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October 18, 2019

VIA ELECTRONIC FILING

Ms. Kimberley A. Campbell, Chief Clerk
North Carolina Utilities Commission
4325 Mail Service Center
Raleigh, North Carolina 27699-4300

**RE: Comments of Duke Energy Progress, LLC and Duke Energy
Carolinas, LLC on CPRE SISC
Docket Nos. E-2, Sub 1159 and E-7, Sub 1156**

Dear Ms. Campbell:

Enclosed for filing in the above-referenced dockets, please find Duke Energy Progress, LLC's and Duke Energy Carolinas, LLC's Comments on CPRE SISC.

If you have any questions, please do not hesitate to contact me. Thank you for your assistance with this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "Jack Jirak", written in a cursive style.

Jack E. Jirak

Enclosure

cc: Parties of Record

OFFICIAL COPY

Oct 18 2019

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION**DOCKET NO. E-2, SUB 1159****DOCKET NO. E-7, SUB 1156**

In the Matter of
Petition for Approval of Competitive) **COMMENTS OF DUKE ENERGY**
Procurement of Renewable Energy Program) **CAROLINAS, LLC AND DUKE**
to Implement N.C. Gen. Stat. § 62-110.8) **ENERGY PROGRESS, LLC**

INTRODUCTION

On October 7, 2019, the North Carolina Utilities Commission (“Commission” or “NCUC”) issued a *Notice of Decision* in the Commission’s 2018 biennial avoided cost proceeding, Docket No. E-100, Sub 158 (“2018 Sub 158 proceeding”), announcing the Commission’s decisions related to the methodology and calculation of Duke Energy Carolinas, LLC’s (“DEC”) and Duke Energy Progress, LLC’s (“DEP,” and together with DEC, the “Companies” or “Duke”) avoided cost rates under North Carolina’s implementation of the Public Utility Regulatory Policies Act of 1978 (“PURPA”) pursuant to N.C. Gen. Stat. § 62-156.

The *Notice of Decision* further recognized that the Commission-approved avoided cost methodology and inputs are necessary to ensure the cost-effectiveness of renewable energy resources to be procured through the upcoming Tranche 2 Competitive Procurement of Renewable Energy (“CPRE”) Program competitive solicitation, and preliminarily announced the Commission’s decisions related to the calculation of DEC’s and DEP’s avoided energy and capacity rates applicable to setting the price cap on CPRE bid proposals for CPRE Tranche 2.

On October 15, 2019, Duke notified the Commission in the above-caption dockets that Tranche 2 of the CPRE Program had been opened for bids in accordance with the timeframe previously established by the Commission.

The *Notice of Decision* also announced that the Commission had not yet decided issues related to the Companies' proposed solar Integration Services Charge ("SISC"), and that the Commission was inclined to seek additional input from interested parties regarding the SISC's applicability to the CPRE Program.¹ On October 17, 2019, the Commission issued a *Supplemental Notice of Decision* in the 2018 Sub 158 proceeding approving the SISC for avoided cost purposes, and further explaining that the applicability of the SISC to the CPRE Program would be considered in the above-captioned dockets.

Contemporaneous with issuing the initial *Notice of Decision*, the Commission issued an *Order Requesting Comments* in this proceeding to facilitate a decision on whether and, if so, how, the SISC should be applied in the CPRE Program. In response to the questions raised by the Commission's *Order Requesting Comments*, the Companies respectfully submit these comments supporting application of the SISC in the context of the CPRE Program as follows:

¹ *Notice of Decision*, at 7.

COMMENTS

QUESTION 1: Should the SISC apply to the renewable energy facilities that are the subject of proposals in the CPRE Program?

