

May 28, 2024

Via Electronic Filing

Ms. A. Shonta Dunston, Chief Clerk
North Carolina Utilities Commission
430 North Salisbury Street
Dobbs Building
Raleigh, NC 27603-5918

Re: In the Matter of: Biennial Consolidated Carbon Plan and Integrated Resource Plans of Duke Energy Carolinas, LLC, and Duke Energy Progress, LLC, Pursuant to N.C.G.S. § 62-110.9 and § 62-110.1(c) (Docket No. E-100, Sub 190)

Dear Ms. Dunston:

On behalf of the Southern Alliance for Clean Energy, and Sierra Club, Natural Resources Defense Council (collectively, SACE, *et al.*), along with the North Carolina Sustainable Energy Association, enclosed for filing in the above referenced docket, please find the public, non-confidential versions of the Direct Testimony and Exhibits of: James F. Wilson, Maria Roumpani, and Michael Goggin as well as the Direct Testimony and Exhibits of Jake Duncan, which contains no confidential information. Confidential versions of the testimony of witnesses Wilson, Roumpani, and Goggin are also being filed separately under seal.

I am serving a copy of the same on the parties of record.

In addition, consistent with the Commission's February 21, 2024 Order Establishing Additional Procedures for Expert Witness Hearing SACE, *et al.* submit their proposed index of Designated Issues.

Please let me know if you have any questions about this filing.

Sincerely,

s/ David Neal
Senior Attorney
Southern Environmental Law Center

Enclosures

cc: Parties of Record

Index of Designated Issues

Testimony Index

Designated Issues	SACE et. al, and NCSEA Direct Testimony/Report	Section/Pages
2. Modeling Critique (Methodology, Assumptions, and Other Modeling Issues)	Testimony of Maria Roumpani	<ul style="list-style-type: none"> ● Section III, Overview of the Companies' modeling and supplemental planning analysis , pp. 9-16 ● Section IV, The Companies' analysis does not fully capture the costs and risks associated with continued fossil fuel generation, pp. 16-68 ● Section V, The Companies' modeling limits the role of renewable energy resources, pp. 68-83 ● Section VI, The Companies' modeling does not consider all emerging technologies and introduces path-dependency risk, pp. 83-91
	Testimony of Michael Goggin	<ul style="list-style-type: none"> ● Section III, Duke should reduce or eliminate its assumed wind and solar generic transmission network upgrade proxy costs, pp.34-43
	Testimony of Jake Duncan	<ul style="list-style-type: none"> ● Section V, Distributed Storage in the CIPRP, pp.14-20 ● Section VI, Electric Vehicle Managed Charging in the CIPRP, pp. 20-24 ● Section VII, Virtual Power Plants in the CIPRP, pp.24-36 ● Section VIII, Distribution Resource Planning, pp.36-44

Index of Designated Issues

3. Coal Unit Retirement Analysis	Testimony of Maria Roumpani	<ul style="list-style-type: none">● Section IV.A The Companies' coal retirement plan should be further accelerated, pp. 17-41
4. Load Forecast	Testimony of James Wilson, Ex. JFW-2, <i>Review & Evaluation of the Load Forecasts and Resource Adequacy Study for the Duke 2023-2024 CPIRP</i> Testimony of Jake Duncan	<ul style="list-style-type: none">● Section III, Comparison of Peak Load Forecasts to Recent Trends, pp. 12-20● Section IV, The Companies' Anticipated Large Load Additions, pp.21-23● Section V, Mitigating the Impact of Large New Loads on Capacity Needs and Other Customers, pp.24-25● Section VI, Additional Reasons for Discounting Customer Load Projections, pp.26-30● Section VII, Alternative Load Forecasts, pp. 31-39● Section IX, Summary and Recommendations, pp.49-50 ● Section V, Distributed Storage in the CIPRP, pp.14-20● Section VI, Electric Vehicle Managed Charging in the CIPRP, pp. 20-24

Index of Designated Issues

5. Planning Reserve Margin / 2023 Resource Adequacy Study	Testimony of James Wilson, Ex. JFW-2, <i>Review & Evaluation of the Load Forecasts and Resource Adequacy Study for the Duke 2023-2024 CIPRP</i> Testimony of Michael Goggin	<ul style="list-style-type: none">• Section VIII, Critique of the 2023 RA Study, pp. 40-48• Section IX, Summary and Recommendations, pp.49-50 • Section V. The Commission should require Duke to evaluate expanding ties to neighboring grid operators, pp.56-64
6. Natural Gas Supply and Hydrogen	Testimony of Maria Roumpani Testimony of Michael Goggin	<ul style="list-style-type: none">• Section IV.B.iii. The Companies' analysis fails to capture costs associated with the continued operation of the proposed gas resources, pp. 52-55• Section VI, The Companies' modeling does not consider all emerging technologies and introduces path-dependency risk, pp. 83-91 • Section VI. Increasing Duke's dependence on gas generation exposes ratepayers to reliability and economic risks, pp.64-73
7. Pathways, Portfolios, and Portfolio Comparison and Evaluation	Testimony of Maria Roumpani	<ul style="list-style-type: none">• Section III, Overview of the Companies' modeling and supplemental planning analysis , pp. 9-16

