



Fox Rothschild ^{LLP}
ATTORNEYS AT LAW

Tel (919) 755-8700

Fax (919) 755-8800

www.foxrothschild.com

BENJAMIN L. SNOWDEN

Direct No: 919.719-1257

Email: BSnowden@foxrothschild.com

March 28, 2022

Ms. A. Shonta Dunston
Chief Clerk
North Carolina Utilities Commission
430 N. Salisbury Street
Raleigh, NC 27603

**RE: *In the matter of Duke Energy Progress, LLC and Duke Energy Carolinas, LLC
2022 Biennial Integrated Resource Plans and Carbon Plan and
2022 Solar Procurement Pursuant to Session Law 2021-165, Section 2(c)
NCUC Dockets E-2, Sub 1297 and E-7, Sub 1268
Comments of the Clean Power Suppliers Association and the Carolinas Clean
Energy Business Association on 2022 Solar Procurement Proposal***

Dear Ms. Dunston:

Pursuant to the Commission's March 11, 2022 Order Opening Separate Dockets and Establishing Procedural Deadlines, Clean Power Suppliers Association and Carolinas Clean Energy Business Association herewith provide Comments on the 2022 Solar Procurement Proposal in the above referenced dockets.

Should you have any questions concerning this request, please do not hesitate to contact me.

Sincerely,

/s/ Benjamin L. Snowden

Benjamin L. Snowden

pbb

A Pennsylvania Limited Liability Partnership

California Colorado Delaware District of Columbia Florida Georgia Illinois Minnesota
Nevada New Jersey New York North Carolina Pennsylvania South Carolina Texas Washington

**STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH**

DOCKET NO. E-2, SUB 1297
DOCKET NO. E-7, SUB 1268

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of)	
)	
Duke Energy Progress, LLC and)	
Duke Energy Carolinas, LLC 2022)	
Biennial Integrated Resource Plans)	
and Carbon Plan)	COMMENTS OF THE CLEAN POWER
)	SUPPLIERS ASSOCIATION AND THE
And)	CAROLINAS CLEAN ENERGY
)	BUSINESS ASSOCIATION ON 2022
In the Matter of)	SOLAR PROCUREMENT PROPOSAL
Duke Energy Progress, LLC and)	
Duke Energy Carolinas, LLC 2022)	
Solar Procurement Pursuant to)	
Session Law 2021-165, Section 2(c))	

NOW COME proposed Intervenor Clean Power Suppliers Association (“CPSA”) and the Carolinas Clean Energy Business Association (“CCEBA”) pursuant to the North Carolina Utilities Commission’s (“Commission”) March 11, 2022 Order Opening Separate Dockets and Establishing Procedural Deadlines, and file these Comments in response to the Petition of Duke Energy Progress, LLC and Duke Energy Carolinas, LLC (collectively, “Duke”) for Authorization of 2022 Solar Procurement Program (“Petition”), filed in these dockets on March 14, 2022.

CPSA and CCEBA appreciate the active engagement of Duke and other stakeholders in establishing a proposed structure and framework for a 2022 procurement of solar resources (“2022 SP”), as authorized by H.B. 951. CPSA and CCEBA agree with Duke and other stakeholders that conducting a procurement of solar in 2022 is essential if Duke is to meet the 2030 carbon reduction mandate established by H.B. 951. As noted further below, CPSA and CCEBA agree with most

OFFICIAL COPY

Mar 28 2022

aspects of Duke's proposed program for the 2022 SP ("2022 SP Program"), as described in the Petition. However, CPSA and CCEBA also believe that there are important aspects of the 2022 SP Program that the Commission should modify in granting Duke's Petition.

A. Need for a 2022 Procurement

CPSA and CCEBA agree with the general consensus among stakeholders that a procurement of solar resources in 2022 will be needed to achieve the 2030 carbon reduction mandated by H.B. 951.¹ Achieving these goals will require large additions of carbon-free generation to Duke's system by the end of 2029. Solar photovoltaic facilities represent the most cost-effective and widely available generating resource available to meet that requirement. As discussed further below, achieving 2030 compliance will require adding between 4,500 and 9,000 megawatts (MW) of installed solar capacity, depending on the availability and cost of other carbon free electricity generation options. Including the 2022 SP, Duke has at most four opportunities to procure solar for 2030 compliance. It is imperative that Duke procure a significant amount of solar in 2022 if it is to have any hope of achieving 2030 compliance.

