

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-2, SUB 1297

DOCKET NO. E-7, SUB 1268

In the Matter of:

Duke Energy Progress, LLC, and

Duke Energy Carolinas, LLC,

2022 Solar Procurement Pursuant to

Session Law 2021-165, Section 2(c)

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INITIAL COMMENTS OF THE
SOUTHERN ALLIANCE FOR
CLEAN ENERGY, SIERRA CLUB,
AND NATURAL RESOURCES
DEFENSE COUNCIL

Pursuant to the *Order Opening Separate Dockets and Establishing Procedural Deadlines* issued by the North Carolina Utilities Commission (“Commission”) on March 11, 2022, intervenors Southern Alliance for Clean Energy, the Sierra Club, and the Natural Resources Defense Council (collectively, “SACE, et al.”) respectfully submit these Initial Comments on the Petition for Authorization of 2022 Solar Procurement Program (“Petition”) filed by Duke Energy Carolinas, LLC (“DEC”) and Duke Energy Progress, Inc. (“DEP”) (collectively, “Duke Energy” or “Duke”).

I. INTRODUCTION

House Bill 951 (“HB 951”), now Session Law 2021-165, directs the Commission to “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.”¹ To accomplish this, the law also directs the Commission to develop a

¹ Session Law 2021-165, Part I, Section 1,
<https://www.ncleg.gov/Sessions/2021/Bills/House/PDF/H951v6.pdf>.

Carbon Plan by the end of this year that will ensure that Duke achieves that carbon-reduction mandate.²

The carbon-reduction mandate also will guide solar procurement in 2022 under Session Law 2021-165. The law eliminated the Commission's authority to determine whether to offer additional tranches of procurement under the Competitive Procurement of Renewable Energy ("CPRE") program and instead authorized the Commission "to direct the procurement of solar energy facilities in 2022 by the electric public utilities if, after stakeholder participation and review of preliminary analysis developed in preparation of the initial Carbon Plan, the Commission finds that such solar energy facilities will be needed" in order to achieve the law's carbon-reduction mandate.³

A. Expedited Consideration

SACE, et al. support Duke's request for expedited consideration. As discussed in Duke's Petition and further below, meeting the carbon-reduction mandate in Session Law 2021-165 undoubtedly will require a large volume of new solar resources to come online before 2030. Procurement to meet the 2030 target cannot be back-loaded into the later years between now and 2030 or it simply will not be possible to interconnect the projects in time. Furthermore, from a climate-change perspective, it is cumulative emissions more than annual emissions that heat the planet, meaning reducing emissions early and maintaining the reductions over time results in lower cumulative emissions and is more valuable to mitigating climate change.

Practically, as discussed in Duke's Petition, the 2022 procurement must begin early enough for projects to be considered in the 2022 Definitive Interconnection System Impact

² Session Law 2021-165, Part I, Section 1.(1).

³ Session Law 2021-165, Part I, Section 2.(c).

Study (“DISIS”) cluster. Because Duke estimates that a project procured in 2022 likely will not come online until 2026 at the earliest, under the current interconnection process, all of the new solar required to meet the 2030 carbon-reduction target must be procured in as few as four procurement windows:

Procurement Year	Anticipated Year of Interconnection
2022	2026
2023	2027
2024	2028
2025	2029

Failing to procure substantial new solar in 2022 would force procurement of the new solar necessary to meet the target into as few as three procurement windows, which could exceed interconnection capabilities and make meeting the 2030 carbon-reduction target impossible. Taking “all reasonable steps” to meet that target requires ensuring a substantial procurement in 2022 to avoid that outcome.

B. Stakeholder Engagement

As reviewed in its petition, Duke convened three stakeholder meetings across January and February, and there was strong stakeholder interest. Petition 5-6. Following the first meeting, SACE, et al. jointly with the North Carolina Sustainable Energy Association (“NCSEA”) and the Carolinas Clean Energy Business Association (“CCEBA”) submitted a letter to Duke responding to questions posed to stakeholders in its presentation slides, attached as **Attachment 1**. The topics addressed in the letter included the scope of the responsibilities of the independent evaluator, whether there should be a predetermined cost cap, and the target megawatt (“MW”) quantity to be procured, among others.

