

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION
DOCKET NO. E-100, SUB 175

In the Matter of:)	
Biennial Determination of Avoided)	
Cost Rates for Electric Utility)	BRIEF OF SOUTHERN
Purchases from Qualifying)	ALLIANCE FOR CLEAN
Facilities – 2021)	ENERGY
)	

PURSUANT TO North Carolina Utilities Commission (Commission) Rule R1-25, intervenor Southern Alliance for Clean Energy (SACE), through counsel, files this brief on certain issues in the current biennial proceeding, which concerns the 2021 avoided cost rates for Duke Energy Carolinas, LLC (DEC), Duke Energy Progress, LLC (DEP) (together Duke Energy or Duke), and Dominion Energy North Carolina (DENC or Dominion) (collectively, the Utilities). This brief is focused on several key issues raised in this proceeding. SACE is also filing a partial proposed order addressing key issues raised in the proceeding.

I. INTRODUCTION

SACE respectfully submits this brief opposing (1) Duke Energy’s proposed use of a simple-cycle combustion turbine as the avoided capacity resource under the peaker method; (2) Duke’s proposed Solar Integration Services Charge (SISC); (3) Duke’s proposed omission of a cost of carbon in this proceeding, although SACE supports the Public Staff’s recommendation to determine an avoided cost of carbon after the Carbon Plan is final, to be applied in Duke’s next initial biennial avoided cost filing; (4) Duke’s proposed natural gas price forecast

methodology; (5) Duke's proposed omission of compensation for ancillary services provided by "qualifying facilities" (QFs); and (6) the Public Staff's proposal to require Duke to make a supplemental filing providing a recalculated annualized Net Excess Energy Credit (NEEC) rate under the Net Energy Metering Tariffs (NEM Tariffs).

The Public Utility Regulatory Policies Act (PURPA) was intended to foster the development of alternative energy sources and expand the market for energy and capacity in order to benefit ratepayers. See *infra* Section II. In direct contravention of these goals, the Companies' proposals would, if approved, undercut the development of renewable energy in the State by artificially decreasing the avoided cost rate, imposing unjustified charges on solar facilities, and stifling innovation. See *infra* Section III.

II. FEDERAL AND STATE LAW SUPPORTS THE DEVELOPMENT OF ALTERNATIVE ENERGY

A. PURPA Requires Encouragement of Alternative Energy Development and Fairness to Ratepayers

Under Section 210 of PURPA, cogeneration facilities and small power producer facilities that meet certain standards can become QFs and become eligible to sell their power to electric utilities at the incremental cost of alternative electric energy, also known as the avoided cost rate.¹ The avoided cost rate is the rate that reflects the cost the utility can avoid as a result of obtaining energy and capacity from the QF rather than buying it from a third party or generating it itself.² When QFs are paid at this avoided cost rate, customers should be indifferent from

¹ 16 U.S.C. § 824a-3(d).

² 18 C.F.R. § 292.101(b)(6).

a financial perspective as to whether their power is supplied by the utility or by a QF.

Underlying the requirements of PURPA is the reality that traditional utilities have historically been reluctant to purchase power from independent, alternative energy facilities.³ Congress enacted PURPA because it “believed that increased use of [nontraditional facilities] would reduce the demand for traditional fossil fuels, and it recognized that electric utilities had traditionally been reluctant to purchase power from, and to sell power to, the nontraditional facilities.”⁴

To this end, PURPA establishes a must-take obligation for utilities, facilitating increased alternative energy development and consumer benefits by broadening the market and increasing competition. Courts across the country have consistently recognized PURPA’s role in bringing new energy producers to market to compete with monopolies.⁵ Courts and economists alike have also

³ *FERC v. Mississippi*, 456 U.S. 742, 750 (1981) (explaining that traditional utilities were reluctant to purchase power . . . from nontraditional facilities.)

⁴ *Am. Paper Inst. v. Am. Elec. Power Serv. Corp.*, 461 U.S. 402, 404-05 (1983) (quoting *FERC*, 456 U.S. at 750).

⁵ See *FERC v. Mississippi*, 456 U.S. 742, 750 (1982); *Winding Creek Solar LLC v. Peterman*, 932 F.3d 861, 863 (9th Cir. 2019); *Kamine/Besicorp Allegany L.P. v. Rochester Gas & Elec. Corp.*, 908 F. Supp. 1180, 1192 (W.D.N.Y. 1995) (recognizing “the ultimate effect of PURPA is to introduce new energy producers into the marketplace” and affirming the Federal Energy Regulatory Commission’s view that PURPA “tends to broaden the energy market as a whole” and that if “traditional utilities were successful in excluding [qualifying facilities (QFs)], then, the long-range effect could be to reduce competition.”) (internal citations omitted); *Resolute Wind 1 LLC v. New Mexico Pub. Regul. Comm’n*, 2022-NMSC-011, ¶ 5, 506 P.3d 346, 348 (explaining PURPA was designed to diversify energy sources and thereby reduce the demand for fossil fuels); *Vote Solar v. Montana Dep’t of Pub. Serv. Regul.*, 2020 MT 213A, ¶ 45, 401 Mont. 85, 111, 473 P.3d 963, 977, as amended on denial of reh’g (Oct. 6, 2020) (“Setting QF rates despite market volatility and uncertainty inherently underlies the entire purpose of PURPA: to encourage and incentivize renewable energy development over a long-term contract in order to escape fossil fuel dependency.”); *In re Ownership of Renewable Energy Certificates*, 389 N.J. Super. 481, 486, 913 A.2d 825, 828 (N.J. Super. Ct. App. Div. 2007) (“Congress enacted the Public Utility Regulatory Policies Act of 1978 . . . to increase competition in the production of electricity and reliance on renewable energy.”); *State ex rel. Sandel v. N.M. Pub. Util. Comm’n*, 980 P.2d 55, 58 (N.M. 1999) (“Congress introduced competition into the generation component of the electric power industry by enacting the Public Utility Regulatory Policies Act of 1978.”).

recognized that increased competition benefits customers by lowering prices.⁶ Furthermore, as the Commission has recognized when it recognized their “hedge” value,⁷ purchases from zero-carbon QFs help to mitigate the high and volatile gas prices that are passed directly to customers through the fuel clause.

