

SC Supplement

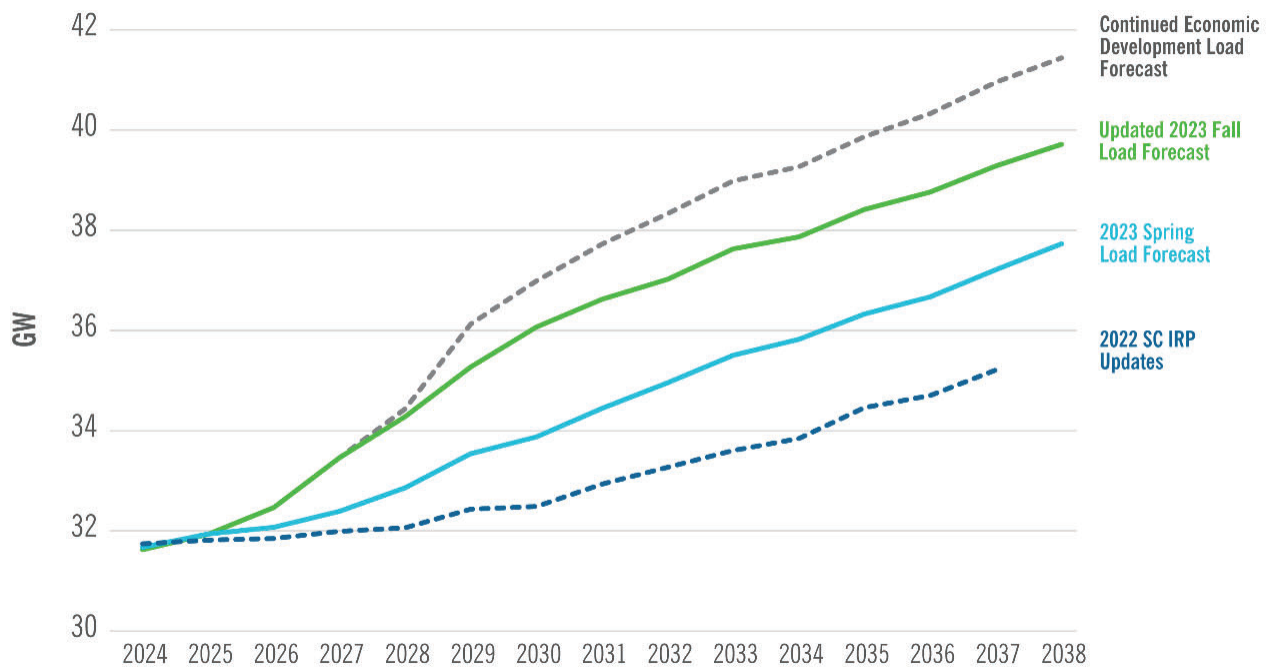
Chapter SC Supplement: Energy Transition Pathway 3 Remains the Most Reasonable and Prudent Plan for South Carolina's Future and Portfolio P3 Fall Base Enables the Companies to Reliably Serve South Carolina's Economic Development Success

Duke Energy Carolinas, LLC ("DEC") and Duke Energy Progress, LLC ("DEP" and, together with DEC, the "Companies") are filing this January 2024 supplemental update¹ to Chapter SC to the Companies' 2023–2024 Carolinas Resource Plan and South Carolina Integrated Resource Plan ("Resource Plan" or "the Plan") to provide information to the Public Service Commission of South Carolina ("PSCSC" or the "Commission"), customers, and stakeholders regarding significant increases in the Companies' load forecast since the initial Resource Plan was filed in August 2023. In addition to significant economic development success, according to the U.S. Census Bureau,² the Palmetto State had the fastest growing population in the nation in 2023, together contributing to recent, unprecedented levels of load growth in the Carolinas—eight times the peak load growth by 2030 that we anticipated just two years ago. The Companies communicated the sharp increases in load growth in a November 30, 2023 filing to the Commission, and are providing additional modeling incorporating that load growth and other associated information. As shown below in Figure SCS-1, compared with the 2023 Spring Load Forecast used to develop the initial Plan, the combined peak load growth for DEC and DEP identified in the Updated 2023 Fall Load Forecast has increased by approximately 2,100 MW in 2033 — and includes a projected peak demand increase in 2033 of over 4,000 MW to the 2022 resource planning load forecast baselines.