- A. The SISC should apply to uncontrolled² solar generating facilities that bid proposals in to the CPRE Program to ensure that House Bill 589's policy goals of reliably and cost-effectively procuring renewable energy resources in North Carolina are achieved.**

N.C. Gen. Stat. § 62-110.8(a) establishes the North Carolina General Assembly's express intent to "add[] renewable energy to the State's generation portfolio in a manner that allows the State's electric public utilities to continue to *reliably and cost-effectively* serve customers' future energy needs" through a competitive procurement program. (Emphasis added). Consistent with the General Assembly's express intent to competitively procure "cost effective[]" new renewable energy resources, the Commission has held that the application of the Companies' most "updated avoided cost rates and rate methodologies" are applicable to the CPRE Program, as "justified by the policy supporting the enactment of House Bill 589 and policy goals embodied in N.C.G.S. § 62-110.8."³ For this reason, the Commission specifically delayed the implementation of the Tranche 2 RFP Solicitation in order for the Companies' most current, and therefore most accurate, avoided cost rates to apply to Tranche 2 of the CPRE Program.

In addition to ensuring cost effectiveness by accurately quantifying Duke's avoided energy and capacity rates, the Companies put forward extensive evidence in the 2018 Sub 158 proceeding explaining that the continued integration of non-dispatchable, intermittent, solar generating resources is imposing increased ancillary services costs on the DEC and

² For purposes of these Comments, "uncontrolled" means a solar facility that reduces actual intra-hour volatility as further detailed in the Companies' Requirements for Avoidance of SISC, contained in Exhibit 11 to the *Pro-Forma* CPRE Tranche 2 PPA.

³ *Order Modifying and Accepting CPRE Plan*, at 18, Docket Nos. E-2, Sub 1159 and E-7, Sub 1156 (July 2, 2019) ("CPRE Order").

DEP systems. Based on this evidence, the Commission determined in its *Supplemental Notice of Decision* that “increased ancillary services costs are costs that DEC and DEP must account for when calculating the costs and benefits resulting from the purchase of energy and capacity from solar QFs.”

Specific to the CPRE Program, the General Assembly’s express objective was to establish an independently-administered, competitive process to enable Duke to procure reliable and cost-effective new renewable energy resources to serve customers’ future energy needs. Today, the integration of uncontrolled solar generators are imposing now-quantified integration costs on the DEC and DEP systems, and these costs should similarly be recognized in assessing the cost effectiveness of solar resources bidding into the CPRE Program relative to other types of CPRE-eligible renewable energy resources that do not impose these increased integration costs.⁴ For the same reasons that the SISC is appropriately applied to uncontrolled solar QF generators committing to deliver power under North Carolina’s implementation of PURPA, the increased integration costs caused by uncontrolled solar generating facilities offering to sell and deliver power under the CPRE Program should similarly be recognized and consistently applied in order to adhere to Session Law 2017-192’s (“House Bill 589”) cost-effectiveness objective and to avoid promoting one CPRE-eligible renewable energy resource over another.

A Commission determination not to apply the SISC to uncontrolled solar generating facilities bidding into CPRE would unfairly inflate the value of these renewable

⁴ Applying the SISC only to intermittent solar resources based upon the generating technology’s operational characteristics also aligns with FERC’s recognition that utilities’ avoided costs may consider “the availability of capacity, the QF’s dispatchability, the QF’s reliability, and the value of the QF’s energy and capacity,” as well as be “lower ...for purchases from intermittent QFs than for purchases from firm QFs.” *Windham Solar, LLC*, 157 FERC ¶ 6,1134, at P 6 (2016).

energy facilities' bids in a manner that discriminates against other renewable resource technologies. For example, if an uncontrolled solar generating facility is valued the same as a controlled solar plus storage facility that operates in a manner that does not impose integration costs on the system, CPRE proposal sponsors have less incentive to design and offer solar facilities into CPRE that are able to reduce intra-hour volatility (as is discussed further below). The potential for discrimination against other non-solar renewable resources technologies could also potentially impact the cost-effectiveness of the CPRE Program by dis-incentivizing these other CPRE-eligible non-solar technologies from bidding into CPRE.

B. N.C. Gen. Stat. § 62-110.8(c) expressly grants the Companies authority to consider increased integration costs when evaluating the need for new renewable energy resources under the CPRE Program.

