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November 29, 2021

VIA ELECTRONIC FILING

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

**RE: Duke Energy Carolinas, LLC's and Duke Energy Progress, LLC's
Joint Petition for Approval of Revised Net Energy Metering Tariffs
Docket No. E-100 Sub 180**

Dear Ms. Dunston:

In accordance with N.C. Gen. Stat. § 62-126.4, Section 5 of House Bill 951, I enclose for filing in the above-referenced dockets Duke Energy Carolinas, LLC's and Duke Energy Progress, LLC's Joint Petition for Approval of Revised Net Energy Metering Tariffs.

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

Sincerely,

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

Jack E. Jirak

Enclosures

cc: Parties of Record

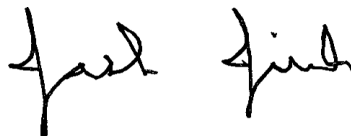
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Nov 29 2021

CERTIFICATE OF SERVICE

I certify that a copy of Duke Energy Carolinas, LLC's and Duke Energy Progress, LLC's Joint Petition for Approval of Revised Net Energy Metering Tariffs, in Docket Nos. E-7, Sub 1214; E-2, Sub 1219 and E-2, Sub 1076, 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 29th day of November, 2021.



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*ATTORNEY FOR DUKE ENERGY
CAROLINAS, LLC and DUKE ENERGY
PROGRESS, LLC*

**STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH**

DOCKET NO. E-7, SUB 1214

DOCKET NO. E-2, SUB 1219

DOCKET NO. E-2, SUB 1076

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-7, SUB 1214)	
)	
In the Matter of)	
Application by Duke Energy Carolinas,)	
LLC, for Adjustment of Rates and)	
Charges Applicable to Electric Utility)	
Service in North Carolina)	
)	JOINT APPLICATION OF DUKE
)	ENERGY CAROLINAS, LLC
DOCKET NO. E-2, SUB 1219)	AND DUKE ENERGY
)	PROGRESS, LLC FOR
Application of Duke Energy Progress,)	APPROVAL OF NET ENERGY
LLC, for Adjustment of Rates and)	METERING TARIFFS IN
Charges Applicable to Electric Utility)	COMPLIANCE WITH G.S. § 62-
Service in North Carolina)	126.4 AND HOUSE BILL 951
)	
DOCKET NO. E-2, SUB 1076)	
)	
In the Matter of)	
Notice of Duke Energy Progress)	
Conversion to Limited Liability Company)	

NOW COME Duke Energy Carolinas, LLC (“DEC”) and Duke Energy Progress, LLC (“DEP”) (jointly referred to herein as the “Companies”) pursuant to G.S. § 62-126.4, Section 5 of House Bill 951 (“H.B. 951”), Rule R1-5, and other applicable rules and regulations of the North Carolina Utilities Commission (the “Commission”), and respectfully petition the Commission to issue an order approving the Companies’ proposed net energy metering tariffs (collectively, the “NEM Tariffs”), as described herein, for

JOINT APPLICATION

DUKE ENERGY CAROLINAS, LLC

DUKE ENERGY PROGRESS, LLC

DUKE ENERGY PROGRESS, LLC

Page 1

DOCKET NO. E-7, SUB 1214

DOCKET NO. E-2, SUB 1219

DOCKET NO. E-2, SUB 1076

applications received on or after January 1, 2023. The NEM Tariffs are attached as Application Exhibit No. 1 and Application Exhibit No. 2.

As explained below, the NEM Tariffs align with the policy goals of North Carolina to enable 70% carbon reduction by 2030 and net zero by 2050, including recent legislation requiring utilities to “file for Commission approval *revised* net metering rates for electric customers.” G.S. § 62-126.4(a). (emphasis added). To develop these revised rates, the Companies recently concluded a Comprehensive Rate Design Study (the “Rate Design Study”) that investigated the costs and benefits of serving NEM customers in accordance with House Bill 589 (“H.B. 589”). These results were presented to stakeholders, which allowed for discussions that revealed overwhelming support for the NEM Tariffs from groups representing a broad range of interests—from clean energy and the environment, to the State of North Carolina as a whole. These discussions ultimately resulted in an NEM agreement to move North Carolina forward in a collaborative manner in fulfillment of legislative requirements.¹ In light of the legislative direction, collective stakeholder effort, and broad support, the Companies respectfully request expedited consideration and approval of the NEM Tariffs.²

In support of the Application, the Companies respectfully show the Commission the following:

Name and Address of the Companies

¹ The Companies acknowledge NC WARN’s and Appalachian Voices’ concerns raised in their November 15, 2021 response to the Rate Design Study Quarterly Status Report for Third Quarter 2021 filed by the Companies on October 21, 2021 in Docket Nos. E-7, Sub 1214 and E-2, Sub 1219.

² This expedited treatment is being requested to effectuate H.B. 589 and to align the NEM Tariffs with the timeline of the Commission’s review of DEP’s TOU-CPP tariff, which will be paired with the NEM Tariffs for DEP’s customers. Although DEC’s TOU-CPP tariff has been approved, the Companies have requested an effective date of March 1, 2022, for DEP’s pending tariff.

The correct name and post office address of DEC are:

Duke Energy Carolinas, LLC
Post Office Box 1321
Charlotte, NC 28201

The correct name and post office address of DEP are:

Duke Energy Progress, LLC
Post Office Box 1551
Raleigh, NC 27602

Notices and Communications

The names and addresses of the attorneys for the Companies who are authorized to receive notices and communications with respect to this application are:

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and

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and

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³ Ashley Cooper will seek leave to appear pro hac vice.

Copies of all pleadings, orders or correspondence in this proceeding should be served upon the attorneys listed above.

Description of the Companies

The Companies are public utilities engaged in the generation, transmission, distribution, and sale of electric energy service in North Carolina and South Carolina. The Companies also sell electricity under wholesale contracts to municipal, cooperative and investor-owned electric utilities, and their wholesale sales are subject to the jurisdiction of the Federal Energy Regulatory Commission. The Companies are public utilities under the laws of North Carolina and are subject to the jurisdiction of this Commission with respect to their operations in this State. The Companies are also authorized to transact business in the State of South Carolina and are public utilities under the laws of that State. Accordingly, their operations in that State are subject to the jurisdiction of the Public Service Commission of South Carolina.

Background

The Commission first adopted an NEM policy for North Carolina via an order issued on October 20, 2005, in Docket No. E-100, Sub 83 (the “2005 NEM Order”). There, the Commission directed utilities in the State of North Carolina to make NEM available to North Carolina customers. Participating customers would receive a kilowatt hour (“kWh”) credit on their monthly bill for any excess kWh delivered to the grid in the previous month.

On August 20, 2007, the General Assembly of North Carolina enacted Session Law 2007-397 (Senate Bill 3), which directed the Commission to: “[c]onsider whether it is in the public interest to adopt rules for electric public utilities for [NEM] of renewable energy facilities with a generation capacity of one megawatt or less.” G.S. § 62-133.8(i)(6). In

response, the Commission issued an Order on June 9, 2008, in Docket No. E-100, Sub 83, which requested answers to seven specific questions related to NEM on a range of topics—from the potential of cross-subsidization under NEM programs, to whether the cap on NEM capacity in the 2005 NEM Order should be increased. *See Order Establishing Procedural Schedule*, issued on June 9, 2008, in Docket No. E-100, Sub 83. After hearing testimony from the parties of record in that docket related to these questions, the Commission issued an Order in the same docket on March 31, 2009 (the “2009 NEM Order”), amending the NEM policy in the State of North Carolina. Specifically, the 2009 NEM Order increased the eligible system capacity size up to 1 MW and held that:

[C]redit for excess electricity generated during a monthly billing period shall be carried forward to the following monthly billing period and the credit balance reset to zero at the beginning of each summer billing season.

2009 NEM Order at 15.

Additionally, the Commission held that, for customers participating in TOU rate schedules:

[E]xcess on-peak generation shall first be applied to offset on-peak consumption and excess off-peak generation to offset off-peak generation; any remaining on-peak generation shall then be applied against any remaining off-peak.

Id. at 15-16.

In adopting these revisions to North Carolina’s NEM policies, the Commission acknowledged the potential of cross-subsidies, but decided that such potential was outweighed by the potential for non-quantified benefits and the “clearly enunciated State policy favoring development of additional renewable generation.” *Id.* at 11.

Legislative Reforms in North Carolina

Since the 2009 reforms, the North Carolina General Assembly enacted two key pieces of legislation that enable a new direction for NEM, clean energy, and carbon emissions reduction in the State of North Carolina through H.B. 589 and H.B. 951.

I. H.B. 589

H.B. 589 was signed into law by the Governor of North Carolina on July 27, 2017. H.B. 589 enabled a new direction for distributed energy resources in North Carolina by encouraging “leasing of and subscription to solar energy facilities,” while making clear that “cross-subsidization should be avoided by holding harmless . . . customers that do not participate in such arrangements.” G.S. § 62-126.2. To fulfill this intent with respect to the next generation of NEM programs in North Carolina, G.S. § 62-126.4(a) specifically requires the Companies to “file for Commission approval *revised* net metering rates for electric customers that (i) own a renewable energy facility for that person’s primary use or (ii) are customer generator lessees.” G.S. § 62-126.4(a). (emphasis added). In setting rates pursuant thereto, G.S. § 62-126.4(b) requires (i) an investigation of the costs of benefits of customer-sited generation and (ii) only after such investigation, establishment of non-discriminatory rates that ensure that each NEM customer “pays its full fixed cost of service.” G.S. § 62-126.4(b). The plain language of this statute evidences an intent to address the issue of cross-subsidization under Existing NEM Programs, which can arise if NEM customers do not pay their share of costs attributable to their service needs. Although H.B. 589 mandates that the Companies file revised NEM rates, it permits existing NEM customers to take service under those existing programs until January 1, 2027, in accordance with G.S. § 62-126.4(c).

II. H.B. 951

H.B. 951 was signed into law by the Governor of North Carolina on October 13, 2021, and addresses a broad range of topics related to North Carolina’s clean energy future. Reflecting similar principles within H.B. 589, H.B. 951 directs the Commission to “revise net metering rates.” Section 5, H.B. 951. H.B. 951 also requires implementation of a carbon emissions reduction plan for the State’s public utilities. Although the proposed NEM Tariffs were developed prior to the enactment of H.B. 951, the Companies believe the proposed NEM Tariffs are consistent with the spirit of H.B. 951—particularly given that the revised design of the NEM Tariffs offers a more sustainable path for continued growth of customer-sited, carbon-free power generation, and the innovative rate structure and refreshed TOU periods within the tariffs will permit this program to be utilized with future demand side management (“DSM”) and energy efficiency (“EE”) programs to further reduce carbon emissions.

Development of NEM Programs in Response to H.B. 589

I. Comprehensive Rate Design Study

The Companies fulfilled G.S. § 62-126.4(b), as implemented by H.B. 589, by conducting an “investigation of the costs and benefits of customer-sited generation” through the Companies’ Rate Design Study. As discussed further below, the results of the Rate Design Study provide a current and detailed look at the costs and benefits of serving NEM customers under Existing NEM Programs. The Companies utilized these results to create rate structures that accurately capture the current costs to serve these customers and ensure NEM customers pay their “full fixed cost of service” in accordance with H.B. 589.

G.S. § 62-126.4(b).

a. Upward Pressure on Rates Under Existing NEM Programs.

Duke's Rate Design Study revealed the potential for NEM customers to not pay their full fixed cost to serve under the Existing NEM Programs—an issue raised in the 2005 NEM Order and 2009 NEM Order. This results in upward pressure on rates and was revealed through investigating cost and benefits under both a marginal cost framework and an embedded cost framework—each of which applied industry-standard rate design metrics to the full output of the PV system.