B. State Law Requires Fairness to Ratepayers and Encouragement of Alternative Energy Development

It is the policy of the State of North Carolina to promote the development of new renewable energy facilities.⁸ This commitment was reaffirmed and strengthened by three recent executive orders and twice by recent comprehensive energy legislation. Executive Order 80, signed by Governor Cooper on October 29, 2018, set the goal of reducing greenhouse gas emissions to 40% below 2005 levels by the year 2025.⁹ Executive Order 218 established goals for the

⁶ See *Nat'l Soc. of Pro. Engineers v. United States*, 435 U.S. 679, 695 (1978) (“The Sherman Act reflects a legislative judgment that ultimately competition will produce not only lower prices, but also better goods and services. ‘The heart of our national economic policy long has been faith in the value of competition.’” (citation omitted)); *American Moto Sales Corp. v. Peters*, 311 N.C. 311, 318, 317 S.E.2d 351, 357 (1984) (explaining that horizontal restraints impede competition and lead inexorably to increased prices); *State v. Atlantic Ice & Coal Co.*, 210 N.C. 742, 188 S.E. 412, 416 (1936) (explaining that monopoly tends to suppress competition, to acquire a dominance in the market and to secure the power to control prices to the public harm with respect to any commodity which people are under a practical compulsion to buy); see *Viamedia, Inc. v. Comcast Corp.*, 951 F.3d 429, 441 (7th Cir. 2020), *cert. denied*, 141 S. Ct. 2877 (2021); Adam Smith, *Wealth of Nations*, 219-20 (Amherst, New York: Prometheus Books, 1991) (“To widen the market and to narrow the competition, is always the interest of the dealers. To widen the market may frequently be agreeable enough to the interest of the public; but to narrow the competition must always be against it, and can serve only to enable the dealers, by raising their profits above what they naturally would be, to levy, for their own benefit, an absurd tax upon the rest of their fellow-citizens.”).

⁷ Order Setting Avoided Cost Input Parameters at 42, *In the Matter of Biennial Determination of Avoided Cost Rates for Electric Utility Purchases from Qualifying Facilities – 2014*, Docket No. E-100, Sub 140 (N.C.U.C. Dec. 31, 2014), <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=4d85c17b-ef0a-4dc4-a0fd-c84d4f39ef80>; Order Establishing Standard Rates and Contract Terms for Qualifying Facilities at 30, *In the Matter of Biennial Determination of Avoided Cost Rates for Electric Utility Purchases from Qualifying Facilities – 2014*, Docket No. E-100, Sub 140 (N.C.U.C. Dec. 17, 2015), <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=a80fb5f9-2dd8-480c-9e25-847c19878ad7> (affirming “the full hedging benefits that renewable energy purchases can provide by reducing ratepayers’ exposure to fuel price volatility and providing price stability”)

⁸ G.S. § 62-2(a)(10).

⁹ Exec. Order No. 80 at p. 1 (Oct. 29, 2018) <https://governor.nc.gov/media/967/open>.

development of offshore wind in the state as well as a new “clean energy economic development coordinator” within the Department of Commerce.¹⁰ Executive Order 246 expanded on the carbon-reduction goals set in Executive Order 80, adding the goals of reducing statewide GHG emissions 50% below 2005 levels by 2030 and net-zero emissions “as soon as possible, no later than 2050.”¹¹

Now five years old, House Bill 589 (H589), Session Law 2017-192, revised renewable energy acquisition in North Carolina, but it did not alter the State’s underlying commitment to promote clean energy development. In signing H589, Governor Cooper stated that the bill was “critical for the future of significant increases” in North Carolina’s solar industry and reiterated that “a strong renewable energy industry is good for our environment and our economy.”¹² The law established several legislative programs intended to spur growth of the renewable energy industry in North Carolina., including the Competitive Procurement of Renewable Energy (CPRE),¹³ Green Source Advantage (GSA),¹⁴ and Community Solar¹⁵ programs. These programs provide an alternative to—but do not replace—the State’s traditional PURPA implementation.

Just last fall, the General Assembly passed and Governor Cooper signed into law House Bill 951 (H951), Session Law 2021-165,¹⁶ which thoroughly revised electricity law in the state and for the first time established carbon-reduction

¹⁰ Exec. Order No. 218 at 1-2 (Jun. 9, 2021), <https://governor.nc.gov/media/2438/open>.

¹¹ Exec. Order No. 246 at 2 (Jan. 7, 2022), <https://governor.nc.gov/media/2907/open>.

¹² Press Release: Gov. Cooper Signs Law Securing Thriving Solar Industry, Shows Commitment to Wind Energy with Strong Executive Order (Jul 27, 2017), <https://governor.nc.gov/news/gov-cooper-signs-law-securing-thriving-solar-industry-shows-commitment-wind-energy-strong>.

¹³ G.S. § 62-110.8.

¹⁴ G.S. § 62-159.2.

¹⁵ G.S. § 62-126.8.

¹⁶ S.L. 2021-165, <https://ncleg.gov/Sessions/2021/Bills/House/PDF/H951v6.pdf>.

mandates for the power sector. Among other things, the law requires the Commission to take “take all reasonable steps to achieve a seventy percent (70%) reduction in emissions of carbon dioxide (CO₂) emitted in the State from electric generating facilities owned or operated by electric public utilities from 2005 levels by the year 2030 and carbon neutrality by the year 2050,”¹⁷ and directed the Commission to develop a Carbon Plan by the end of 2022 to achieve those goals.¹⁸ H951 also promoted clean energy in a host of other provisions, including additional solar procurement under the CPRE framework,¹⁹ authorization of performance-based regulation,²⁰ and a path for extending the contracts for existing QFs.²¹

As these directives amply demonstrate, North Carolina has a strong and longstanding interest in encouraging renewable energy development.

III. DUKE ENERGY’S PROPOSALS IN THIS DOCKET WOULD HINDER THE DEVELOPMENT OF RENEWABLE QF ENERGY IN NORTH CAROLINA AND UNDERMINE LEGISLATIVELY MANDATED SOLAR PROGRAMS.

Viewed together, the flaws in Duke Energy’s proposals discussed below will hinder state policy favoring renewable energy and stand to harm ratepayers by narrowing the market and eliminating competition. In the Commission’s Order Establishing Standard Rates and Contract Terms for Qualifying Facilities in the 2016 biennial avoided cost proceeding, it stated that it “will continue to monitor the amount of actual QF development and the stability of avoided cost rates to ensure that ratepayers are not exposed to undue risk of overpayments, while at the same

¹⁷ G.S. § 62-110.9.

¹⁸ G.S. § 62-110.9(1).

¹⁹ G.S. § 62-110.8.

²⁰ G.S. § 62-133.16.

²¹ Session Law 2021-165, Section 6.(a),

<https://ncleg.gov/Sessions/2021/Bills/House/PDF/H951v6.pdf>.

time providing QFs with an opportunity to obtain financing on reasonable terms.”²² Independent QF development in the state has been lackluster in recent years and the flaws in Duke’s proposals will exacerbate the problem.