In enacting the CPRE Program, the General Assembly granted the Companies the authority to consider “the potential for increased delivered cost to a public utility’s customers as a result of siting additional renewable energy facilities in a public utility’s service territory, *including additional costs of ancillary services that may be imposed due to the operational or locational characteristics of a specific renewable energy resource technology*, such as nondispatchability, unreliability of availability, and creation or exacerbation of system congestion that may increase redispatch costs.” N.C. Gen. Stat. § 62-110.8(c) (emphasis added). Thus, the General Assembly recognized the potential for CPRE-eligible renewable energy resources to impose increased integration costs such as “additional ancillary services,” and authorized Duke to take such costs into account in implementing the CPRE Program. While Duke is fully supportive of solar resources bidding into the CPRE Tranche 2 RFP, it is appropriate—and consistent with the General Assembly’s express recognition that the operational characteristics of specific renewable

energy resource technologies should be recognized in the procurement process established by the CPRE Program—for the SISC to be applied to uncontrolled solar bids.

Duke’s quantification of separate SISCs for DEC and DEP similarly recognizes that the cost of integrating and siting solar generating facilities in DEC’s territory currently imposes lower incremental ancillary services costs than integrating and siting renewable solar generating facilities in DEP’s territory.⁵ If the Commission elected not to apply the SISC to solar generating facilities that are the subject of CPRE proposals, uncontrolled solar generating facilities bidding into DEP’s CPRE Tranche 2 would be unfairly advantaged and able to bid the same price as uncontrolled solar generating facilities bidding into DEC’s CPRE Tranche 2, despite the fact that uncontrolled solar generating facilities in DEC actually impose lower integration costs.

In sum, applying the SISC to uncontrolled solar facilities ensures that House Bill 589’s objective to competitively procure the most reliable and cost-effective renewable energy resources is met, adheres to the General Assembly’s intent for the Companies to consider ancillary services costs (and resulting costs to customers) when evaluating and siting renewable energy facilities under the CPRE Program and is also consistent with the findings of the Commission in the *Supplemental Notice of Decision*.

⁵ The *Supplemental Notice of Decision* approved the Astrapé Ancillary Services Study quantification of a SISC of \$1.10/MWh to integrate additional uncontrolled solar generation into DEC based upon the 840 MW Existing plus Transition level of solar and quantification of a SISC of \$2.39/MWh to integrate additional uncontrolled solar generation in DEP based upon the 2,950 MW of QF solar.

C. The SISC Stipulation between Duke and the Public Staff supports application of the SISC to bids in CPRE Tranche 2 and also allows solar generators an option to avoid the SISC and is consistent with the *Supplemental Notice of Decision*.

On May 21, 2019, the Companies filed the SISC Stipulation recommending approval of the SISC in the 2018 Sub 158 proceeding. In particular, Section II.B of the SISC Stipulation states clearly that “[t]he Stipulating Parties agree that it is appropriate to consider the ancillary services costs of adding incremental solar, and the potential applicability of the Integration Services Charge to solar generation solicited in CPRE Tranche 2 and other future CPRE Tranches.” Accordingly, the Companies and the Public Staff have recognized the appropriateness of applying the SISC to CPRE Tranche 2, as well as future CPRE Tranches, and are in agreement that the SISC should, in some manner, apply to CPRE Tranche 2 at this time.

The *Supplemental Notice of Decision* also supports applying the SISC equally to uncontrolled solar generators delivering power under both PURPA and the CPRE Program by finding that “increased ancillary services costs are costs that DEC and DEP must account for when calculating the costs and benefits resulting from the purchase of energy and capacity from solar QFs.” The *Supplemental Notice of Decision* directs the Companies to apply the SISC to all new uncontrolled solar facilities that establish a Legally Enforceable Obligation (“LEO”) under the avoided cost rates filed in the 2018 Sub 158 proceeding. Applying the SISC to all uncontrolled solar generating facilities committing to sell and deliver power under both PURPA and the CPRE Program would align with the average cost rate design approved by the *Supplemental Notice of Decision*. If the SISC were not consistently applied to uncontrolled solar generating facilities under both PURPA and the CPRE Program, the purpose of applying an average cost rate design (as opposed

to incremental cost rate design), would be undermined by the fact that an increasingly significant percentage of the uncontrolled solar generating facilities imposing integration costs on the DEC and DEP systems would not be paying their fair share of the average ancillary services costs.