Embedded costs are costs that have already been incurred and need to be recovered—or in other words, the utility's revenue requirement. This is akin to a cost, which has accrued in the past, and now needs to be split between different parties that were responsible for incurring it. Duke's Rate Design Study reveals that there is a potential embedded cost cross-subsidy per NEM bill in the range of \$25-\$30 in DEC and \$35-\$40 in DEP.⁴

Marginal costs are the costs of the next unit. In this context, marginal cost could be the next unit of energy (i.e., the next kWh) or the next unit of capacity (i.e., the next kilowatt ("kW") of capacity) that are not incurred due to the adoption of NEM generation. This can also be thought of as the marginal system benefit created by that generation. The Companies' analyses concluded that there is a potential marginal cost cross-subsidy per NEM bill in the range of \$30-\$35 in DEC and \$58-\$63 in DEP. Values within the ranges provided for embedded and marginal cost were shared with stakeholders and members of

⁴ While this Joint Application and the rate structure is supported by parties to the MOU, not all parties agree on the extent to which cross-subsidization arises under Existing NEM programs or the programs proposed in this Joint Application.

Public Staff that participated in the Rate Design stakeholder process. Both the marginal and embedded cost perspectives are widely used in ratemaking nationwide and have been utilized in designing all of the rate designs currently in place for DEC and DEP.

b. Under-recovery of Costs Primarily Arises from Elementary NEM Rate Design.

The Existing NEM Programs rely upon a simple two-part rate design—which refers to a rate with a basic monthly fixed charge and fixed volumetric monthly energy charges. Such a simplistic rate design does not sufficiently ensure cost alignment under Existing NEM Programs according to the Companies’ analyses. A simplistic two-part rate design is generally adequate to recover the cost of service for non-NEM customers because there is a higher correlation between demand and total energy usage. More sophisticated rate designs are not necessarily required for these customers because a high energy usage customer will usually be a high-demand customer. Given that demand and energy costs are the two biggest cost classifications, cost causation is preserved for non-NEM customers because higher usage is highly correlated with higher costs and a higher bill.

However, this relationship breaks down for NEM customers. The addition of rooftop solar under NEM and a simple two-part rate design reduces billed energy usage significantly, but demand is reduced to a lesser extent. This results in NEM customers having larger bill reductions than are justified by the smaller reduction in the cost to serve them. Ultimately, the net revenue shortfall from NEM is socialized and collected from all customers after each rate proceeding. The proposed NEM Tariffs resolve this issue in compliance with H.B. 589.

c. Innovative Rate Designs are Required to Fulfill the Goals of H.B. 589.

H.B. 589 represents a paradigm shift which requires the Commission and the Companies to directly address the potential for cross-subsidy under NEM programs. Specifically, H.B. 589 requires the Commission to investigate the costs and benefits of customer-sited generation and to revise NEM rates to ensure that each NEM customer “pays its full fixed cost of service.” G.S. § 62-126.4(b). As described above, the Companies conducted this investigation under the Rate Design Study and leveraged those results to create innovative rate structures to fulfill the rate design requirements of H.B. 589. These rate structures reflect certain best practices implemented across the country to capture the cost to serve NEM customers—including jurisdictions like Arizona, California, Georgia, Hawaii, Indiana, Louisiana, Massachusetts, Nevada, New Hampshire, New York, and Utah. This rate design can take many forms, such as demand charges, minimum bills, non-bypassables, and grid access fees—among others—and may be used in conjunction with time-of-use (“TOU”) and critical-peak-pricing (“CPP”) rates. The central tenet of these rate structures is to align NEM rates with the cost to serve NEM customers, which is the first step in achieving the express goal of H.B. 589.

II. Stakeholder Involvement

The Companies engaged in productive and in-depth dialogue with stakeholders on NEM within the Rate Design Study over the course of seven workshops earlier this year. Participants in these workshops included over 20 organizations that represented a broad range of interests—from clean energy and the environment, to the state of North Carolina

as a whole.⁵ The Rate Design Study and corresponding stakeholder process were a critical part of developing the NEM Tariffs because they allowed the Companies to exchange studies, data, and modeling. Through this process, the Companies received feedback from stakeholders—including the Public Staff—that informed the Companies’ efforts to comply H.B. 589.

The Companies recently went through a similar stakeholder process in South Carolina. As a result, the Companies ultimately reached an agreement with leading members of the solar and environmental communities on a path forward for NEM in South Carolina, and that path forward has since been approved by the Public Service Commission of South Carolina.⁶ Although the stakeholder process in North Carolina is similar to the South Carolina process, the process in North Carolina involved new data and the examination of costs and benefits unique to North Carolina. It also included North Carolina stakeholders that were not part of the process in South Carolina—including organizations representing interests unique to North Carolina. In fact, the Companies surveyed several organizations participating in these workshops, and that survey revealed that **80%** of those organizations were either “supportive” or “very supportive” of the overall NEM proposal offered by the Companies. This broad support solidified the Companies’ belief that the current energy landscape in North Carolina is ready and able to move forward with NEM reform.

⁵ Participating organizations included, but are not limited to, the Stipulating Parties, Appalachian Voices, Clean Air Carolina, Lockhart Power Company, NC Commerce Public Staff Energy Division, NC Department of Justice, NC Public Staff, NC WARN, and Sierra Club.

⁶ The Companies’ South Carolina “Solar Choice” NEM tariffs were approved by the Public Service Commission of South Carolina via Order No. 2021-390 on May 30, 2021.

Although the North Carolina stakeholder process had numerous parties that advocated for unique and, at times, competing priorities, the Companies were able to continue discussions with certain parties and ultimately reach an agreement on the proposed program, rate design structure, and the rates designed expressly for North Carolina. Thereafter, the parties memorialized the terms of the agreement in the Memorandum of Understanding (“MOU”) filed simultaneously herewith, and these terms are discussed further below.

This agreement reflects an innovative, collaborative NEM solution in response to H.B. 589 that represents support from a broad group of stakeholders. This stands in stark contrast to the NEM landscape across the country, which consistently places the utility and solar industry at odds, resulting in adversarial regulatory proceedings. For example, instead of the collaboration among diverse interests in North Carolina to address a wide range of clean energy and energy efficiency measures, California is currently undergoing a heavily contested adversarial process surrounding the reform of its current NEM programs.⁷ These NEM reform efforts have been described in industry trade-press as “uncompromising” and “hostile”.⁸ The MOU and NEM Tariffs proposed in these proceedings represent a concerted effort by the Companies to solicit feedback from stakeholders, account for the various policy interests at play, and provide an NEM solution that works for all customers by aligning costs with benefits in accordance with H.B. 589. The Companies committed to

⁷ These reforms were initiated by the Public Utilities Commission of the State of California via its *Order Instituting Rulemaking to Revisit Net Energy Metering Tariffs Pursuant to Decision D.16-01-044, and to Address Other Issues Related to Net Energy Metering* issued in rulemaking proceeding R.20-08-020 on September 3, 2020.

⁸ *As California’s solar net metering battle goes to regulators, a focus on reliability may be the best answer*, located here: <https://www.utilitydive.com/news/as-californias-solar-net-metering-battle-goes-to-regulators-a-focus-on-re/606816/>

seeking prompt regulatory consideration and approval of the NEM Tariffs under the MOU to ensure that the Companies present timely offerings to the Commission that reflect the current energy landscape in North Carolina.

III. NEM Tariffs

If approved by the Commission, the NEM Tariffs will be available to customers who submit an application on or after January 1, 2023. The NEM Tariffs leverage the investigation of costs and benefits specific to NEM in the Rate Design Study to develop new innovative rate structures pursuant to H.B. 589 and H.B. 951. These rate structures work in conjunction with TOU and CPP rate schedules to align the costs to serve NEM customers, and represent certain best practices that ensure that each customer pays its “full fixed cost of service,” and minimize the risk of cross-subsidization in accordance with the Rate Design Study and H.B. 589.

If approved, the basic design and structure of the NEM Tariffs would not be changed for 10 years to provide consistency for NEM customers. The components of the NEM Tariffs necessarily work in a symbiotic manner, meaning that even the tweaking of one component would necessitate recalculation of every other component. The following describes the purpose of each specific rate component of the NEM Tariffs and how they work together to achieve the principles of H.B. 589 and H.B. 951.

a. Monthly Minimum Bill

The NEM Tariffs implement a monthly minimum bill (“MMB”) that ensures recovery of costs related to the distribution system—costs that are largely fixed. Such costs are allocated per customer or vary based on the demand-related costs to serve rather than energy usage per customer. Under-recovery of fixed costs places upward pressure on rates

because there is a mismatch between how these costs are incurred and how they are recovered. In those scenarios, customer-generators typically do not reduce these costs from the Companies' perspectives, but do reduce their bill—resulting in a gap that is recovered by the Companies from other customers. The Companies propose an MMB of \$22 for DEC and \$28 for DEP under the NEM Tariffs.

The MMB can be satisfied by (i) the basic customer charge or basic facilities charge in the applicable TOU-CPP Tariff, as defined below (each, a “Basic Charge”), and (ii) the portion of the monthly volumetric energy charges specific to customer and distribution costs, and riders. If the combination of the applicable Basic Charge, specific volumetric charges, and riders is less than the amount of the applicable MMB, then the MMB charge is equal to the amount of that shortfall. Any avoided cost bill credits for net exports can be used to reduce a customer's bill after the MMB has been applied.

The MMB amounts for DEC and DEP are derived from the recent compliance Cost of Service Studies conducted for each of the Companies.⁹ This ensures that the Companies more accurately recover the fixed customer and distribution costs incurred to serve these customer groups. In conjunction with the other elements in the NEM Tariffs, this ensures that the minimum fixed costs to serve a customer will be paid by that customer, regardless of their usage.

b. Monthly Grid Access Fee

The NEM Tariffs also incorporate a monthly grid access fee (“GAF”) for solar facilities with a capacity greater than 15 kW-dc. The initial GAF will be applied as follows

⁹ The Compliance Cost of Service Study for DEC was filed in Docket No. E-7, Sub 1214. The Compliance Cost of Service Study for DEP was filed in Docket No. E-2, Sub 1219.

for all capacity in excess of 15 kW-dc:

- DEC GAF: \$2.05/kW - dc/month
- DEP GAF: \$1.50/kW - dc/month

Customers with large system sizes represent the greatest potential for under-recovery because, in these situations, their billed kWh are reduced substantially. The GAF helps mitigate this risk by ensuring the recovery of distribution demand costs. As such, the GAF is set according to the distribution demand unit cost.

c. Non-Bypassable Charges

In addition to the components listed above, the NEM Tariffs utilize another tool that has been deployed with success in other jurisdictions to align costs to serve with customer rates—a non-bypassable charge. The non-bypassable charges in the NEM Tariffs are designed to recover all costs related to DSM/EE, storm cost recovery, and cyber security. Non-bypassable cost recovery will be a monthly charge per kW-dc of the customer-generator's system capacity. This rate is derived from estimating the total kWh bypassed per kW-dc of solar. These charges are required because, without them, program expenses and non-energy linked costs would be avoided by NEM customers and ultimately collected inappropriately from non-solar customers.

d. Netting and Exports

Although the proposed NEM Tariffs contain innovative rate structures that were not mandatory under the Existing NEM Programs, certain core NEM principles remain the same. For example, customers will be permitted to generate power which can be consumed by such customer (and thereby reduce energy imports from the Companies) or exported to the grid in the event such generation exceeds that customer's usage.

In addition, customers will be able to net exported energy against imports made by the utility over the month within each TOU pricing period, with any net imports billed at the rate in effect for that pricing period. At the end of the month, customers will be credited for any net monthly exports at an annualized rate (weighted average rate for all hours assuming a fixed block of energy) for avoided energy cost, as specified by the per kWh rates at the Companies' Commission-approved avoided cost rates.¹⁰ During CPP-designated hours, the CPP rate applies to all imports, and any energy exports during the CPP hours will be considered non-CPP peak exports and will only offset non-CPP peak imports.