B. 2022 Procurement volume

It is critical that the 2022 SP procure a sufficient volume of solar to put Duke on the path to achieving 70% carbon reduction by 2030. CPSA and CCEBA agree with Duke's proposal to base the volume of the 2022 SP on the proposed Carbon Plan, subject to approval by the Commission in an Order that may be issued prior to a final order on the Carbon Plan. That being said, CPSA and CCEBA take issue with several aspects the Petition relating to the volume of the 2022 SP.

¹ Although the Carbon Plan will presumably reflect a variety of carbon-free resource additions, Section 2.(c) of H.B. 951 authorizes the procurement only of solar resources in 2022.

As an initial matter, CPSA and CCEBA wish to clarify the basis for the 700 MW minimum volume for the 2022 SP presented in the Petition. Duke suggests that this number is derived from its Carbon Plan modeling and claims that the “initial minimum target volume seeks to strike the right balance between opportunity and risk by procuring a target volume that should be achievable in today’s market at a reasonable cost to customers based upon the best information available today.” Pet. at 8. However, Duke has not attempted to justify the 700 MW minimum procurement (either in the stakeholder process or in its Petition) by reference to market conditions, availability, or “reasonable cost.” There is no basis for the claim that this amount represents any “balance” of factors. Rather, the 700 MW minimum volume was presented in the stakeholder process as the minimum procurement necessary to justify the administrative expense of running a procurement, and to ensure robust participation by bidders. Although it is true that any plausible pathway to H.B. 951 compliance will require procuring at least 700 MW of solar in 2022, a much larger procurement is likely to be needed. There are a few reasons for this.

Duke suggests that it may be able to achieve 2030 compliance with a minimum of 4,500 MW of additional solar on its system. Pet. at 9. It also acknowledges that it will likely only have four DISIS clusters (and thus four procurements) in which to procure the solar resources necessary for 2030 compliance, due to the utility’s long construction timelines for System Upgrades. Pet. at 8.² With only four chances for procurement, it stands to reason that Duke should target a minimum procurement of at least 25% of the total amount needed. At only 15.6% of 4,500 MW, the proposed minimum of 700 MW would put Duke behind on compliance right from the start.

² In order to fully count for compliance with H.B. 951’s requirement to reduce carbon emissions in 2030 by 70%, new resources must come online by the end of 2029 (or in early 2030 at the latest).

Duke states that the target quantity for the 2022 SP, as informed by the Carbon Plan, will be set based on the amount of solar selected in the Carbon Plan to come online in 2026, because projects procured in the 2022 SP “are expected to come online in 2026 at the earliest,” Pet. at 14-15. However, given Duke’s statements that some projects selected in the 2022 procurement will come online after 2026 (and perhaps as late as 2028), Duke should also attempt to procure some portion of the solar selected by the Plan for 2027 and 2028 in the 2022 SP. Given this fact, Duke should be aiming to procure more, not less, than 25% of the total solar required for 2030 compliance in the 2022 SP.

In any event, the amount of solar required for 2030 compliance is likely to greatly exceed 4,500 MW. Duke’s Petition (on page 9) presents IRP scenarios suggesting that 4,575 MW of additional solar will be sufficient to achieve 2030 compliance, but these scenarios substantially understate the amount of solar that will actually be required. This is because the two portfolios achieving 70% carbon reduction (Portfolio D and Portfolio E) rely to a significant degree on non-solar resources that will not actually be available or cost effective for 2030 compliance. (The summary portfolios from Duke’s 2020 NC IRP are included in Attachment A.) Portfolio E relies on 1,350 MW of Small Modular Reactors (SMRs), which Duke has acknowledged will not be available for service until well after 2030, as well as 2,850 MW of offshore wind and 250 MW of onshore wind by 2035. Portfolio D (the “High Wind” scenario in Duke’s 2020 NC IRP) relies on 2,850 MW of offshore wind and 2,850 MW of onshore wind, a large portion of which Duke assumed to be online by 2035, not 2029. Duke has indicated in stakeholder meetings that this far exceeds the amount of offshore and onshore wind that it expects to be operational in time for 2030 compliance. Other than clean energy imports from out of state (which Duke has stated in stakeholder meetings are both risky and extremely costly), solar is the only significant carbon-free

resource than can make up the gap. Consequently, Duke's Carbon Plan modeling is likely to show that much more than 4,575 MW of solar will be needed to achieve 2030 compliance, meaning that far more than 700 MW will need to be procured in 2022.³

