

STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH

DOCKET NO. E-100, SUB 190

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of Biennial)	SUPPLEMENTAL DIRECT
Consolidated Carbon Plan and Integrated)	TESTIMONY OF GLEN SNIDER,
Resource Plans of Duke Energy Carolinas,)	MICHAEL QUINTO, THOMAS
LLC, and Duke Energy Progress, LLC,)	BEATTY, AND BEN PASSTY ON
Pursuant to N.C.G.S. § 62-110.9 and § 62-)	BEHALF OF DUKE ENERGY
110.1(c))	CAROLINAS, LLC AND DUKE
)	ENERGY PROGRESS, LLC
)	

I. INTRODUCTION

Q. MR. SNIDER, PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND POSITION WITH DUKE ENERGY CORPORATION.

A. My name is Glen A. Snider, and my business address is 525 South Tryon Street, Charlotte, North Carolina 28202. I am currently employed by Duke Energy as Managing Director of Carolinas Integrated Resource Planning and Analytics. I am appearing on behalf of Duke Energy Carolinas, LLC (“DEC”) and Duke Energy Progress, LLC (“DEP” and together with DEC, “Duke Energy” or the “Companies”) together with Michael Quinto, Thomas Beatty, and Ben Passty on the “IRP and Near-Term Actions Panel.”

Q. IS THIS THE SAME IRP AND NEAR-TERM ACTIONS PANEL THAT FILED DIRECT TESTIMONY IN THIS CASE?

A. Yes.

Q. MR. SNIDER, ON BEHALF OF THE PANEL, WHAT IS THE PURPOSE OF THIS SUPPLEMENTAL TESTIMONY?

A. The Panel’s Supplemental Direct Testimony presents the Companies’ January 31, 2024 supplemental modeling and additional portfolio analysis (“Supplemental Planning Analysis”) that is being filed today to further inform the Commission’s consideration of the Companies’ 2023–2024 Carbon Plan Integrated Resource Plan (the “Plan” or the “Resource Plan”). Importantly, the Supplemental Planning Analysis builds on (but does not replace) the initial Plan filed on August 17, 2023 with the Commission. The Supplemental Planning

1 Analysis is intended to assess the impact of the Updated 2023 Fall Load
2 Forecast and to inform the Commission's consideration of the Companies'
3 proposed Near-Term Action Plan ("NTAP") by identifying incremental
4 resource additions needed to meet the increased load forecast against the
5 backdrop of the current changing energy landscape.

6 The Companies continue to support Energy Transition Pathway 3
7 ("Pathway 3") as the most reasonable, least-cost and least-risk plan to inform
8 the Companies' Execution Plan and NTAP, including planning to retire all
9 remaining coal units and to achieve the interim target of 70% carbon dioxide
10 emissions reductions ("Interim Target") by 2035 on the path to carbon neutrality
11 by 2050. To accommodate the recent, significant increased growth across the
12 Carolinas, the Companies have added additional procurement and development
13 activities to the Execution Plan and proposed additional near-term actions based
14 on Portfolio P3 Fall Base and now request Commission support for the decisive
15 actions needed to ensure the continued provision of reliable electric service
16 required to support the economic growth and vitality of the Carolinas.

17 **Q. PLEASE EXPLAIN HOW THE REMAINDER OF THIS PANEL'S**
18 **SUPPLEMENTAL TESTIMONY IS ORGANIZED.**

19 A. Section II of the Panel's testimony explains how the Carolinas' recent and
20 unprecedented economic development success and growth in load presented in
21 the Updated 2023 Fall Load Forecast necessitates the Companies' supplemental
22 modeling and planning analysis to address this and limited other recent material

1 developments in the current changing energy landscape and provide the
2 Commission the most updated information available at the time it reviews the
3 Plan. In Section III, the Panel provides an overview of the supplemental
4 modeling performed by the Companies. Section IV of the testimony presents
5 the results of the Supplemental Planning Analysis. Finally, in Section V, the
6 Panel describes how the results of the Supplemental Planning Analysis impact
7 the NTAP as well as the Companies' request for Commission support in
8 executing the NTAP.

9 **Q. PLEASE IDENTIFY WHICH SECTIONS OF THE SUPPLEMENTAL**
10 **PLANNING ANALYSIS THE PANEL IS SPONSORING WITH ITS**
11 **SUPPLEMENTAL DIRECT TESTIMONY.**

12 **A.** The Panel is sponsoring the entirety of the Supplemental Planning Analysis,
13 including all Sections, Chapters, and the corresponding Technical Appendix.¹

14 **II. PLANNING FOR SUBSTANTIAL NEW LOAD GROWTH IN THE**
15 **CURRENT CHANGING ENERGY LANDSCAPE**

16 **Q. MR. SNIDER'S SUPPLEMENTAL DIRECT TESTIMONY, FILED ON**
17 **NOVEMBER 30, 2023, DESCRIBED THE SIGNIFICANT, MATERIAL**
18 **INCREASE TO THE COMPANIES' LOAD FORECAST THAT HAS**
19 **OCCURRED SINCE PREPARING THE INITIAL PLAN. CAN THE**
20 **PANEL NOW PROVIDE ANY FURTHER INSIGHTS INTO THE**
21 **INCREASED LOAD REFLECTED IN THE UPDATED 2023 FALL**

¹ The Companies will plan to enter these documents into the record of the proceeding as a consolidated Exhibit along with the initial CPIRP.

1 **LOAD FORECAST?**

2 A. Yes. The Carolinas' economic development success continues to drive the
3 Companies' rapid and unprecedented load growth projections, far exceeding the
4 Companies' historical experience. The pace of substantial economic
5 development wins in the Carolinas has only accelerated since the Companies
6 prepared the initial Plan. By way of example, in developing the 2023 Spring
7 Load Forecast utilized in the initial Plan, the Companies identified eight
8 significant new and expanding economic development projects (with a peak
9 demand of approximately 1,350 MW with an energy impact of approximately
10 8.7 terawatt hours (TWh) of annual energy needs by 2033) that were sufficiently
11 mature and committed to justify integration into the forecast. In preparing the
12 Updated 2023 Fall Load Forecast, an additional group of 27 projects in both
13 North Carolina and South Carolina have now made material new economic
14 development project commitments to justify integration into the Updated 2023
15 Fall Load Forecast. The number of these new major new economic
16 development projects, each exceeding 20 MW and most with round the clock,
17 high load factor operations, has more than tripled in the last year bringing the
18 cumulative impact of these 35 new projects to just over 3,000 MW of peak
19 demand requirements with over 24.7 TWh of annual energy needs by 2033. To
20 put this growth into perspective, the addition of each new 1,000 MW of 90%
21 load factor large facility operations uses nearly 7.9 TWh of annual energy—
22 which would be larger than all customers' energy usage in any county other than

1 Mecklenburg County or Wake County in 2023. In other words, if a 1,000 MW
2 load at 90% load factor were a county, it would be the third largest county (by
3 energy usage) that Duke Energy serves in North and South Carolina.