The avoided cost rates that the Companies propose to pay to NEM customers for exported power represent Commission-approved rates that the Companies pay to utility-scale qualifying facilities ("QFs") under the Public Utility Regulatory Policies Act ("PURPA"). Although these avoided cost rates are currently paid to utility-scale QFs, the Companies believe that they are appropriate in the NEM context as well, given that these NEM customers are deemed QFs under PURPA and deliver the same intermittent solar energy to the grid as the utility-scale projects. By utilizing these values, the rates paid to these customers for exported generation accurately capture the benefits provided to the power system by this customer-generation and aligns the costs and benefits of serving these customers in accordance with H.B. 589 and reflect the findings of the Rate Design Study.

e. TOU/CPP Rates

These rate structures contained within the NEM Tariffs, and described above, were

¹⁰ The Companies' Commission-approved avoided cost rates are defined in DEC Purchased Power Schedule PP and DEP Purchased Power Schedule PP.

designed to work in conjunction with the Companies' TOU-CPP rate schedules that either have been approved, or are pending approval, by the Commission. Specifically, DEC customers enrolled in the NEM Tariffs would be served under the existing, Commission-approved Schedules RETC and RSTC, which are TOU-CPP tariffs for DEC residential customers. DEP has proposed a similar TOU-CPP tariff in Docket No. E-2 Sub 1280, which is pending. DEP customers enrolled in the NEM Tariffs would be served under the TOU-CPP tariffs ultimately approved by the Commission in that docket (together with DEC's TOU-CPP tariffs, the "TOU-CPP Tariffs").

Although the TOU-CPP Tariffs are outside the scope of these proceedings, they are applicable to the proposed NEM Tariffs and will help serve the goals of H.B. 589 as well. TOU rates incentivize load to be shifted to low-cost times because when the Companies' cost of service is lower, the TOU customer's price of electricity is also lower. Likewise, the peak and CPP prices ensure proper cost recovery for higher cost peak periods by sending proper price signals to customers. By proposing NEM rate and tariff mechanisms in these proceedings that can be paired with the TOU-CPP Tariffs, rates will be more reflective of costs and will play a key role in reducing potential cost shifts.

IV. Legacy NEM Customers

G.S. § 62-126.4(c), as implemented by H.B. 589, provides that customers who install net metered generation prior to the implementation of new rates may elect to remain on their existing rates until January 1, 2027. As such, H.B. 589 envisions a transition to new rates for those customers on January 1, 2027. However, to strike a balance between H.B. 589's mandate to address cross-subsidies and the interests of customers who installed

NEM in advance of the new rates, the Companies are proposing an alternative NEM rate option for those legacy customers as follows:

- 1) Customers will be allowed to remain on their legacy NEM rate schedules, and imports and exports will be netted across the entire month.
- 2) At the end of each month, these customers will be credited at the avoided cost rate (calculated in the same manner as the value for exports paid under the NEM Tariffs) for all net excess energy, which means they will not be allowed to roll that excess energy credit over to the next month's bill.
- 3) These customers would pay an MMB \$10 more than the applicable Basic Charge in effect at that time. The MMB may be satisfied by the applicable Basic Charge and the portion of the customer's monthly volumetric energy charges specific to customer and distribution costs.
- 4) These customers would pay a monthly non-bypassable charge based on the installed capacity of their generation for future volumetric base rate increases applicable to their rate schedule.

Taken together, these changes will serve to minimize cross-subsidies. The Companies believe requiring all legacy NEM customers to go onto the NEM Tariffs would cause financial harm to those customers. Therefore, the Companies are offering this option for Existing NEM customers as a glidepath to the NEM Tariffs, which reflects the ratemaking best practice of gradualism. This grandfathering provision would remain in effect for 15 years from the effective date of the proposed NEM Tariffs, i.e., December 31, 2037 as proposed in this application. The Companies believe this time period is adequate to

minimize the financial impact on customers for NEM investments made prior to implementation of the proposed NEM Tariffs.

V. Cost Recovery

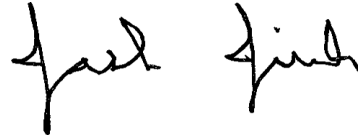
The NEM Tariffs credit net exports at the avoided cost rate, as approved by the Commission under PURPA. As such, the Companies believe this cost is appropriate for collection through annual fuel proceedings, pursuant to Chapter 62 of the North Carolina General Statutes.

Conclusion

The rate structures of the NEM Tariffs not only reflect the principles arising from H.B. 589, H.B. 951, and significant work in the Rate Design Study, but also reflect recent broad stakeholder agreement under the MOU. The Companies leveraged this momentum to provide revised NEM rates in accordance with H.B. 589. The NEM Tariffs fulfill the ultimate NEM-related goal of H.B. 589 by designing rates that reflect the costs and benefits of serving these customers to ensure that each NEM customer “pays its full fixed cost of service.” This rate design benefits all customers by more accurately aligning near-term costs and benefits in compliance with North Carolina law. In addition, customers who adopt solar under the new rates will add carbon-emission-free energy to the State—which aligns with the goals of H.B. 951. Therefore, in light of the extensive stakeholder discussions and the broad support under the MOU, the Companies respectfully request that the Commission, pursuant to this Application, and in compliance with the requirements of H.B. 589 and H.B. 951, approve this request for approval of the following:

1. Duke Energy Carolinas, LLC’s NEM Tariff;
2. Duke Energy Progress, LLC’s NEM Tariff; and
3. To provide any further relief the Commission deems to be just and reasonable and in the public interest.

Respectfully submitted this 29th day of November, 2021.



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

RIDER NM (NC)
NET METERINGAVAILABILITY (North Carolina Only)

Available to residential and nonresidential Customers, subject to the terms below, receiving concurrent service from the Company where a photovoltaic, wind-powered, micro-hydro or biomass-fueled generation source of energy, is installed on the Customer's side of the delivery point, for the Customer's own use, interconnected with and operated in parallel with the Company's distribution system.

This Rider is closed to new residential participants on and after January 1, 2023. Residential customers requesting net energy metering (NEM) on and after January 1, 2023 will receive service in accordance with the NEM tariff(s) in effect at that time.

Residential participants and subsequent owners of the customer-generator facility (collectively, "Residential Participants") who applied for service under this Rider prior to January 1, 2023 shall remain eligible for standard service under this Rider until December 31, 2026. Residential Participants will be given the option to transfer to Rider RSC (Residential Solar Choice) and an eligible rate schedule beginning January 1, 2023. If Residential Participants elect not to transfer to Rider RSC and an eligible rate schedule by the sunset date of December 31, 2026, they may continue to receive service under this Rider subject to the following provisions:

1. Any volumetric price increase of the Customer's applicable rate schedule after the sunset date will be placed in a monthly Non-Bypassable Charge based on the Nameplate Capacity of their generation system.
2. Customer will be assessed a monthly Minimum Bill set at \$10 more than the Basic Facilities Charge at that time.
3. Energy Credits will be applied to the Customer's bill at the avoided cost rate specified in Rider RSC at the end of each billing month, rather than carry forward to the next billing month.

By December 31, 2037, all Residential Participants must transfer to Rider RSC or the NEM tariff(s) in effect at that time.

GENERAL PROVISIONS

1. To qualify for service under this Rider, a residential Customer may be served on any residential rate schedule. The Nameplate Rating of the Customer's installed generation system and equipment must not exceed the estimated maximum monthly kilowatt (kW) demand of the residence or 20 kW, whichever is less.
2. To qualify for service under this Rider, a nonresidential Customer may be served under one of the Company's general service or industrial rate schedules that does not otherwise provide for parallel operation of a customer generator. The Nameplate Rating of the Customer's installed generation system and equipment must not exceed the Customer's Contract Demand or 1000 kW, whichever is less.
3. If the electricity supplied to the Customer by the Company exceeds the electricity delivered to the grid by the Customer-Generator during a monthly billing period, the Customer-Generator shall be billed for the net electricity in kilowatt hours supplied by the Company, plus any demand or other charges under the applicable rate schedule. If the electricity delivered to the grid by the Customer-Generator exceeds the electricity in kilowatt hours supplied by the utility during a monthly billing period, the Customer-Generator shall be credited for the excess kilowatt hours generated during that billing period. Charges or credits will be determined using the appropriate energy rates of the applicable rate schedule as further outlined in the RATE paragraph below.
4. All other provisions of the applicable rate schedule including, but not limited to, Determination of Billing Demand, Determination of On-Peak and Off-Peak Hours, Definition of Month, Contract Demand, Approved Fuel Charge Adjustments, etc. will apply to service supplied under this Rider.
5. If the Customer is not the owner of the premises receiving electric service from the Company, the Company shall have the right to require that the owner of the premises give satisfactory written approval of the Customer's request for service under this Rider.
6. Customers served under this Rider are not eligible to participate in NC GreenPower.

RIDER NM (NC)
NET METERING

7. For any customer receiving service under a non-time of use demand rate schedule, any renewable energy credits (RECs) shall be retained by the Company.

RATE

The rate shall be the applicable time of use demand rate schedule and the monthly bill shall be determined as follows:

- I. The Basic Facilities Charge shall be the Basic Facilities Charge from the applicable rate schedule.
- II. The Demand Charge shall be determined from the applicable schedule as appropriate.
- III. Energy Charges (or Credits) shall be based on the net kilowatt hours purchased from or delivered to the Company for the bill month. For any bill month during which the Energy Charges are a net credit, the respective Energy Charges for the month shall be zero. For residential customers prior to January 1, 2027 and for nonresidential customers, any Energy Credits shall carry forward on following month's bill. If the customer is on a time of use rate, the energy credits shall carry forward by first applying excess On-Peak kWh against On-Peak kWh charges and excess Off-peak kWh against Off-peak kWh charges, then applying any remaining On-Peak kWh against any remaining Off-Peak kWh charges. Effective with the seasonal rate change on June 1 of each year, any accrued credit will be reset to zero. Credits shall not offset the Basic Facilities Charge or the Demand Charge. For Residential Participants served under this Rider beyond the sunset date of December 31, 2026, Energy Credits will be applied to the Customer's bill at the avoided cost rate specified in Rider RSC at the end of each billing month.
- IV. Residential Participants served under this Rider beyond the sunset date of December 31, 2026 will be assessed a monthly Non-Bypassable Charge based on the Nameplate Capacity of their generation system for any volumetric price increase thereafter of their applicable rate schedule. (The Company will file a revised tariff with the applicable Non-Bypassable Charge prior to the sunset date.)
- V. A Standby Charge of \$1.7235 per kW per month will apply to all nonresidential customers where the generator is larger than 100 kW.

MINIMUM BILL

The monthly Minimum Bill for Customers receiving service under this Rider shall be no less than Basic Facilities Charge plus the if applicable, any of the following charges: the Demand Charge, the Economy Demand Charge the Standby Charge, and the Extra Facilities Charge.

Residential Participants served under this Rider beyond the sunset date of December 31, 2026 will be assessed a monthly Minimum Bill set at \$10 more than the Basic Facilities Charge at that time. The Minimum Bill will be satisfied by the Basic Facilities Charge, the portion of the Customer's monthly volumetric energy charges specific to customer and distribution costs, and riders. (The Company will file a revised tariff with the Customer and Distribution Energy Charge rates for applicable rate schedules prior to the sunset date.)

Energy Credits are not included in the calculation of the Minimum Bill Charge. Energy Credits will reduce a Residential Participant's total bill after the Minimum Bill Charge has been applied.

DETERMINATION OF STANDBY CHARGES

The Company will require each Customer served under this Rider with a generator system of more than 100 kW to contract for standby, auxiliary or breakdown service. For billing purposes, the Standby kW will be based on the Nameplate Rating, in kilowatts, of the Customer's system.

RIDER NM (NC)
NET METERINGMETERING REQUIREMENTS

The Company will furnish, install, own and maintain metering to measure the kilowatt demand delivered by the Company to the Customer, and to measure the net kilowatt-hours purchased by the Customer or delivered to the Company. The Company shall have the right to install special metering and load research devices on the Customer's equipment and the right to use the Customer's telephone line for communication with the Company's and the Customer's equipment.

SAFETY, INTERCONNECTION AND INSPECTION REQUIREMENTS

This Rider is only applicable for installed generation systems and equipment that comply with the provisions outlined in the North Carolina Interconnection Procedures, Forms, and Agreements for State-Jurisdictional Generator Interconnections (hereinafter "Interconnection Procedures") as approved by the North Carolina Utilities Commission.

The Customer must submit a Request to Interconnect, which must be accepted by the Company, pay an application fee, comply with the liability insurance requirements of the Interconnection Procedures and enter into a specific contract providing for interconnection to the Company's system.