¹ This Chapter SC Supplement is intended to supplement, and does not replace, the original Chapter SC filed as part of the August 2023 Resource Plan. As such, this Chapter SC Supplement begins on page 35.

² U.S. Census Bureau, U.S. Population Trends Return to Pre-Pandemic Norms as More States Gain Population (Dec. 19, 2023) <https://www.census.gov/newsroom/press-releases/2023/population-trends-return-to-pre-pandemic-norms.html>.

Figure SCS-1: Load Forecast Evolution, 2022 IRP Updates to 2023 IRP and Supplemental Planning Analysis Carolinas Combined DEC and DEP Non-Coincident Winter



These changes materially impact the Companies' proposed near-term actions plan ("NTAP") and longer-term resource plan to reliably serve customers. In their August 15, 2023 Resource Plan filing, the Companies proposed Portfolio P3 Base (and the NTAP associated with it, together referred to in this SC Chapter as "Portfolio P3") for PSCSC approval as the most reasonable and prudent recommended plan to take decisive execution activities in the near-term to achieve the State's energy policy goals and serve customer energy and capacity needs. The initial Resource Plan filed with the Commission in August of 2023, in conjunction with the Supplemental Planning Analysis filing made with the Commission on January 31, 2024, continues to provide comprehensive and detailed analysis supporting the Companies' plans to serve customers.

Given the substantial, material changes in the Companies' load forecast since the preparation of the Companies' initial Resource Plan, the Companies now propose Commission adoption of Portfolio P3 Fall Base, which is based on the Companies' Updated 2023 Fall Load Forecast, (and the NTAP associated with it, together referred to in this SC Chapter Supplement as "Portfolio P3 Fall Base") for PSCSC approval.

Taking into consideration the Companies' robust initial Plan and Supplemental Planning Analysis being filed today, the Companies' preferred plan, Portfolio P3 Fall Base, remains designed to serve customers with a diverse fleet that (1) reduces risks to customers; (2) meets increased customer energy needs; (3) maintains reliability and affordability; (4) is the most practicable of the portfolios identified and evaluated by the Companies; (5) complies with state and federal laws applicable to the assets included in the Plan; (6) provides resource adequacy and capacity; and (7) supports continued economic development in South Carolina and the resulting growth the Companies are experiencing. Portfolio P3 Fall Base demonstrates how the Companies can meet these objectives while also meeting

growing customer demand from South Carolina’s continuing economic development success over the 15-year planning horizon during which the Companies are also retiring and replacing (or otherwise repurposing sites where feasible) their remaining coal units located in North Carolina that also serve South Carolina customers. Building on the Portfolio P3 Fall Base, the Companies have developed their updated Execution Plan and proposed near-term actions to support the resources needed by Portfolio P3 Fall Base as the most reasonable, least-cost, and least-risk plan for South Carolina customers and the Companies are now proposing to take decisive actions under this Plan—subject to approval by the PSCSC—to ensure the continued economic growth and vitality of South Carolina.

Overview and Key Takeaways from Supplemental Planning Analysis

As described in Section 2 of the Supplemental Planning Analysis and previously in the Supplemental Direct Testimony of Glen A. Snider (“Supplemental Testimony”) filed on November 30, 2023,³ the Companies’ initial Resource Plan relied on a 2023 Spring Load Forecast that included eight large economic development projects. Since that time, the Carolinas have experienced continued economic development that is well above the Companies’ historical experience. In preparing the Updated 2023 Fall Load Forecast, an additional group of 27 large projects above 20 MW in both South Carolina and North Carolina have now made material new economic development project commitments sufficient to justify inclusion in the Plan. These 35 new projects add up to just over 3,000 MW of peak demand requirements with over 24,700,000 megawatt-hours, or 24.7 terawatt-hours (“TWh”) of annual energy needs by 2033. The extraordinary pace and scope of this recent economic development success warranted the need for this supplemental filing to ensure that the Commission and all parties in this proceeding are fully apprised of this information.

The Companies’ Supplemental Planning Analysis evaluates how the significant increase in the Updated 2023 Fall Load Forecast and other material developments since the initial Plan was prepared impacts the pace, scope, and scale—as well as executability risks and other considerations—for the Resource Plan. The initial Plan established the dynamic nature of the changing energy landscape, in particular recognizing the impacts driven by the Carolinas’ economic development successes as high load factor commercial operations and industries seeking to expand or locate to the Carolinas region, the migration of new residential customers, and accelerating transportation electrification.⁴ That impact increases with the additional load growth explained above.