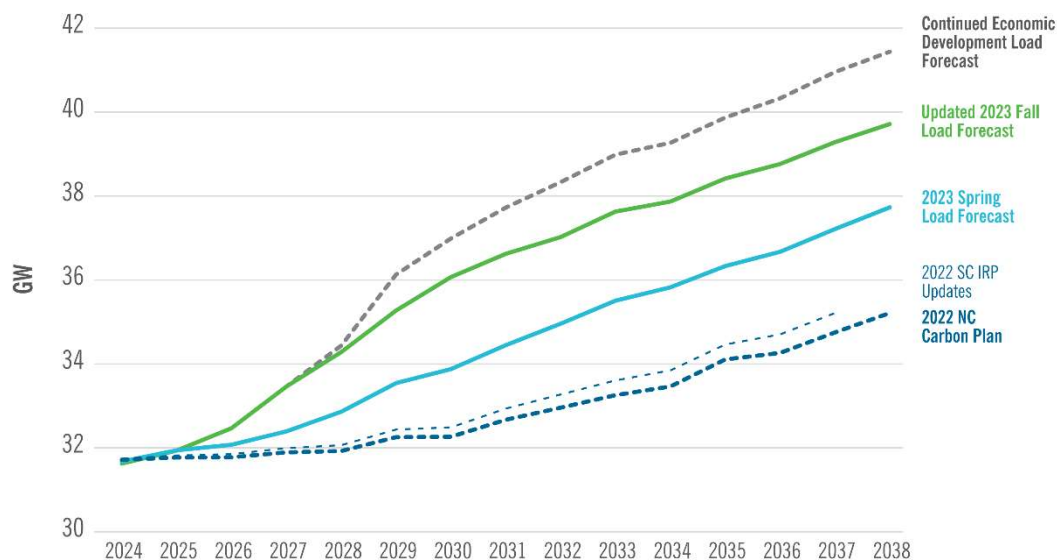
4 The Companies acknowledge that there will always be a potential for
5 specific potential customers to modify, delay or cancel plans. But the
6 Companies' service obligation compels us to prudently plan to serve customers
7 that have made material commitments in expectation of service. Moreover, the
8 Companies must also prudently plan in light of the fact that the Companies'
9 economic development team has continued to field substantial interest from
10 new and substantial customers beyond those included in the Updated 2023 Fall
11 Forecast.

12 **Q. PLEASE DESCRIBE IN MORE DETAIL THE MAGNITUDE OF**
13 **CHANGE PRESENTED IN THE UPDATED 2023 FALL LOAD**
14 **FORECAST AND DESCRIBE HOW THE COMPANIES HAVE ALSO**
15 **ASSESSED THE POTENTIAL FOR ADDITIONAL ECONOMIC**
16 **DEVELOPMENT COMMITMENTS TO CONTINUE INTO 2024 AND**
17 **BEYOND?**

18 A. Figure 1 depicts how the current Updated 2023 Fall Load Forecast has rapidly
19 increased relative to the 2023 Spring Load Forecast used in the development of
20 the 2023 CPIRP as well as the prior load forecast used in the NC 2022 Carbon
21 Plan and most recent SC IRP Update proceeding. The projected growth as well
22 as the pace of change in the forecast in just over two years is unprecedented.

Moreover, interest in economic development sites in the Carolinas has continued since the Updated 2023 Fall Load Forecast was completed and engagement with potential new large site customers continues into 2024. To plan for potential new economic development commitments that may occur, the Companies have prepared a Continued Economic Development Load Forecast scenario that analyzes the impacts of an even higher load forecast if similar economic development load growth trends continue in 2024 and beyond.

Figure 1: Load Forecast Evolution, 2021 to 2023 Carolinas Combined DEC and DEP Non-Coincident Winter Peak at the Generator²



The key takeaway for the Commission from this recent and rapid growth in the Companies' load forecast is that the Companies must now plan for significant load growth due to the Carolinas' economic development success to continue to reliably meet customers' energy needs. This includes both planning for the

² Figure 1 is a reproduction of Figure SPA1-1.

1 substantial and material commitments included in the Updated 2023 Fall Load
2 Forecast, as well as analyzing and being prepared for future potential continued
3 economic development commitments beyond those included in the Updated
4 2023 Fall Load Forecast. The Supplemental Planning Analysis provides both
5 of these important data points to the Commission.

6 **Q. ARE THE LOAD GROWTH TRENDS OCCURING IN THE**
7 **CAROLINAS CONSISTENT WITH TRENDS IN OTHER PARTS OF**
8 **THE COUNTRY?**

9 A. Yes. While the Carolinas have been widely recognized for their nation-leading
10 economic development success over the past few years, from a broader lens,
11 South Carolina and North Carolina are not the only states across the country
12 experiencing a sharp upturn in electric load growth stemming from economic
13 development. In the North American Electric Reliability Corporation's
14 ("NERC") December 2023 Long-Term Reliability Assessment ("LTRA"),
15 NERC commented on the surge in load growth that has exceeded expectations
16 from even just a year ago. The LTRA report found "[e]lectricity peak demand
17 and net energy growth rates in North America are increasing more rapidly than
18 at any point in the past three decades" with forecasted growth "higher than any
19 point in the past decade."³ Compared to the 2022 LTRA, electricity peak
20 demand and energy growth forecasts over the 10-year assessment period are

³ NERC, 2023 Long Term Reliability Assessment at 33 (Dec. 2023), *available at* https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_LTRA_2023.pdf.

1 higher than at any point in the past decade and are rising faster than at any time
2 in the past five or more years.⁴ Peak demand and energy forecasts are projected
3 to rise during this 2023 LTRA assessment period at their highest rates in recent
4 years, providing another sign of acceleration in the broader energy transition.

5 **III. SUPPLEMENTAL PLANNING ANALYSIS PROCESS**

6 **Q. DID THE COMPANIES USE THE SAME MODELING**
7 **METHODOLOGY TO DEVELOP THE SUPPLEMENTAL PLANNING**
8 **ANALYSIS AS THEY DID TO DEVELOP THE INTIAL PLAN?**

9 A. Yes. The Companies applied the same planning objectives, modeling approach,
10 and analytical methodologies to prepare the Supplemental Planning Analysis as
11 those described in Chapter 2 (Methodology and Key Assumptions) and
12 Appendix C (Quantitative Analysis) of the initial Plan.