Artificially low avoided cost rates will burden renewable development outside the PURPA context as well. Historically, the administratively determined avoided cost rate applied exclusively to QFs seeking to exercise their PURPA rights, but in H589 the General Assembly explicitly referenced avoided costs in establishing the CPRE,²³ GSA,²⁴ and Community Solar programs,²⁵ and those rates are currently tied to the avoided cost rate established in this proceeding.

As discussed in the sections that follow, five issues with Duke’s proposed avoided cost rates, and one issue raised by the Public Staff, would unnecessarily further hinder QF development in contravention of federal and state policy discussed above, and in some cases in contravention of PURPA itself.

IV. THE APPROPRIATE AVOIDED CAPACITY RESOURCE FOR THIS PROCEEDING IS AN AERODERIVATIVE GAS TURBINE; IT WILL SOON BE A CARBON-FREE RESOURCE; AND THE COMMISSION SHOULD CONSIDER REEVALUATING THE PEAKER METHOD.

By using a simple-cycle combustion turbine (CT) as the avoided capacity resource under the “peaker method” of determining avoided costs, Duke has

²² Order Establishing Standard Rates and Contract Terms for Qualifying Facilities at 38, *In the Matter of Biennial Determination of Avoided Cost Rates for Electric Utility Purchases from Qualifying Facilities – 2016*, Docket No. E-100, Sub 148 (N.C.U.C. Oct. 11, 2017), <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=9b202168-0968-4338-9c64-70b5366ab109>.

²³ G.S. § 62-110.8(b)(2) (“ . . . each public utility’s procurement obligation shall be capped by the public utility’s current forecast of its avoided cost calculated over the term of the power purchase agreement. The public utility’s current forecast of its avoided cost shall be consistent with the Commission-approved avoided cost methodology.”).

²⁴ G.S. § 62-159.2(e) (“The program customer shall receive a bill credit for the energy by the Commission; provided, however that the bill credit shall not exceed utility’s avoided cost.”).

²⁵ G.S. § 62-126.8(d) (“The offering utility shall credit the subscribers to its community solar energy facility for all subscribed shares of energy generated by the facility at the avoided cost rate.”).

underestimated avoided capacity costs. Under the peaker method, the appropriate avoided peaking unit is “the lowest-cost capacity option available to the utility.”²⁶ This is frequently assumed to be a simple-cycle combustion turbine because that tends to be the least-cost option for new capacity. However, the peaker method does not require using that technology to represent the hypothetical or proxy avoided peaking unit, and recent developments indicate that it is no longer the appropriate technology in North Carolina, and that an aeroderivative gas turbine is a more accurate choice.

As a result of H951, Duke will need to procure large quantities of zero-emitting resources beginning immediately.²⁷ This will include many gigawatts of solar and wind generation, which as stand-alone facilities have variable and intermittent output. In addition, load is becoming more dynamic as the grid transforms, as a result of phenomena like beneficial electrification. In the very near term, for purposes of selecting the resource used for the peaker method, the flexibility and other operating characteristics of an aeroderivative gas turbine would better match the needs of the changing grid, while also providing the same basic generating capacity services as a CT. At the same time, carbon-free resources

²⁶ ROBERT E. BURNS AND KENNETH ROSE, NAT’L ASSOC. OF REG. UTILS. COMM’RS, PURPA TITLE II COMPLIANCE MANUAL 35 (2014), <https://pubs.naruc.org/pub/B5B60741-CD40-7598-06EC-F63DF7BB12DC>; see also CAROLYN ELEFANT, REVIVING PURPA’S PURPOSE: THE LIMITS OF EXISTING STATE AVOIDED COST RATEMAKING METHODOLOGIES IN SUPPORTING ALTERNATIVE ENERGY DEVELOPMENT AND A PROPOSED PATH FOR REFORM 18 (2011), http://lawofficesofcarolynelefant.com/wp-content/uploads/2012/04/Elfant_Reviving_PURPA_Avoided_Costs_2011.pdf.

²⁷ See Duke Proposed Carbon Plan, Ch. 4 Execution Plan at 5 (May 16, 2022), *Carbon Plan of Duke Energy Progress, LLC, and Duke Energy Carolinas, LLC, Pursuant to Session Law 2021-165*, Docket No. E-100, Sub 179, <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=25e0c7af-3b02-447b-92c9-87ee21c6c171> (anticipating addition of 3,100MW of solar and 600MW of wind between 2022-24).

tend to have higher up-front capital costs relative to their very low marginal operating costs,²⁸ making the cost profile of an aeroderivative gas turbine a better proxy for the overall system cost of additional capacity regardless of whether it would actually be the technology chosen for additional capacity in a given case.²⁹

Accordingly, because the up-front capital cost of a CT is lower than aeroderivative gas turbines, Duke's choice to use the former artificially reduced avoided capacity cost and the Commission should require Duke to recalculate using an aeroderivative gas turbine.³⁰

Very soon, the actual avoided peaking resource will be carbon-free, and rather than an aeroderivative gas turbine, the most appropriate avoided peaking resource will be a resource like battery storage. Indeed, Duke has already taken this position in its proposed Carbon Plan for EE/DSM cost recovery:

To achieve the aggressive EE assumptions of 1% of eligible retail sales as assumed in the Carbon Plan, which the Companies will strive to achieve through programs offered to customers in both North Carolina and South Carolina, the Companies **will need to modernize the current framework for appropriately valuing demand-side DERs so that EE and other demand-side customer programs are evaluated on par with zero-carbon supply-side alternatives**. The Companies request, as part of the Commission's approval of the Plan, that the Commission also approve the Companies' plan to update the inputs underlying the determination of the utility system benefits in the Companies' approved EE/DSM Cost Recovery Mechanism. The Companies will vet these updates with EE/DSM Collaborative members in the Carolinas and other interested stakeholders. **The updated inputs utilized for justifying demand-side utility programs will be based on specific costs associated with the selected**

²⁸ See, e.g., U.S. ENERGY INFO. ADMIN, CAPITAL COST AND PERFORMANCE CHARACTERISTIC ESTIMATES FOR UTILITY SCALE ELECTRIC POWER GENERATING TECHNOLOGIES at III-IV, Table 2 (2020),

https://www.eia.gov/analysis/studies/powerplants/capitalcost/pdf/capital_cost_AEO2020.pdf.

²⁹ Indeed, none of this is to say that Duke should construct additional fossil gas-fired generating resources—even if aeroderivative gas turbines—nor that SACE would support such a move.