In order to ensure protection of the Company's system, the Company reserves the right, at its discretion, to inspect the Customer's generation system and equipment at any time upon reasonable notice to the Customer in an effort to ensure compliance with the Interconnection Procedures. The Company reserves the right to disconnect electric service to the premises if the Company determines that the Customer's generation system and equipment is not in compliance with the Interconnection Procedures and is being operated in parallel with the Company's system.

The Customer shall be responsible for any costs incurred by the Company pursuant to the Interconnection Procedures. The Company reserves the right to require additional interconnection facilities, furnished, installed, owned and maintained by the Company, at the Customer's expense, if the Customer's system, despite compliance with the Interconnection Procedures, causes safety, reliability or power quality problems. These additional facilities will be subject to a monthly charge under the Extra Facilities provisions of the Company's Service Regulations provided, however, that the minimum Extra Facilities charge shall not apply.

POWER FACTOR CORRECTION

When the average monthly power factor of the power supplied by the Customer to the Company is less than 90 percent or greater than 97 percent, the Company may correct the energy in kilowatt-hours, as appropriate. The Company reserves the right to install facilities necessary for the measurement of power factor. The Company will not install such equipment, nor make a power factor correction if the generator system is less than 20 kW and uses an inverter.

CONTRACT PERIOD

Each Customer shall enter into a contract for a minimum original term of one (1) year, except that either party may terminate the contract after one year by giving at least sixty (60) days previous notice of such termination in writing.

The Company reserves the right to terminate the Customer's contract under this Rider at any time upon written notice to the Customer in the event that the Customer violates any of the terms or conditions of this Rider, or operates the generation system and equipment in a manner which is detrimental to the Company or any of its customers. In the event of early termination of a contract under this Rider, the Customer will be required to pay the Company for the costs due to such early cancellation, in accordance with the Company's North Carolina Service Regulations.

RIDER NM (NC)
NET METERINGAVAILABILITY (North Carolina Only)

Available to residential and nonresidential Customers, subject to the terms below, receiving concurrent service from the Company where a photovoltaic, wind-powered, micro-hydro or biomass-fueled generation source of energy, -is installed on the Customer's side of the delivery point, for the Customer's own use, interconnected with and operated in parallel with the Company's distribution system.

This Rider is closed to new residential participants on and after January 1, 2023. Residential customers requesting net energy metering (NEM) on and after January 1, 2023 will receive service in accordance with the NEM tariff(s) in effect at that time.

Residential participants and subsequent owners of the customer-generator facility (collectively, "Residential Participants") who applied for service under this Rider prior to January 1, 2023 shall remain eligible for standard service under this Rider until December 31, 2026. Residential Participants will be given the option to transfer to Rider RSC (Residential Solar Choice) and an eligible rate schedule beginning January 1, 2023. If Residential Participants elect not to transfer to Rider RSC and an eligible rate schedule by the sunset date of December 31, 2026, they may continue to receive service under this Rider subject to the following provisions:

1. Any volumetric price increase of the Customer's applicable rate schedule after the sunset date will be placed in a monthly Non-Bypassable Charge based on the Nameplate Capacity of their generation system.
2. Customer will be assessed a monthly Minimum Bill set at \$10 more than the Basic Facilities Charge at that time.
3. Energy Credits will be applied to the Customer's bill at the avoided cost rate specified in Rider RSC at the end of each billing month, rather than carry forward to the next billing month.

By December 31, 2037, all Residential Participants must transfer to Rider RSC or the NEM tariff(s) in effect at that time.

GENERAL PROVISIONS

1. To qualify for service under this Rider, a residential Customer may be served on any residential rate schedule. The Nameplate Rating of the Customer's installed generation system and equipment must not exceed the estimated maximum monthly kilowatt (kW) demand of the residence or 20 kW, whichever is less.
2. To qualify for service under this Rider, a nonresidential Customer may be served under one of the Company's general service or industrial rate schedules that does not otherwise provide for parallel operation of a customer generator. The Nameplate Rating of the Customer's installed generation system and equipment must not exceed the Customer's Contract Demand or 1000 kW, whichever is less.
3. If the electricity supplied to the Customer by the Company exceeds the electricity delivered to the grid by the Customer-Generator during a monthly billing period, the Customer-Generator shall be billed for the net electricity in kilowatt hours supplied by the Company, plus any demand or other charges under the applicable rate schedule. If the electricity delivered to the grid by the Customer-Generator exceeds the electricity in kilowatt hours supplied by the utility during a monthly billing period, the Customer-Generator shall be credited for the excess kilowatt hours generated during that billing period. Charges or credits will be determined using the appropriate energy rates of the applicable rate schedule as further outlined in the RATE paragraph below.
4. All other provisions of the applicable rate schedule including, but not limited to, Determination of Billing Demand, Determination of On-Peak and Off-Peak Hours, Definition of Month, Contract Demand, Approved Fuel Charge Adjustments, etc. will apply to service supplied under this Rider.
5. If the Customer is not the owner of the premises receiving electric service from the Company, the Company shall have the right to require that the owner of the premises give satisfactory written approval of the Customer's request for service under this Rider.
6. Customers served under this Rider are not eligible to participate in NC GreenPower.

RIDER NM (NC)
NET METERING

7. For any customer receiving service under a non-time of use demand rate schedule, any renewable energy credits (RECs) shall be retained by the Company.

RATE

The rate shall be the applicable time of use demand rate schedule and the monthly bill shall be determined as follows:

- I. The Basic Facilities Charge shall be the Basic Facilities Charge from the applicable rate schedule.
- II. The Demand Charge shall be determined from the applicable schedule as appropriate.
- III. Energy Charges (or Credits) shall be based on the net kilowatt hours purchased from or delivered to the Company for the bill month. For any bill month during which the Energy Charges are a net credit, the respective Energy Charges for the month shall be zero. For residential customers prior to January 1, 2027 and for nonresidential customers, Any Energy Credits shall carry forward on following month's bill. If the customer is on a time of use rate, the energy credits shall carry forward by first applying excess On-Peak kWh against On-Peak kWh charges and excess Off-peak kWh against Off-peak kWh charges, then applying any remaining On-Peak kWh against any remaining Off-Peak kWh charges. Effective with the seasonal rate change on June 1 of each year, any accrued credit will be reset to zero. Credits shall not offset the Basic Facilities Charge or the Demand Charge. For Residential Participants served under this Rider beyond the sunset date of December 31, 2026, Energy Credits will be applied to the Customer's bill at the avoided cost rate specified in Rider RSC at the end of each billing month.
- ~~III-IV.~~ Residential Participants served under this Rider beyond the sunset date of December 31, 2026 will be assessed a monthly Non-Bypassable Charge based on the Nameplate Capacity of their generation system for any volumetric price increase thereafter of their applicable rate schedule. (The Company will file a revised tariff with the applicable Non-Bypassable Charge prior to the sunset date.)
- ~~IV-V.~~ A Standby Charge of \$1.7235 per kW per month will apply to all nonresidential customers where the generator is larger than 100 kW.

MINIMUM BILL

The monthly ~~m~~Minimum ~~b~~Bill for Customers receiving service under this Rider shall be no less than Basic Facilities Charge plus the if applicable, any of the following charges: the Demand Charge, the Economy Demand Charge the Standby Charge, and the Extra Facilities Charge.

Residential Participants served under this Rider beyond the sunset date of December 31, 2026 will be assessed a monthly Minimum Bill set at \$10 more than the Basic Facilities Charge at that time. The Minimum Bill will be satisfied by the Basic Facilities Charge, the portion of the Customer's monthly volumetric energy charges specific to customer and distribution costs, and riders. (The Company will file a revised tariff with the Customer and Distribution Energy Charge rates for applicable rate schedules prior to the sunset date.)

Energy Credits are not included in the calculation of the Minimum Bill Charge. Energy Credits will reduce a Residential Participant's total bill after the Minimum Bill Charge has been applied.

DETERMINATION OF STANDBY CHARGES

The Company will require each Customer served under this Rider with a generator system of more than 100 kW to contract for standby, auxiliary or breakdown service. For billing purposes, the Standby kW will be based on the Nameplate Rating, in kilowatts, of the Customer's system.

RIDER NM (NC)
NET METERING

METERING REQUIREMENTS

The Company will furnish, install, own and maintain metering to measure the kilowatt demand delivered by the Company to the Customer, and to measure the net kilowatt-hours purchased by the Customer or delivered to the Company. The Company shall have the right to install special metering and load research devices on the Customer's equipment and the right to use the Customer's telephone line for communication with the Company's and the Customer's equipment.

SAFETY, INTERCONNECTION AND INSPECTION REQUIREMENTS

This Rider is only applicable for installed generation systems and equipment that comply with the provisions outlined in the North Carolina Interconnection Procedures, Forms, and Agreements for State-Jurisdictional Generator Interconnections (hereinafter "Interconnection Procedures") as approved by the North Carolina Utilities Commission.

The Customer must submit a Request to Interconnect, which must be accepted by the Company, pay an application fee, comply with the liability insurance requirements of the Interconnection Procedures and enter into a specific contract providing for interconnection to the Company's system.

In order to ensure protection of the Company's system, the Company reserves the right, at its discretion, to inspect the Customer's generation system and equipment at any time upon reasonable notice to the Customer in an effort to ensure compliance with the Interconnection Procedures. The Company reserves the right to disconnect electric service to the premises if the Company determines that the Customer's generation system and equipment is not in compliance with the Interconnection Procedures and is being operated in parallel with the Company's system.

The Customer shall be responsible for any costs incurred by the Company pursuant to the Interconnection Procedures. The Company reserves the right to require additional interconnection facilities, furnished, installed, owned and maintained by the Company, at the Customer's expense, if the Customer's system, despite compliance with the Interconnection Procedures, causes safety, reliability or power quality problems. These additional facilities will be subject to a monthly charge under the Extra Facilities provisions of the Company's Service Regulations provided, however, that the minimum Extra Facilities charge shall not apply.

POWER FACTOR CORRECTION

When the average monthly power factor of the power supplied by the Customer to the Company is less than 90 percent or greater than 97 percent, the Company may correct the energy in kilowatt-hours, as appropriate. The Company reserves the right to install facilities necessary for the measurement of power factor. The Company will not install such equipment, nor make a power factor correction if the generator system is less than 20 kW and uses an inverter.

CONTRACT PERIOD

Each Customer shall enter into a contract for a minimum original term of one (1) year, except that either party may terminate the contract after one year by giving at least sixty (60) days previous notice of such termination in writing.

The Company reserves the right to terminate the Customer's contract under this Rider at any time upon written notice to the Customer in the event that the Customer violates any of the terms or conditions of this Rider, or operates the generation system and equipment in a manner which is detrimental to the Company or any of its customers. In the event of early termination of a contract under this Rider, the Customer will be required to pay the Company for the costs due to such early cancellation, in accordance with the Company's North Carolina Service Regulations.

RIDER RSC (NC)
RESIDENTIAL SOLAR CHOICEAVAILABILITY (North Carolina Only)

Available to residential Customers receiving concurrent service from the Company where a renewable energy resource is installed on the Customer's side of the delivery point, for the Customer's own use, interconnected with and operated in parallel with the Company's distribution system. Each Customer receiving service under this Rider must be an owner, operator, or lessee of an electric generation system that generates or discharges electricity from a renewable energy resource, including an energy storage device configured to receive electrical charge solely from onsite renewable energy generation. For service under this Rider, renewable energy generation includes solar electric; wind-powered; biomass-fueled, including agricultural waste, animal waste, wood waste, spent pulping liquors, combustible residues, combustible liquids, combustible gases, energy crops or landfill methane; waste heat derived from a renewable energy resource and used to produce electricity at the customer's site; or hydro-powered generating system. The generation system must be located at a single premise and owned, operated, leased or otherwise controlled by the Customer.

Customers receiving service under this Rider must be served under a residential rate schedule with time of use (TOU) and critical peak pricing (CPP), specifically Schedule RSTC or RETC.