SACE, et al. value the opportunity to offer their input and believe that the stakeholder process improved the Petition that Duke ultimately filed. As discussed below, SACE, et al. believe that the Petition is on the right track but should be improved further, consistently with the recommendations in the stakeholder letter that SACE, et al. and NCSEA and CCEBA submitted.

II. RECOMMENDED IMPROVEMENTS TO DUKE'S PETITION

SACE, et al. primarily recommend increasing the minimum amount of solar to be procured in 2022 from 700 MW as proposed in the Petition to 1,150 MW.⁴ SACE, et al. also offer subsidiary recommendations concerning the advisability of a cost cap and related issues.

A. The Minimum Procurement Volume Should be 1,150 MW.

To explain this recommendation, SACE, et al. first offer their understanding of the 700 MW minimum proposed in Duke's Petition. The basis for the 700 MW figure is Duke's preliminary analysis for the Carbon Plan, which in turn is largely based upon Duke's most recent IRPs. Petition 7. The IRP portfolios that achieve the H951 carbon-reduction mandate of 70% below 2005 levels by 2030 both require at least 4,575 MW of new solar by 2030. Petition 9. Spread evenly across for procurement windows, 4,575 MW would require 1,143.75 MW per window. Duke does not explain how it arrived at a minimum 2022 procurement of 700 MW from 4,575 MW.⁵ See Petition 9 (stating IRPs indicate need for at least 700 MW online in 2026).

⁴ As discussed in the section that follows, SACE, et al. advocated for a much higher target (not minimum) procurement amount in the stakeholder letter submitted to Duke, attached as **Attachment 1**.

⁵ Duke suggests that stakeholders agreed to the 700 MW figure, Petition 17, but SACE, et al. do not recall this agreement and advocated in their stakeholder letter for 2022 procurement of 2,250 MW, based on multiple analyses, including Duke's IRPs, indicating that at least 9 GW of new solar would be required to meet the 2030 carbon-reduction target. See Petition 14 (recognizing stakeholder advocacy for "more robust procurement volume" based on need to meet 2030 target).

SACE, et al., recognize that Duke proposes 700 MW as a *minimum* 2022 procurement amount, and that Duke proposes to establish the final procurement amount in its initial draft Carbon Plan to be filed May 16. *See* Petition 12, 14. SACE, et al. also recognize that the 700 MW minimum is designed to “encourage robust market participant response” to the 2022 solar procurement request for proposals. Petition 17. This is consistent with the recommendation that SACE, et al., NCSEA, and CCEBA made in their stakeholder letter to establish a procurement target before the bid solicitation in order to signal to market participants that it will be worth spending resources on bidding, which will result in more participation and more competitive bids. SACE, et al. appreciate Duke’s receptivity to this point and understand that 700 MW may be approximately the minimum volume for a solicitation to encourage robust participation.

However, even as a minimum, 700 MW is too low in light of the procurement needed to reach the 2030 target. First, Duke’s IRPs indicated that 12,325 MW of new solar would be needed by 2035 to meet the 2030 target: both of the portfolios that achieve a 70% reduction in carbon emissions by 2030 required 16,250 MW of total solar, which is 12,325 MW more than the then-projected 3,925 MW of solar online by 2020, and each of those portfolios relies heavily on a technology that could experience procurement delays (offshore wind) or might not become commercially available within the relevant timeframe (small modular nuclear reactors).⁶ The IRP analyses strongly suggested a need for at least approximately 9 GW by 2030, as did multiple other analyses.⁷ Duke now has 6,800 MW

⁶ DEC 2020 IRP 16, <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=9752b166-f870-4b0c-8469-8f791405d95c>.

⁷ Rachel Wilson, et al., Synapse Energy Economics, Inc., Clean, Affordable, and Reliable: A Plan for Duke Energy’s Future in the Carolinas (2021), Docket No. E-100, Sub 165, <https://starw1.ncuc.net/NCUC/ViewFile.aspx?Id=be90482d-7f8e-4949-babc-c23d33c6d4c5>; Michael

of solar online, Petition 9, indicating a need for 9,450 MW by 2035. This suggests that Duke's estimate of 4,575 MW of new solar by 2030 is too low. Duke's proposal would leave procurement of the remaining 4,875 MW, more than half of the additional new solar needed (by 2035) to meet the 2030 target, in the out years 2030-2034, at more than 1,200 MW per year.