The Supplemental Planning Analysis addresses how the recent, significant changes to the Companies’ load forecast, inflationary pressures on resource costs, and other factors are now impacting the executability, reliability, and cost of bringing on diverse new generation resources to meet customers’ growing energy needs. The Companies’ recommended plan, Portfolio 3 Fall Base, is designed to meet growth while prudently manage operating, reliability, and cost risk during a disciplined gradual exit from the Companies’ coal fleet through 2035, throughout which time we will also be replacing (or otherwise repurpose sites where feasible) those coal units.

As detailed in Section 2 (Methodology and Key Assumptions Updates), the Supplemental Planning Analysis principally relies upon the same methodological approach as the initial Plan and evaluates

³ Supplemental Direct Testimony of Glen A. Snider on Behalf of Duke Energy Carolinas, LLC and Duke Energy Progress, LLC, PSCSC Docket Nos. 2023-8-E and 2023-10-E (filed Nov. 30, 2023).

⁴ Carolinas Resource Plan, Executive Summary at 5-8, Chapter 1 (Planning for a Changing Energy Landscape) at 4-6.

how the significant increase in the Updated 2023 Fall Load Forecast and other material developments since the initial Plan was prepared impact the pace, scope, and scale—as well as executability risks and other considerations—of planning under Pathway 3. Section 3 (Portfolio Additions and Analysis Results) addresses how Portfolio P3 Fall Base is the most reasonable and prudent plan to serve customers' growing capacity and energy needs as identified in the Updated 2023 Fall Load Forecast and to prepare the system for potential continued economic development commitments that may occur in 2024 and beyond. Section 4 (Execution Plan Updates) presents, for the current NTAP period 2024–2026, Duke Energy's plans for coal unit retirements with no material changes from the schedule presented in the initial Plan, and executing on the additional resources identified in the NTAP as needed to reliably achieve the Portfolio P3 Fall Base capacity additions required to reliably serve the Companies' dual-state system.

The modeling performed and included in the January 31, 2024 Supplemental Planning Analysis confirms that Pathway 3 remains the most reasonable, least-cost and least-risk pathway, especially considering executability, while continuing to support the economic development successes enjoyed in South Carolina.⁵

Table SCS-1 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 SCS-1: Key Combined DEC and DEP Summary Load Forecast and Planning Results

Load	August IRP	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 TWh • Eight 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, 2038	34 GW	41 GW
Coal Retirements by EOY 2035	8.4 GW	8.4 GW
Bill Impact Compound Annual Growth Rate⁶	<ul style="list-style-type: none"> • 2033 – 2.8% • 2038 – 2.6% 	<ul style="list-style-type: none"> • 2033 – 4.1% • 2038 – 3.6%

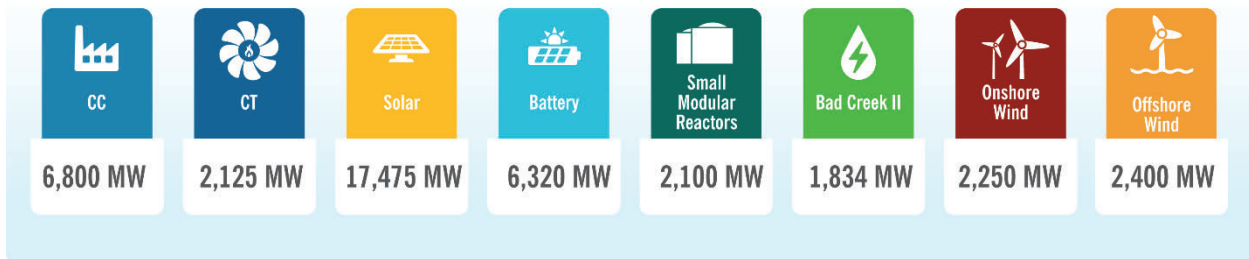
The Companies' supply-side resource changes contained within Portfolio P3 Fall Base over the 15-year Base Planning Period (through 2038) are presented in Section 3 to the Supplemental Planning

⁵ More information on supplemental modeling conducted by the Companies—including supplemental updates to Core Portfolios under Pathways 1 and 2 and the “No Carbon Constraint modeling directed by the PSCSC”—is provided in the Technical Appendix to the Supplemental Planning Analysis.