13 **Q. ASIDE FROM THE INCREASED LOAD FORECAST, PLEASE**
14 **EXPLAIN WHY IT WAS NECESSARY AND APPROPRIATE TO**
15 **INTEGRATE OTHER MATERIAL DEVELOPMENTS INTO THE**
16 **SUPPLEMENTAL PLANNING ANALYSIS.**

17 A. Because the magnitude of the load forecast changes necessitated supplemental
18 modeling, it was also prudent and reasonable to incorporate limited material
19 updates to other key modeling inputs and planning assumptions. This approach
20 ensures the Supplemental Planning Analysis will reflect the most updated

⁴ *Id.* at 6.

1 information on material inputs available at the time the supplemental analysis
2 was prepared for the Commission's review.

3 **Q. PLEASE DESCRIBE THE LIMITED INPUT UPDATES AND EXPLAIN**
4 **THEIR IMPACT ON THE SUPPLEMENTAL PLANNING ANALYSIS**
5 **AS COMPARED TO THE INITIAL PLAN.**

6 A. The Supplemental Planning Analysis integrates additional updated information
7 regarding natural gas fuel supply, resource availability, and financial
8 assumptions, including resource costs. For example, advances in the
9 development of the Mountain Valley Pipeline ("MVP") since the August 2023
10 filing have provided the Companies sufficient certainty to treat MVP as part of
11 their base assumptions in the Supplemental Planning Analysis instead of an
12 Alternate Fuel Supply Scenario (as MVP was treated in the initial Plan).
13 Similarly, from a cost perspective, continued dynamic inflation, interest rate
14 adjustments, and supply chain constraints have influenced resource costs since
15 they were first baselined for the initial Plan earlier in 2023. Accordingly, the
16 Companies have incorporated specific financial assumptions and generic
17 technology cost updates in this Supplemental Planning Analysis. The
18 Companies have also refined their resource availability assumptions to better
19 reflect the current realities of the energy marketplace with updates in near-term
20 projected capacity resources and fuel availability.

21 Section 2 of the Supplemental Planning Analysis provides additional
22 details on the load forecast, gas supply, financial and resource cost, and resource

1 availability assumptions. Table 1 below provides an overview of the major
 2 Supplemental Planning Analysis assumptions and their impacts compared to the
 3 initial Plan.

4 **Table 1: Major Supplemental Planning Analysis Assumptions and Impacts⁵**

Input Variable	Supplemental Planning Analysis Assumption	Impact to Variable (compared to initial Plan)
Electric Load Forecast	<ul style="list-style-type: none"> • Updated with Fall '23 Load Forecast • Significantly increased economic development activity 	<ul style="list-style-type: none"> • 5% increase in winter peak forecast (2038) • 12% increase in energy forecast (2038)
Financial Assumptions & Resource Costs	<ul style="list-style-type: none"> • Cost of Capital • Resource capital costs • Resource cost escalation • Transmission costs • Operations and maintenance (variable & fixed) costs 	<ul style="list-style-type: none"> • Increased cost of debt and updated DEP ROE (higher cost of capital) • Increased resource capital costs • Reduced technology learning escalation • Reduced transmission costs • Various updated O&M costs
Natural Gas Supply	<ul style="list-style-type: none"> • MVP gas supply volumes • Updated generic firm transportation rates • Included full interstate firm transportation costs for more than 6 CTs 	<ul style="list-style-type: none"> • New indicative commodity and transportation pricing structures and volumes • Capped exposure to delivered interstate gas for new CTs at 6 and assigned fuel security costs for incremental CTs 7+
Resource Availability	<ul style="list-style-type: none"> • Up to 6 CCs (1 CC sited in SC) • Up to 1,800 MW of solar/yr. (beg. in 2032) • Standalone battery annual availability (DEC/DEP combined): 200 MW (2027); 500 MW (2028-2029); 1,000 MW (2030 and beyond) • First 800 MW of offshore wind available BOY 2033 • Long-term Advanced nuclear availability adjusted 	<ul style="list-style-type: none"> • Increased CC limit (from 3) based on potential for incremental fuel supply • Increased solar limit (from 1,575 MW) • Applied progressive annual standalone battery limits to better reflect executability considerations • First 800 MW of offshore wind delayed one year from BOY 2032 to BOY 2033 • Increased time between advanced nuclear sites reducing cumulative availability

⁵ Table 1 is a reproduction of Table SPA 2-1 of the Supplemental Planning Analysis.

1 **Q. PLEASE EXPLAIN THE SCOPE OF THE SUPPLEMENTAL**
2 **PLANNING ANALYSIS AND ITS RELATIONSHIP TO THE INITIAL**
3 **PLAN.**

4 A. The Supplemental Planning Analysis is intended to build upon—and not
5 replace—the robust modeling and portfolio analysis presented in the initial Plan
6 and is intended to further inform the Commission’s consideration of the
7 Companies’ proposed NTAP as well as the intermediate- and long-term least
8 cost pathways to reliably serve customers during the energy transition.

Focusing on Pathway 3 as the most reasonable, least cost, and least risk planning pathway to inform the Companies' Execution Plan and NTAP, the Companies developed four additional portfolios under Energy Transition Pathway 3, including new recommended Portfolio P3 Fall Base, which augments the existing P3 Base Core Portfolio ("Portfolio P3"), and three additional Sensitivity Analysis Portfolios to consider even higher loads, higher load with additional interruptible load, and higher combined cycle ("CC") and combustion turbine ("CT") capital costs. The Companies also provide supplemental updates to the Core Portfolios under Energy Transition Pathways 1 & 2; doing so confirmed that Pathway 3 remains the most reasonable, least cost, least risk Pathway. Finally, the Supplemental Planning Analysis updates the Supplemental No Carbon Constraints Portfolio. Table 2 below outlines the seven additional portfolios presented in the Supplemental Planning Analysis:

1

Table 2: Portfolio Matrix for Additional Portfolio Analysis⁶

Portfolio	CO ₂ Constraint	Resource Availability	Gas Supply	Supply-Side Resource Costs	Fuel Commodity Price	Load	EE	DSM
Pathway 3								
P3 Fall Base	70% reduction by 2035 Carbon-neutral by 2050	Fall Base	Appalachia + Gulf Coast	Fall Base	Base	Updated 2023 Fall Load Forecast	Base	Fall Base
Pathway 3 Portfolio Sensitivity Analysis								
P3 Fall High Load	70% reduction by 2037 Carbon-neutral by 2050	Fall Base	Appalachia + Gulf Coast	Fall Base	Base	Continued Economic Dev.	Base	Fall Base
P3 Fall High Load Interruptible								Additional Interruptible
P3 Fall High CC/CT Cost	70% reduction by 2035 Carbon-neutral by 2050			1.25x CC/CT Capital Cost		Updated 2023 Fall Load Forecast		Fall Base
Supplemental Portfolio Analysis								
P1 Fall Supplemental	70% reduction by 2030 Carbon-neutral by 2050	2035 Resources by 2030 ¹	Appalachia + Gulf Coast	Fall Base	Base	Updated 2023 Fall Load Forecast	Base	Fall Base
P2 Fall Supplemental	70% reduction by 2033 Carbon-neutral by 2050	2035 Resources by 2033 ¹						
SP SC No CO ₂ Constraint Fall Supplemental	No Constraint	Fall Base						

2 Note 1: Excluding advanced nuclear and Bad Creek II

3 Considered with the 33 portfolios presented in the initial Plan, the

4 Companies' Plan now comprises 40 portfolios that provide the Commission and

5 parties with a thorough evaluation of the potential effects that a variety of future

6 conditions may have on optimal resource selection and portfolio performance.

