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April 13, 2021

VIA ELECTRONIC FILING

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

RE: Duke Energy Carolinas, LLC and Duke Energy Progress, LLC's Response to Order Requiring Additional Information
Docket No. E-100, Sub 158

Dear Ms. Campbell:

Enclosed for filing in the above-referenced docket, please find Duke Energy Carolinas, LLC and Duke Energy Progress, LLC's Response to Order Requiring Additional Information.

Sincerely,

/Robert W. Kaylor

Robert W. Kaylor, P.A.

Enclosure

cc: Parties of Record

STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH

DOCKET NO. E-100, SUB 158

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of Biennial Determination of Avoided Cost Rates for Electric Utility Purchases from Qualifying Facilities – 2018	)	**DUKE ENERGY CAROLINAS, LLC AND DUKE ENERGY PROGRESS, LLC'S RESPONSE TO ORDER REQUIRING ADDITIONAL INFORMATION**

NOW COME Duke Energy Carolinas, LLC ("DEC") and Duke Energy Progress, LLC ("DEP" and, collectively the "Companies"), pursuant to the Commission's *Order Requiring Additional Information,* issued March 29, 2021, in the docket, and submit their responses as follows:

QUESTION 1: Explain how Duke derived the six-percent and 12-percent volatility threshold for SISC reduction.

RESPONSE: The Companies analyzed the volatility for fifteen sites from the dataset used by Astrapé for the Solar Integration Service Charge ("SISC") study using 5-minute actual data from October 2016 to October 2017. The volatility calculated ranged from 18% to 28% with a median of 24%. From this median result of 24%, the Companies established two thresholds for reducing the SISC charge: 12% and 6%.

The 12% threshold represents a 50% reduction in site volatility. If all the sites on the Companies' system were to reduce their volatility by 50%, it would reduce the system volatility by 50% and therefore the SISC by 50%. This is a conservative assumption since if only a few sites reduced their volatility by one-half, the impact to

the system would be very small. The 12% threshold gives these sites the benefit of the "all-sites" perfect correlation assumption in their favor.

The 6% threshold represents 75% reductions in site volatility. If all sites on the Companies' system reduced their volatility by 75%, it would reduce the system volatility from 4% to 1% which is near the clear-sky volatility as calculated from National Renewable Energy Laboratory ("NREL") data. The 6% threshold also gives the sites the benefit of "all-sites" perfect correlation; additionally, a reduction of 1% system volatility does not eliminate system volatility (and the resulting SISC cost). To make it an achievable goal, however, the Companies gave sites that achieved this threshold a full concession of the SISC.

QUESTION 2: In their July 31, 2020 Reply Comments, Duke states they "agree that they will install a second meter as needed at no expense to QFs and will study the meter for a two-year period and report back to the Commission on the results of the study." Explain exactly what facilities will be eligible to receive these meters, where they will be placed, what they will be measuring, and how this metering arrangement will be addressed contractually, Also explain what Duke intends to study, and when, if ever, Duke plans to charge QFs for these meters.

RESPONSE: As part of the Companies' development of the methodology that allows Sellers to receive a potential credit to offset the SISC, the Companies recognized that 5-minute interval data was necessary in order to calculate a meaningful intra-hour volatility. The current revenue quality meters at QF sites collect 15-minute interval data. It is not possible to collect both 5-minute and 15-minute interval data from the same meter, so a second revenue quality meter to capture the 5-minute production data is

required. The meter would be located close to the current revenue meter (AC side of inverter).

The Competitive Procurement of Renewable Energy ("CPRE") Tranche 2 Power Purchase Agreement ("PPA"), Exhibit 11 (which has been approved by the Commission) requires the Seller to provide a notification to the Companies that they intend to use an energy storage device or some other means to reduce their solar facility volatility. As part of the methodology, the Companies required that the Seller collect 5-minute interval solar output data from the facility for purposes of calculating the Solar Site Volatility Metric (as defined in the CPRE Tranche 2 PPA, Exhibit 11), using the Power Plant Controller or other means proposed by Seller and reasonably accepted by Buyer. The Companies felt that it was important for the Seller to collect this data on their own so that they could better understand how they could reduce their solar volatility. The Companies also felt it important to require a second meter in order to be able to audit the volatility results that the Seller provided. Since this is a new program and the Companies don't expect to have many initial participants, the Companies have agreed to not charge the cost of the second meter to the Seller at this point in time. The Companies proposed to study this methodology, including the second meter, for a period of two years in order to evaluate whether the data collection process and data resolution are adequate or if changes should be made to this approach.

Respectfully submitted, this the 13th day of April 2021.

/Robert W. Kaylor

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CERTIFICATE OF SERVICE

I certify that a copy of Duke Energy Carolinas, LLC and Duke Energy Progress, LLC's Response to Order Requiring Additional Information, in Docket No. E-100, Sub 158, has been served by electronic mail, hand delivery, or by depositing a copy in the United States Mail, 1st Class Postage Prepaid, properly addressed to parties of record.

This the 13th day of April, 2021.

/Robert W. Kaylor

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