⁶ Estimated bill Impacts are system average retail rate impacts across all customer classes applied to a representative residential bill. Additional information regarding bill impacts can be found in the Supplemental Planning Analysis and the Second Supplemental Testimony of Glen Snider.

Analysis. As shown below in Figure SCS-2, in addition to projects already in advanced development, the incremental resources associated with Portfolio P3 Fall Base through 2038 include:

Figure SCS-2: Incremental Resources Associated with Portfolio P3 Fall Base through 2038



To serve the growing energy needs of customers including new projects identified in the Updated 2023 Fall Load Forecast, Portfolio P3 Fall Base introduces almost 7,300 MW of additional resources beyond Portfolio P3 through 2038, including additions of solar, batteries, additional hydrogen-capable natural gas generation and the inclusion of the potential of offshore wind, building on the diverse portfolio of resources identified as needed in the initial Plan. In addition to the supply side resources shown above, Portfolio P3 Fall Base includes aggressive energy efficiency and demand side management programs to reduce winter peak demand by nearly 2,800 MW by 2038. During this critical period of growing and transitioning the generating fleet, the Companies remain laser focused on ensuring reliability and meeting customers' energy needs as load increases, ensuring resource adequacy with appropriate planning reserve margin levels over time.

As such, the Companies' recommended Plan continues to pursue a balanced "all of the above" resource mix and "replace before retire" approach to bringing equivalently reliable levels of capacity and energy online before scheduled retirements amidst growth in electricity demand. Having potentially less ability to rely on neighbors than in previous decades also reinforces the growing need for enough dispatchable hydrogen-capable gas to ensure adequate capacity and energy to maintain or improve the reliability of the grid and to meet the electricity needs as a result of robust growth in the Carolinas; this natural gas capability is also complementary to renewables and allows the Companies to back stand renewables that help continue to increase not only the amount of clean energy resources frequently sought by customers, but which also provide an important hedge and a fuel-free source of energy that helps mitigate fuel costs during periods of fuel price escalation.

Portfolio P3 Fall Base also recognizes the operational characteristics of the load being added to the Companies' systems. DEC and DEP are seeing more large volume, high load factor customers which equates to the need for more round-the-clock generation—a need that will be satisfied by the resource mix included in Portfolio P3 Fall Base. In addition to expanding dispatchable natural gas combined cycle generation, the Plan also confirms the need for the unique and critical operational benefits of pumped hydro storage and the expansion opportunity available at the Bad Creek facility to provide important system-balancing and load following capabilities, which stores energy in times of excess generation—including from growing amounts renewable energy resources—to be used when needed.

While the changes to the Companies' recommended Portfolio P3 are detailed throughout the Supplemental Filing, it is worth highlighting some of the incremental changes in resources included in Portfolio P3 Fall Base as presented below in Figure SCS-3.

Figure SCS-3: Supplemental Portfolio Analysis Results – P3 Incremental Additions by 2038

By January 1 2038	Grid Edge	Coal Retirements	Solar	Battery	CT	CC	Onshore Wind	Pumped Storage Hydro	Advanced Nuclear	Offshore Wind
P3 Base	EE at least 1% of eligible retail sales	-8.4 GW	14.6 GW	6.0 GW	3.0 GW	4.1 GW	2.3 GW	1.7 GW	2.4 GW	0 GW
P3 Fall Base	IVVC growing to 96% DEC & 97% DEP circuits Winter DR & CPP		17.5 GW	6.3 GW	2.1 GW	6.8 GW		1.8 GW	2.1 GW	2.4 GW
Difference		0 GW	2.9 GW	0.3 GW	-0.9 GW	2.7 GW	0 GW	0.2 GW	-0.3 GW	2.4 GW

To meet the growing capacity and energy needs forecasted in the Updated 2023 Fall Load Forecast, Portfolio P3 Fall Base adds significant additional solar and combined cycle (“CC”) capacity—mature complementary technologies that are available and executable today. The 900 MW reduction in peaking CT capacity need in Portfolio P3 Fall Base through 2038 recognizes greater value from a system mix that adds more solar, batteries and additional CC plants to serve the higher levels of around-the-clock load in the Updated 2023 Fall Load Forecast. Moreover, the high load factor economic development projects described above necessitate replacing the peaking combustion turbine (“CT”) resources in favor of more efficient high utilization CC resources providing around-the-clock energy, which contributes to the net addition of gas capacity in Portfolio P3 Fall Base. The addition of incremental CC capacity is facilitated by the recent development of an increased likelihood of greater access to natural gas supply in the Carolinas given the Mountain Valley Pipeline’s advancement and target for completion of the pipeline in the first quarter of 2024.