⁶ Table 2 is a reproduction of Table SPA 2-12 to Supplemental Planning Analysis.

1 **Q. DID THE COMPANIES ALSO PERFORM ADDITIONAL**
2 **SUPPORTING ANALYSIS AS PART OF THE MODELING PROCESS**
3 **CONSISTENT WITH DEVELOPING THE INITIAL PLAN?**

4 A. Yes. The Companies performed limited supporting analyses in the development
5 of the Supplement Planning Analysis. The first supporting analysis the
6 Companies conducted confirmed that the reliability of the system is maintained
7 or improved under Portfolio P3 Fall Base and the three additional Supplemental
8 Portfolios Analysis portfolios (including supplemental updates to the Core
9 Portfolios under Pathway 1 and Pathway 2).

The Companies also conducted an economic verification of the inclusion of Bad Creek II into the development of the resource portfolios in the Supplemental Portfolio Analysis. This analysis confirms the economic inclusion of the resource. More information on these supporting analyses is discussed in Section 2 and in the Technical Appendix to the Supplemental Planning Analysis.

16 **Q. DID THE COMPANIES PERFORM AN UPDATED COAL**
17 **RETIREMENT ANALYSIS AS PART OF THIS SUPPLEMENTAL**
18 **PLANNING ANALYSIS?**

19 A. Yes. Using the same process as described in Appendix F of the initial Plan, the
20 Companies conducted supplemental coal retirement analysis and determined
21 that no material changes—and only very limited schedule adjustments—to the
22 Pathway 3 Optimal Unit Retirements Dates were required. An orderly exit from

coal that mitigates long-term risk to customers of continued coal operations while maintaining reliability of the grid and ensuring resource adequacy through the energy transition remains the Companies' primary planning objective. This approach further allows the Companies to plan for the changing economics of operating coal, while preserving flexibility on unit retirements in the early 2030s to respond as load develops and new resources are needed to serve growing load and replace the 8.4 GW of retiring coal capacity. The Companies' limited adjustments to the coal retirements dates in Pathway 3 from the August 2023 initial Plan filing are shown below in Table 3.

Table 3: Coal Unit Retirements (effective by January 1 of year shown)⁷

Unit	Utility	Winter Capacity (MW)	Effective Year (Jan 1)	
			P3 Base	P3 Fall Base
Allen 1 ¹	DEC	167	2025	2025
Allen 5 ¹	DEC	259	2025	2025
Belews Creek 1	DEC	1,110	2036	2036
Belews Creek 2	DEC	1,110	2036	2036
Cliffside 5	DEC	546	2031	2031
Cliffside 6 ²	DEC	849	2049	2049
Marshall 1	DEC	380	2029	2029
Marshall 2	DEC	380	2029	2029
Marshall 3	DEC	658	2032	2032
Marshall 4	DEC	660	2032	2032
Mayo 1	DEP	713	2031	2031
Roxboro 1	DEP	380	2029	2029
Roxboro 2 ³	DEP	673	2029	2034
Roxboro 3	DEP	698	2034	2034
Roxboro 4 ³	DEP	711	2034	2029

⁷ Table 3 is a reproduction of Table SPA 3-1 to Supplemental Planning Analysis.

Note 1: Allen Units 1 & 5 continue to be planned to be retired by December 31, 2024.

Note 2: Cliffside 6 is assumed to continue operating on 100% on natural gas beyond 2035 and was not included in the coal retirement analysis for the Carolinas Resource Plan.

Note 3: Based on execution considerations the Companies updated the retirement dates for Roxboro, switching Unit 2 with Unit 4, reflecting that Roxboro 1 and 4 will be used for Generator Replacement Request for Person County CC 1.

1 More information on the Supplemental Coal Retirement Analysis conducted
2 and coal retirement dates used in the Supplemental Planning Analysis is
3 discussed in Sections 2 and 3 and in the Technical Appendix of the
4 Supplemental Analysis and Appendix F (Coal Retirement Analysis) of the
5 initial Plan.

6 **IV. SUPPLEMENTAL PLANNING ANALYSIS RESULTS**

7 **Q. AT A HIGH LEVEL, PLEASE SUMMARIZE THE KEY TAKEAWAYS**
8 **AND RESULTS OF THE SUPPLEMENTAL PLANNING ANALYSIS?**

9 A. The results of the Supplemental Planning Analysis yield several important
10 insights:

- 11 • Reliably meeting the energy needs of rapidly growing Carolinas' economies
12 as projected in the Updated 2023 Fall Load Forecast will require significant
13 new resource additions inclusive of but greater than the initially
14 recommended Portfolio P3 and proposed NTAP included in the Companies'
15 initial Plan.
- 16 • High load factor economic development projects of the types seeking to
17 locate in the Carolinas necessitate the addition of reliable, around-the-clock
18 generation supply to maintain system reliability, as demonstrated by the
19 increase in new natural gas CC capacity from 4,080 MW (3 units) to 6,800
20 MW (5 units) by 2033 to backstand additional solar, wind, and storage
21 resources consistent with a diverse all-of-the-above resource portfolio.
- 22 • Reaching the Interim Target by 2035 will require the addition of both
23 advanced nuclear and offshore wind resources to the portfolio.

- If future economic development continues in the Carolinas at a pace consistent with the Continued Economic Development load forecast, incremental generation resources will be required and the Interim Target may not be reached until later in the 2030s.

Table 4 below summarizes the key changes to the Companies' Updated 2023 Fall Load Forecast and other material developments between the initial Plan and this Supplemental Planning Analysis.