³⁰ Even though the up-front cost of an aeroderivative gas turbine is higher than that of a simple CT, the overall cost of a decarbonized system, including one with lots of renewables, may well be lower than proceeding under business as usual.

marginal carbon free and storage resources in the approved Carbon Plan added to the system energy and capacity, inclusive of transmission and other required infrastructure. More specifically, the per kilowatt (kW) avoided capacity benefits and per kilowatt-hour (kWh) avoided energy benefits used will be **derived from levelized average marginal supply-side resource costs utilized in the most recently approved Carbon Plan production cost model.** The calculation of the underlying avoided energy value to be used to derive the specific avoided energy benefits will be based on the projected demand-side resource's hourly shape.³¹

While not termed “avoided cost,” and even if Duke only intends this methodology to apply to behind-the-meter savings from DERs, the underlying logic of recognizing the marginal carbon free resources also applies to calculating avoided cost rates, and in applying it Duke has proposed to use “carbon free and storage resources” as the appropriate avoided technology. Furthermore, Duke requested the Commission approve this methodology concurrently with its “approval” of Duke’s proposed Carbon Plan.³² Accordingly, Duke evidently considers the new methodology appropriate as soon as the Commission has approved a final Carbon Plan. The same should be true of updated peaker methodology in the avoided cost context.

As the discussion above shows, under the carbon constraint established by H951 the peaker method struggles to accurately capture the marginal capacity cost of the electric system. It will be increasingly unlikely as time goes on that the Utilities will build simple-cycle CTs to satisfy capacity needs, and instead more efficient—and soon carbon-free—peaking resources will be the actual marginal

³¹ Duke Proposed Carbon Plan, App’x G at 12-13 (May 16, 2022), *Carbon Plan of Duke Energy Progress, LLC, and Duke Energy Carolinas, LLC, Pursuant to Session Law 2021-165*, Docket No. E-100, Sub 179, <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=47f81d76-27ff-47fa-b4ed-743047d3f2ec> (emphasis added).

³² H951 directs the Commission to “[d]evelop” a Carbon Plan, not to “approve” Duke’s proposed Carbon Plan. G.S. § 62-110.9(1).

capacity resources chosen. Even though the avoided peaking resource used for the peaker method represents a proxy for the overall marginal system cost of new capacity rather than the cost of the actual next unit of new capacity added, when a simple-cycle CT is highly unlikely actually to be added, it strains credulity to think it represents an accurate proxy. As noted, a different technology—an aeroderivative for now, soon a battery—represents a more accurate proxy. The difficulty in selecting an accurate proxy for a carbon-constrained and modernizing grid indicates that the Commission should soon reconsider the methodology for determining avoided capacity costs entirely.

V. THE UPDATED SOLAR INTEGRATION SERVICE CHARGE IS FLAWED.

Although the methodology underlying the proposed solar integration service charge (SISC) is an improvement over the 2018 Astrapé Study, the 2021 Astrapé Study and resulting SISC nonetheless contain significant flaws, as discussed in the report prepared by Mr. Brendan Kirby, *Overestimation in Duke Energy's Proposed Solar Integration Service Charge*, attached as Exhibit A to SACE's Initial Comments (Kirby SISC Report).³³

First, the 2021 Astrapé Study assumed that solar load-following reserves are required during multiple hours in which there is no solar generation, before sunrise and after sunset. The effect plainly is to overcharge solar QFs for reserves. In its Reply, Duke argued that the technical review committee (TRC) found its determination of the hours in which to add solar load-following reserves

³³ Kirby SISC Report (February 24, 2022), <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=7df995a6-5f77-47af-a439-9a72f688a145>.

reasonable, citing some excerpts from its report.³⁴ But Duke's citations in fact support Mr. Kirby's point: it is more accurate to target the solar load-following reserves to hours when they are most likely needed, when volatility is highest.³⁵ There is no solar volatility before or after the sun shines, and just because the TRC found the 2021 Astrapé Study an *improvement* over its 2018 study—in which solar load-following reserves were required in *all* hours of the year—that does not mean that the TRC sanctioned requiring solar load-following reserves when it is dark out; to the contrary, its report indicates that tailoring the hours to actual solar production hours would improve the SISC.

Second, the “combined case,” which approximates the Joint Dispatch Agreement (JDA) under which DEC and DEP are currently operating failed to account for the reduction in solar load-following reserves that are required under JDA operations. Operating the system pursuant to the JDA also reduces not just the per-unit cost of solar reserves but also the amount of load-following reserves necessary because the JDA allows Duke to net the DEC and DEP systems' dispatch needs to meet real-time balancing requirements.

In its Reply, Duke argued that this is inaccurate because DEC and DEP each must continue to plan for and maintain its own operating reserves, under the regulatory conditions attached to the Commission's approval of the merger.³⁶ But the provision cited by Duke does not prevent netting as described by Mr. Kirby. It provides:

³⁴ Duke Reply 39-40.

³⁵ See Kirby SISC Report at 3-5 (February 24, 2022), <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=7df995a6-5f77-47af-a439-9a72f688a145>.

³⁶ Duke Reply 41.

4.1 Conditional Approval and Notification Requirement. DEC and PEC acknowledge that the Commission's approval of the merger and the transfer of dispatch control from PEC to DEC for purposes of implementing the JDA and any successor document is conditioned upon the JDA or successor document never being interpreted as providing for or requiring: (a) a single integrated electric system, (b) a single BAA, control area or transmission system, (c) joint planning or joint development of generation or transmission, (d) DEC or PEC to construct generation or transmission facilities for the benefit of the other, (e) the transfer of any rights to generation or transmission facilities from DEC or PEC to the other, or (f) any equalization of DEC's and PEC's production costs or rates. If, at any time, DEC, PEC or any other Affiliate learns that any of the foregoing interpretations are being considered, in whatever forum, they shall promptly notify and consult with the Commission and the Public Staff regarding appropriate action.³⁷

Netting solar load-following reserves would not constitute operating DEC and DEP as a single electric system, a single BAA, or any of the other listed interpretations. Indeed, Duke is a founding member of the Southeast Energy Exchange Market (SEEM), which is intended to facilitate bilateral trade among utilities throughout the Southeast, and at least in theory should facilitate reserve sharing. Duke's argument implies that, although it has the ability to operate both DEC and DEP systems at will, it would routinely direct generators within the combined fleet to both reg up and reg down at the same time.

Finally, the 2021 Astrapé Study applied an unnecessarily stringent five-minute "flexibility violation" metric that is inappropriate for the SISC analysis.³⁸ North American Electric Reliability Corporation (NERC) reliability standards require 30-minute balancing. There is no NERC reliability requirement to balance

³⁷ Order Approving Merger Subject to Regulatory Conditions and Code of Conduct, Docket Nos. E-2, Sub 998 and E-7, Sub 986, at Appendix A, Regulatory Conditions Section 4.1 (June 29, 2012), <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=f8e805cb-8c22-4e76-9fc3-22aa572702fe>.