Portfolio P3 Fall Base also includes 154 additional MW of pumped storage capacity at Bad Creek over and above what the Companies filed on August 15th, and this stems from information provided by vendors who see a path for providing more peak power capacity from the technology the Companies were already pursuing. The Companies believe their modeled maximum opportunity for onshore wind during the Base Planning Period is reasonable, and as such that resource type remains unchanged in Portfolio P3 Fall Base. And while it may appear that the Companies are pursuing less nuclear energy by 2038, this supplemental approach continues to plan for the availability of two advanced nuclear units by the beginning of 2035 and the reduction of 300 MW of nuclear energy in the Base Planning Period only reflects a limited shift in the timing of when additional advanced nuclear units would come online beyond 2038, representing an updated execution strategy to take advantage of learnings through the Companies’ first deployments at a single site to reduce risk to customers. Recommended Portfolio P3 Fall Base still recognizes the important role of advanced nuclear resources as described in Appendix J (Nuclear) of the initial Plan filing.

Finally, the Companies believe that Portfolio P3 Fall Base appropriately contemplates availability limits on what the market can reasonably offer—at least at this time—from all of these sources of energy selected in the initial Plan, including the potential development of offshore wind off the coast of North Carolina—recognizing that we will “check and adjust” as technologies mature and we have more information. While offshore wind is a new-to-the-Carolinas generating technology, the Companies continue to advance evaluation of it given that it has a higher capacity factor (40%-48%) than onshore wind and other renewables. Offshore wind also provides its highest seasonal generation output on

winter mornings, which is complementary to Companies' winter peaking demand needs.⁷ The Companies are pursuing a stakeholder informed request for information to validate the pricing and commercial opportunities that may be available to integrate offshore wind onto the system. As a result of this process, if offshore wind is not available or otherwise part of the least cost pathway, DEC and DEP may have to rely on other options for customers. These other options could include pursuing accelerated deployment of advanced nuclear resources, or increased reliance on hydrogen-capable natural gas resources. The Companies expect to have more information on their evolving strategy on offshore wind and potential alternatives, and the risks associated with them, future IRP updates and filings.

Finally, the Companies have assumed aggressive energy efficiency and demand side management programs to shrink the challenge of meeting new load, including adding over 220 MW of projected demand-side contributions over and above what was included in the August 15, 2023 filing, for a total of nearly 2,800 MW of winter peak demand reduction. The Companies will continue to identify and investigate opportunities to "shrink the challenge" of increasing load and costs through aggressively pursuing Grid Edge and other Customer Programs,⁸ which include energy efficiency and demand-side management measures, as well as certain rate designs, voltage control efforts, renewable energy programs, behind-the-meter generation, and storage and electric transportation programs.

The Companies' Plan and Portfolio P3 Fall Base Presents the Most Reasonable and Prudent Plan under Act 62

The Companies' above proposed resource mix remains fully consistent with S.C. Code Ann. § 58-37-40, reasonably balancing the seven factors required under South Carolina law:

Act 62 Balancing Factors, S.C. Code Ann. § 58-37-40(C)(2)

To determine whether the integrated resource plan is the most reasonable and prudent means of meeting energy and capacity needs, the commission, in its discretion, shall consider whether the plan appropriately balances the following factors:

- 1) resource adequacy and capacity to serve anticipated peak electrical load and applicable planning reserve margins;
- 2) consumer affordability and least cost;
- 3) compliance with applicable state and federal environmental regulations;
- 4) power supply reliability;
- 5) commodity price risks;
- 6) diversity of generation supply; and
- 7) other foreseeable conditions that the commission determines to be for the public's interest.

⁷ Appendix I (Renewables and Energy Storage) to the initial Plan provides more information and highlights that offshore wind projects are being developed in Virginia and other parts of the country.

⁸ As described in Carolinas Resource Plan, Appendix H (Grid Edge and Customer Programs).