Additionally, Section II.A of the SISC Stipulation provides that a “controlled solar generator” that agrees in a negotiated power purchase agreement (“PPA”) to materially reduce or eliminate the need for additional ancillary service requirements (as reasonably determined by the Companies), through installation of energy storage or other mechanisms that materially reduce or eliminate the intermittency of the output from the solar generators, could avoid the SISC. The *Supplemental Notice of Decision* affirmed this approach in concluding that “DEC and DEP should not be authorized to impose the SISC on a solar QF that is a ‘controlled solar generator.’”

The *Supplemental Notice of Decision* went on to define a “controlled solar generator” as “any solar QF that demonstrates that its facility is capable of operating, and contractually agrees to operate, in a manner that materially reduces or eliminates the need for additional ancillary service requirements incurred by the utility.” The Companies have recently proposed in the CPRE dockets the precise measurement methodology by which a solar QF would be able to demonstrate that it has reduced intra-hour volatility. Specifically, the Companies made available for review and comment revisions to the CPRE PPA that detailed this measurement methodology. After evaluating with the IA all comments received, the Companies filed a final version of the CPRE PPA with the Commission on October 15, 2019.⁶

⁶ DEP and DEC Final pro forma CPRE Tranche 2 PPA, Docket Nos. E-2, Sub 1159 and E-7, Sub 1156 (Oct. 15, 2019) (see Exhibit 11—Requirements for Avoidance of SISC).

Under the structure proposed in the CPRE PPA, the actual performance of the solar facility is measured on a 5-minute interval to determine the “Solar Site Volatility Metric,” which is the average of the facility’s volatility computed for each daylight hour for each month divided by the average of the facility’s generation over each daylight hour and month. If a solar generator can limit volatility to less than or equal to 12%, then there is a 50% reduction of the SISC. If the solar generator can reduce volatility to less than or equal to 6%, then the SISC is eliminated. Importantly, and as will be discussed in more detail below, this approach focuses on the actual performance of the generator—the “proof is in the pudding” so to speak. It is irrelevant whether the solar generator intends or commits to be a “controlled generator.” Instead, all that matters is whether, as measured based on the actual output of the solar facility, actual measured volatility is reduced. This approach provides flexibility to generator owners as to the technology used to reduce volatility (which was requested by market participants during the CPRE comment process) and compensates the generator owner based on actual performance.

In sum, applying the SISC to solar generators participating in CPRE Tranche 2, as well as future CPRE Tranches, is consistent with the findings of the *Supplemental Notice of Decision* and the SISC Stipulation agreed to between the Companies and the Public Staff and should be approved by the Commission. Moreover, the Companies have now proposed the specific measurement methodology by which solar QFs could avoid or reduce the SISC by limiting intra-hour volatility.

QUESTION 2: If the SISC is to apply to the renewable energy facilities that are the subject of proposals in the CPRE Program, then: (a) how the SISC should be incorporated into the cost-effectiveness limitation set forth in N.C.G.S. § 62-110.8(b); and (b) how the application of the SISC to the renewable energy facilities that are the subject of proposals in the CPRE Program is consistent with the treatment of “the utility’s own generating resources”?

- A. For purposes of expeditiously implementing Tranche 2, Duke supports the Public Staff’s recommendation to apply the SISC as a fixed charge based upon the average cost of the “Existing Plus Transition” level which is also consistent with *Supplemental Notice of Decision*.**

Since the Commission issued its initial *Notice of Decision*, Duke has engaged in discussions with the Public Staff and other stakeholders in an effort to reach a consensus on the applicability of the SISC to uncontrolled solar generating facilities in the context of the now-open Tranche 2 CPRE RFP. Based upon the need to efficiently move forward with CPRE Tranche 2 in a manner that both provides certainty to bidders and an effective bid evaluation process that conforms with the Commission’s CPRE rules, Duke supports the Public Staff’s comments being filed today recommending the Commission fix the SISC at the average cost “Existing Plus Transition” level for the duration of the Tranche 2 CPRE PPA.⁷ Accordingly, as proposed by the Public Staff, uncontrolled solar generating facilities bidding into CPRE Tranche 2 would be subject to a fixed SISC of \$1.10/MWh in DEC and \$2.39/MWh in DEP, and would not be subject to future biennial adjustments to the SISC over the term of the CPRE PPA. This approach is consistent with the *Supplemental Notice of Decision*.