GENERAL PROVISIONS

1. To qualify for service under this Rider, the Customer must comply with all applicable interconnection standards and must provide in writing the Nameplate Capacity of the Customer's installed generation system. Any subsequent change to the Nameplate Capacity must be provided by Customer to Company in writing by no later than 60 days following the change.
2. To qualify for service under this Rider, the Customer must be served on Schedule RSTC or RETC. Customers served under this Rider may not be served under another parallel generation rider or participate in NC GreenPower. The Nameplate Capacity of Customer's installed generation system and equipment must not exceed the estimated maximum monthly demand of the residence or 20 kW AC, whichever is less.
3. If the Customer is not the owner of the premises receiving electric service from the Company, the Company shall have the right to require that the owner of the premises give satisfactory written approval of the Customer's request for service under this Rider.
4. For each TOU period, if the electricity delivered to the grid by the Customer exceeds the electricity supplied to the Customer by the Company during a monthly billing period, then the Customer shall be credited for the net electricity delivered to the grid at the Net Excess Energy Credit rate listed in the Rate section.
5. For each TOU period, if the electricity supplied by the Company exceeds the electricity delivered to the grid by the Customer during a monthly billing period, the Customer shall be billed for the net electricity supplied by the Company, plus any other charges under the applicable rate schedule and riders.
6. Electricity supplied by the Company and electricity delivered to the grid by the Customer will be netted within each TOU pricing period, and the Customer will receive credits for Net Excess Energy as described above. Electricity delivered to the grid by the Customer during Critical Peak hours will be netted with electricity supplied by the Company during On-Peak hours. Electricity supplied by the Company during Critical Peak hours cannot be reduced by electricity delivered to the grid by the Customer.
7. There shall be a monthly Non-Bypassable Charge and Grid Access Fee based on the Customer's Nameplate Capacity in kW DC for solar generation or kW AC for non-solar generation. The Grid Access Fee will be \$0 for customers with Nameplate Capacity at or below 15 kW.
8. Any renewable energy credits (RECs) associated with electricity delivered to the grid by the Customer under this Rider shall be retained by the Company.

RIDER RSC (NC)
RESIDENTIAL SOLAR CHOICERATE

All provisions of the Customer's applicable rate schedule and riders will apply to service supplied under this Rider, except as modified herein.

I.	Net Excess Energy Credit per month, per kWh	2.68¢
II.	Non-Bypassable Charge per month, per Nameplate Capacity kW	\$0.36
III.	Grid Access Fee per month, per Nameplate Capacity kW above 15 kW	\$2.05

MINIMUM BILL

There shall be a monthly minimum bill of \$22 specific to the portion of the Customer's bill related to customer and distribution costs. The Minimum Bill Charge shall apply when the sum of the Basic Facilities Charge, "Customer and Distribution Energy Charges" and riders is less than \$22. The Minimum Bill Charge shall be the difference between \$22 and the sum of these costs.

Bill credits for Net Excess Energy are not included in the calculation of the Minimum Bill Charge. Bill credits will reduce a Customer's total bill after the Minimum Bill Charge has been applied.

CUSTOMER AND DISTRIBUTION ENERGY CHARGES

The following Customer and Distribution Energy Charges are components of the energy charges defined in the Customer's rate schedule. These components are used in the calculation of the Minimum Bill Charge.

For calculation of Customer and Distribution Energy Charges, On-Peak Energy includes both Critical Peak and On-Peak hours.

I.	Schedule RSTC	
a.	On-Peak Energy per month, per kWh	3.8440¢
b.	Off-Peak Energy per month, per kWh	1.8876¢
c.	Discount Energy per month, per kWh	1.4441¢
II.	Schedule RETC	
a.	On-Peak Energy per month, per kWh	4.8305¢
b.	Off-Peak Energy per month, per kWh	2.2670¢
c.	Discount Energy per month, per kWh	1.6859¢

METERING REQUIREMENTS

Company will furnish, install, own and maintain a billing meter to measure the kW demand delivered by Company to Customer, and to measure the net kWh purchased by Customer or delivered to Company. The billing meter will be a single, bi-directional meter which records independently the net flow of electricity in each direction through the meter, unless Customer's overall electrical requirement merits a different meter. The Customer grants the Company the right to install, operate, and monitor special equipment to measure the Customer's generating system output, or any part thereof, and to obtain any other data necessary to determine the operating characteristics and effects of the installation. All metering shall be at a location that is readily accessible by the Company.

SAFETY, INTERCONNECTION AND INSPECTION REQUIREMENTS

This Rider is only applicable for installed renewable generation systems and equipment that comply with the provisions outlined in the North Carolina Interconnection Procedures, Forms, and Agreements for State-Jurisdictional Generator Interconnections ("Interconnection Procedures") as approved by the North Carolina Utilities Commission.

The Customer must submit a Request to Interconnect, which must be accepted by the Company, pay an application fee, comply with the liability insurance requirements of the Interconnection Procedures and enter into a specific contract providing for interconnection to the Company's system.

RIDER RSC (NC)
RESIDENTIAL SOLAR CHOICE

In order to ensure protection of the Company's system, the Company reserves the right, at its discretion, to inspect the Customer's generation system and equipment at any time upon reasonable notice to the Customer in an effort to ensure compliance with the Interconnection Procedures. The Company reserves the right to disconnect electric service to the premises if the Company determines that the Customer's generation system and equipment is not in compliance with the Interconnection Procedures and is being operated in parallel with the Company's system.

The Customer shall be responsible for any costs incurred by the Company pursuant to the Interconnection Procedures. The Company reserves the right to require additional interconnection facilities, furnished, installed, owned and maintained by the Company, at the Customer's expense, if the Customer's system, despite compliance with the Interconnection Procedures, causes safety, reliability or power quality problems. These additional facilities will be subject to a monthly charge under the Extra Facilities provisions of the Company's NC Service Regulations provided that the minimum Extra Facilities charge shall not apply.

CONTRACT PERIOD

The Customer shall enter into a contract for service under this Rider for a minimum original term of one (1) year, and the contract shall automatically renew thereafter, except that either party may terminate the contract after one year by giving at least sixty (60) days prior notice of such termination in writing.

The Company reserves the right to terminate the Customer's contract under this Rider at any time upon written notice to the Customer in the event that the Customer violates any of the terms or conditions of this Rider, or operates the renewable generation system and equipment in a manner which is detrimental to the Company or any of its customers. In the event of early termination of a contract under this Rider, the Customer will be required to pay the Company for the costs due to such early termination, in accordance with the Company's NC Service Regulations.

Duke Energy Progress, LLC
(North Carolina Only)

RR-3

NET METERING FOR RENEWABLE ENERGY FACILITIES RIDER NM-5

AVAILABILITY

This Rider is available, subject to the terms below, in conjunction with Company's residential and general service schedules to Customer who operates a solar electric; wind-powered; biomass-fueled, including agricultural waste, animal waste, wood waste, spent pulping liquors, combustible residues, combustible liquids, combustible gases, energy crops or landfill methane; waste heat derived from a renewable energy resource and used to produce electricity at the customer's site; or hydro-powered generating system located and used at Customer's primary, legal residence or business where a part or all of the electrical requirements of Customer can be supplied from Customer's generating system. The rated capacity of the generating system shall not exceed the lesser of Customer's estimated maximum annual kilowatt demand or 1,000 kilowatts. The generating system that is connected in parallel operation with service from Company and located on Customer's premises must be manufactured, installed and operated in accordance with governmental and industry standards and must fully conform with Company's "North Carolina Interconnection Procedures, Forms and Agreements for State-Jurisdictional Generation Interconnections." Standby Service provisions shall not be required when service is used in conjunction with this Rider for residential applicants, regardless of generation capacity, and general service applicants with generation capacities of 100 kW or less.

This Rider is closed to new residential participants on and after January 1, 2023. Residential customers requesting net energy metering (NEM) on and after January 1, 2023 will receive service in accordance with the NEM tariff(s) in effect at that time.

Residential participants and subsequent owners of the customer-generator facility (collectively, "Residential Participants") who applied for service under this Rider prior to January 1, 2023 shall remain eligible for standard service under this Rider until December 31, 2026. Residential Participants will be given the option to transfer to Rider RSC (Residential Solar Choice) and an eligible rate schedule beginning January 1, 2023. If Residential Participants elect not to transfer to Rider RSC and an eligible rate schedule by the sunset date of December 31, 2026, they may continue to receive service under this Rider subject to the following provisions:

1. Any volumetric price increase of the Customer's applicable rate schedule after the sunset date will be placed in a monthly Non-Bypassable Charge based on the Nameplate Capacity of their generation system.
2. Customer will be assessed a monthly Minimum Bill set at \$10 more than the Basic Customer Charge at that time.
3. Excess Energy will be credited to the Customer's bill at the avoided cost rate specified in Rider RSC at the end of each billing month, rather than carry forward to the next billing month.

By December 31, 2037, all Residential Participants must transfer to Rider RSC or the NEM tariff(s) in effect at that time.

The provisions of the Schedule with which this Rider is used are modified only as shown herein. Customer may not simultaneously receive service under this Rider and Company's Cogeneration and Small Power Production Schedule or participate as a generation resource in NC GreenPower.

If Customer receives electric service under a schedule other than a time-of-use schedule with demand rates, any renewable energy credit or "green tags" shall be provided by Customer at no cost to Company. If service is received under a time-of-use schedule with demand rates, all renewable energy credits or "green tags" shall be retained solely by Customer.

TYPE OF SERVICE

This Rider is applicable to all electric service of the same available type supplied to Customer's premises at one point of delivery through one kilowatt-hour meter.

MONTHLY RATE

An amount computed under the rate schedule and any other applicable riders with which this Rider is used, as adjusted to reflect Excess Energy delivered to Company as follows:

For electric service under a time-of-use schedule by residential customers prior to January 1, 2027 or by nonresidential customers:

1. Customer's on-peak usage for service rendered shall be reduced by the sum of (a) any on-peak Excess Energy delivered to Company in the current month plus (b) any accumulated on-peak Excess Energy balance from prior months. In no case shall the on-peak kWh billed be less than zero.
2. Customer's off-peak usage for service rendered shall be reduced by the sum of (a) any off-peak Excess Energy delivered to Company in the current month plus (b) any accumulated off-peak Excess Energy balance from prior months plus (c) any accumulated on-peak Excess Energy balance in the current or prior months that was not used to reduce on-peak usage. In no case shall the off-peak kWh billed be less than zero.
3. Customer's on-peak and off-peak demands for service rendered shall be billed pursuant to the applicable schedule. In months when demand charges are prorated based upon seasonal on-peak usage and the usage to be billed exceeds the Excess Energy available to reduce such usage, Excess Energy delivered to Company shall be used to reduce billed kWh usage based upon the ratio of on-peak energy consumed in each season.
4. Excess Energy not used in the current billing month to reduce billed kWh usage shall be accumulated and used to reduce usage in future months; however, any accumulated Excess Energy not used to reduce billed kWh usage shall be set to zero each May 31st. Excess Energy delivered prior to May 31st will only be used to reduce usage provided by Company prior to May 31st. There will be no compensation paid to Customer for Excess Energy granted to Company.

For electric service under a standard schedule without time-of-use rates by residential customers prior to January 1, 2027 or by nonresidential customers:

1. Customer's usage for service rendered shall be reduced by the sum of (a) any energy delivered to Company in the current month plus (b) any accumulated energy balance from prior months. In no case shall the kWh usage billed be less than zero.
2. Customer's demands for service rendered shall be billed pursuant to the applicable schedule.
3. Excess Energy not used in the current billing month to reduce billed kWh usage shall be accumulated and used to reduce usage in future months; however, any accumulated Excess Energy not used to reduce billed kWh usage shall be set to zero in the billing month that includes usage incurred on May 31st each year. There will be no compensation paid to Customer for Excess Energy granted to Company.

For electric service under a time-of-use schedule by Residential Participants after January 1, 2027:

1. Customer's on-peak usage for service rendered shall be reduced by any on-peak Excess Energy delivered to Company in the current month. In no case shall the on-peak kWh billed be less than zero.
2. Customer's off-peak usage for service rendered shall be reduced by the sum of (a) any off-peak Excess Energy delivered to Company in the current month plus (b) any accumulated on-peak Excess Energy balance in the current month that was not used to reduce on-peak usage. In no case shall the off-peak kWh billed be less than zero.

3. Customer's on-peak and off-peak demands for service rendered shall be billed pursuant to the applicable schedule.
4. Excess Energy not used in the current billing month to reduce billed kWh usage shall be credited to the Customer's bill at the avoided cost rate specified in Rider RSC.