Generally, the compelling reasons highlighted in the initial Chapter SC supporting how Portfolio P3 balances the Act 62 factors also apply to Portfolio P3 Fall Base, which continues the Companies' planning under Energy Transition Pathway 3. Overall, the resource mix represented by Portfolio P3 Fall Base continues to appropriately balance the factors required under South Carolina law:

- **Resource adequacy** – Like the original Portfolio P3, Portfolio P3 Fall Base is designed to meet customers' resource adequacy needs and adding resources over the next decade to meet the Companies' 22% planning reserve margin for DEC and DEP on a combined basis, even including the increased load growth the Companies are experiencing.
- **Affordability** – Affordable electricity for customers has always been important to the Companies, who have some of the most competitive rates in the nation, as cost-competitive rates and consumer affordability are important for the vitality and growth of the Carolinas, and Portfolio P3 Fall Base continues to plan for a least-cost resource mix while balancing other factors. While significant, new investments are needed to retire and replace aging infrastructure and to meet the growing energy needs of South Carolina customers, the Companies have considered customer affordability and recommended Portfolio P3 Fall Base as the most reasonable, least-cost plan for meeting the Companies' system needs.
- **Compliance with law and applicable regulations** – The Companies must comply with applicable law and regulations. Portfolio P3 Fall Base is compliant with Act 62 and is supported by the greater balance of SC law and policy as more fully discussed in the initial SC Chapter. Portfolio P3 Fall Base also complies with other laws and regulations applicable to Duke Energy and helps position the Companies for future flexibility, including potential future regulations.
- **Reliability** – Power supply reliability, like resource adequacy, is a must-have, non-negotiable element in resource planning, and the Companies' Plan is designed to ensure that the system operators have sufficient capacity and energy resource "tools in the toolbox" to meet the growing needs of customers and to navigate the changing energy landscape. Not only does Portfolio P3 Fall Base meet the necessary level of capacity, but it does so while accounting for fuel supply risk and resource diversity—which itself acts as a hedge against reliability risk. Similar to the initial Portfolio P3, the Companies have performed a final "Reliability Verification" step in modeling Portfolio P3 Fall Base to ensure the portfolio is sufficiently reliable in all hours of the year to meet customers' energy needs.
- **Commodity price risk** – Commodity price risk has been an increasingly important topic in recent years due to volatile coal and gas prices, impacting customers during annual fuel rate adjustment cases. Portfolio P3 Fall Base reasonably addresses commodity price risk through a diverse portfolio of supply-side as well as demand-side resources to serve customers' future energy needs. While Portfolio P3 Fall Base includes more significant reliance on new hydrogen-capable natural gas generation that increases firm transportation requirements and commodity price exposure, the Supplemental Planning Analysis prudently recognizes MVP's recent progress towards completion resulting in additional gas supply diversity to deliver Appalachian gas into the Carolinas and also seeks to manage commodity price risk and availability of delivered interstate gas for new CTs by assigning fuel security costs for increased deployment of CTs.
- **Resource diversity** – As highlighted in Figure SCS-2, Portfolio P3 Fall Base is more diverse than initial recommended Portfolio P3, taking full advantage of the Companies' expansive service territories, varied terrain, and economies of scale to bring online solar, batteries,

advanced nuclear, onshore wind, new hydrogen-capable gas plants, and an expansion of the Bad Creek pumped hydro storage facility. The recommended Portfolio P3 Fall Base also introduces the addition of 2,400 MW of offshore wind by 2035, which the Companies will plan to explore off the coast of North Carolina.

- **Other foreseeable conditions** – Ultimately, there is no way to “future proof” an integrated resource plan, and the Companies and the Commission will have additional opportunities to reevaluate resource planning in future years (i.e., to “check and adjust”), but there is a set of “knowns” that should inform resource planning for the Companies, including meeting the energy needs presented by economic development in the Carolinas; taking advantage of federal incentives to bring down costs; preparing to wind down aging coal facilities (and replacing that generation or otherwise repurposing those sites where feasible); and allowing for future flexibility to adjust the plan over time. The breadth of foreseeable conditions and planning considerations identified in the initial South Carolina Chapter continue to be applicable to executing Portfolio P3 Fall Base.





Act 62’s balancing factors, as well as South Carolina law and policy in general, support Commission approval of recommended Portfolio P3 Fall Base as the most reasonable and prudent plan to serve customers capacity and energy needs.