³⁸ Kirby SISC Report 10-15, <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=7df995a6-5f77-47af-a439-9a72f688a145>.

generation and load in the five-minute time frame (under non-contingency conditions). A more appropriate timeframe for the SISC analysis would be 25 minutes.³⁹ By applying the unnecessarily stringent five-minute “flexibility violation” metric, the 2021 Astrapé Study overstated needed reserves and artificially inflated the SISC value.⁴⁰

In its Reply, citing the TRC, Duke confusingly argued that a longer flexibility violation metric would both *increase* the SISC *and* transfer the *benefit* of eliminating the “cushion” between 5 minutes and the NERC 30-minute standard to solar resources rather than to customers.⁴¹ Neither the TRC nor Astrapé analyzed the 25-minute metric proposed by Mr. Kirby, nor even a 10-minute metric. Rather, according to Duke the TRC simply assumed that because additional solar tends to increase the share of longer flexibility violations, integration costs would be higher under the longer 10-minute metric.⁴² But this misses the fact that shifting to a 10-minute metric would necessarily eliminate 5-minute violations, and therefore reduce the number of violations overall. Furthermore, Duke’s two claims seem to conflict: if a longer flexibility violation metric would increase the SISC then the higher SISC would continue to cover the cost of any erosion of the “benefit” received by customers from the “cushion” between the 5-minute metric and the 30-minute standard. And it is not clear that this “cushion” *does* benefit customers; a 0-minute standard would provide even more “cushion” but surely would come at

³⁹ *Id.* at 14.

⁴⁰ *Id.* at 10-15.

⁴¹ Duke Reply 42-43.

⁴² *Id.* at 42 n.127 (quoting TRC Report).

an exorbitant cost. If, as Mr. Kirby opined, the 5-minute metric is excessively stringent then customers would in fact benefit by lengthening it.

VI. AVOIDED COST CALCULATIONS SHOULD INCLUDE AN AVOIDED COST OF CARBON.

After the enactment of H951, it is no longer tenable to treat carbon emissions as free, yet this is what Duke's proposed avoided cost rates do. Duke's input assumptions for the production cost modeling used to determine avoided energy costs include the emission costs for certain air pollutants, including criteria air pollutants such as NO_x and SO₂, but the inputs for the production cost runs used by DEC/DEP do not include CO₂ emissions costs over the forecast period.⁴³

Duke's omission ignores the effect of the law. By limiting Duke's (and DENC's) carbon omissions, H951 makes it possible to calculate a cost of carbon.⁴⁴ The law requires adopting the least-cost path to achieving a 70% reduction in CO₂ emissions from 2005 levels by the year 2030 and carbon neutrality by the year 2050.⁴⁵ There is a carbon price that will achieve these reductions,⁴⁶ and treating

⁴³ See Duke response to PS DR 2-7 ("Portfolio A of the DEC and DEP 2020 IRPs, the Companies' Base Case without Carbon Policy portfolio, was used to calculate the Companies' avoided energy rates.").

⁴⁴ This is not to say that the law necessarily will make operating Duke's system more expensive. Because Duke's most carbon-intensive resources tend to be costly and inefficient, if implemented well the law could in fact save customers money. Multiple analyses indicate as much. *E.g.*, Rachel Wilson, et al., Clean, Affordable, and Reliable: A Plan for Duke Energy's Future in the Carolinas at 1 (2021), filed on behalf of SACE, et al., *In the Matter of 2020 Biennial Integrated Resource Plans and Related 2020 REPS Compliance Plans*, Docket No. E-100, Sub 165, <https://starw1.ncuc.net/NCUC/ViewFile.aspx?Id=be90482d-7f8e-4949-babc-c23d33e6d4c5>; ("Synapse's model produces an alternate clean energy resource portfolio that reduces total system cost by \$7.4 billion and CO₂ emissions by 74 percent compared to a scenario similar to Duke's modeled Base Case with Carbon Policy."), Kate Konschnik, et al., Power Sector Carbon Reduction: An Evaluation of Policies for North Carolina at 14, Table ES.3 (2021), https://nicholasinstitute.duke.edu/sites/default/files/publications/Power-Sector-Carbon-Reduction-An-Evaluation-of-Policies-for-North-Carolina-Revised_0.pdf (showing that joining the Regional Greenhouse Gas Initiative and using revenue to invest in energy efficiency saves money overall).

⁴⁵ S. L. 2021-165, Part I, Section 1, <https://ncleg.gov/Sessions/2021/Bills/House/PDF/H951v6.pdf>.

⁴⁶ See Public Staff Initial Statement 9-10; SACE Initial Comments 33-36.

that cost as if it were zero requires ignoring the General Assembly's mandate. While the carbon price implicit in the mass caps set by Session Law 2021-165 may be more precisely determined after the Commission adopts a final Carbon Plan, even then it will continue to evolve as the next Carbon Plan proceeding approaches. Accordingly, the Commission would be more than justified in adopting the best available proxy carbon price until a more precise price derived from its final Carbon Plan is available.⁴⁷

However, the Public Staff prefers to wait until a more precise carbon price can be determined after the Commission adopts a final Carbon Plan,⁴⁸ and other parties generally support that approach.⁴⁹ SACE supports waiting to formally adopt a carbon price until the next avoided cost proceeding, so long as the issue is addressed beforehand in a stakeholder process so that a carbon price based on a consensus approach would be included in Duke's initial filing in the 2023 biennial avoided cost proceeding.

VII. DUKE'S NATURAL GAS COMMODITY PRICE FORECASTING METHODOLOGY SHOULD BE REVISED.

The Commission should require Duke to revise its flawed natural gas price forecasting methodology in this proceeding. Many of the reasons that its methodology produces inaccurate results have been discussed in previous proceedings and continue to hold true.⁵⁰

⁴⁷ If the Commission approves a NEM tariff that includes avoided cost compensation for excess generation then the avoided cost of carbon should apply to the avoided cost payments to rooftop solar customers.

⁴⁸ Public Staff Initial Statement 9-10.

⁴⁹ See Duke Reply 20-21; CCEBA and NCSEA Joint Reply Comments 4.

⁵⁰ See Joint Initial Comments of the Southern Alliance for Clean Energy, North Carolina Clean Energy Business Alliance, and the North Carolina Sustainable Energy Association, Ex. A

Two recent developments urge revision in this proceeding. First, the Carbon Plan will replace Duke's 2022 biennial IRP⁵¹ and, as anticipated, in its proposed Carbon Plan Duke replaced the ten-year-forward-contract methodology used in its prior IRPs with a "natural gas price forecast [that] relies upon five (5) years of natural gas market-based pricing, followed by three (3) years of transitioning from market-based pricing before fully utilizing fundamentals-based natural gas pricing forecast starting in 2031 for the remaining study period."⁵² Although it does not go far enough, this is a change in the right direction and illustrates that even Duke has finally accepted that its overreliance on forward market prices is inappropriate.