In addition, CPSA has conducted preliminary resource modeling, using modeling inputs and assumptions that attempt to match those used by Duke, to the extent they are known to stakeholders. This modeling, the results of which have been presented in the Carbon Plan stakeholder process, indicates that 9 GW of additional solar by 2030 will be required to meet the 70% decarbonization mandate. CPSA plans to conduct additional modeling to refine this projection as more information about Duke's modeling assumptions and inputs is shared with stakeholders.

Duke has stated in stakeholder meetings that the target volume for a 2022 SP to be presented in the Carbon Plan will be based in part on limitations on annual interconnections and has suggested that the 700 MW minimum volume is somehow calibrated to that limitation. Pet. at 15 ("The Companies . . . determined that targeting the 2026 forecasted solar quantity as the initial 2022 SP procurement target reasonably takes into consideration both the forecasted changing costs of solar over time and the Companies' forecasted annual interconnection capacity."). Although CPSA and CCEBA acknowledge that there are limitations on the amount of new generation that Duke can interconnect in a given year, Duke has not provided information or analysis to justify any particular limitation on annual interconnections, and so it is impossible at this point for stakeholders to evaluate these claims. It should also be noted that in assuming limitations on its ability to interconnect new generation in the early years of the Carbon Plan, Duke also assumes

³ It is of course possible that the Commission may approve a Carbon Plan calling for more (or earlier) solar resource additions than Duke's proposed plan.

that it will be able to interconnect an even larger amount of solar in later years. However, the Company has yet to share any plan or strategy for accomplishing this feat.

It should also be noted that in the absence of comprehensive, prospective transmission planning and construction (which CPSA strongly favors), the only way to identify and initiate the significant upgrades to Duke's transmission system that will be required to achieve H.B. 951 compliance is to select actual generation projects in a procurement process. Interconnection agreements for projects selected in the 2022 procurement may not actually be executed until early 2024 (unless DISIS timelines are accelerated), which means that construction on associated network upgrades will not begin until well after that and may not be completed until 2028 or later. Interconnection and upgrade costs have risen sharply over the last few years, and Duke does not disagree that this trend is likely to continue. An undersized solar procurement in 2022 will delay commencement of needed network upgrades and thereby significantly increasing their cost to ratepayers.

The Petition also claims that a more modest procurement in 2022 would be in the interest of ratepayers because solar prices are likely to fall over the next several years. Pet. at 15. While future prices cannot be predicted with precision, there are reasons to believe that all-in prices for solar projects may increase rather than decrease in the coming years, similar to other energy and infrastructure projects. The long-term decline in the cost of solar modules has been reversed in the past two years, primarily due to tariffs and supply chain constraints. And while the cost of some solar project components may decrease in coming years, other costs are likely to increase, including materials, labor, and land. It is also impossible to predict how tariffs and supply chain issues will affect pricing in the coming years. The cost of network upgrades, which can be expected to constitute a larger portion of total solar costs going forward, has increased 15-20% per

year in recent years and can be expected to continue to do so. Finally, if interest rates increase after 2022 as they are expected to, the cost of financing for all forms of energy infrastructure will rise. For these reasons, CPSA and CCEBA strongly believe that it is not prudent to bet that delaying solar procurement will result in lower costs for ratepayers.