Near-Term Actions that Must Be Pursued in 2024-2026 to Ensure a Reliable Energy Supply for South Carolina’s Future





As highlighted in the initial SC Chapter, while the overall balance of the 15-year Portfolio P3 plan will be revisited in future IRPs, there are nonetheless near-term actions that the Companies must take now to ensure the Companies and customers have the resources needed—when they are needed. Chapter 4 (Execution Plan) of the initial Plan as modified by Section 4 (Execution Plan Updates) of the Supplemental Planning Analysis describes in detail how Pathway 3 and recommended Portfolio P3 Fall Base can be accomplished and includes precise actions and timelines necessary to ensure the Companies keep pace with meeting energy system needs. To that end, the Execution Plan includes near term actions for the development and procurement activities the Companies are planning to undertake through 2026 to support supply-side resource additions. Considering the increase in load growth and other information provided in the Supplemental filing, Table SCS-2 below shows the updated Near-Term Actions called for in the Companies’ Execution Plan and informed by P3 Fall Base.⁹

⁹ The updated near-term actions outlined in the Supplemental Planning Analysis build upon the foundational Resource Plan Execution Plan and NTAP presented in the initial Plan and continue to present reasonable near-term steps on the most reasonable and prudent path for the Carolinas.

Table SCS-2: Updated Proposed Near-Term Actions and Development Activities Informed by Supplemental Analysis¹⁰

August NTAP Resource	August NTAP MW Amounts	Supplemental Incremental Resource MW Amounts	Total August NTAP + Supplemental Resource MW Amounts	Total August NTAP + Supplemental Proposed Near-Term Actions 2024–2026 and Development Activities
 Solar	6,000 by 2031	460 by 2031	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 solar paired with battery energy storage (“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 NC Plan. - 2024 to 2026: Target procurement of 965 MW of SPS (625 MW of SPS incremental to 2022 NC 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.³ - 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 NC 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 850 MW (CT 3 and 4) (BOY 2030 in-service). - 2025: Evaluate siting options and submit interconnection request/GRR for 425 MW CT 5 (BOY 2031 in-service). - 2026: File CPCN and air permit for 425 MW (CT 5) (2031 BOY in-service).

¹⁰ Table SCS-2 is consistent with Table SPA 4-1 in Section 4 (Execution Plan Updates) of the Supplemental Plan 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.

August NTAP Resource	August NTAP MW Amounts	Supplemental Incremental Resource MW Amounts	Total August NTAP + Supplemental Resource MW Amounts	Total August NTAP + 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 permit, 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}	1,680 by 2034	154 by 2034	1,834 by 2034	<ul style="list-style-type: none"> - 2025: Subject to necessary regulatory guidance and support, target 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.

With recent economic development success and the growing economies in the Carolinas amplifying the already profound impacts to the Carolinas' energy landscape described in the initial Plan, making progress on all identified near-term actions is now even more urgent to ensure adequate resources to meet customers' future electricity needs while balancing a reliable energy transition. It is important for the Commission to consider the Companies' updated NTAP as representing a baseline level of actions needed during 2024-2026 to meet the growing energy and capacity needs of the system, including the new economic development projects incorporated into the Updated 2023 Fall Load Forecast. The Companies' proposed NTAP is supported by recommended Portfolio P3 Fall Base and plans for increased development and procurement activities in 2024-2026 to bring on more solar (an additional 460 MW¹¹) as well as adding a 5th natural gas CT (425 MW) to be placed in service by 2031 and two additional CC units (CC4 and CC5 totaling 2,720 MW) to be placed into service in 2032 and 2033, respectively.

The Execution Plan update presented in Section 4 of the Supplemental Planning Analysis also highlights that the Companies have continued to progress execution planning for siting new CC generating facilities, including identifying planned sites for a second combined cycle ("CC2") unit in DEP at the Person County Energy Center in North Carolina and that DEC has confirmed its plans for siting the third CC unit ("CC3") at a location in South Carolina. The Companies have made these siting determinations as part of executing the most reasonable least-cost plan to serve customers and to promote resource and locational diversity (including through diversified access to fuel supply). The updated NTAP also identifies the opportunity to expand the size of Bad Creek II by 134 MW¹² as well as the new addition of 2,400 MW of offshore wind anticipated to be developed off the coast of North Carolina. As noted above and further detailed in the Supplemental Planning Analysis, the Companies are planning to conduct stakeholder engagement and to conduct a request for information for potential acquisition of a wind energy area lease with current Carolinas Wind Energy Area (off the North Carolina coast) lessees to more fully assess the potential timing and cost of procuring offshore wind resources.