Second, the dramatic increase in natural gas prices over the past year-plus has highlighted the potential inaccuracy of forward market prices even as little as one year out.⁵³ And volatility is likely to increase as the expansion of liquified natural gas export terminals is exposing U.S. gas markets to global markets. In

(Crossborder Energy Report) (Jan. 25, 2021), *In the Matter of: Biennial Determination of Avoided Cost Rates for Electric Utility Purchases from Qualifying Facilities – 2020*, Docket No. E-100, Sub 167, <https://starw1.ncuc.net/NCUC/ViewFile.aspx?Id=d56dd368-5078-4f16-a48b-8d4ec55a46e6>; Order Establishing Standard Rates and Contract Terms for Qualifying Facilities at 59, *In the Matter of Biennial Determination of Avoided Cost Rates for Electric Utility Purchases from Qualifying Facilities – 2018*, Docket No. E-100, Sub 158 (N.C.U.C. Apr. 15, 2020), <https://starw1.ncuc.net/NCUC/ViewFile.aspx?Id=eff66bdb-e96f-417f-a526-e88dc8d3a6d9>; Order Establishing Standard Rates and Contract Terms for Qualifying Facilities at 75, *In the Matter of Biennial Determination of Avoided Cost Rates for Electric Utility Purchases from Qualifying Facilities – 2016*, Docket No. E-100, Sub 148 (N.C.U.C. Oct. 11, 2017), <https://starw1.ncuc.net/NCUC/ViewFile.aspx?Id=9b202168-0968-4338-9c64-70b5366ab109>.

⁵¹ Order Requiring Filing of Carbon Plan and Establishing Procedural Deadlines at 3, *In the Matter of Duke Energy Progress, LLC, and Duke Energy Carolinas, LLC, 2022 Biennial Integrated Resource Plans and Carbon Plan*, Docket No. E-100, Sub 179 (N.C.U.C. Nov. 19, 2021), <https://starw1.ncuc.net/NCUC/ViewFile.aspx?Id=12e88c31-1ed2-4581-85ab-2d396c780c1f>.

⁵² Duke Proposed Carbon Plan, App'x E at 39 (May 16, 2022), *In the Matter of Duke Energy Progress, LLC, and Duke Energy Carolinas, LLC, 2022 Biennial Integrated Resource Plans and Carbon Plan*, Docket No. E-100, Sub 179, <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=bad82411-63e7-4553-9c0c-18a8f671773d>.

⁵³ SACE Initial Comments 21 ("For example, even in January 2021, less than one year before natural gas prices would rise to more than \$5/mmbtu, the forward market was pricing natural gas at below \$3/mmbtu on average for 2021 and 2022, and at around \$2.50/mmbtu for 2023.").

practice, forward markets rely too heavily on conditions at the time the forecast is made and fail to accurately account for longer-term or structural dynamics.⁵⁴ While no forecast anticipated the current high gas prices, market fundamental forecasts were more accurate and adjusting the methodology to rely on them more heavily would produce more accurate outcomes and better protect customers from volatile natural gas commodity prices, which are ultimately passed through directly to customers under the fuel rider.

Accordingly, the Commission should require Duke to recalculate its avoided energy costs using the basic methodology applied by Dominion, i.e., “using 18 months of forward market prices, 18 months of blended prices,” before switching fully to fundamental forecasts,⁵⁵ and for those, it should average the Spring 2021 IHS and EIA 2021 Reference Case.⁵⁶ SACE recognizes the Commission’s desire to keep the methodology consistent between the avoided cost and IRP—or Carbon Plan—proceedings, but the methodology that Duke chose for its last IRP need not control in this proceeding. The Commission can and should adopt an accurate methodology in this proceeding and then apply it in the Carbon Plan proceeding.

⁵⁴ See, e.g., Testimony of John R. Hinton, Public Staff—North Carolina Utilities Commission at 33, *In the Matter of Biennial Determination of Avoided Cost Rates for Electric Utility Purchases from Qualifying Facilities – 2016*, Docket No. E-100, Sub 148 (N.C.U.C. 2017), <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?id=afe638f4-97b1-454e-b8f2-828df097de5f>.

⁵⁵ Dominion Initial Statement 7.

⁵⁶ In its proposed Carbon Plan, Duke relied on four market fundamental forecasts. Duke Proposed Carbon Plan, App’x E at 40 (May 16, 2022), *In the Matter of Duke Energy Progress, LLC, and Duke Energy Carolinas, LLC, 2022 Biennial Integrated Resource Plans and Carbon Plan*, Docket No. E-100, Sub 179, <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?id=bad82411-63e7-4553-9c0c-18a8f671773d>.

VIII. QFS CAN PROVIDE ANCILLARY SERVICES AND MUST BE COMPENSATED FOR DOING SO.

QFs can provide ancillary services now and could provide more with relatively minor upgrades. As CCEBA and NCSEA discussed in their Joint Initial Comments, QFs already provide certain ancillary services to Duke without compensation, principally in the form of reactive power.⁵⁷ QFs could provide additional ancillary services with relatively straightforward contract modifications and relatively minor upgrades; most inverters installed in the past five years have automatic generation control (AGC) capability, and activating those functions requires modest investment, on the order of \$10,000 per 5 MW QF.⁵⁸

QFs are entitled under PURPA to compensation for ancillary services provided. Under PURPA, a QF is entitled to compensation for the purchasing utility's avoided costs, meaning "the incremental costs to an electric utility of electric energy or capacity or both which, but for the purchase from the qualifying facility or qualifying facilities, such utility would generate itself or purchase from another source."⁵⁹ In Order No. 69, FERC determined that the rate for purchases from QFs should equal this amount,⁶⁰ and the U.S. Supreme Court upheld FERC's decision to require utilities to purchase from QFs at this "full" avoided cost rate in order to encourage development of QFs and reduce reliance on fossil fuels.⁶¹ FERC further explained that the purchase of "electric energy" under PURPA

⁵⁷ CCEBA and NCSEA Joint Initial Comments 7-9.

⁵⁸ *Id.* at 9-11.

⁵⁹ 18 C.F.R. § 292.101(b)(6); see 16 U.S.C. § 824a-3(d) (defining same); 16 U.S.C. § 824a-3(a) (purchase obligation); 18 C.F.R. § 292.304(b)(2) (setting rate at full avoided cost); G.S. § 62-156(b) (standard contract avoided cost rates).

⁶⁰ 45 Fed. Reg. 12214 (Order 69), <https://www.ferc.gov/sites/default/files/2020-04/order-69-and-erratum.pdf>; see 18 C.F.R. § 292.304(B)(2).

⁶¹ *Am. Paper Inst., Inc. v. Am. Elec. Power Serv. Corp.*, 461 U.S. 402, 417 (1983).

