cross subsidies within individual customer classes are an inherent part of average cost ratemaking and that these cross-subsidies cannot be completely eliminated without creating specific rate designs for all customer usage characteristics. (Tr. Vol. 11, pp. 119-120). However, the Commission agrees with Company Witness Wheeler that it is untenable and undesirable for the Company to offer the unique rate offerings for all groups of customers that are capable of being identified as having unique characteristics influencing the cost of providing electrical service. (Tr. Vol. 11, p. 120). As such, the Company and other utilities have utilized average cost ratemaking that treat similarly situated customers the same for ratemaking and cost allocation purposes, despite usage and cost variations within identifiable sub-groups in each class of similarly situated customers. Further, no witness has testified that the Company's proposed rates result in unreasonable cost-shifting or cross subsidies. Therefore, the Commission concludes that the Company's rates do not create unreasonable cost-shifting or cross subsidies.

EVIDENCE IN SUPPORT OF FINDING OF FACT AND CONCLUSION NO. 16

The evidence supporting this finding and conclusion is contained in the testimony of Company Witness Wheeler.

It is well-settled that ratemaking that adheres to cost-causation principles and that appropriately assigns the costs identified in cost of service study should result in minimal cross subsidies between customer classes. What is less settled is how to determine whether cross subsidies exist within an individual customer class. A cost of service study does not provide insight as to whether identifiable sub-groups within a single class have unique cost characteristics or are contributing sufficient revenue to recover the share of the Company's approved revenue requirement. Without additional granularity in defining customer classes (i.e., treating each identifiable sub-group as a unique class for purposes of performing the cost of service study) it cannot be determined whether cross subsidies exist within an individual customer class, despite such an assertion made by the Company in regard to low-usage residential customers. Without defining what constitutes a "low-usage" customer sub-group, and without knowing the full cost to serve that sub-group (i.e., how all cost components are allocated based on the unique profile of that sub-group), the Company's assertion that cross-subsidization is occurring within the residential class as a result of the current level of the base customer charge cannot be verified.

Specifically, Company Witness Wheeler testified that, due to the design of the Company's base customer charge for residential customers, high usage customers subsidize low usage customers within the Company's residential customer class. (Tr. Vol. 11, pp. 115-117). However, Witness Wheeler testified that load research is necessary to determine the cost to serve any uniquely identifiable sub-group of customers. (Tr. Vol. 11,

p. 128). Customers may consume low amounts of electricity for any number of reasons, including that the customer may have adopted energy efficiency measures or distributed energy generation, the customer's premises may not be in constant use, or for other reasons. Any of these actions could have a unique impact on the cost of service for each identifiable sub-group of customers within the residential class. For example, a group of customers engaged in energy efficiency might collectively have a lower contribution to the Company's coincident peak and, if treated as a separate class, might be allocated a lesser share of costs allocated based on the coincident peak. As a function of average cost ratemaking, individuals or sub-groups within a class that help reduce class contributions to peak create a benefit that is shared by the entire class via lower overall allocations of cost within the cost of service study. It is therefore inappropriate to assert that a cost shift is occurring within the larger residential class without acknowledging and quantifying the various attributes of customers that tend to cancel out or "come out in the wash" that is average cost ratemaking.

A cost of service study can be used as an analytical tool to determine whether intra-class subsidization is occurring—if unique sub-groups are treated as a separate class for analytical purposes only—but it need not result in creation of additional rate classes for each identifiable sub-groups. We continue to find that it is appropriate to treat all residential customers as similarly situated for the purpose of ratemaking and that the diversity of the various identifiable sub-groups within the residential class mitigate cross-subsidization concerns.

However, if cross subsidies within a customer class are to be examined, they should be examined using quantitative data rather than extrapolations or assumptions. Based on

the record in this case, there is insufficient data to determine the extent and causation of cross subsidies within individual customer classes. Further, based on the testimony of Witness Wheeler, it appears that a cost of service study is required to obtain the data necessary to determine an identifiable sub-group of “low-usage customers.” Therefore, the Commission concludes that proper examination of cross subsidies within a customer class requires a cost of service study capable of analyzing that specific sub-group and usage profile.

EVIDENCE IN SUPPORT OF FINDING OF FACT AND CONCLUSION NO. 17

The evidence supporting this finding and conclusion is contained in the testimony of NCSEA Witness Barnes, Company Witness Wheeler, Company Witness Kerin, and Company Witness McGee.