The Companies also reiterate that these resource additions represent the minimal baseline level of actions needed to meet the growing energy and capacity needs of the system.¹³ The Companies must also assess the potential for economic development trends to continue, which would result in load growth even greater than is reflected in the Updated 2023 Fall Load Forecast. The Continued Economic Development load forecast detailed in Section 2 (Methodology and Key Assumptions Updates) assesses a scenario in which economic development successes continue, assuming an approximately 40% increase in economic development adjustments in 2033 relative to the Updated 2023 Fall Load Forecast. Under such a scenario, even more resource additions would be needed and further, it may be necessary to consider potential deferral of select coal retirements. Additionally, while not specifically included in the NTAP, the Companies note aggressive targets for energy efficiency and demand side programs. In the event such programs are not approved, the Companies would need more supply-side generation resources. Finally, the Companies will continue to look for opportunities

¹¹ As explained in Section 4 (Execution Plan Update), the Companies have added solar resources to the NTAP above the Portfolio P3 Fall Base targeted procurement to account for assumed levels of project attrition based upon average purchased power project attrition over the past five years.

¹² Bad Creek II's capacity was rounded up from 1,680 MW to 1,700 MW in the initial and updated NTAP.

¹³ These key updates and additions to the NTAP are more comprehensively addressed in Section 4 (Execution Plan Update) to the Supplemental Planning Analysis, while sections of the Execution Plan that have not been updated continued to be supported by the detailed information presented in the initial Plan.

to expedite access to new resources if opportunities arise, especially given the pace of load growth in the Carolinas.

Impacts of Dual-State Planning and the Location of Identified Generating Resources

As the Companies continue to plan and execute their resource planning across the Companies' dual-state system in South Carolina and North Carolina, they are leveraging the Companies' expansive service territories, varied terrain, and potential for economies of scale in determining optimal locations across both states to site new generating facilities and other resources that maximize benefits for customers. For instance, the unique and critical operational benefits of pumped storage hydro and the expansion opportunity available at the Bad Creek location in South Carolina would benefit customers across the entire dual-state service territory by allowing integration of all resources, including renewables, and providing important generation and storage diversity to the shorter-duration of currently available lithium-ion battery storage systems. Similarly, the Companies are leveraging the dual-state system to assess siting for new natural gas facilities. The Execution Plan Update also identifies that the Companies are pursuing new natural gas generation in South Carolina, which would add important locational diversity for the system, at the same time the Companies are pursuing new natural gas generation in North Carolina, including two combined cycle units. The Companies are also pursuing, through competitive procurement, solar facilities located across the Carolinas to ensure that customers benefit from the best sites not only in South Carolina, but across our dual-state service territories. These types of siting determinations promote resource and locational diversity (including through diversified access to fuel supply). The Companies are also mindful of siting new generating resources at existing sites that contain opportunity for substantial tax benefits for customers, including taking advantage of sites at retiring coal plants for new generation or storage resources, repurposing those sites not only to take advantage of existing local infrastructure but to optimize—where possible—benefits under the Inflation Reduction Act, benefits which would directly benefit customers by bringing down the cost lower than what it would otherwise be. The Companies believe that dual state planning continues to bring optimum benefit for our customers.

Closing and Summary of Requests to Commission

As described throughout this SC Chapter, including the SC Chapter Supplement and the rest of the Resource Plan and Supplemental Planning Analysis, Pathway P3 remains to be the most reasonable, least cost resource pathway identified by the Companies, and Portfolio P3 Fall Base supports an executable plan to successfully navigate and build upon the growth being experienced in the Carolinas in a manner that (1) reduces risks to customers; (2) meets increased customer energy needs; (3) maintains reliability and affordability; (4) is the most practicable of the portfolios identified and evaluated by the Companies; (5) complies with state and federal laws applicable to the assets included in the Plan; (6) provides resource adequacy and capacity; and (7) supports continued economic development in South Carolina and the resulting growth the Companies are experiencing.

While the Companies' IRP is a long-term planning document identifying the resource needs for the next 15 years, it is imperative to take actions in the near term to ensure adequate and reliable capacity, as shown in the Companies' Near-Term Action Plan. It is critical that the Companies receive a Commission order affirming that the near-term actions are consistent with the public interest of South

Carolina and supported by the Commission as the most reasonable and prudent plan to serve customers' future energy and capacity needs.¹⁴

¹⁴ Otherwise, if there are actions that the Commission believes are not in the best interest of South Carolina, or similarly, if there are specific resources that the Commission do not believe should serve South Carolina customers, an order articulating such will enable the Companies to pursue alternative allocations for the costs and benefits for such generation and include those considerations in future IRPs.