Table 4: Key Combined DEC and DEP Summary Load Forecast and Planning Results⁸

Load	August CPIRP	Supplemental Planning Analysis
Net Load Forecast Through 2033	2023 Spring Load Forecast <ul style="list-style-type: none"> • Winter Peak: 35.5 GW • Annual Energy: 182 terawatt hours (TWh) • 8 Large Site Development Projects, adjustments for 8.7 TWh 	Updated 2023 Fall Load Forecast <ul style="list-style-type: none"> • Winter Peak: 37.6 GW • Annual Energy: 206 TWh • 35 Large Site Development Projects, adjustments for 24.7 TWh
Planning Results	P3 Base	P3 Fall Base
Incremental Resource Additions By January 1, 2035	Total: 26.8 GW Nuclear and Offshore Wind <ul style="list-style-type: none"> • Advanced Nuclear: 0.6 GW • Offshore Wind: none selected 	Total: 33.6 GW Nuclear and Offshore Wind <ul style="list-style-type: none"> • Advanced Nuclear: 0.6 GW • Offshore Wind: 2.4 GW
Coal Retirements by EOY 2035	8.4 GW	8.4 GW
Bill Impact CAGR	<ul style="list-style-type: none"> • 2033 – 2.8% • 2038 – 2.6% 	<ul style="list-style-type: none"> • 2033 – 4.1% • 2038 – 3.6%

10

⁸ Table 4 is a reproduction of Table SPA NC-1 to Chapter NC: 2023–2024 CPIRP Supplemental Planning Analysis Update.

1 Informed by this analysis, the Companies determined to update their
2 recommended reference portfolio from Portfolio P3, as originally filed, to
3 Portfolio P3 Fall Base.

4 **Q. HOW DOES PORTFOLIO P3 FALL BASE COMPARE TO CORE**
5 **PORTFOLIO P3 BASE?**

6 A. As shown in the Panel's Table 4 above, with the addition of approximately 2
7 GW of high load factor demand in the Updated 2023 Fall Forecast, along with
8 other limited updated modeling inputs, Portfolio P3 Fall Base requires the
9 addition of considerably more resources by 2035 when compared to the
10 Portfolio P3 Base to meet the increase peak capacity and energy requirements.
11 Nevertheless, Portfolio P3 Fall Base still maintains the timeline for achieving
12 the Interim Target by 2035. Through 2035, Portfolio P3 Fall Base identifies the
13 need for almost 6,800 MW of additional resources, selecting nearly the
14 maximum amounts of all renewable available resources by that time.

15 **Q. PLEASE DESCRIBE THE INCREMENTAL CHANGES IN**
16 **RESOURCES INCLUDED IN THE P3 FALL BASE.**

17 A. Figure 2 below illustrates in the incremental additions to the Portfolio 3 Base
18 Core Portfolios resulting from the Supplemental Planning Analysis.

1 **Figure 2: Incremental Resource Additions for Core Portfolios by 2035 and 2038⁹**



2

3 As discussed previously, the incremental energy and capacity requirements
 4 necessitate an additional 6.8 GW of nameplate resources to maintain system
 5 reliability and achieve the Interim Target by 2035. The incremental load drives
 6 the model selection of 0.7 GW of additional solar, based on the supplemental
 7 resource availability assumptions discussed in Section 2, additionally the
 8 around-the-clock nature of the incremental load requires 0.8 GW of incremental
 9 battery energy storage to move more efficient energy resources in time
 10 displacing less efficient resources reducing system fuel needs along with
 11 reductions in associated emissions. Furthermore, complimentary resources,
 12 such as offshore wind and additional dispatchable hydrogen-capable CCs, are
 13 selected to meet the remaining energy requirements of the system. By 2035, 2.4

⁹ Figure 2 is a reproduction of Figure SPA 1-2 to the Supplemental Planning Analysis.

1 GW of offshore wind capacity is selected and provides significant volumes of
2 carbon-free generation, with a production profile complementary to that of
3 solar, diversifying the renewable portfolio. To backstand these variable energy
4 resources and meet the around-the-clock energy needs of the system, 2.7 GW
5 of incremental CC capacity is selected in P3 Fall Base relative to P3 Base from
6 the initial filing, given the supplemental assumptions with regard to fuel supply
7 and corresponding CC resource availability. Finally, based on major equipment
8 bids for Bad Creek II, an incremental 0.2 GW of peak power capacity are
9 available from this economically included resource. The supplemental
10 modeling continues to select of 0.6 GW of SMR and 2.1 GW of onshore wind
11 by 2035, while retiring 6.2 GW of coal and replacing it in and meeting load
12 growth with 2.1 GW of peaking hydrogen-capable CT capacity.

13 These resources, along with the continued utilization of the Companies'
14 existing generation fleet, provide the most-reasonable, least cost pathway to
15 meeting customers energy needs while achieving the emissions reduction goals
16 of the system.

17 **Q. HOW DOES THE ACCELERATED PACE OF RESOURCE ADDITIONS**
18 **IN PORTFOLIO P3 FALL BASE IMPACT RESIDENTIAL CUSTOMER**
19 **BILLS?**

20 A. The necessary resource additions in recommended Portfolio P3 Fall Base result
21 in increases to forecasted residential customer bills across the systems; however
22 increased annual energy as projected in the Updated 2023 Fall Load Forecast

1 counterbalances some of the incremental resource additions and cost
2 assumptions helping to offset pressure on customer bill impacts, in general, with
3 more megawatt-hours of load to spread out costs. Furthermore, projected cost
4 impacts are always subject to change based on market conditions and regulatory
5 policies. The Companies will continue to mitigate costs by leveraging available
6 tax incentives and loan program opportunities, conducting competitive
7 procurements for materials and services, pursuing the merger between the DEC
8 and DEP utility operating companies, and advancing Grid Edge and customer
9 programs that empower residential customers to reduce demand and better
10 manage their energy usage.

11 **Q. HOW WOULD PORTFOLIO P3 FALL BASE AND THE PACE OF**
12 **ENERGY TRANSITION BE IMPACTED BY CONTINUED**
13 **UNPRECEDENTED ECONOMIC DEVELOPMENT BEYOND THAT**
14 **REFLECTED IN THE UPDATED 2023 FALL LOAD FORECAST?**

15 A. The Supplemental Planning Analysis recognizes the potential for the Carolinas'
16 economic development successes to continue in 2024. The Supplemental
17 Planning Analysis includes a P3 Fall Base High Load Sensitivity Analysis
18 Portfolio developed using the Continued Economic Development Load
19 Forecast. The P3 Fall Base High Load Portfolio Sensitivity Analysis resulted in
20 the need for 4.8 GW incremental resource additions by 2038 above P3 Fall Base
21 and could introduce the deferral of select coal retirements depending on the
22 level of load growth. The P3 Fall Base High Load Portfolio Sensitivity Analysis

1 demonstrates it is possible to achieve the Interim Target by 2037 with the
2 projected resource availability limits considering even more load through
3 continued economic development.