⁷ The “Existing Plus Transition” level corresponds to the existing plus House Bill 589 transition solar capacity, or 2,950 MW in DEP and 840 MW in DEC, that is already installed or under development and legally committed to be purchased under pre-existing avoided cost rates. The Astrapé Ancillary Services Study quantified the solar Integration Services Charge to be \$1.10/MWh in DEC and \$2.39/MWh in DEP where this “Existing Plus Transition” level of solar capacity exists on the Companies’ systems.

Fixing the average SISC at the Existing Plus Transition level over the duration of the CPRE PPA offers uncontrolled solar generators bidding into CPRE financial certainty of the SISC price and mitigates the risk of increases in the SISC during the CPRE contract term. Applying an average SISC fixed over the 20-year term of CPRE PPAs does place risk on the Companies' customers of future increases in solar integration costs as the Companies' ancillary services costs over the duration of the CPRE PPA increase; however, for purposes of CPRE Tranche 2 only, Duke has agreed to the Public Staff's proposal to utilize the initial Existing plus Transition SISC levels presented for approval in the 2018 Sub 158 proceeding. This proposed compromise approach reasonably balances the interests of both solar generators bidding into the CPRE Program and the Companies' customers, and will allow Duke to efficiently move forward with CPRE Tranche 2 in a manner that provides certainty to bidders and an effective bid evaluation process that conforms with the Commission's CPRE rules.

B. Duke does not support incorporating the SISC into the cost-effectiveness evaluation for purposes of Implementing CPRE Tranche 2.

The Companies also agree with the Public Staff's comments that the SISC should not be included in the cost-effectiveness evaluation prescribed in N.C. Gen. Stat. § 62-110.8(b)(2) and the Commission's CPRE Rule. Consistent with the definition of "avoided cost rates" used to determine cost effectiveness under Rule R8-71⁸, the Step 1 cost-effectiveness evaluation process should be based on the Companies' "calculation of its long-term, levelized avoided energy and capacity costs," and should not incorporate an assumed solar integration cost value in setting the price cap. Consistent with the Public

⁸ The Commission's regulations implementing the CPRE Program, NCUC Rule R8-71(b)(2) defines "avoided cost rates" as "an electric public utility's calculation of its long-term, levelized avoided energy and capacity costs utilizing the methodology most recently approved or established by the Commission . . ."

Staff's proposal, Duke supports requiring solar generating facilities bidding into CPRE Tranche 2 to account for the now fixed-cost SISC in developing their bids and not applying the SISC as an input to the CPRE cost-effectiveness evaluation process.

The *Supplemental Notice of Decision* rejected inclusion of the SISC as a separate cost or charge but instead directed the Companies "to account for increased ancillary services costs when calculating each utility's avoided energy costs." However, the *Supplemental Notice of Decision* also stated that the Commission would consider the applicability of the SISC to the CPRE Program in these CPRE dockets. In light of the measurement methodology proposed in CPRE and discussed above, the Companies continue to believe that the SISC should not be included in the CPRE cost-effectiveness evaluation. Because the solar generator owner has the ability to avoid the SISC based on the facility's actual, "as measured" reduction in volatility, application of the SISC to CPRE resources as a charge allows the overall compensation to align with the actual performance of the solar generator. As a very simple example, if the solar generator installs a battery and is thereby able to reduce the Solar Site Volatility Metric to 6% or less in a given month, then no SISC would be imposed. However, if the battery malfunctions in the following month and the solar generator is therefore unable to reduce the Solar Site Volatility Metric at all, then the SISC would be imposed in full. Again, the benefit of this approach is matching the application of the SISC to actual performance (*i.e.*, actual reduction of volatility). The alternative approach to applying the SISC based on actual measured volatility would be that the SISC is applied as a reduction to the CPRE avoided cost cap but that any CPRE bidder that "commits" to operate as a "controlled generator" by reducing the volatility of its output is evaluated against an avoided cost cap that does not include the