Section 210(a)(2)⁶² includes both energy and capacity and was intended to refer to “all of the costs associated with the provision of electric service.”⁶³

FERC’s decisions concerning QF participation in organized markets affirm the view that QFs are entitled to sell ancillary services. Under Order No. 888, utilities must provide two ancillary services—(i) Scheduling, System Control and Dispatch and (ii) Reactive Supply and Voltage Control from Generation Services—and must *offer* to provide four others—(i) Regulation and Frequency Response, (ii) Energy Imbalance, (iii) Operating Reserve—Spinning, and (iv) Operating Reserve—Supplemental.⁶⁴ Because a transmission provider is uniquely positioned to provide the first two ancillary services, a transmission customer must purchase them from the provider.⁶⁵ Although the other four “must be provided by someone if the system is to be operated reliably,” a transmission customer may decline to purchase them from the transmission provider if it can demonstrate that it has acquired them from another source.⁶⁶ In Order No. 888-A, FERC clarified that the other source may be a third party or they may be self-supplied.⁶⁷ And in Order No. 888-B, FERC further clarified that ancillary services as defined in Orders Nos. 888 and 888-A “are part of the cost of transmission and therefore are included

⁶² 16 U.S.C. § 824a-3(a)(2).

⁶³ 45 Fed. Reg. 12214, 12225, (Order No. 69), <https://www.ferc.gov/sites/default/files/2020-04/order-69-and-erratum.pdf>.

⁶⁴ Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities, 61 Fed. Reg. 21540-01, 21587-88 (Order No. 888), <https://www.govinfo.gov/content/pkg/FR-1996-05-10/pdf/96-10694.pdf>.

⁶⁵ *Id.* at 21587.

⁶⁶ *Id.*

⁶⁷ Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities, 62 Fed. Reg. 12274-01, 12309 (Order No. 888-A).

among the interconnection costs a QF is responsible for.”⁶⁸ Accordingly, a QF operating in an organized market, but lacking nondiscriminatory market access and therefore eligible to sell under PURPA’s purchase obligation, is entitled to compensation at the avoided cost rate for the energy and capacity that it provides and may choose to be compensated for providing ancillary services by self-supplying and avoiding the charge for optional ancillary services under the transmission provider’s Open Access Transmission Tariff (OATT). Furthermore, the QF could provide ancillary services to other customers as a third-party provider.

The NCUC has similarly declined to “agree that FERC’s regulations prohibit the approval of any rate or charge other than those offered for energy and capacity.”⁶⁹ Furthermore, the Commission indicated that a QF is entitled to compensation for ancillary services by repeatedly citing the benefits as well as costs of solar integration when the Commission approved the inclusion of the SISC as a decrement to avoided cost rates for solar. As the Commission explained, the provisions of 18 C.F.R. § 292.304(e) “not only allow but require the Commission to consider both the costs that the utility avoids by purchasing from a QF and the costs that the utility may incur, not otherwise accounted for, as a result of purchases from a QF.”⁷⁰ The Commission has twice explained that “it may be

⁶⁸ Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities, 62 Fed. Reg. 64688-01, 64697 (Order No. 888-B).

⁶⁹ Order Establishing Standard Rates and Contract Terms for Qualifying Facilities at 90 n. 4, *In the Matter of Biennial Determination of Avoided Cost Rates for Electric Utility Purchases from Qualifying Facilities – 2018*, Docket No. E-100, Sub 158 (N.C.U.C. Apr. 15, 2020), <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=eff66bdb-e96f-417f-a526-e88dc8d3a6d9>.

⁷⁰ *Id.* at 92.

appropriate for the Utilities to include the costs and benefits related to solar integration in their avoided cost calculations when both the costs and benefits have been sufficiently evaluated and reviewed by the Commission so that a reasonable level of accuracy has been attained.”⁷¹

Accordingly, FERC and NCUC affirm that under PURPA QFs are entitled to compensation for ancillary services they provide.

Duke’s arguments against compensating QFs for ancillary services are misguided. First, it argued that “QFs are already fully compensated for their capacity and energy output under the peaker method such that no additional compensation is appropriate under PURPA.”⁷² Duke relied on a footnote in a FERC order concerning wholesale markets for the proposition that “energy sold under PURPA ‘includes capacity, energy and ancillary services,’”⁷³ and appeared to conclude from this that the “energy” component of avoided cost rates already includes ancillary services. But this gets it backwards. The quoted footnote explains that when a QF sells “energy,” “[i]n the context of PURPA, the term energy includes capacity, energy and ancillary services.”⁷⁴ As discussed above, in Order No. 69 FERC explained that the word “energy” in PURPA includes both energy and capacity and was intended to refer to “all of the costs associated with the provision of electric service.”⁷⁵ Furthermore, Duke’s interpretation would mean

⁷¹ *Id.* (paraphrasing Sub 140 Order).

⁷² Duke Initial Statement 34.

⁷³ *Id.* at 37 (quoting Market-Based Rates for Wholesale Sales of Elec. Energy, Capacity & Ancillary Servs. by Pub. Utils., 123 FERC ¶ 61,055, n.869, 2008 FERC LEXIS 788, (Apr. 21, 2008)).

⁷⁴ Mkt.-Based Rates for Wholesale Sales of Elec. Energy, Capacity & Ancillary Servs. by Pub. Utilities, 123 FERC ¶ 61,055, 61,433 n.869 (2008) (Order 697-A).

⁷⁵ 45 Fed. Reg. 12214, 12225 (Order 69), <https://www.ferc.gov/sites/default/files/2020-04/order-69-and-erratum.pdf>.

that not just the value of ancillary services but also the value of capacity costs is inherently included in the “energy” sold by a QF, and there would be no need to calculate avoided capacity costs. Relatedly, Duke argued that its system does not need additional ancillary services, but this is in tension with the relatively high value it assigned to its ancillary services underlying the SISC—currently the best window into Duke’s opaque ancillary services value available—and in any case is separate from the legal question whether QFs are entitled to compensation for the ancillary services they do provide.

Second, Duke argued that, at this time, it does not have sufficient control over the dispatch of QFs to operate them in a way to provide ancillary services.⁷⁶ But that ignores the value of ancillary services that QFs already provide and, for additional ancillary services, would be easy to solve with limited investments and contract revisions. Moreover, H951 requires all new resources procured from third parties to be controllable and dispatchable in the same manner as if they were utility-owned resources.⁷⁷

Third, Duke argued that a QF would need to produce less than its maximum energy and capacity in order to be able to provide ancillary services.⁷⁸ Duke has not shown that this is necessarily true for all QFs and all ancillary services, but in any case, it is not a sound reason not to compensate QFs for ancillary services. Any trade-off could be resolved through creative contracts, such as the

⁷⁶ Duke Initial Statement 35.