Second, even assuming that the 4,575 MW figure provided in Duke's Petition is correct (for the purpose of the preliminary analysis based on Duke's IRPs), a 700 MW minimum is low. If procurement in 2022 is 700 MW, that leaves 3,875 MW for the last three procurement windows before 2030, requiring just shy of 1,300 MW per year. It would not be wise to back-load procurement in this way, potentially increasing the risk of interconnection problems. In addition, although 700 MW might be approximately the minimum solicitation size to elicit robust participation, the relationship between solicitation size participation does not end at that threshold and a larger solicitation can be expected to elicit more participation and even more competitive bids. This will be particularly important assuming the Commission authorizes Duke's proposal to adjust the final target procurement amount in response to bid price. *See* Petition 16. A larger minimum procurement should receive more bids, and more-competitive bids, resulting in a larger procurement in 2022 and a lower-cost path to the 2030 target.

Accordingly, SACE, et al. recommend a minimum of one fourth of the total amount of new solar that Duke estimates it will need to meet the 2030 target, or 1,150 MW (rounding 4,575 to 4,600). Establishing this minimum procurement volume would be a

Hagerty, et al., The Brattle Group, Inc., A Pathway to Decarbonization: Generation Cost & Emissions Impact of Proposed NC Energy Legislation (2021), https://www.brattle.com/wp-content/uploads/2021/09/A-Pathway-to-Decarbonization-Generation-Cost-and-Emissions-Impact-of-Proposed-NC-Energy-Legislation_Revised-September-2021.pdf.

“reasonable step” to reaching the 2030 target, rather than allowing a minimum far lower than the volume needed and counting on making up the difference in the latter three years.

B. The Final Procurement Volume Should Be Based on the 2030 Target.

SACE, et al. also have concerns with Duke’s proposed method of finalizing the procurement volume. *See* Petition 15-17. As proposed, after establishing the minimum procurement volume, Duke will establish the final “Carbon Plan-informed” target volume. Petition 14. The final “Carbon Plan-informed” procurement volume we will be based entirely on Duke’s initial draft Carbon Plan filed on May 16. Petition 12.

SACE, et al. are concerned that this procurement volume will be based on an initial version of the Carbon Plan that has not had the benefit of stakeholder review, currently scheduled for the sixty days following filing in Docket No. E-100, Sub 179 (plus public hearings). Although SACE, et al. greatly value the stakeholder process that Duke and Great Plains Institute have convened under the Commission’s direction to discuss Duke’s creation of its draft Carbon Plan, SACE, et al. have not had sufficient access to Duke’s inputs and assumptions to fully understand the forthcoming draft Carbon Plan and have expressed a number of serious concerns about Duke’s plans. Although timing likely requires basing the volume of the 2022 solar procurement on Duke’s draft Carbon Plan, these concerns reinforce the importance of establishing a robust minimum volume as discussed above.

SACE, et al. also are concerned about Duke’s proposal to adjust the final 2022 solar procurement amount in response to bid prices. Duke proposed to “adjust the target volume downward or upwards by up to 20% depending on the competitiveness of bids submitted into the 2022 SP RFP,” based on the price of the most competitive solar portfolio bid as compared to Duke’s reference cost. Petition 15-16. Duke proposed to adjust by “as much

as twenty percent,” subject to the minimum discussed above, if the price varies by 10% or more. Petition 16.

There are three main problems with this proposal. First, it is in tension with Session Law 2021-165, which requires the Commission to chart the least-cost path to the 2030 and 2050 targets but does not establish a cost cap on pathways.⁸ To be clear, Duke does not propose to eliminate necessary solar procurement if it exceeds the proposed cost cap; it proposes “deferring some of the modeled procurement volume to the future.” Petition 16. But this relies on the assumption that the cost of solar will be lower in later years. Although SACE, et al. expect the solar cost declines to continue, that is not guaranteed. Nor is cost decline a justification to delay procurement to later years—a principle that could justify delaying all procurement of technologies that decline in cost over time indefinitely—when interconnection delays and cumulative carbon reductions require early procurement.

Second, Duke has proposed to apply this cost cap only to solar and not to other technologies. Technologies should be treated equivalently in this regard and a technology-specific price cap for solar should not artificially limit solar or reshuffle the optimal resource mix identified in the final Carbon Plan.