C. Adjustment of procurement volume

CPSA and CCEBA support Duke's proposal to adjust the total volume of the 2022 SP based on the aggregate price of successful bids (in comparison to the prices assumed in Carbon Plan modeling), with one important modification. For purposes of volume adjustment, Duke proposes to combine Controllable PPA Track and Utility Ownership Track bids into a single weighted average cost. Pet. at 16. However, there is no basis for lumping these two very different categories of bids together for purposes of calculating a weighted average cost and doing so is likely to distort the proposed volume adjustment mechanism. Specifically, if the volume of procurement for all solar is adjusted based on the combined average price of PPA Track and Utility Ownership Track bids, and if the average price of Utility Ownership Track bids (which is determined, in part, by Duke) were to exceed the modeled price, this could result in a reduction in the volume of Controllable PPA Track procurement – even if the average price of PPA bids was lower than expected, such that the volume of PPA Track projects ought to be *increased*. The converse is also possible: higher-than-expected PPA bid prices result in lower procurement of Utility Ownership Track projects, even if Utility Ownership Track pricing was more favorable than expected. Either way, the volume adjustment would be distorted, and ratepayers could lose out on better-than-expected pricing.

To prevent such distortions, the weighted average prices of these two categories of bids should be calculated separately, and the volume of each category adjusted independently. If

independent adjustment resulted in a deviation from the 45/55% ownership split required by H.B. 951, this could easily be corrected in subsequent procurements.

D. Structure of the 2022 SP Program

CPSA and CCEBA are generally supportive of the structure of the 2022 SP Program proposed by Duke, including aligning it with the first DISIS cluster study. However, CPSA and CCEBA recommend a few changes to the Program as proposed by Duke.

1. Timing of PPA awards: With respect to Controllable PPA Track bids, CPSA and CCEBA believe that a cost-competitive bid that is determined in DISIS Phase 1 to be free of interdependencies with other projects (such that its System Upgrade costs will not increase in Phase 2, regardless of what other projects are selected or withdraw) should be awarded a PPA before the DISIS Phase 2 study is performed. It would be clear even after Phase 1 that such a bid would ultimately be selected (because its cost, inclusive of Upgrades, will not increase in Phase 2), and so there is no risk or other downside to selecting it and awarding a PPA at that point in the process. There is no reason to require such a project to wait an extended period before signing a PPA and awarding a limited number of such PPAs on an expedited basis will help accelerate construction and deployment of those resources.⁴
2. Asset Transfer Option: In the Utility Ownership Track, Duke proposes an Asset Transfer Option, under which a third-party developer would provide a bid for a project acquisition that would not include actual construction costs. In order to evaluate an Asset Transfer bid against other bids in the Utility Ownership Track, Duke would have to prepare an accurate estimate of Engineering, Procurement, and Construction costs for the project – a process

⁴ Duke indicates in its Petition that it is currently evaluating this proposal. Pet. at 15.

that normally takes a developer or contractor months to complete – in an extremely short period of time. This is likely to introduce delays in the evaluation of Utility Ownership Track bids and could potentially create the appearance of manipulation or favoritism in favor of such projects. While Asset Transfer bids were employed during CPRE, they were not successful, and it is unclear what benefit, if any, there would be to including this option in the 2022 SP Program.

3. Curtailment: Duke proposes to maintain the CPRE structures for curtailment of the output of Controllable Track PPAs. Although CPSA and CCEBA generally believe that uncompensated curtailment is not in the interest of ratepayers because it results in higher bid prices,⁵ CPSA and CCEBA nonetheless have agreed to support this element of Duke's proposal because it is familiar and acceptable to Duke and other stakeholders, and because it has proven workable (if not optimal) for bidders in the CPRE process. However, CPSA and CCEBA believe this issue should be revisited in 2023 and later procurements, and strongly support efforts to consider alternative contracting structures that would allow greater controllability while preserving revenue certainty.

CPSA and CCEBA propose that, in order to collect market information relevant to determining the economic significance of uncompensated curtailment, the 2022 SP allow for two bid price options for Controllable Track PPAs: one with the CPRE curtailment schedule, and one with no uncompensated curtailment. Average bid pricing for both options would be reported to the Commission and 2022 procurement stakeholders to inform ongoing consideration for current and future procurements. A PPA with pricing

⁵ Uncompensated curtailment leads to higher bid prices because a bidder must assume when developing its bid that the maximum uncompensated curtailment will be utilized, and the bidder must increase its bid price to account for that projected uncompensated curtailment.

based on no uncompensated curtailment could be selected if it produced greater economic benefit for ratepayers.