4 With the continued rapid economic development in the Carolinas, the
5 Companies will continue to consider ideas to partner with large customers on
6 voluntary demand-side solutions to reduce the need for incremental supply-side
7 resources to meet their growing load. The P3 Fall Base High Load Interruptible
8 Portfolio Sensitivity Analysis quantifies the impact of 1,000 MW of
9 incremental interruptible load associated with the Continued Economic
10 Development load forecast. This level of demand side management has the
11 potential to offset 425 MW CT capacity and 700 MW of battery energy storage
12 through 2031. Importantly in this scenario, any interruptible load that offsets
13 capacity would need to be available at guaranteed levels and reliable when
14 called upon in order to maintain or improve reliability.

15 **Q. DID THE COMPANIES INCLUDE IN THEIR SUPPLEMENTAL**
16 **PLANNING ANALYSIS A PORTFOLIO THAT MEETS THE INTERIM**
17 **TARGET BY 2030?¹⁰**

18 **A.** Yes. The Companies conducted supplemental updates to Core Portfolios under
19 Pathway 1, which meets the Interim Target by 2030, and Pathway 2, which
20 meets the Interim Target by 2033. As previously discussed, Portfolio P3 Fall

¹⁰ See Order Scheduling Public Hearings, Establishing Interventions and Testimony Due Dates and Discovery Guidelines, Requiring Public Notice, and Providing Direction Regarding Duke's Supplemental Modeling at 9 (Ordering Paragraph No. 11) (Jan. 17, 2024).

1 Base requires nearly all available renewable and nuclear resources selectable
2 by the model to achieve the Interim Target by 2035. Therefore, in order to
3 develop portfolios that achieve the Interim Target by 2030 and 2033, it was
4 necessary for the Companies to increase resource availability assumptions for
5 the development of Supplemental Portfolios P1 Fall Supplemental and P2 Fall
6 Supplemental. In order to allow the capacity expansion model to solve with a
7 constraint of 70% North Carolina CO₂ reduction by 2030, the Companies
8 increased the cumulative resource availability by 2030 equal to the amounts
9 that are otherwise available by 2035 under the Fall Base assumptions described
10 in Section 2, except for pumped storage and SMR. Similarly, in order to allow
11 the capacity expansion model to solve with a constraint of 70% North Carolina
12 CO₂ reduction by 2033, the Companies increased the cumulative resource
13 availability by 2033 equal to the amounts that are otherwise available by 2035
14 under the Fall Base assumptions described in Section 2, except for pumped
15 storage and SMR.

16 All other methods and assumptions used to develop these portfolios are
17 consistent with those described in Chapter 2 and Appendix C of the Companies'
18 August filing. Portfolio P1 Fall Supplemental requires nearly all of the same
19 resources as required for Portfolio P3 Fall Base by 2035, by 2030 including 2.4
20 GW of offshore wind, 12.9 GW of solar, 5.1 GW of battery energy storage, and
21 1.1 GW of onshore wind, along with 4.1 GW of CC and 2.1 GW of CT capacity.
22 Portfolio P2 Fall Supplemental requires all of the Portfolio P3 Fall Base, and

1 an additional 0.2 GW of solar, and 0.9 GW of battery energy storage. The
2 portfolios result in present value of revenue requirement ("PVRR") increases
3 through 2050 of \$34B¹¹ and \$6B, respectively. Portfolio P1 Fall Supplemental
4 would require an additional \$63B¹² of capital by 2030 relative to P3 Fall Base,
5 while Portfolio P2 Fall Supplemental would require an additional \$21B of
6 capital by 2033 relative to Portfolio P3 Fall Base. Setting aside the substantial
7 execution challenges, the Companies do not believe the pace of investment
8 required under Pathway 1 or Pathway 2 represents the most reasonable, least-
9 cost, and least-risk pathway for customers. More discussion of these portfolios
10 is included in the Supplemental Planning Analysis Technical Appendix.

11 **Q. HOW DOES THE SUPPLEMENTAL PLANNING ANALYSIS IMPACT**
12 **THE COMPANIES' PLANNING OBJECTIVE TO MAINTAIN OR**
13 **IMPROVE RELIABILITY?**

14 **A.** The Companies remain focused on their obligation to maintain and improve
15 reliability during Plan execution, ensuring resource adequacy with appropriate
16 planning reserve margin levels. The economic development trends in the
17 Carolinas include more large volume, high load factor customers, with a need
18 for more round-the-clock generation—a need that will be satisfied by the
19 resource mix included in Portfolio P3 Fall Base. Amidst this surge in electricity

¹¹ Portfolio P1 Fall Supplemental PVRR includes a 20% cost risk premium to capital costs for the pace, scope, and scale of resource additions as described in Chapter 3 of the initial Plan.

¹² Portfolio P1 Fall Supplemental capital requirement includes a 20% cost risk premium to capital costs for the pace, scope, and scale of resource additions as described in Chapter 3 of the initial Plan.

1 demand, the Companies continue to balance an “all of the above” resource mix
2 and “replace before retire” strategy to bringing equivalently reliable levels of
3 capacity and energy online before retirements and to remain on pace for 2035.
4 Having less ability to rely on neighbors than in previous decades reinforces the
5 growing need for sufficient dispatchable hydrogen-capable gas to ensure
6 reliability of the grid is maintained or improved and to meet the electricity needs
7 due to robust growth in the Carolinas. This natural gas capability complements
8 the addition of renewable energy resources by providing necessary backup
9 capacity to the weather-dependent and intermittent output of renewable
10 resources. Further, the unique and critical operational benefits of long-duration
11 pumped storage hydro and the expansion opportunity available at the Bad Creek
12 location continue to provide important storage and load following capabilities
13 and help harvest energy in times of excess—including from renewable
14 energy—to store and be available when needed. These capabilities provide
15 important diversity to the short-duration of currently available lithium-ion
16 battery storage systems.





17 **IV. INCREMENTAL ADJUSTMENTS TO NTAP BASED UPON THE**
18 **SUPPLEMENTAL PLANNING ANALYSIS**

19 **Q. HAVE THE COMPANIES EVOLVED THE NTAP AS A RESULT OF**
20 **PREPARING THE SUPPLEMENTAL PLANNING ANALYSIS?**





21 **A. Yes. The pace, scope, and scale of incremental supply-side resource additions**
22 **now required to meet the increased capacity and energy needs identified in the**

1 Updated 2023 Fall Load Forecast necessitates additions to the Companies’
 2 NTAP. These additions include incremental solar, batteries, combustion
 3 turbine, and combined cycle resource additions by 2035 as well as 2,400 MW
 4 of new-to-the-Carolinas offshore wind located off the coast of North Carolina
 5 into the Resource Plan. Table 5 below presents the Companies’ updated NTAP:

6 **Table 5: Updated Proposed Near-Term Actions and Development Activities**
 7 **Informed by Supplemental Analysis¹³**