⁷⁷ S.L. 2021-165, Part I, Section 2(b), <https://ncleg.gov/Sessions/2021/Bills/House/PDF/H951v6.pdf>.

⁷⁸ Duke Initial Statement 36.

“dispatchable PPA” proposed by First Solar in a prior proceeding or left to the business judgment of the owner or operator of the QF.

Fourth, Duke argued that QFs increase rather than decrease the need for ancillary services, as represented by the SISC.⁷⁹ But any need for increased ancillary services as a result of a solar QF’s generation already is captured by the SISC itself.

Accordingly, the Commission should find that QFs likely are providing ancillary services currently, likely could provide additional ancillary services after relatively simple and low-cost upgrades and contract revisions, and that QFs are entitled under PURPA to compensation for ancillary services provided. This legal conclusion does not *require* QFs to provide ancillary services, which should be at the QF’s option. The Commission should direct Duke and the Public Staff to convene a stakeholder process to assess the extent to which existing QFs, as well as new solar generators, can provide ancillary services to Duke, and the appropriate compensation structures for those services. The stakeholder process should also result in a recommendation whether to establish an ancillary services pilot and the parameters of the pilot.

IX. IT IS PREMATURE TO CONSIDER AN AVOIDED COST RATE FOR THE NET EXCESS ENERGY CREDIT UNDER NET ENERGY METERING.

The Commission should not consider an avoided cost rate for the Net Excess Energy Credit (NEEC) under the Joint Application for Approval of Revised Net Energy Metering Tariffs in Docket Nos. E-7, Sub 1214, E-2, Sub 1219, and E-2, Sub 1076 (NEM Tariffs) for procedural and substantive reasons.

⁷⁹ *Id.* at 36.

Procedurally, the issue is not ripe because the NEEC in Duke's NEM Proposal has not yet been adopted by the Commission. If the Commission denies Duke's NEM Proposal then the question will be moot. The Commission should not consider a question that is not yet ripe.⁸⁰

Substantively, requiring a revised avoided cost rate specifically for the NEEC is unnecessary and ill-advised because the added complexity, confusion, and administrative burden vastly outweighs any potential increase in accuracy. All rooftop solar represents only approximately 0.2% of generation in DEP, projected to grow to only approximately 1.7% by 2035,⁸¹ and approximately 0.2% in DEC, projected to grow to only approximately 1.9% by 2035,⁸² and the amount of rooftop solar generation receiving the NEEC will be only a fraction of even those amounts because a significant portion of rooftop solar energy is consumed behind the meter. The avoided cost payments that the owners of rooftop solar would receive for this small percentage of generation are inconsequential in the context of Duke's overall revenue requirement. At the same time, determining a precise avoided cost rate specific to the NEEC would require a detailed analysis of rooftop solar output and the investment of significant resources, and the additional complexity likely

⁸⁰ *State ex rel. Utilities Comm'n v. Pub. Staff-N. Carolina Utilities Comm'n*, 123 N.C. App. 43, 51 (1996) (holding that policy pronouncement with only prospective applicability had no bearing on case and therefore was not ripe for determination); see, e.g., Order Granting Petition in Part, *In the Matter of Petition for Approval of Revisions to Generator Interconnection Standards*, Docket No. E-100, Sub 101, 2021 WL 4794437, at *3 (N.C.U.C. Oct. 11, 2021) (declining to consider unripe issues).

⁸¹ DEP 2020 IRP at 230, Table C-10, *In the Matter of 2020 Biennial Integrated Resource Plans and Related 2020 REPS Compliance Plans*, Docket No. E-100, Sub 165, <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=425097c5-fe15-4925-b1b9-8712b8c5261b>.

⁸² DEC 2020 IRP at 239, Table C-10, *In the Matter of 2020 Biennial Integrated Resource Plans and Related 2020 REPS Compliance Plans*, Docket No. E-100, Sub 165, <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=9752b166-f870-4b0c-8469-8f791405d95c>.

would only confuse existing and potential rooftop solar customers, needlessly hindering an under-utilized clean-energy resource.

X. CONCLUSION

For the reasons described above, SACE respectfully requests that the Commission:

(1) reject Duke Energy's proposed use of a simple-cycle combustion turbine as the avoided capacity resource under the peaker method and direct Duke to recalculate its avoided cost rates using an aeroderivative gas turbine as the avoided resource;

(2) direct Duke to convene a stakeholder process to develop a consensus recommendation on replacing the peaker method, and consider holding a technical conference depending on the outcome of the stakeholder process;

(3) reject Duke's proposed Solar Integration Services Charge and require Duke to recalculate the SISC after correcting the issues identified in the Kirby SISC Report;

(4) direct Duke to convene an independent technical review committee to review any methodological changes in each SISC study in future biennial avoided cost proceedings;

(5) accept the Public Staff's recommendation to determine an avoided cost of carbon after the Carbon Plan is final, direct Duke and the Public Staff to convene a stakeholder process to develop a consensus approach to determining the avoided cost of carbon, and direct Duke to include that cost in its next initial biennial avoided cost filing;

(6) reject Duke's proposed natural gas price forecast methodology and direct it to recalculate its natural gas price forecast using 18 months of forward market prices, followed by 18 months of blended prices, before switching fully to fundamental forecasts, and for those, averaging the Spring 2021 IHS and EIA 2021 Reference Case forecasts;

(7) reject Duke's proposed omission of compensation for ancillary services provided by QFs, direct Duke to file within 180 days of the Commission's order a report detailing its costs to provide ancillary services, including whether and to what extent Duke compensates its own generators for the provision of reactive power, and the extent to which QFs are currently providing reactive power;

(8) direct Duke and the Public Staff to convene a stakeholder process immediately following submission of Duke's report on its costs to provide ancillary services, lasting no longer than 120 days, to assess the extent to which existing QFs, as well as new solar generators, can provide ancillary services to Duke, and the appropriate compensation structures for those services, resulting in a consensus recommendation to the Commission whether to establish an ancillary services pilot and the parameters of the pilot; and

(9) reject the Public Staff's proposal to require Duke to make a supplemental filing providing a recalculated annualized Net Excess Energy Credit (NEEC) rate under the Net Energy Metering Tariffs (NEM Tariffs), and fully vet any future proposed change in the methodology for assigning the value of avoided cost rates that would be specific to rooftop solar customers, ensuring that it properly accounts for the particular benefits of distributed rooftop solar generation.

Respectfully submitted, this 1st day of July, 2022.

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CERTIFICATE OF SERVICE

I hereby certify that all persons on the docket service list have been served true and accurate copies of the foregoing brief by electronic mail.

This the 1st day of July, 2022.

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