For electric service under a standard schedule without time-of-use rates by Residential Participants after January 1, 2027:

1. Customer's usage for service rendered shall be reduced by any energy delivered to Company in the current month. In no case shall the kWh usage billed be less than zero.
2. Customer's demands for service rendered shall be billed pursuant to the applicable schedule.
3. Excess Energy not used in the current billing month to reduce billed kWh usage shall be credited to the Customer's bill at the avoided cost rate specified in Rider RSC.

Residential Participants served under this Rider beyond the sunset date of December 31, 2026 will be assessed a monthly Non-Bypassable Charge based on the Nameplate Capacity of their generation system for any volumetric price increase thereafter of their applicable rate schedule. (The Company will file a revised tariff with the applicable Non-Bypassable Charge prior to the sunset date.)

MINIMUM BILL

Residential Participants served under this Rider beyond the sunset date of December 31, 2026 will be assessed a monthly Minimum Bill set at \$10 more than the Basic Customer Charge at that time. The Minimum Bill will be satisfied by the Basic Customer Charge, the portion of the Customer's monthly volumetric energy charges specific to customer and distribution costs, and riders. (The Company will file a revised tariff with the Customer and Distribution Energy Charge rates for applicable rate schedules prior to the sunset date.)

Bill credits for Excess Energy are not included in the calculation of the Minimum Bill Charge. Bill credits will reduce a Residential Participant's total bill after the Minimum Bill Charge has been applied.

DEFINITIONS

1. Excess Energy delivered to Company shall be defined as energy produced by Customer's generation that exceeds the energy delivered by Company at a given time. This Excess Energy shall be used to reduce energy delivered and billed by Company during the current month, or as credits on the Customer's bill, as provided in the Monthly Rate provision.
2. The on-peak and off-peak periods shall be as defined in the applicable time-of-use schedule.

SPECIAL CONDITIONS

1. Prior to receiving service under this Rider, Customer must execute an Interconnection Request and an Interconnection Agreement, if applicable, pursuant to the "North Carolina Interconnection Procedures, Forms and Agreements for State-Jurisdictional Generation Interconnections." These procedures describe the conditions related to interconnection of Customer generation with Company's electrical system.
2. Customer's service shall be metered with a single, bi-directional meter, which records independently the flow of electricity in each direction through the meter.
3. In the event Company determines that it is necessary to install a dedicated transformer or other equipment to protect the safety and adequacy of electric service provided to other customers, Customer shall pay a Monthly Facilities Charge as specified in Company's Service Regulations for the additional estimated cost of the dedicated transformer or other equipment above the estimated cost which Company would otherwise have incurred, except that the minimum Monthly Facilities Charge can be less than \$25.00.

4. Customer grants Company the right to install, operate, and monitor special equipment to measure Customer's load, generating system output, or any part thereof and to obtain any other data necessary to determine the operating characteristics and effects of the installation. Customer also grants Company the right to utilize Customer's telephone line to transmit data from Company's meter and special equipment.

CONTRACT PERIOD

The Contract Period for service under this Rider shall be one (1) year and thereafter shall be renewed for successive one-year periods. After the initial period, Customer may terminate service under this Rider by giving at least sixty (60) days previous notice of such termination in writing to Company.

Company reserves the right to terminate service under this Rider at any time upon written notice to Customer in the event that Customer violates any of the terms or conditions of this Rider, or operates the generating system in a manner which is detrimental to Company or its customers.

GENERAL

Service rendered under this Rider is subject to the provisions of the Service Regulations of the Company on file with the state regulatory commission.

Supersedes Rider NM-4B

Effective for service rendered on and after January 1, 2023

NCUC Docket No. E-2, Sub _____

Duke Energy Progress, LLC
(North Carolina Only)

RR-3

NET METERING FOR RENEWABLE ENERGY FACILITIES
RIDER NM-~~4B~~5

AVAILABILITY

This Rider is available, subject to the terms below, in conjunction with Company's residential and general service schedules to Customer who operates a solar electric; wind-powered; biomass-fueled, including agricultural waste, animal waste, wood waste, spent pulping liquors, combustible residues, combustible liquids, combustible gases, energy crops or landfill methane; waste heat derived from a renewable energy resource and used to produce electricity at the customer's site; or hydro-powered generating system located and used at Customer's primary, legal residence or business where a part or all of the electrical requirements of Customer can be supplied from Customer's generating system. The rated capacity of the generating system shall not exceed the lesser of Customer's estimated maximum annual kilowatt demand or 1,000 kilowatts. The generating system that is connected in parallel operation with service from Company and located on Customer's premises must be manufactured, installed and operated in accordance with governmental and industry standards and must fully conform with Company's "North Carolina Interconnection Procedures, Forms and Agreements for State-Jurisdictional Generation Interconnections." Standby Service provisions shall not be required when service is used in conjunction with this Rider for residential applicants, regardless of generation capacity, and general service applicants with generation capacities of 100 kW or less.

This Rider is closed to new residential participants on and after January 1, 2023. Residential customers requesting net energy metering (NEM) on and after January 1, 2023 will receive service in accordance with the NEM tariff(s) in effect at that time.

Residential participants and subsequent owners of the customer-generator facility (collectively, "Residential Participants") who applied for service under this Rider prior to January 1, 2023 shall remain eligible for standard service under this Rider until December 31, 2026. Residential Participants will be given the option to transfer to Rider RSC (Residential Solar Choice) and an eligible rate schedule beginning January 1, 2023. If Residential Participants elect not to transfer to Rider RSC and an eligible rate schedule by the sunset date of December 31, 2026, they may continue to receive service under this Rider subject to the following provisions:

1. Any volumetric price increase of the Customer's applicable rate schedule after the sunset date will be placed in a monthly Non-Bypassable Charge based on the Nameplate Capacity of their generation system.
2. Customer will be assessed a monthly Minimum Bill set at \$10 more than the Basic Customer Charge at that time.
3. Excess Energy will be credited to the Customer's bill at the avoided cost rate specified in Rider RSC at the end of each billing month, rather than carry forward to the next billing month.

By December 31, 2037, all Residential Participants must transfer to Rider RSC or the NEM tariff(s) in effect at that time.

The provisions of the Schedule with which this Rider is used are modified only as shown herein. Customer may not simultaneously receive service under this Rider and Company's Cogeneration and Small Power Production Schedule or participate as a generation resource in NC GreenPower.

If Customer receives electric service under a schedule other than a time-of-use schedule with demand rates, any renewable energy credit or "green tags" shall be provided by Customer at no cost to Company. If service is received under a time-of-use schedule with demand rates, all renewable energy credits or "green tags" shall be retained solely by Customer.

TYPE OF SERVICE

This Rider is applicable to all electric service of the same available type supplied to Customer's premises at one point of delivery through one kilowatt-hour meter.

MONTHLY RATE

An amount computed under the rate schedule and any other applicable riders with which this Rider is used, as adjusted to reflect Excess Energy delivered to Company as follows:

For electric service under a time-of-use schedule by residential customers prior to January 1, 2027 or by nonresidential customers:

1. Customer's on-peak usage for service rendered shall be reduced by the sum of (a) any on-peak Excess Energy delivered to Company in the current month plus (b) any accumulated on-peak Excess Energy balance from prior months. In no case shall the on-peak kWh billed be less than zero.
2. Customer's off-peak usage for service rendered shall be reduced by the sum of (a) any off-peak Excess Energy delivered to Company in the current month plus (b) any accumulated off-peak Excess Energy balance from prior months plus (c) any accumulated on-peak Excess Energy balance in the current or prior months that was not used to reduce on-peak usage. In no case shall the off-peak kWh billed be less than zero.
3. Customer's on-peak and off-peak demands for service rendered shall be billed pursuant to the applicable schedule. In months when demand charges are prorated based upon seasonal on-peak usage and the usage to be billed exceeds the Excess Energy available to reduce such usage, Excess Energy delivered to Company shall be used to reduce billed kWh usage based upon the ratio of on-peak energy consumed in each season.
4. Excess Energy not used in the current billing month to reduce billed kWh usage shall be accumulated and used to reduce usage in future months; however, any accumulated Excess Energy not used to reduce billed kWh usage shall be set to zero each May 31st. Excess Energy delivered prior to May 31st will only be used to reduce usage provided by Company prior to May 31st. There will be no compensation paid to Customer for Excess Energy granted to Company.

For electric service under a standard schedule without time-of-use rates by residential customers prior to January 1, 2027 or by nonresidential customers:

1. Customer's usage for service rendered shall be reduced by the sum of (a) any energy delivered to Company in the current month plus (b) any accumulated energy balance from prior months. In no case shall the kWh usage billed be less than zero.
2. Customer's demands for service rendered shall be billed pursuant to the applicable schedule.
3. Excess Energy not used in the current billing month to reduce billed kWh usage shall be accumulated and used to reduce usage in future months; however, any accumulated Excess Energy not used to reduce billed kWh usage shall be set to zero in the billing month that includes usage incurred on May 31st each year. There will be no compensation paid to Customer for Excess Energy granted to Company.

For electric service under a time-of-use schedule by Residential Participants after January 1, 2027:

1. Customer's on-peak usage for service rendered shall be reduced by any on-peak Excess Energy delivered to Company in the current month. In no case shall the on-peak kWh billed be less than zero.
2. Customer's off-peak usage for service rendered shall be reduced by the sum of (a) any off-peak Excess Energy delivered to Company in the current month plus (b) any accumulated on-peak Excess Energy balance in the current month that was not used to reduce on-peak usage. In no case shall the off-peak kWh billed be less than zero.

3. Customer's on-peak and off-peak demands for service rendered shall be billed pursuant to the applicable schedule.
4. Excess Energy not used in the current billing month to reduce billed kWh usage shall be credited to the Customer's bill at the avoided cost rate specified in Rider RSC.

For electric service under a standard schedule without time-of-use rates by Residential Participants after January 1, 2027:

1. Customer's usage for service rendered shall be reduced by any energy delivered to Company in the current month. In no case shall the kWh usage billed be less than zero.
2. Customer's demands for service rendered shall be billed pursuant to the applicable schedule.
3. Excess Energy not used in the current billing month to reduce billed kWh usage shall be credited to the Customer's bill at the avoided cost rate specified in Rider RSC.

Residential Participants served under this Rider beyond the sunset date of December 31, 2026 will be assessed a monthly Non-Bypassable Charge based on the Nameplate Capacity of their generation system for any volumetric price increase thereafter of their applicable rate schedule. (The Company will file a revised tariff with the applicable Non-Bypassable Charge prior to the sunset date.)

MINIMUM BILL

Residential Participants served under this Rider beyond the sunset date of December 31, 2026 will be assessed a monthly Minimum Bill set at \$10 more than the Basic Customer Charge at that time. The Minimum Bill will be satisfied by the Basic Customer Charge, the portion of the Customer's monthly volumetric energy charges specific to customer and distribution costs, and riders. (The Company will file a revised tariff with the Customer and Distribution Energy Charge rates for applicable rate schedules prior to the sunset date.)

Bill credits for Excess Energy are not included in the calculation of the Minimum Bill Charge. Bill credits will reduce a Residential Participant's total bill after the Minimum Bill Charge has been applied.

DEFINITIONS

1. Excess Energy delivered to Company shall be defined as energy produced by Customer's generation that exceeds the energy delivered by Company at a given time. This Excess Energy shall be used to reduce energy delivered and billed by Company during the current ~~or a future~~ month, or as credits on the Customer's bill, as provided in the Monthly Rate provision.
2. The on-peak and off-peak periods shall be as defined in the applicable time-of-use schedule.

SPECIAL CONDITIONS

1. Prior to receiving service under this Rider, Customer must execute an Interconnection Request and an Interconnection Agreement, if applicable, pursuant to the "North Carolina Interconnection Procedures, Forms and Agreements for State-Jurisdictional Generation Interconnections." These procedures describe the conditions related to interconnection of Customer generation with Company's electrical system.
2. Customer's service shall be metered with a single, bi-directional meter, which records independently the flow of electricity in each direction through the meter.
3. In the event Company determines that it is necessary to install a dedicated transformer or other equipment to protect the safety and adequacy of electric service provided to other customers, Customer shall pay a Monthly Facilities Charge as specified in Company's Service Regulations for the additional estimated cost of the dedicated transformer or other equipment above the estimated cost which Company would otherwise have incurred, except that the minimum Monthly Facilities Charge can be less than \$25.00.