CPIRP Resource MW Amounts		Supplem ental Resourc e MW Amounts	Total CPIRP + Suppleme ntal Resource MW Amounts	Total CPIRP + Supplemental Proposed Near-Term Actions 2024– 2026 and Development Activities
 Solar	6,000 by 2031	460	6,460 by 2031	<ul style="list-style-type: none"> - Continue RZEP 1.0 projects and advance RZEP 2.0 projects.¹ - 2024: Procurement targeting 1,585 MW of solar and SPS (approximate 2028 in-service date). - 2025–2026: Procurements targeting approximately 2,700 to 3,460 MW of solar and dependent on RZEP 2.0 (approximate 2029-2030 in-service date) and future RFP attrition of procured solar.
 Battery Storage ²	2,700 by 2031	175 MW of Standalone Storage now planned for Storage paired with Solar	2,700 by 2031	<ul style="list-style-type: none"> - 2024 to 2026: Develop and study additional 475 MW of stand-alone battery storage incremental to 2022 Carbon Plan - 2024 to 2026: Target procurement of 965 MW of SPS (625 MW of SPS incremental to 2022 Carbon Plan).
 Onshore Wind	1,200 by 2033	-	1,200 by 2033	<ul style="list-style-type: none"> - Select development partner(s), perform site feasibility studies and begin activities associated with siting and development for onshore wind projects. - Submit interconnection requests into 2025-2026 DISIS interconnection clusters
 CT ⁴	1,700 by 2032	425 by 2031	2,125 by 2031	<ul style="list-style-type: none"> - 2024: File Certificate of Public Convenience and Necessity (“CPCN”) for 2 Marshall Advanced CTs at 900 MW (BOY 2029 in-service), submit air permits, begin transmission build-out engineering/modifications. - 2024: Evaluate siting options and submit interconnection Study requests for 850 MW CT 3 & 4 (BOY 2030 in-service) - 2025: File CPCN and air permit for 850MW (CT 3 and 4) (BOY 2030 in-service). - 2025: Evaluate siting options and submit interconnection request/GRR for 425 MW CT (BOY 2031 in-service) - 2026: File CPCN and air permit for 425 MW (CT 5) (2031 in-service).

¹³ Table 5 is a reproduction of Table SPA 4-1 to the Supplemental Planning Analysis. See Carolinas Resource Plan Chapter 4 (Execution Plan) Table 4-2: Supply-Side Near-Term Actions Plan 2023 to 2026 for additional detail on proposed near-term actions presented in the Initial Plan.

CPIRP Resource MW Amounts		Supplemental Resource MW Amounts	Total CPIRP + Supplemental Resource MW Amounts	Total CPIRP + Supplemental Proposed Near-Term Actions 2024–2026 and Development Activities
 CC ⁴	4,080 by 2031	2,720 by 2033	6,800 by 2033	<ul style="list-style-type: none">- 2024: File CPCNs for Person County Advanced CC1 and CC2 (each at 1,360 MW) (BOY 2029 & 2030 in-service, respectively); submit air permits, begin transmission build-out engineering/modifications.- 2024: Submit Interconnection Requests for 2 CCs (Person County Advanced CC2 and SC-located CC3; 1,360 MW each; BOY 2030 and 2031 in-service, respectively).- 2025: File SC Certificate of Environmental Compatibility and Public Convenience and Necessity (“CECPCN”) for CC3 (2031 in-service), submit air permit.- 2025: Evaluate siting options and submit Interconnection Requests and/or GRR for 2 additional CCs (CC4 and CC5; 1,360 MW each; BOY 2032 and 2033 in-service, respectively).- 2025: File CPCN and submit air permit for CC4 (2032 in-service)- 2026: File CPCN and submit air permit for CC5 (2033 in-service)- 2026: Begin transmission build-out engineering/modifications for CC4 & CC5 (BOY 2032 and 2033 in-service, respectively)-
 Pumped Storage Hydro ^{5,6}	1,700 by 2034	134 by 2034	1,834 by 2034	<ul style="list-style-type: none">- 2025: Subject to necessary regulatory guidance and support, target SC CECPCN.- 2025 and 2026: File NC Out of State CPCN, file final FERC licensing application, prepare for construction.
 Advanced Nuclear ⁶	600 by 2035	-	600 by 2035	<ul style="list-style-type: none">- Site 1 – 2024 to 2026: Choose reactor technology, submit early site permit (“ESP”), develop construction permit/license application, contract with reactor vendor, and order long-lead equipment.- Site 2 – 2025 to 2026: Develop and submit ESP.
 Offshore Wind ⁶	-	2,400 by 2035	2,400 by 2035	<ul style="list-style-type: none">- Conduct Acquisition Request for Information (“ARFI”) with current Carolinas Wind Energy Area (off NC coast) lessees.- Conduct stakeholder engagement and outreach in connection with ARFI.- Report results of ARFI in next Carolinas Resource Plan filings.- Continue limited development of onshore transmission to support offshore wind.

Note 1: RZEP 2.0 subject to local transmission planning process. See Carolinas Resource Plan Appendix L (Transmission System Planning and Grid Transformation).

Note 2: Battery Storage amount includes stand-alone battery development and SPS amounts. Annual targets may be adjusted during development.

Note 3: To achieve in-service capacities for onshore wind, the Companies will target higher development quantities to account for assumed levels of project attrition.

Note 4: The exact amounts, models, configurations, and timing of CTs and CCs will depend on specific system needs and optimizing for execution.

Note 5: Bad Creek II Pumped Storage Hydro is projected to come into service by mid-2033; for planning purposes, the modeling reflects this resource coming into all portfolios at BOY 2034. Capacity was rounded up from 1,680 MW to 1,700 MW in initial Plan NTAP.

Note 6: The Companies note that with any long lead-time resource that results in a large, multi-year construction project, the recovery of the Companies’ financing costs during the construction period is important to ensure strong credit ratings to facilitate the lowest possible financing costs for customers. In addition, recovery of financing costs during construction lowers the overall cost that customers pay over the life of the investment. When financing costs are recovered during the construction period, non-financing project costs are still included in customer rates only after the related project is in operation and providing service to customers, unless otherwise determined by the Commissions.

1 A. In light of the increased load growth, the unique operational benefits of pumped
2 storage hydro as described in the initial Plan to provide dispatchable capacity
3 and to help manage fluctuations in higher levels of renewable generation and
4 contribute to system reliability will be even more critical. While the Companies
5 are generally advancing Execution Plan actions related to Bad Creek as outlined
6 in the initial Plan, the updated NTAP adds an additional 134 MW of capacity to
7 the new Bad Creek II powerhouse based on recent equipment bids, for a total
8 of 1,834 MW by 2034. Subject to appropriate regulatory guidance and support,
9 the Companies plan to prepare an application for a Certificate of Environmental
10 Compatibility and Public Convenience and Necessity from the Public Service
11 Commission of South Carolina and an out-of-state CPCN with the Commission
12 in 2025, and the Companies' Amended Petition affirms the Companies request
13 for the Commission select Bad Creek II as part of this CPIRP.