In its application and this proceeding, the Company has incorrectly classified coal ash remediation costs as related to production demand. (Tr. Vol. 6, pp. 123-124). NCSEA Witness Barnes asserted that coal ash is a by-product of coal and, therefore, its associated costs should be classified as energy-related costs, not demand related costs. (Tr. Vol. 16, p. 46). NCSEA Witness Barnes further testified that the Company stated in response to a request for information that coal ash remediation has been historically allocated as a demand-related cost and also that coal ash remediation is analogous to nuclear decommissioning expense which has been historically allocated as a demand-related cost. (Tr. Vol. 16, pp. 68). However, these two cost allocations are not analogous. NCSEA Witness Barnes testified that the comparison between coal ash remediation and nuclear decommissioning conflates two issues - decommissioning of a power plant that was

designed to serve demand is not comparable to remediation associated with the by-product of fuel used to produce energy. (Tr. Vol. 16, pp. 68).

The testimony of Company Witnesses Kerin and McGee undermines the Company's position that coal ash remediation should be classified as demand-related. In their testimony, both Company Witness Kerin and Company Witness McGee supported the recovery of net costs associated with the beneficial reuse of coal ash through the fuel adjustment clause on the basis that coal ash is a by-product of coal, a fuel. (Tr. Vol. 16, p. 117 and Tr. Vol. 10, p. 114, respectively). Therefore, by the Company's own testimony, coal ash results from a fuel and its associated costs should be allocated accordingly.

The resulting implication of the Company's classification of coal ash remediation as demand-related would significantly affect customer class allocator amounts and, as a result, revenue requirements and also customer rates. Specifically, according to NCSEA Witness Barnes, classifying coal ash remediation as a demand-related cost would result in improper adjustments to allocators for each of the customer classes. (Tr. Vol. 16, p. 69). According to NCSEA Witness Barnes, this is highlighted specifically by the street lighting service ("SLS") class which, despite the SLS Class nighttime energy needs being associated with the creation of coal ash, would have a zero demand allocator under the demand-related cost setting so it would not be charged for coal ash remediation despite probable causation. (Tr. Vol. 16, pp. 69-70).

NCSEA Witness Barnes prepared Table 2 to his direct testimony to quantify the differences in class revenue associated with allocating coal ash amortization revenue based on energy rather than production demand. As set forth therein, the improper classification

of coal ash remediation as a demand-related cost would incur significant percentage differences in allocation amounts for each customer class. (Tr. Vol. 16, p. 71).

The improper classification of coal ash remediation costs as a demand-related would significantly affect overall rates as it would increase the amount of the revenue requirement considered to be “demand-related” thereby inflating calculated demand unit costs. Company Witness Wheeler confirmed that increasing the amount of costs classified as demand-related tends to cause demand rates to increase by a larger percentage than energy rates. (Tr. Vol. 10, p. 193). The effect of this would be considerable as fixed charges would improperly increase and, for instance, the residential TOU-D schedule demand rate revenue would also improperly increase. (Tr. Vol. 16, p. 72). Such cost increases will dilute the financial benefit that a customer sees from their own behavioral changes related to either energy efficiency efforts or changes in their behavior in regard to distributed generation including specifically the effect on solar distributed generation investments.

The evidence presented in this proceeding supports a conclusion that costs associated with coal ash remediation are appropriately classified as energy-related costs and not demand-related costs. Therefore, it is reasonable for the Company to adjust its allocation of costs in its rate case application. The Commission therefore directs the Company to reclassify coal ash remediation costs as energy-related and make all appropriate changes to its rate case application and in all future rate cases.

IT IS, THEREFORE, ORDERED as follows:

1. That the Company shall recalculate its residential rates such that the increase in the base customer charge for residential consumers is no larger a percentage increase than the percentage rate increase for the customer class;

2. That the Company shall, in all future rate applications, include an analysis of the base customer charge under the minimum system, minimum system or zero intercept, and direct customer methodologies, and shall include a justification and explanation for choosing the methodology utilized in its proposed rates;

3. That the Commission shall, by separate order, open a new generic docket in which it shall consider the plans of electric utilities to modernize the grid;

4. That the Company shall include in its 2018 integrated resource plan filing a full and detailed discussion of its integrated distribution planning process, including how that process relates to both its integrated resource planning process and its smart grid planning process;

5. That the Commission shall, by separate order in the upcoming integrated resource planning and smart grid technology plan docket, issue an order requesting comments on whether the rules governing integrated resource plans or smart grid technology plans should be amended to include integrated distribution planning and to accept proposed rule revisions;

6. That the Company's request for cost recovery and tracking for its CIS and AMI in a regulatory account is denied;

7. That the Company is directed to recalculate its rates such that costs associated with coal ash remediation are classified as energy-related costs.

Respectfully submitted, this the 12th day of January, 2018.

/s/ Peter H. Ledford
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CERTIFICATE OF SERVICE

I hereby certify that all persons on the docket service list have been served true and accurate copies of the foregoing Comments by hand delivery, first class mail deposited in the U.S. mail, postage pre-paid, or by email transmission with the party's consent.

This the 12th day of January, 2018.

/s/ Peter H. Ledford
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