E. Upgrade Costs

CPSA and CCEBA generally agree with Duke that with respect to the cost of System Upgrades, the 2022 SP should follow the same approach as CPRE, under which the cost of Upgrades was considered in the economic ranking of proposals, but the cost of System Upgrades was recovered through base rates rather than incorporated in bid prices. Pet. at 26. This structure allows for more competitive bids by removing uncertainty about System Upgrade costs from the bidding process.⁶

However, the Commission should not approve Duke's proposal (Pet. at 27-28) to require Controllable PPA Track short list proposals to provide an alternative bid for the project after DISIS Phase 2 System Upgrades are established, for several reasons.

First, the preparation and evaluation of a second set of bids will be costly and time-consuming and is likely to delay the processing of the RFP. Given that bidders would be asked to absorb all the risk of System Upgrade costs, they are also likely to (justifiably) demand extensive information from Duke about the DISIS process and the bases for Duke's allocation of Upgrades and estimation of Upgrade costs.⁷

⁶ Because final System Upgrade costs are not known at the time a project submits its bid, that price uncertainty will result in the project bidding a higher price to hedge against potential cost increases. By removing System Upgrade costs from bids, that price uncertainty is removed, and bidders are able to submit lower bids because that risk has been removed.

⁷ In contrast, CPSA and CCEBA's proposal that bidders submit bids with and without uncompensated curtailment would not require this type of analysis and information; a bidder would simply include one price assuming zero uncompensated curtailment and one price assuming the relevant percentage of uncompensated curtailment. This can be done prior to the submittal of initial bids, and without the extensive analysis required to estimate Upgrade costs.

Furthermore, it is almost inconceivable that an alternative set of bids would result in lower costs to ratepayers. Even after Phase 2, there will be very significant uncertainty about the final cost of Upgrades. Market Participants would inevitably incorporate a large amount of “headroom” in their alternative bids to account for that uncertainty, especially given the substantial cost increases and overruns that interconnection customers have experienced in the last few years. Absent a much larger than expected increase in System Upgrade costs, or irrational behavior by bidders, across the board, this second set of bids will not provide better value to ratepayers.

Finally, because bidders are likely to differ in their assessment of the cost risk of System Upgrades, a second set of bids might be ranked differently than the initial bids, which could result in different projects being selected (which could in turn cause instability in the DISIS Phase 2 results). Market Participants would probably also to adjust their alternative bids to account for changes in capital costs assumptions – which would only increase the prospect of instability in the rankings. CPSA and CCEBA therefore object to this alternative bid proposal and request it not be approved by the Commission.

F. Independent Evaluator

CPSA and CCEBA do not oppose the use of an Independent Evaluator (“IE”) instead of an Independent Administrator (“IA”) for the 2022 SP Program and have no specific objection to Duke’s selection of Charles River Associates.

As a general matter, CPSA and CCEBA note that Duke’s stated intention for the company to bid Duke-owned projects into the 2022 procurement, while transitioning from an IA to an IE, elevates the importance of Commission oversight of the procurement process to ensure that all bids are evaluated fairly. For this reason, CPSA and CCEBA recommend that the proposed IE conduct an informational stakeholder session as soon as reasonably possible to brief potential

market participants on the role it will play in the 2022 procurement and the specific procedures it will employ to ensure confidence in the evaluation and selection process. CPSA and CCEBA do recommend that the IE, in consultation with Duke and other stakeholders, include in the 2022 SP Program RFP a series of clear, equitable, and expedited procedures for resolving disputes about administration of the 2022 SP. Such procedures should include clear requirements for transparency and the provision of reasonably necessary information about the 2022 SP to market participants involved in disputes.

CONCLUSION

CPSA and CCEBA greatly appreciate the engagement of Duke and other stakeholders in trying to achieve consensus around a proposed 2022 Solar Procurement Program. CPSA and CCEBA believe that Duke's proposal, while generally appropriate and reasonable, may be improved in several ways consistent with these comments that would help it achieve the carbon reduction mandates of H.B. 951.

Respectfully submitted this the 28th day of March 2028.