Third, Duke’s proposal relies on the assumption that Duke will have a very accurate forecast of solar prices. That is not a safe assumption; forecasts are never perfectly accurate and cost forecasts for renewable resources historically have been particularly inaccurate.⁹ If Duke’s forecast price is unreasonably low it could result in procuring less solar in 2022

⁸ See Session Law 2021-165, Part 1, Section 1.

⁹ See Partial Initial Comments of Southern Alliance for Clean Energy, Sierra Club, and Natural Resources Defense Council, Docket No. E-100, Sub 165 (March 1, 2021), Attachment 6, John Wilson, Resource Insight, Inc., Implementing All-Source Procurement in the Carolinas (2021) (at PDF pp.340-99), <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=21b6adcf-4004-4bd4-9750-0525657d4fe6>.

than should be procured to reach the 2030 target even if the bids that Duke receives are at or even below reasonable market prices at the time of the solicitation.

Accordingly, SACE, et al. recommend basing the final procurement volume directly on the amount of new solar resources needed to meet the 2030 target as demonstrated, for the purpose of this procurement, in Duke's draft Carbon Plan after stakeholders have had the opportunity to review and comment on the Carbon Plan including the final procurement volume. Alternatively, if the Commission decides to adopt Duke's volume-adjustment proposal, SACE, et al. recommend at a minimum requiring Duke to produce its solar cost forecast for review and comment prior to finalizing the 2022 procurement volume.

CONCLUSION

SACE, et al. thank the Commission for considering these Initial Comments, encourage raising the minimum procurement amount to 1,150 MW, and look forward to a robust 2022 solar procurement.

Respectfully submitted this the 28th day of March, 2022.

/s/ Nick Jimenez
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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 filing 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 28th day of March, 2022.

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ATTACHMENT 1

February 4, 2022

Via E-Mail

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Re: HB951 2022 Solar Procurement—Responses to Questions Posed in Stakeholder Meeting 1

Dear Ms. Dulin,

The North Carolina Sustainable Energy Association (“NCSEA”), the Carolinas Clean Energy Business Association (“CCEBA”), and the Southern Environmental Law Center on behalf of the Southern Alliance for Clean Energy, the Sierra Club, and the Natural Resources Defense Council (collectively, “Commenters”) submit the following responses to the questions that Duke Energy posed to stakeholders during the first stakeholder meeting on the 2022 solar procurement under HB951.

1. Scope of independent evaluator (“IE”) responsibilities: Do stakeholders have feedback on IEs for Duke to consider? (Slide 13)

Commenters generally believe that an independent administrator (“IA”) offers important advantages over an independent evaluator for competitive procurement, and believe that given the Independent Administrator’s successful administration of three tranches of the Competitive Procurement of Renewable Energy (“CPRE”) program it likely could administer the 2022 solar procurement efficiently. Commenters recommend that Duke Energy inquire with the CPRE IA and present the IA’s response to the Commission. If after investigation that efficiency proves unlikely, Commenters may support Duke Energy’s proposal to use an independent evaluator given the very limited time to complete the 2022 solar procurement. The selection of an IA or IE should be overseen and approved by the Commission.

Commenters support the proposed scope of the IE’s responsibilities as a starting point. Recognizing that the proposed scope of responsibilities is simplified for presentation on a slide, more detail will be required in order to ensure clear roles, transparency, and no perception of undue preference between market participants. Commenters would be happy to work with Duke Energy on a more detailed version. Given the success of the Competitive Procurement of Renewable Energy process, the scope of work for the IA is a logical starting point, subtracting roles that Duke Energy would fill instead under an IE structure.

Because the procurement is a result of state law and will be needed to meet the carbon-reduction goals in HB951, Commenters believe that the cost of an IA or IE should not necessarily be borne by bidders.

2. PPAs and Asset Acquisition: Should bidders be allowed/required to submit the same project for both a PPA and asset acquisition? (Slide 14)

Bidders should be allowed but not required to do this.

3. Selection of Least Cost Resources: Do stakeholders believe a pre-determined cost cap is necessary for a March filing? (Slide 15)

HB951 requires selecting the least-cost path to its carbon-reduction goals, but it does not include a cost cap on the resources procured under the law. In particular, HB951 does not support limiting costs to the utilities administratively determined Public Utilities Regulatory Policies Act (“PURPA”) avoided cost rate. That rate is determined by the costs that the utility avoids by procuring generation from a qualifying facility under PURPA, whereas the 2022 solar procurement is authorized under HB951 and intended to serve the state carbon-reduction goals under that law and the forthcoming Carbon Plan.

