BEFORE THE NORTH CAROLINA UTILITIES COMMISSION
DOCKET NO. E-100, SUB 194

In the Matter of: Biennial Determination of Avoided Cost Rates for Electric Utility Purchases from Qualifying Facilities — 2023	**INITIAL COMMENTS OF CCEBA**

The Carolinas Clean Energy Business Association ("CCEBA"), pursuant to the Commission's August 7, 2023, *Order Establishing Biennial Proceeding, Requiring Data, and Scheduling Public Hearing*, and the Commission's February 6, 2024, *Order Granting Extension of Time to File Comments*, hereby submits these comments on the Joint Initial Statement and Proposed Standard Avoided Cost Rate Tariffs ("Joint Initial Statement"), filed by Duke Energy Carolinas, LLC ("DEC") and Duke Energy Progress, LLC ("DEP") (collectively, "Duke" or the "Companies"), on November 1, 2023 and the cover letter and updated exhibits filed by Duke on January 31, 2024.

I. COMMENTS

A. Gas Peaker Methodology

In its filing, Duke discusses its consideration of alternatives to the CT Gas Peaker methodology of determining avoided cost. Duke states, "In both North and South Carolina, the Companies have historically applied the 'peaker methodology' (the 'peaker method') to quantify each utility's avoided costs, and the Companies believe this method continues to be reasonable and appropriate for calculating DEC's and DEP's forecasted avoided costs as presented in this

proceeding." Joint Initial Statement and Proposed Standard Avoided Cost Rate Tariffs of Duke Energy Carolinas, LLC and Duke Energy Progress, LLC ("Joint Initial Statement") at 22, *In the Matter of Biennial Determination of Avoided Cost Rates for Electricity Utility Purchases from Qualifying Facilities – 2023 ("2023 Avoided Cost Docket")*, Docket No. E-100, Sub 194 (N.C.U.C. Nov. 1, 2023). Duke asserts that "the Companies have continued to utilize the current Commission-approved methodology for quantifying as-available energy delivered by a QF and have determined that it is not necessary to further update their PURPA implementation framework to adopt any of the methodologies identified in Order No. 872 for purposes of setting long-term fixed rates for avoided capacity and energy at this time." Joint Initial Statement at 14. Duke's position for this Avoided Cost proceeding is that "[c]ontinued use of the Commission-approved peaker method to calculate the Companies' forecasted avoided costs of capacity and energy is consistent with the Companies' current, standardized approach to calculating avoided costs under N.C.G.S. § 62-156(b) and (c) remains non-discriminatory to QFs and just and reasonable to the electric consumer and in the public interest at this time." *Id.*

As it has previously noted, *see* Joint Reply Comments of CCEBA and NCSEA at 9, Docket No. E-100, Sub 175 (N.C.U.C. Apr. 1, 2022), CCEBA maintains that the CT Peaker methodology is likely soon to be outdated, as more and more renewable energy and storage is integrated into the grid. In its Order Establishing Standard Rates and Contract Terms for Qualifying Facilities ("175 Order"), pp 11-15, *In the Matter of Biennial Determination of Avoided Cost Rates*

for Electricity Utility Purchases from Qualifying Facilities – 2021, Docket No. E-100, Sub 175 (N.C.U.C. Nov. 22, 2022), the Commission considered arguments regarding whether the CT peaker method was still the proper method for determining avoided costs. The Commission noted that "the Public Staff observes that the peaker methodology may not always be appropriate for use in developing avoided costs in North Carolina as the utilities pursue decarbonization and increase their reliance on generation from renewable resources." *Id.* at 12. The Commission also cited to comments filed by the Southern Alliance for Clean Energy ("SACE") and CCEBA/NCSEA arguing that "the Commission should begin to reconsider the appropriateness of the peaker method for avoided cost determinations because the peaker method does not accurately capture the marginal capacity cost of the changing electric system required by HB 951." *Id.* at 13.

While the 175 Order did not depart from the peaker method, the concerns of the Public Staff, CCEBA, SACE and NCSEA were noted and made their way into Duke's stated intentions for the 2023 avoided cost proceeding and the comments of Dominion Energy North Carolina ("DENC"). According to the Commission's Order, Duke noted that while compliance with House Bill 951 "will necessarily require high levels of renewable resources, it is unknown at this time what resources will be needed to produce a least cost plan." *Id.* DENC, the Commission reported, "asserts that the peaker method is appropriate for this proceeding but acknowledges that the Commission may need to consider additional factors or methods for determining avoided costs in the future." *Id.*

This Commission ultimately found in 2022 that "the peaker method remains a reasonable method by which to calculate avoided capacity costs *at this time*." *Id.* at 14 (emphasis added). But even in that approval, the Commission's final finding echoed many of the concerns of the intervenors in the case, particularly regarding the effect of the changing regulatory environment on the calculation of avoided costs:

> The Commission remains open to evaluating the avoided cost method in the future as long as any new or altered method meets PURPA's requirements. In light of the evolving landscape, including the soon to be adopted Carbon Plan that N.C.G.S. § 62-110.9 requires, *the Commission directs Duke, DENC, the Public Staff, and other parties to evaluate before the next biennial proceeding whether to propose an alternative method to calculate avoided costs*, including those FERC has recently determined to be reasonable and appropriate for calculating avoided costs in Order No. 872 and that are now included in 18 C.F.R. 292.304(b).