FOX ROTHSCHILD LLP

/s/ Benjamin L. Snowden

Benjamin L. Snowden

North Carolina State Bar No. 51745

434 Fayetteville Street

Suite 2800

Raleigh, NC 27601

Telephone: 919-719-1257

E-mail: BSnowden@foxrothschild.com

Counsel for

Clean Power Suppliers Association

/s/ John D. Burns

John D. Burns
NC Bar No. 24152
General Counsel
Carolinas Clean Energy Business
Association
811 Ninth Street
Suite 120-158
Durham, NC 27705
Telephone: 919-3066906
E-mail: counsel@carolinasceba.com

OFFICIAL COPY

Mar 28 2022

ATTACHMENT A

PORTFOLIO	Base without Carbon Policy		Base with Carbon Policy		Earliest Practicable Coal Retirements		70% CO ₂ Reduction: High Wind		70% CO ₂ Reduction: High SMR		No New Gas Generation	
	A		B		C		D		E		F	
System CO ₂ Reduction (2030 2035) ¹	56%	53%	59%	62%	64%	64%	70%	73%	71%	74%	65%	73%
Present Value Revenue Requirement (PVRR) [\$B] ²	\$79.8		\$82.5		\$84.1		\$100.5		\$95.5		\$108.1	
Estimated Transmission Investment Required [\$B] ³	\$0.9		\$1.8		\$1.3		\$7.5		\$3.1		\$8.9	
Total Solar [MW] ^{4, 5} by 2035	8,650		12,300		12,400		16,250		16,250		16,400	
Incremental Onshore Wind [MW] ⁴ by 2035	0		750		1,350		2,850		2,850		3,150	
Incremental Offshore Wind [MW] ⁴ by 2035	0		0		0		2,650		250		2,650	
Incremental SMR Capacity [MW] ⁴ by 2035	0		0		0		0		1,350		700	
Incremental Storage [MW] ^{4, 6} by 2035	1,050		2,200		2,200		4,400		4,400		7,400	
Incremental Gas [MW] ⁴ by 2035	9,600		7,350		9,600		6,400		6,100		0	
Total Contribution from Energy Efficiency and Demand Response Initiatives [MW] ⁷ by 2035	2,050		2,050		2,050		3,350		3,350		3,350	
Remaining Dual Fuel Coal Capacity [MW] ^{4, 8} by 2035	3,050		3,050		0		0		0		2,200	
Coal Retirements	Most Economic		Most Economic		Earliest Practicable		Earliest Practicable ⁹		Earliest Practicable ⁹		Most Economic ¹⁰	
Dependency on Technology & Policy Advancement												

¹Combined DEC/DEP System CO₂ Reductions from 2005 baseline

²PVRRs exclude the cost of CO₂ as tax. Including CO₂ costs as tax would increase PVRRs by ~\$11-\$16B. The PVRRs were presented through 2050 to fairly evaluate the capital cost impact associated with differing service lives

³Represents an estimated nominal transmission investment; cost is included in PVRR calculation

⁴All capacities are Total/Incremental nameplate capacity within the IRP planning horizon

⁵Total solar nameplate capacity includes 3,925 MW connected in DEC and DEP combined as of year-end 2020 (projected)

⁶Includes 4-hr and 6-hr grid-tied storage, storage at solar plus storage sites, and pumped storage hydro






⁷Contribution of EE/DR (including Integrated Volt-Var Control (IVVC) and Distribution System Demand Response (DSDR)) in 2035 to peak winter planning hour

⁸Remaining coal units are capable of co-firing on natural gas, all coal-only units that rely exclusively on coal are retired before 2030

⁹Earliest Practicable retirement dates with delaying one (1) Belevs Creek unit and Roxboro 1&2 to EOY 2029 for integration of offshore wind/SMR by 2030

¹⁰Most Economic retirement dates with delaying Roxboro 1&2 to EOY 2029 for integration of offshore wind by 2030

LEGEND:

-  Completely dependent
-  Mostly dependent
-  Moderately dependent
-  Slightly dependent
-  Not dependent

CERTIFICATE OF SERVICE

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

This the 28th day of March, 2022.

Electronically submitted

/s/ Benjamin L. Snowden

Benjamin L. Snowden
North Carolina State Bar No. 51745
434 Fayetteville Street
Suite 2800
Raleigh, NC 27601
Telephone: 919-719-1257
E-mail: BSnowden@foxrothschild.com