14 **Q. PLEASE DESCRIBE HOW THE UPDATED NTAP IMPACTS THE**
15 **COMPANIES' NEAR-TERM PLANS TO PURSUE DEVELOPMENT OF**
16 **OFFSHORE WIND.**

17 A. As discussed in Chapter 3 (Portfolios) and Chapter 4 (Execution Plan) of the
18 initial Plan filed in August 2023, offshore wind was not selected in the Portfolio
19 P3 but was selected by the model in a number of Variant and Sensitivity
20 portfolios and the Companies committed to monitoring potential future
21 development of offshore wind for consideration in future Plans. Under the
22 Supplemental Planning Analysis, offshore wind is selected in all P3 cases,

1 including the Companies' recommended Portfolio P3 Fall Base. Accordingly,
2 the Execution Plan has been updated to reflect further activity to gather more
3 information that would be used to inform the acquisition structure, cost, and
4 scale of offshore wind resource located off the North Carolina coast in the next
5 comprehensive Resource Plan. Specifically, to facilitate more detailed
6 consideration of offshore wind, the Companies propose to issue a stakeholder-
7 informed Acquisition Request for Information ("ARFI") to provide a structure
8 in which the WEA lessees can provide more detailed information regarding
9 proposed acquisition structures (including proposed payment structuring and
10 risk sharing), along with updated pricing.

11 **Q. PLEASE DESCRIBE HOW THE UPDATED NTAP IMPACTS THE**
12 **COMPANIES' NEAR-TERM PLANS TO PURSUE DEVELOPMENT OF**
13 **ADVANCED NUCLEAR RESOURCES.**

14 A. The Supplemental Planning Analysis evolves the Companies' strategy for
15 development of advanced nuclear resources to reflect optimal project learnings,
16 targeting completion of the first two units at the first site (Belews Creek) to
17 maximize construction and design learnings through a continuous construction
18 cycle while also considering the projected southeast region labor resource
19 availability, thus reducing financial exposure. This supplemental approach
20 continues to plan for the availability of two advanced nuclear units by the
21 beginning of 2035, but leverages optimal project learnings at site one before
22 construction begins at site two. Accordingly, the updated NTAP supports the

1 initial SMR in-service date for the first quarter of 2034 at site one (Belews
2 Creek) and evolved the deployment strategy to bring five additional SMR units
3 online at that site in 12-month intervals. Additionally, the first unit at the second
4 site is scheduled for a January 2037 in-service date and the same deployment
5 strategy to bring five additional SMR units online at site two in 12-month
6 intervals.

7 **Q. HOW DOES THE UPDATED NTAP IMPACT THE COMPANIES'**
8 **PLANS TO DEVELOP NEW NATURAL GAS RESOURCES?**

9 A. The Supplemental Planning Analysis identifies the Companies' expanded need
10 for new dispatchable hydrogen-capable, natural gas-fueled resources to retire
11 coal, reliably integrate renewables and maintain system reliability. The
12 Companies have already taken steps to advance new natural gas resource
13 additions at the Marshall Station and Person County Energy Complex as
14 described in the initial Plan, including by filing pre-CPCN applications for
15 Person County Advanced CC1 in September 2023 and Marshal CTs in
16 November 2023. The Companies have now also identified Person County as
17 the preferred site for the second Advanced CC2 identified in the initial Plan and
18 have determined that CC3 will be sited at a location in South Carolina. The
19 Companies are also planning to accelerate the addition of CTs 3 & 4 to achieve
20 commercial operation by beginning of year (BOY) 2030, the addition of CT5
21 by BOY 2031 and planning for a 4th and a 5th CC with desired BOY 2032 and
22 2033 in-service dates, respectively, as part of this updated execution plan for

1 dispatchable natural gas generation. In light of increased load growth and
2 increased incremental amounts of renewables necessary to achieve the Interim
3 Target, sufficient hydrogen-capable dispatchable natural gas capacity and
4 energy is essential to meet customer load growth and to provide complementary
5 supply 24x7 in all types of weather when intermittent solar and wind resource
6 are not producing or have lower levels of output than forecasted.

7 **Q. IN YOUR VIEW, WHY IS IT IMPORTANT TO INCREMENTALLY**
8 **ADVANCE THE INITIAL NTAP IN LIGHT OF NEW LOAD**
9 **PROJECTIONS AND IMMENSE SCALE OF ENERGY TRANSITION?**

10 A. The economic development success and the growing economies in the
11 Carolinas are amplifying the already profound impacts of the changing energy
12 landscape integrated into the CPIRP. Accordingly, progress on all identified
13 near-term actions is now even more urgent to ensure adequate resources to meet
14 customers' future electricity needs while balancing a reliable energy transition.
15 The Companies' updated NTAP represents a baseline level of actions needed to
16 meet economic development projects incorporated into the Updated 2023 Fall
17 Load Forecast.

18 **Q. HOW HAS THIS SUPPLEMENTAL PLANNING ANALYSIS**
19 **REINFORCED THE NEED TO "CHECK AND ADJUST" IN THIS**
20 **DYNAMIC CHANGING ENERGY LANDSCAPE?**

21 A. This Supplemental Planning Analysis demonstrated how rapidly and materially
22 the energy landscape can change, informing resource plan and related execution

1 actions and necessary adjustments. On the demand side, the robust economic
2 development growth in the Carolinas evolved considerably throughout 2023—
3 and there is continued residential growth, changing patterns of EV adoption that
4 must also be monitored. The dynamic economic, political, technological,
5 market and supply chain environments can rapidly change, thus influencing
6 modeling assumptions such as technology costs and availability, the trajectory
7 of Execution Plan and NTAP activities, or both. The Companies, with
8 stakeholders, will continue to monitor, highlight, and propose adjustments for
9 material changes that are reasonable, prudent, and in the best interest of
10 customers.

11 **Q. HAVE THE COMPANIES UPDATED THEIR REQUESTS FOR RELIEF**
12 **IN THIS PROCEEDING IN LIGHT OF THE SUPPLEMENTAL**
13 **PLANNING ANALYSIS AND UPDATED NTAP?**

14 A. Yes. The Companies have updated their request for relief and now recommend
15 that the Commission approve as reasonable the near-term supply-side
16 development and procurement activities identified for 2024-2026 in the updated
17 NTAP as described in this testimony and as further detailed in the Supplemental
18 Planning Analysis. DEC/DEP witness Bowman presents the Companies
19 updated request in her supplemental testimony.

1

V. CONCLUSION

2

Q. DOES THIS CONCLUDE THE PANEL'S SUPPLEMENTAL DIRECT

3

TESTIMONY?

4

A. Yes. It does.