Id. at 14-15 (emphasis added).

CCEBA respectfully submits that in directing Duke, DENC, the Public Staff and other parties "to evaluate before the next biennial proceeding whether to propose an alternative method to calculate avoided costs," the Commission intended for more than a rote recitation of available alternatives and a quick dismissal. Nevertheless, that is what Duke appears to have provided. In the Joint Initial Statement, Duke lists the three non-exclusive potential methodologies identified in FERC Order No. 872 – Locational Marginal Price, Competitive Price, and Competitive Solicitation Price – and provides FERC's definition of each. However, Duke concludes with little analysis that "the Companies have determined that it is not necessary to further update their PURPA implementation framework to adopt any of the methodologies identified in Order No. 872 for

purposes of setting long-term fixed rates for avoided capacity or energy at this time." Joint Initial Statement at 14.

It is evident that a more directed effort should be made to address what many, including the Commission, have been noting for some time now: while the peaker method has the benefit of longstanding practice and familiarity, it has become decreasingly relevant in the changing energy landscape and today does not accurately reflect the actual costs that QFs enable Duke's system to avoid.

While in 2022 the Commission expressed caution about departing from the method before a Carbon Plan was developed, in 2024 a Carbon Plan has been approved and is pending update. It is clear from both the initial Carbon Plan and the proposals Duke has made for the 2024 update that significant quantities of renewable resources are needed and will be procured in the immediate future and that much of those will be purchased from third party providers through a competitive solicitation process. A full review and evaluation of alternatives to the peaker method, such as the Competitive Solicitation Price method, is therefore needed to incorporate information from Duke's Carbon Plans and the data gained from its resource solicitations to achieve its plans.

The Commission should therefore order Duke and DENC to undertake a process that will, in light of the changing energy and regulatory landscape, *fully* consider all alternatives to the peaker method and identify the most accurate method for calculating avoided costs going forward. An appropriate first step would be a stakeholder process in this docket with an order to report back to the Commission by a time certain. Alternatively, a technical conference or evidentiary

hearing would provide an opportunity for the Commission to receive information related to this issue from multiple sources. Regardless, this effort should be undertaken so that its results can actually be used in the next biennial avoided cost proceeding. Despite the clarity of the Commission's direction in the 175 Order, such full consideration did not occur prior to the filing of the Joint Initial Statement. A more direct requirement is necessary.

B. Ancillary Services

Properly valuing the ancillary services that can be provided by solar and other inverter-based resources requires a fulsome study of the potential of such resources to offer those services as they are integrated into the Duke grid. Pursuant to the Commission's instruction in the 175 Order, Duke undertook a limited study of these resources and produced the Duke Energy Carolinas, LLC's and Duke Energy Progress, LLC's Inverter Based Resources Testing Report ("IBR Report"), Docket No. E-100, Sub 175 (Aug. 1, 2023).

The limits of the study that produced the IBR report are well-described in the comments of NCSEA, which CCEBA joins. CCEBA notes that the conclusions of the IBR Report itself reflect the need for substantially more information before conclusions as to the ancillary services benefits of these resources can be drawn, and certainly before they can be valued at essentially zero, as Duke has proposed. The IBR Report states:

> Based on the short timeline (January – June 2023) to design and conduct the testing, additional testing with different, larger Duke-owned IBR resource types (standalone batteries and solar plus storage) could allow for design of the testing with plans to record more parameters for post testing data analytics to thoroughly evaluate the capabilities of IBRs to provide certain ancillary

> services. Additional testing would also allow for assessing the costs for the testing and the IBR design/modifications needed to provide the ancillary service. Duke Energy believes that further study and testing of different Duke-owned IBR resource types such as standalone batteries and solar plus storage, (resource types that will be significant in the future resource mix), will help determine whether a pilot program would be worthwhile.

IBR Report at 17.

CCEBA agrees that the study performed by Duke was too limited and substantially failed to address the actual performance over longer periods of these inverter-based resources. CCEBA therefore requests that the Commission direct Duke to conduct additional, comprehensive testing and to work with stakeholders to design the study, rather than relying on a limited and blinkered analysis of a few of its own resources.

C. Capacity Value of Solar

CCEBA notes with concern that the Joint Initial Statement and proposed avoided cost rates do not assign capacity value or provide for payments for capacity to new solar. This decision is apparently based on the results of the study by Astrapé Consulting attached as Exhibit 10 to the Joint Initial Statement ("Astrapé Study"). CCEBA directs the Commission's attention to two issues pertaining to the capacity value of solar resources.