Index of Designated Issues

9. Near-Term Actions: Supply- Side Development and Procurement Activities	Testimony of Maria Roumpani	<ul style="list-style-type: none">● Section VII, Recommendations and conclusion, pp. 98-100
a. Solar	Testimony of Michael Goggin	<ul style="list-style-type: none">● Section II, Duke can use a range of solutions to more quickly interconnect new renewable and battery resources, pp. 9-34● Section III. Duke should reduce or eliminate its assumed wind and solar generic transmission network upgrade proxy costs, pp.34-43
b. Battery Storage	Testimony of Michael Goggin Testimony of Jake Duncan	<ul style="list-style-type: none">● Section II, Duke can use a range of solutions to more quickly interconnect new renewable and battery resources, pp. 9-34● Section V. Distributed Storage in the CIPRP, pp.14-20
c. Onshore Wind	Testimony of Maria Roumpani Testimony of Michael Goggin	<ul style="list-style-type: none">● Section V, The Companies' modeling limits the role of renewable energy resources, pp. 68-83● Section III. Duke should reduce or eliminate its assumed wind and solar generic transmission network upgrade proxy costs, pp.34-43

Index of Designated Issues

d. New Gas	<p>Testimony of Maria Roumpani</p> <p>Testimony of Michael Goggin</p>	<ul style="list-style-type: none"> ● Section IV, The Companies' analysis does not fully capture the costs and risks associated with continued fossil fuel generation, pp. 16-68 ● Section VI. Increasing Duke's dependence on gas generation exposes ratepayers to reliability and economic risks, pp.64-73
h. Virtual Power Plants	<p>Testimony of Jake Duncan</p>	<ul style="list-style-type: none"> ● Virtual Power Plants in the CPIRP, pp.24-34
11. Advancing Grid Edge and Customer Programs	<p>Testimony of Jake Duncan</p>	<ul style="list-style-type: none"> ● Section III. Distributed Energy Resources (DERs), pp.6-10 ● Section IV. A Brief Review of DERs in the Company's Proposed CPIRP, pp.10-14 ● Section V. Distributed storage in the CPIRP, pp.14-20 ● Section VI. Electric Vehicle Managed Charging in the CPIRP, pp.20-24 ● Section VII. Virtual Power Plants in the CPIRP, pp.24-36 ● Section VIII. Distribution Resource Planning: A Missing Piece of the Puzzle, pp.36-47
12. Transmission System Planning and Grid Transformation	<p>Testimony of Michael Goggin</p>	<ul style="list-style-type: none"> ● Section II. Duke can use a range of solutions to more quickly interconnect new renewable and battery resources, pp.9-34 ● Section III, Duke should reduce or eliminate its assumed wind and solar generic transmission network upgrade proxy costs, pp.34-43 ● Section IV. Duke should expeditiously use proactive multi-value transmission planning to build needed grid upgrades, pp.43-56 Section ● Section V. The Commission should require Duke to evaluate expanding ties to neighboring grid operators, pp.56-64

Index of Designated Issues

a. Strategic Transmission Additions / RZEP 2.0	Testimony of Michael Goggin	<ul style="list-style-type: none">● Section III, Duke should reduce or eliminate its assumed wind and solar generic transmission network upgrade proxy costs, pp.34-43● Section VI, Duke should expeditiously use proactive multi-value transmission planning to build needed grid upgrades, pp.43-56
b. Carolinas Transmission Planning	Testimony of Michael Goggin	<ul style="list-style-type: none">● Section VI, Duke should expeditiously use proactive multi-value transmission planning to build needed grid upgrades, pp.43-56
c. Regional / Interregional Transmission Planning Process	Testimony of Michael Goggin	<ul style="list-style-type: none">● Section IV. Duke should expeditiously use proactive multi-value transmission planning to build needed grid upgrades, pp.43-56 Section <ul style="list-style-type: none">● Section V. The Commission should require Duke to evaluate expanding ties to neighboring grid operators, pp.56-64
13. Ensuring Reliability and Operational Resilience	Testimony of Michael Goggin	<ul style="list-style-type: none">● Section IV. Duke should expeditiously use proactive multi-value transmission planning to build needed grid upgrades, pp.43-56 Section <ul style="list-style-type: none">● Section V, The Commission should require Duke to evaluate expanding ties to neighboring grid operators, pp.51-57

Index of Designated Issues

a. Reliability and Operational Resilience Risk of Fossil Resources	Testimony of Maria Roumpani Testimony of Michael Goggin	<ul style="list-style-type: none">● Section IV, The Companies' analysis overstated the reliability contribution of coal and natural gas assets, pp.31-41; 55-67● Section VI, Increasing Duke's dependence on gas generation exposes ratepayers to reliability and economic risks, pp.57-64
14. Requests for Relief and "Selection" of Resources to Execute Carbon Plan	Testimony of Maria Roumpani	<ul style="list-style-type: none">● Section VII, Recommendations and conclusion, pp. 98-100
17. Distribution Resource Planning	Testimony of Jake Duncan	<ul style="list-style-type: none">● Distribution Resource Planning, pp.35-39