SISC (*i.e.*, is a higher cap). However, this approach forces Duke to assume during CPRE evaluation that the CPRE bidder will in fact be able to reduce intra-hour in each hour for a twenty-year period. In reality, the ability of the solar generator to reduce intra-hour generator volatility may change over time. Furthermore, such approach does not allow for the possibility that any future technology options may allow a CPRE generator to reduce volatility during a later portion of the 20-year term. Finally, this approach is problematic because it would force Duke or the IA to make a technical decision for purposes of evaluation whether the solar generator as proposed in CPRE can, in fact, reduce volatility based on its technical design (*i.e.*, is the solar generator as proposed actually capable of reducing intra-hour volatility).

In summary, application of the SISC as a charge (as opposed to inclusion in the avoided cost cap) is the optimal approach because it provides appropriate compensation that is tied to actual, as-measured reduction in volatility and provides future flexibility for solar generator owners that are able to demonstrate actual reductions in volatility.

C. The SISC should apply to utility-owned solar generating resources in the same manner as it applies to non-utility-owned solar generating resources that bid in to the CPRE Program.

The Commission's *Order Requesting Comments* identified that the CPRE Program is designed to procure energy and capacity from renewable resources owned and operated by third parties that commit to allow the Companies to dispatch, operate, and control their facilities in the same manner as the utility's own generating resources. *See* N.C. Gen. Stat. § 62-110.8(b). The Companies agree that the SISC should apply "in the same manner" to utility-owned resources as third-party owned resources under the CPRE Program, as the

focus of N.C. Gen. Stat. § 62-110.8(b) is to ensure that third party assets provide consistent capabilities and operational control as utility owned resources.

Duke concurs with the Public Staff's comments that both utility-owned and third party-owned uncontrolled solar generators would account for the SISC in determining their bid proposal, which would then be evaluated by the IA in the same manner as all other renewable resources' bid proposals. Duke, similar to third-party owned solar generators, should also have the right to commit to operate its CPRE generating facilities as a controlled solar generator utilizing the Solar Site Volatility Metric under the CPRE Tranche 2 PPA to avoid the SISC. The Companies believe this process would result in the most fair and efficient implementation of the SISC within the context of the CPRE Program, and align with how the SISC otherwise applies to all other uncontrolled solar generators in North Carolina.

QUESTION 3: If the SISC is not to apply to the renewable energy facilities that are the subject of proposals in the CPRE Program, then whether and how this approach is consistent with the provisions of N.C.G.S. § 62-110.8?

As detailed in the Companies' responsive comments to Commission questions (1) and (2), the Companies believe that applying the SISC to uncontrolled solar generating facilities that bid into CPRE is fully consistent with N.C. Gen. Stat. § 62-110.8 and the General Assembly's policy goal of procuring reliable and cost-effective new renewable energy resources. A Commission determination not to apply the SISC in the context of CPRE would distort the value of installing uncontrolled solar generators on the DEC and DEP systems, could result in less competition and fairness amongst solar generating facilities bidding into CPRE, and could lower the CPRE Program's cost-effectiveness, thereby increasing costs for customers.

CONCLUSION

In conclusion, the Companies believe that the Commission should accept the foregoing comments and issue an order approving the application of the average Existing Plus Transition level SISC fixed for the term of the CPRE PPA to uncontrolled solar generating facilities that are the subject of Tranche 2 CPRE proposals, and granting such other and further relief as the Commission deems just and reasonable and in furtherance of the public interest.

Respectfully submitted, this the 18th day of October, 2019.



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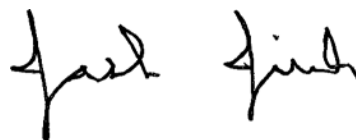
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*Counsel for Duke Energy Carolinas, LLC
and Duke Energy Progress, LLC*

CERTIFICATE OF SERVICE

I certify that a copy of Duke Energy Progress, LLC's and Duke Energy Carolinas, LLC's Comments on CPRE SISC, in Docket Nos. E-2, Sub 1159 and E-7, Sub 1156, has been served by electronic mail, hand delivery, or by depositing a copy in the United States mail, postage prepaid, properly addressed to parties of record.

This the 18th day of October, 2019.



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