First, Duke claims that its loss of load expectation ("LOLE") is concentrated entirely in winter and that, because of solar's limited capacity contribution during winter peaks, solar should receive no avoided capacity payments. However, Duke does not properly account for the capacity value of solar related to its synergistic effect with storage resources, including both battery

storage and pumped hydro storage. In fact, the study relied upon by Duke for its Effective Load Carrying Capacity ("ELCC") analysis[1] does not appear to even consider the synergistic capacity benefits between solar and pumped hydro capacity. At minimum, Duke should be required to update its ELCC analysis to account for this value. Further, to the extent that Duke does account for the synergistic capacity benefits between solar and storage, it should clarify its methodology and justification regarding the allocation of this capacity value to solar versus storage.

For more information on this concern, CCEBA recommends to the Commission the September 21, 2023 testimony of Tyler H. Norris during an *Ex Parte* briefing to the Public Service Commission of South Carolina, *Regarding the Allowable Ex Parte Communication Briefing by Conservation Voters of South Carolina (CVSC) on September 21, 2023, Concerning How Other States Have Reliably Integrated Renewable Energy Onto Their Grids* (Docket No.ND-2023-46-E) ("Norris Testimony").[2]

Furthermore, Duke's analysis ignores the distinct possibility that gas capacity added to meet winter peak demand cannot be run continuously during the many summer peak events if Duke is to achieve the required reductions in its

[1] https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=9713b7f8-ebc3-4b97-ac34-154d65df98cf

[2] Transcript of the testimony is available at https://dms.psc.sc.gov/Attachments/Matter/8d6287c2-5c27-4cf2-9a8c-9c967641d558. Mr. Norris's testimony begins at page 11 and continues through page 70. His presentation slides may be reviewed at https://dms.psc.sc.gov/Attachments/Matter/ca573211-bb5f-4117-ac93-84f2c80e1619 ("Norris Slides").

carbon emissions. Duke should be required to demonstrate that solar QFs do not contribute to reducing LOLE in a carbon-constrained operating environment.

Second, CCEBA notes Duke's filing does not appear to provide capacity payments for existing QFs (primarily < 5 MW standard offer QFs) that execute new PPAs following the expiration of their existing PPAs. In other words, Duke does not appear to consider the expiration of existing QF PPAs as creating a capacity need that may be met by QFs that recontract under new PPAs. As those projects reach the end of their contractual tenor in the next several years, it can be assumed that the capacity value they provide will need to be replaced, either through the recontracting of those facilities or through the addition of new solar resources.

Duke's Joint Statement is unclear as to how it has modeled the replacement of those resources and how it intends to compensate for that capacity resource. For the purposes of its Carbon Plan, CCEBA believes that Duke has assumed that these facilities will renew their PPAs and continue contributing carbon-free energy to the system. If Duke is making that assumption, then the continued operation of such facilities will clearly be avoiding the need for additional capacity and should therefore receive avoided capacity payments. If Duke disagrees, it should be required to explain how LOLE in summer months would not increase were these facilities to cease operation.

D. Performance adjustment Factor for Gas Resources

In considering the capacity value of gas resources, Duke assigns a Weighted Equivalent Unplanned Outage Factor associated with each utility's

fleet. In Duke's proposal this factor is 4.8% for DEC and 6.5% for DEP, reflecting an assumption that a gas unit would have an outage rate approximating that percentage and reflecting an ELCC of over 90%. It is not clear from the filing whether Duke has incorporated its experience in the outages during Winter Storm Elliot in December 2022, during which gas supply and CT performance fell well below expectations, into this analysis. CCEBA suggests that Duke should reevaluate this value and assume a lower ELCC for such units during winter events, as other utilities such as PJM have recently done.[3]

E. Discontinuation of Battery ESS Retrofit Option

Finally, CCEBA opposes Duke's proposed discontinuation of the predetermined ESS Retrofit Rates after November 1, 2023. Joint Initial Statement at 44. CCEBA agrees with NCSEA that it is too early to determine whether QFs will seek to capitalize on the opportunity provided by these rates, particularly in light of the confluence of macroeconomic factors that have affected the energy and storage market since the ESS Retrofit Option was put in place in the E-100 Sub 175 Docket in 2022.

II. CONCLUSION

CCEBA respectfully requests that the Commission consider these initial comments in this proceeding.

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[3] *See, e.g.*, PJM - Update on Reliability Risk Modeling, CIFP-Resource Modeling, July 17, 2023, at slide 8, available at: https://pjm.com/-/media/committees-groups/cifp-ra/2023/20230717/20230717-item-03---reliability-risk-modeling---july-update-v2-copy.ashx (Estimating revised ELCC of 63% for Gas CT units during wintertime).

Respectfully submitted, this 21st day of February 2024.

CAROLINAS CLEAN ENERGY BUSINESS ASSOCIATION

By: /s/ John D. Burns

John D. Burns
General Counsel
NC Bar No. 24152
811 Ninth Street
Suite 120-158
Durham, NC 27705
(919) 306-6906
counsel@carolinasceba.com

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

This, the 21st day of February 2024.

/s/ John D. Burns
John D. Burns
General Counsel
NC Bar No. 24152
811 Ninth Street
Suite 120-158
Durham, NC 27705
(919) 306-6906
counsel@carolinasceba.com