4. Customer grants Company the right to install, operate, and monitor special equipment to measure Customer's load, generating system output, or any part thereof and to obtain any other data necessary to determine the operating characteristics and effects of the installation. Customer also grants Company the right to utilize Customer's telephone line to transmit data from Company's meter and special equipment.

CONTRACT PERIOD

The Contract Period for service under this Rider shall be one (1) year and thereafter shall be renewed for successive one-year periods. After the initial period, Customer may terminate service under this Rider by giving at least sixty (60) days previous notice of such termination in writing to Company.

Company reserves the right to terminate service under this Rider at any time upon written notice to Customer in the event that Customer violates any of the terms or conditions of this Rider, or operates the generating system in a manner which is detrimental to Company or its customers.

GENERAL

Service rendered under this Rider is subject to the provisions of the Service Regulations of the Company on file with the state regulatory commission.

Supersedes Rider NM-4~~AB~~

Effective for service rendered on and after ~~August 1, 2015~~January 1, 2023

NCUC Docket No. E-2, Sub ~~1076~~_____

RESIDENTIAL SOLAR CHOICE
RIDER RSC-2

AVAILABILITY

This Rider is available to residential Customers receiving concurrent service from the Company where a renewable energy resource is installed on the Customer's side of the delivery point, for the Customer's own use, interconnected with and operated in parallel with the Company's distribution system. Each Customer receiving service under this Rider must be an owner, operator, or lessee of an electric generation system that generates or discharges electricity from a renewable energy resource, including an energy storage device configured to receive electrical charge solely from onsite renewable energy generation. For service under this Rider, renewable energy generation includes solar electric; wind-powered; biomass-fueled, including agricultural waste, animal waste, wood waste, spent pulping liquors, combustible residues, combustible liquids, combustible gases, energy crops or landfill methane; waste heat derived from a renewable energy resource and used to produce electricity at the customer's site; or hydro-powered generation sources of energy. The generation system must be located at a single premise and owned, operated, leased or otherwise controlled by the Customer.

Customers receiving service under this Rider must be served under a residential rate schedule with time of use (TOU) and critical peak pricing (CPP), specifically proposed Schedule R-TOU-CPP.

TYPE OF SERVICE

This Rider is applicable to all electric service of the same available type supplied to Customer's premises at one point of delivery through one kilowatt-hour meter.

MONTHLY RATE

All provisions of the Customer's applicable rate schedule and riders will apply to service supplied under this Rider, except as modified herein.

1. For each TOU period, if the electricity delivered to the grid by the Customer exceeds the electricity supplied to the Customer by the Company during a monthly billing period, then the Customer shall be credited for the net electricity delivered to the grid at the Net Excess Energy Credit rate as follows:

Net Excess Energy Credit per month, per kWh	2.64¢
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2. For each TOU period, if the electricity supplied by the Company exceeds the electricity delivered to the grid by the Customer during a monthly billing period, the Customer shall be billed for the net electricity supplied by the Company, plus any other charges under the applicable rate schedule and riders.
3. Electricity supplied by the Company and electricity delivered to the grid by the Customer will be netted within each TOU pricing period, and the Customer will receive credits for Net Excess Energy as described above. Electricity delivered to the grid by the Customer during Critical Peak hours will be netted with electricity supplied by the Company during On-Peak hours. Electricity supplied by the Company during Critical Peak hours cannot be reduced by electricity delivered to the grid by the Customer.

4. There shall be a monthly Non-Bypassable Charge and Grid Access Fee based on the Customer's Nameplate Capacity in kW DC for solar generation or kW AC for non-solar generation. The Grid Access Fee will be \$0 for customers with Nameplate Capacity at or below 15 kW.

Non-Bypassable Charge per month, per Nameplate Capacity kW	\$0.44
Grid Access Fee per month, per Nameplate Capacity kW above 15 kW	\$1.50

MINIMUM BILL

There shall be a monthly minimum bill of \$28 specific to the portion of the Customer's bill related to customer and distribution costs. The Minimum Bill Charge shall apply when the sum of the Basic Customer Charge and "Customer and Distribution Energy Charges" is less than \$28. The Minimum Bill Charge shall be the difference between \$28 and the sum of these costs.

Bill credits for Net Excess Energy are not included in the calculation of the Minimum Bill Charge. Bill credits will reduce a Customer's total bill after the Minimum Bill Charge has been applied.

CUSTOMER AND DISTRIBUTION ENERGY CHARGES

The following Customer and Distribution Energy Charges are components of the energy charges defined in the Customer's rate schedule. These components are used in the calculation of the Minimum Bill Charge.

For calculation of Customer and Distribution Energy Charges, On-Peak Energy includes both Critical Peak and On-Peak hours.

- I. Schedule R-TOU-CPP
 - a. On-Peak Energy per month, per kWh 4.704¢
 - b. Off-Peak Energy per month, per kWh 2.590¢
 - c. Discount Energy per month, per kWh 2.192¢

SPECIAL CONDITIONS

1. To qualify for service under this Rider, the Customer must comply with all applicable interconnection standards and must provide in writing the Nameplate Capacity of the Customer's installed generation system. Any subsequent change to the Nameplate Capacity must be provided by Customer to Company in writing by no later than 60 days following the change.
2. To qualify for service under this Rider, the Customer must be served on Schedule R-TOU-CPP. Customers may not simultaneously receive service under this Rider and Company's Cogeneration and Small Power Production Schedule or participate as a generation resource in NC GreenPower. The Nameplate Capacity of Customer's installed generation system and equipment must not exceed the estimated maximum monthly demand of the residence or 20 kW AC, whichever is less.
3. If the Customer is not the owner of the premises receiving electric service from the Company, the Company shall have the right to require that the owner of the premises give satisfactory written approval of the Customer's request for service under this Rider.
4. Prior to receiving service under this Rider, Customer must execute an Interconnection Request and an Interconnection Agreement, if applicable, pursuant to the "North Carolina Interconnection Procedures, Forms and Agreements for State-Jurisdictional Generation Interconnections." These procedures describe the conditions related to interconnection of Customer generation with Company's electrical system.
5. Customer's service shall be metered with a single, bi-directional meter, which records independently the flow of electricity in each direction through the meter.

6. Customer grants Company the right to install, operate, and monitor special equipment to measure Customer's load, generating system output, or any part thereof and to obtain any other data necessary to determine the operating characteristics and effects of the installation. Customer also grants Company the right to utilize Customer's telephone line to transmit data from Company's meter and special equipment.
7. Any renewable energy credits (RECs) associated with electricity delivered to the grid by the Customer under this Rider shall be retained by the Company.

CONTRACT PERIOD

The Customer shall enter into a contract for service under this Rider for a minimum original term of one (1) year, and the contract shall automatically renew thereafter, except that either party may terminate the contract after one year by giving at least sixty (60) days prior notice of such termination in writing.

The Company reserves the right to terminate the Customer's contract under this Rider at any time upon written notice to the Customer in the event that the Customer violates any of the terms or conditions of this Rider, or operates the renewable generation system and equipment in a manner which is detrimental to the Company or any of its customers. In the event of early termination of a contract under this Rider, the Customer will be required to pay the Company for the costs due to such early termination, in accordance with the Company's NC Service Regulations.

GENERAL

Service rendered under this Rider is subject to the provisions of the Service Regulations of the Company on file with the state regulatory commission.

Effective for service rendered on and after January 1, 2023

NCUC Docket No. E-2, Sub _____

Memorandum of Understanding

Dated November 29, 2021

Docket No. E-7, Sub 1214

Docket No. E-2, Sub 1219

Docket No. E-2, Sub 1076

MEMORANDUM OF UNDERSTANDING

This **MEMORANDUM OF UNDERSTANDING** (the “MOU”) is made as of November 29, 2021 (the “Effective Date”), by and among Duke Energy Carolinas, LLC (“DEC”); Duke Energy Progress, LLC (“DEP” and together with DEC, the “Companies”); North Carolina Sustainable Energy Association; Southern Environmental Law Center on behalf of Vote Solar and Southern Alliance for Clean Energy; Sunrun, Inc.; and Solar Energy Industries Association (collectively, the “Clean Energy Advocates”) (the Clean Energy Advocates together with the Companies are referred to as the “Parties” and individually as a “Party”).

Background:

The Parties have worked in good-faith to develop a common set of terms to (i) advance the next generation of residential Net Energy Metering (“NEM”) in North Carolina, (ii) provide residential customers an opportunity to manage demand and reduce strain on the power grid, and (iii) ensure a better energy future in North Carolina. The Parties describe herein the proposed, comprehensive resolution of issues related to the NEM Tariffs (as defined below).

The Parties intend to work collaboratively to advance the terms of this MOU, including engaging other stakeholders on this matter in advance of filing the NEM Tariffs in North Carolina. The Parties ultimately desire to avoid a contentious adversarial proceeding before the North Carolina Utilities Commission (“NCUC”) by collaborating to implement the NEM Tariffs within the spirit of the rate design study, NCUC Rules, and North Carolina law.

This MOU sets forth certain non-binding understandings and certain binding agreements among the Parties intended to cooperatively advance the residential NEM Program. For the avoidance of doubt, this MOU relates only to residential customers. As such, this MOU does not restrict the rights of the Parties to negotiate a subsequent agreement—if any—related to NEM programs for non-residential customers. Except as expressly set forth in the section of this MOU titled “Binding Agreements,” nothing in this MOU constitutes a legally binding agreement of the Parties.

NON-BINDING UNDERSTANDINGS

The following paragraphs numbered 1 through 3 in this non-binding understandings section do not constitute legally binding agreements of any Party.

1. The Companies would propose NEM tariffs (the “NEM Tariffs”) to the NCUC upon the terms and conditions on Exhibit A. The NEM Tariffs would go into effect for customers submitting applications for residential NEM on or after January 1, 2023.
2. The Companies would propose incentives to the NCUC upon the terms and conditions on Exhibit B (the “Incentives”). The Incentives would be available to eligible customers, including customers taking service under the NEM Tariffs.
3. The Parties would also undertake the following:

- a. The Companies would explore a solar program tailored to low-income customers as a potential future energy efficiency (“EE”) or demand response program, in consultation with stakeholders. This may be an expansion of or be separate from the low-income solar program proposed in South Carolina.
- b. The Parties would review and provide feedback on the Companies’ marketing materials and disclosures for customers to ensure customer communications are transparent and understandable, and that customers are educated on the NEM Tariffs and Incentives, including the mechanics of the rate structure therein.
- c. The Parties would support the proper collection of monthly avoided cost bill credits pursuant to Chapter 62 of the North Carolina General Statutes.
- d. Under the proposed resolution, at the transfer year (2027), existing NEM solar customers would be given the option to switch to the NEM Tariffs. If the NEM solar customers elect not to be on that rate, they could stay on the standard residential tariff but any volumetric price increase after the transfer year would be placed in a non-bypassable charge based on their system size for the remaining life of the system, as well as be put on monthly netting. The existing NEM customer would also be assessed a minimum bill set at \$10 more than the applicable Basic Facilities Charge (“BFC”) at that time. This minimum bill will be applied in the same manner as the Monthly Minimum Bill (“MMB”) in the NEM Tariffs, in that it will recover customer and distribution costs. The minimum bill charge is reduced by the BFC and the portion of the customer’s monthly volumetric energy charges specific to customer and distribution costs.
- e. The Companies would work collaboratively with stakeholders to develop a policy proposal for the next generation of non-residential NEM.

BINDING AGREEMENTS

The following paragraphs numbered 1 through 9 in this binding agreements section are the only binding agreements of the Parties in this MOU.