Commenters take no position at this time whether a different cost cap or benchmark could be appropriate or how it would be measured. Commenters believe any cost cap or benchmark should reflect the purpose of HB951 and its carbon-reduction mandate.

4. Target MW Quantity: (Slide 16)

- a. Duke supports a single, system-wide procurement. Do stakeholders agree?

Because the grid is constrained in certain parts of the state and the 2022 solar procurement needs to be large and to begin very soon, Commenters agree that a system-wide procurement across both DEC and DEP makes sense in this case.

- b. Is there a need to determine a target quantity before Carbon Plan modeling is complete? When is a target quantity needed?

Yes. Interconnection requests for the first annual Definitive Interconnection System Impact Study (DISIS) cluster are due June 29. Duke Energy’s draft Carbon Plan is not due until May 16, the Public Staff and intervenors have until July 15 to file comments on Duke Energy’s plan and alternative plans, and the Commission will schedule at least three public witness hearings after Duke Energy files its plan. As a result, the Carbon Plan likely will not be final until late in the year, much too late for the final plan to be the guide for the 2022 solar procurement. Further, HB951 itself directs that the procurement be based on “preliminary analysis” for the Carbon Plan. And as Duke Energy recognized in its motion for an extension of time for the Carbon Plan, the Commission’s assessment of a 2022 solar procurement pursuant to Section 2.(c) of S.L. 2021-165 will appropriately occur along an earlier timeline than the Commission’s consideration of the Carbon Plan.

A target quantity should be established prior to and included in the bid solicitation, for at least three reasons. First, independent power producers considering bidding are able to make more accurate assessments when the size of a procurement is announced in advance. Second, potential bidders are more likely to invest the time and money involved in making a bid when they know the size of the procurement and therefore have a better sense of the likelihood of being selected. Third, largely as a result of these facts, a procurement is likely to attract more bids when the target is announced in advance. Accordingly, the size of the procurement will affect the number of bids received, which in turn will affect the level of competition and the prices of bids received.

The procurement should be at least 2,250 MW. Multiple analyses, including Duke Energy's own IRPs, indicate that North Carolina will need to procure at least 9GW of solar in order to meet the 2030 carbon-reduction goal in HB951. Dividing this minimum figure by the four annual DISIS clusters that Duke Energy believes "could realistically be used to procure solar that could be placed in service by 2030" (slide 9) yields 2,250 MW per year. Commenters believe this is a reasonable target, and believe that a lower 2022 procurement will cause complications in later years.

Procurement to meet the 2030 carbon-reduction goal cannot be back-loaded into the later years between now and 2030 or it simply will not be possible to interconnect the projects in time. As the slides from the first Carbon Plan stakeholder meeting showed, between now and 2030 Duke Energy anticipates being able to interconnect a maximum of 750MW per year, absent proactive transmission planning. Commenters support exploring proactive, transparent, and cooperative transmission planning and would look forward to working with Duke Energy on the subject.

Finally, from a climate-change perspective, it is cumulative emissions more than annual emissions that heat the planet. Reducing emissions early and maintaining the reductions over time results in lower cumulative emissions and is more valuable to mitigating climate change. Accordingly, if anything, Duke Energy should front-load procurement of zero-emission resources, and doing so is consistent with the purpose of HB951.

5. PPA Contract Term: (Slide 17)

- a. Is a 20 year contract term still appropriate?

Yes.

- b. Should the RFP allow bids of 15, 20, and 25 year contract term lengths?

Commenters support maintaining 20-year contract term lengths. This will improve the financeability of projects, which will improve bids, and will make comparison across bids much easier. Allowing bids for different contract term lengths in future procurements could provide valuable information for comparison; however, it would be inappropriate for this urgent procurement.

6. Network Upgrades: How are upgrades funded? (Slide 18)

The cost of network upgrades should be handled the same for the 2022 solar procurement as they are for CPRE. Different arrangements might be appropriate in the future, such as under proactive transmission planning.

Thank you for considering these responses. Please do not hesitate to contact the undersigned with any questions.

Best regards,

/s/ Nick Jimenez

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