1. **Advocacy.** In the event of a partial or limited NCUC approval of the proposed resolution described in this MOU, the Parties agree to vigorously pursue all avenues—regulatory and legislative—to give effect to the terms of this Agreement. All Parties will support and advocate for the approval of the proposed resolution described in this MOU before media, stakeholders, social media outlets, and the NCUC. Regardless of whether the proposed resolution is approved by the NCUC, no Party will publicly disparage the efforts of any other Party relating to the proposed resolution or this MOU.
2. **Media.** During ongoing negotiations and during subsequent stakeholder engagement (pre-filing or post-filing of NEM-related or Incentive-related filings at the NCUC), the Parties agree to positively characterize each other’s collaboration at public events and in the media (including social media) and will refer to this proposal as the next evolution of retail rate NEM and a major advancement to the solar industry and energy efficiency efforts in North

Carolina. The Parties agree to cooperate in good faith and in support of all required approvals of this effort and each other on this matter until the time the NCUC issues a final order.

3. **Joinder.** The Parties acknowledge and agree that additional entities (each, a “Joining Party”) may, from time to time, execute a Joinder Agreement (a “Joinder”) substantially in the form of Exhibit C to join the Parties’ collaborative efforts under this MOU. The Parties further acknowledge that upon agreement by the Parties, execution of such a Joinder by DEC, DEP, and a Joining Party, such Joining Party shall be considered a “Party” hereunder without any further action on behalf of the other Parties.

4. **Governing Law.** This MOU shall be governed by the laws of the State of North Carolina, excluding its conflict of laws principles. Any claim or action arising out of or relating to this letter of intent shall be commenced and heard in the state and federal courts for Wake County, North Carolina, and the Parties consent and submit to the jurisdiction and venue of those courts.

5. **Relationship between the Parties.** Nothing in this MOU shall be construed as creating a partnership, association or joint venture between or among any Parties. No Party shall have any power or authority to enter into any commitment on behalf of or otherwise bind any other on any matter. No employee of Party shall be deemed to be an employee of any other.

6. **No Assignment.** Neither this MOU, nor any rights or obligations hereunder, may be assigned, delegated, or conveyed by any Party without prior written consent of each other Party.

7. **No Third-Party Beneficiaries.** Nothing herein is intended or shall be construed to confer upon any person or entity other than the Parties and their respective successors and permitted assigns, any rights or remedies under or by reason of this MOU.

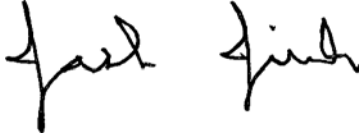
8. **Counterparts.** This MOU may be executed in any number of counterparts. Each counterpart shall constitute an original, and all such counterparts shall constitute one and the same agreement.

9. **Entire Agreement.** This binding agreements section is the entire agreement of the Parties relating to the subject matter herein and supersedes all prior agreements, understandings and negotiations regarding the same. This MOU may be amended only by a written agreement signed by all Parties.

The Parties execute this MOU as of the Effective Date.

DUKE ENERGY CAROLINAS, LLC

By:

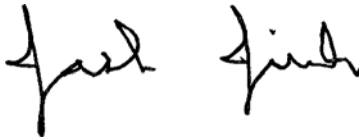
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Name: Jack E. Jirak

Title: Deputy General Counsel

DUKE ENERGY PROGRESS, LLC

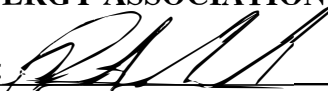
By:

Handwritten signature of Jack E. Jirak in black ink.

Name: Jack E. Jirak

Title: Deputy General Counsel

**NORTH CAROLINA SUSTAINABLE
ENERGY ASSOCIATION**

By: 

Name: Peter H. Ledford

Title: General Counsel, North Carolina
Sustainable Energy Association

**SOUTHERN ENVIRONMENTAL LAW
CENTER (on behalf of Vote Solar and
Southern Alliance for Clean Energy)**

By: 

Name: David L. Neal

Title: Senior Attorney

SUNRUN INC.

By: Thadeus B. Culley

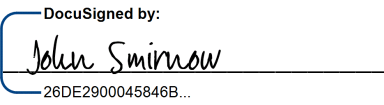
Name: Thadeus B. Culley

Title: Sr. Manager, Public Policy, Sunrun

Nov 29 2021

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**SOLAR ENERGY INDUSTRIES
ASSOCIATION**

By:  DocuSigned by:
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Name: John Smirnow

Title: General Counsel and Vice President of Market Strategy

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Exhibit A

Proposed Resolution North Carolina NEM Tariffs

Residential Customer Generators

- Residential solar PV customer generators on the NEM Tariff will be required to take service under one of the following Time of Use (“TOU”) with Critical Peak Pricing (“CPP”) rate schedules:
 - DEC: Schedule RSTC for standard customers and Schedule RETC for all-electric customers, approved by the NCUC in Docket No. E-7, Sub 1253.
 - DEP: Schedule R-TOU-CPP, proposed in Docket No. E-2, Sub 1280.
- A Monthly Grid Access Fee (“GAF”) is intended to recover distribution costs of customers with system sizes greater than 15 kW-dc, which are larger than for the average customer. The GAF is set at the distribution unit costs from the most recent compliance Cost of Service Study. The GAF will be initially set to the following rates (subject to change through any future rate cases in DEC-NC or DEP-NC):
 - DEC GAF: \$2.05/kW-dc/month
 - DEP GAF: \$1.50/kW-dc/month
- Monthly Minimum Bill (“MMB”) recovers customer and distribution costs applied after riders but before GAF, any non-bypassable charges, or excess energy credit. The MMB would be \$22 for DEC and \$28 in DEP to ensure recovery of customer and distribution costs from residential NEM customers. The MMB is reduced by the basic customer charge or basic facilities charge in the applicable TOU-CPP tariff and the portion of the customer’s monthly volumetric energy charges specific to customer and distribution costs. If the combination of the customer charge, specific volumetric energy charges, and bypassable riders is less than the MMB level, then the MMB charge is equal to the difference. Any avoided cost bill credits for net excess energy can be used to reduce a customer’s bill after the MMB charge has been applied.
- Monthly excess net exports are credited at an annualized rate (weighted average rate for all hours assuming a fixed block of energy) for avoided energy cost as specified by the per kWh rates and charges in DEC Purchased Power Schedule PP and DEP Purchased Power Schedule PP.
 - The Companies will use a fixed block of energy methodology but reserve the right to use a solar energy profile instead.
 - The Companies will maintain the practice of using an annualized rate but reserve the right to use different rates for each month instead.

- All costs related to Demand Side Management (“DSM”)/EE, storm cost recovery, and cyber security are non-bypassable with the option of proposing new components to the non-bypassable list of charges with no direct link to customer kWh usage. Inclusion of additional possible NEM Program costs would be handled in separate proceedings and rate cases.
 - Unless the NCUC requires production meters to measure the actual solar production at each location, non-bypassable cost recovery would be a monthly non-volumetric charge based on customer-generator system capacity.
- Imports and exports will be netted within each TOU pricing period, and net exports during all pricing periods will be credited at avoided cost as explained above. CPP applies to all imports during the Critical Peak hours. Any exports during Critical Peak hours will be netted against Peak imports, not Critical Peak imports.
- Renewable energy certificates (“RECs”) for all solar generation will be transferred to the Companies upon being placed on the rate for the length of time the customer enrolls in an NEM Tariff.
- The Companies will keep the general rate structure consisting of volumetric time varying rates and no demand charges described in this NEM Tariff open to customers for at least 10 years.
- The Companies will develop an online savings calculator that will be shared and previewed with the Parties for feedback within two years of the NEM Tariff’s implementation.

Exhibit B

Proposed Resolution The Incentives

- The Companies will offer a cumulative \$0.39/Watt-dc incentive for new residential NEM customers that meet the availability requirements for DEC Schedule RE, such that all energy required for all water heating, cooking, clothes drying, and environmental space conditioning must be supplied electrically. The upfront rooftop solar incentive is \$0.36/Watt-dc (the “Rooftop Incentive”) and may be assigned to a solar leasing company if the customer is in a lease arrangement. In order to be eligible for the Rooftop Incentive, the customer must also participate in a winter smart thermostat program (“Winter BYOT”) and will be compensated for participation in accordance with the Winter BYOT program rules (the “Winter BYOT Incentive”). The proposed Winter BYOT Incentive provides an initial one-time bill credit of \$75, and after 12 months of participation, customers receive an additional annual bill credit of \$25. Together, these two programs comprise the cumulative \$0.39/Watt-dc incentive mentioned above.
- If a customer overrides more than the Winter BYOT program allows, they must pay back a prorated share of the Rooftop Incentive for every year that allowance is exceeded (total incentive divided by 25 years).
 - If a customer unenrolls in the Winter BYOT program, the customer must pay a prorated portion of the Rooftop Incentive back to the Companies.
- Customers not willing or able to install a qualified smart thermostat enrolled in a Winter BYOT program are not eligible for the Rooftop Incentive.
- Customers must sign a contractual agreement to remain enrolled in the Companies’ Winter BYOT program for 25 years. There will be no penalty if customers move out of the residence before the expiration of this provision.
- NEM Program customers will be provided a 25-year contract with grandfathering tied to the system for the incentive and other components of the NEM Tariff structure including monthly netting, TOU-CPP (though time windows may change after 10 years), and no demand charges.
- To ensure broad technology inclusion, the Companies will work with stakeholders to identify other peak load reduction technologies that can be paired with solar in addition to a Winter BYOT enrolled thermostat. The minimum qualification is that the technology must lead to a reliable reduction of at least ~1 kW per hour during peak winter hours. The Companies are to file such a program by June 1, 2023.
- System performance metrics for the Incentives will be determined at a later date.

- Both the Rooftop Incentive and Winter BYOT Incentive must be approved as DSM/EE programs, as applicable, by both the NCUC and the Public Service Commission of South Carolina (“PSCSC”) in order to be offered by the Companies. DSM/EE programs costs are allocated across both jurisdictions in order for the program to be cost effective under traditional tests. Thus, the Incentives will not be available in North Carolina until both the NCUC and the PSCSC approve.
- The Parties agree that in order to address potential changes in market conditions that may negatively impact free-ridership and program cost effectiveness, the Companies may adjust programmatic incentive levels. Such incentive adjustments may occur no earlier than January 1, 2024.
- The Parties agree that the CPP TOU tariff structure will be effective on January 1, 2023, whether the Incentives are approved by that time or not.
- The Parties understand that the Companies’ “basic” option is the TOU rate, and the Incentives are an overlay to that rate. If the Incentives, as contemplated in this MOU, do not receive approval from both the NCUC and the PSCSC, the TOU rate structure will remain in effect as the basic option.

The Parties would vigorously advocate in North Carolina for approval of the incentives described above as well as full lost revenue recovery and shared savings incentives that are part of the EE program. The Parties would vigorously advocate for the TOU rate as a combined offering which complies with the spirit of the rate design study, NCUC Rules, and North Carolina law, and would work in good faith to ensure that the details of the combined offering submitted to the NCUC is in accordance therewith. Furthermore, the Parties recognize that their support of the proposed resolution is based on the interlocking components of the entire proposal and that if the NCUC or the PSCSC rejects any one aspect of the proposed resolution, then it may require renegotiation of other aspects of the proposed resolution. The Parties would work in good faith to negotiate any changes that may be necessitated by a rejection or amendment by the NCUC or the PSCSC of any material aspect of the proposed resolution.

Exhibit C

Joinder Agreement

JOINDER AGREEMENT

The undersigned, _____ (the “Joining Party”), hereby acknowledges receipt and an opportunity to review that certain Memorandum of Understanding entered into by and among Duke Energy Carolinas, LLC; Duke Energy Progress, LLC; North Carolina Sustainable Energy Association; Southern Environmental Law Center on behalf of Vote Solar and Southern Alliance for Clean Energy; Sunrun, Inc.; and Solar Energy Industries Association dated November 29, 2021 (the “MOU”). The undersigned further agrees to be bound by the terms of the MOU in accordance with its terms in consideration for the non-binding understandings and binding agreements set forth therein. As such, the Joining Party shall be considered a “Party” under the MOU.

This Joinder Agreement is made effective this ___ day of _____, 2021.

By:

ACKNOWLEDGED AND AGREED:

DUKE ENERGY CAROLINAS, LLC

By: _____

Name:

Title:

DUKE ENERGY PROGRESS, LLC

By: _____

Name:

Title: