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May 20, 2022

**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 Reply Comments (Docket No. E-100, Sub 180)**

Dear Ms. Dunston:

Enclosed please find Duke Energy Carolinas, LLC's and Duke Energy Progress, LLC's Joint Reply Comments for filing in the above-referenced proceeding.

If you have any questions, please do not hesitate to contact me.

Very truly yours,

A handwritten signature in blue ink that reads 'J. Ashley Cooper'. Below the signature is the printed name 'J. Ashley Cooper'.

JAC:cmm  
Enclosure

Cc: All parties of record (via email)

**CERTIFICATE OF SERVICE**

I certify that a copy of Duke Energy Carolinas, LLC's and Duke Energy Progress, LLC's Joint Reply Comments, in Docket No. E-100, Sub 180, has been served on all parties of record either by electronic mail, hand delivery or by depositing a copy in the United States mail, postage prepaid.

This the 20th day of May, 2022.

s/J. Ashley Cooper  
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STATE OF NORTH CAROLINA  
UTILITIES COMMISSION  
RALEIGH

DOCKET NO. E-100, SUB 180

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of )  
)  
)  
Investigation of Proposed Net Metering Policy ) **JOINT REPLY COMMENTS OF**  
Changes ) **DUKE ENERGY CAROLINAS,**  
) **LLC AND DUKE ENERGY**  
) **PROGRESS, LLC**  
)  
)  
)  
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NOW COME Duke Energy Carolinas, LLC (“DEC”) and Duke Energy Progress, LLC (“DEP”) (collectively, the “Companies”), by and through their legal counsel, and respectfully submit the following Reply Comments in accordance with North Carolina Utilities Commission (“Commission”) Order Requesting Comments issued in the above-referenced docket on January 10, 2022. In support of these Reply Comments, the Companies respectfully show the Commission the following:

**BACKGROUND & EXECUTIVE SUMMARY**

As described in the Companies’ Joint Application (the “Application”), the net energy metering (“NEM”) tariffs proposed in this proceeding (the “NEM Tariffs”) utilize innovative rate structures and broad stakeholder engagement to achieve House Bill 589’s (“H.B. 589”) requirement that NEM rates in North Carolina ensure customers pay their “full fixed cost of service.” N.C.G.S. § 62-126.4(b). Ensuring customers pay their full fixed costs of service is key to minimize cross-subsidization

by non-participants because it requires an alignment of the costs and benefits arising from serving these customers.<sup>1</sup> To achieve this goal, H.B. 589 requires an “investigation of the costs and benefits of customer-sited generation.” The Companies undertook this investigation within the broad and wide-ranging Comprehensive Rate Design Study (the “Rate Design Study”).

The Rate Design Study was a stakeholder forum for the Companies to develop these NEM Tariffs and discuss NEM-related topics that typically result in hotly-contested, adversarial proceedings across the country. Evaluation of residential NEM was included in the working group labeled “Fast Track.” Fast Track was a designation provided to high-priority topics for the Rate Design Study that could be initiated early in the process. While the discussion of Fast Track topics might be considered sooner than other topics, there was no set end date or abbreviated timeline for these conversations. The Fast Track designation simply reflects the priority of consideration, not a truncated timeline. As part of the Fast Track process, the Companies provided modeling inputs and results—including confidential load forecasts and time-of-use data—in support of the NEM Tariffs and facilitated all requests for stakeholders to submit substantive feedback. In fact, this portion of the Rate Design Study continued until the Companies and participants exhausted all topics, and there were no more requests for further discussion or presentation by any party.

NEM reform was discussed over the course of several months, with participation from over 20 organizations representing a broad range of interests. The

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<sup>1</sup> As explained in greater detail below, the Rate Design Study revealed that a cross-subsidy can arise under Existing NEM Programs where (i) NEM customers take service on volumetric rates or (ii) utilities overpay for the power exported to their systems by NEM customers.

Companies and interested stakeholders presented on various NEM topics, including detailed and comprehensive explanations of the NEM Tariffs, the time-of-use (“TOU”) rates utilized in the NEM Tariffs, and bill impacts arising from the NEM Tariffs.

To promote stakeholder participation, the Companies solicited all intervenors in the latest DEC and DEP rate cases, provided regular updates to the Commission, and invited presentations from any and all members of the stakeholder group, among other things.<sup>2</sup> These efforts resulted in attendance and feedback from a broad range of interests. While members of the stakeholder group represented varying and often competing or conflicting positions, H.B. 589 provided the group with a clear and focused charge: an “investigation of the costs and benefits of customer-sited generation.”

As part of this investigation, the Companies shared detailed data and studies in a transparent fashion. This investigation included an evaluation of current and future NEM participants and also considered North Carolina ratepayers of all income levels. Through hard work and compromise, certain parties were able to craft an agreement on the proposed program, rate-design structure, and North-Carolina specific rates. While no party—including the Companies—secured all of their desired outcomes in the settlement, the parties were able to reach a carefully crafted compromise that fulfills the requirements of H.B. 589. This compromise is memorialized by the Memorandum of Understanding (“MOU”) filed with the Application.

The MOU represents a significant achievement because the parties have come together on a proposal that aligns costs with benefits in accordance with H.B. 589.

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<sup>2</sup> Docket Nos. E-7, Sub 1214 and E-2, Sub 1219.

Similar initiatives in other states have often produced bitter fights that have exhausted time and resources, with little to no resolution.

The NEM Tariffs arising from the MOU employ innovative rate structures that represent industry best practices. These rate structures include a Monthly Minimum Bill (“MMB”), a monthly grid access fee (“GAF”), and non-bypassable charges. These rate structures work in conjunction with established TOU and Critical Peak Pricing (“CPP”) rate schedules to ensure customers pay their full fixed cost of service. In this way, the NEM Tariffs align costs with benefits and reduce potential cross-subsidization shouldered by non-participants.

This innovative proposal garnered broad support, both nationally and locally, which is remarkable given the divisiveness and acrimony that have typically characterized similar NEM proceedings in other states. Additionally, the vast majority of Rate Design Study participants supported the proposal. That pattern of support continues in this docket, from clean-energy and environmental advocates—such as Vote Solar and NCSEA—to consumer advocates in the Public Staff, which describe the proposal as “straightforward” NEM reform. But, as the Companies acknowledged in their Application, there are some remaining dissenters, which is to be expected given the nature of the issues in this docket, issues that are typically met with acrimony and divisive rhetoric.

However, in response to certain initial comments filed in this docket, the Companies engaged in dialogue with Sundance Power Systems, Inc., Southern Energy Management, Inc., and Yes Solar Solutions (the “North Carolina Rooftop Solar Installers” or “NCRSI”) to determine whether a potential compromise exists that would

provide customers a near-term option to achieve bill savings while providing benefits to the system as a whole. That dialogue occurred over several weeks and resulted in multiple requests for extension that were granted by the Commission. As a result of those extensions, the Companies and the NCRSI were able to reach a resolution prior to filing these Reply Comments.<sup>3</sup> That resolution is reflected in the Stipulation that was filed in this docket on May 19, 2022, and attached as **Exhibit A**. The Stipulation among the Companies and the NCRSI reflects the continued efforts by the Companies to engage stakeholders and build consensus for the Companies' efforts to comply with H.B. 589.

As such, the Companies believe the wide-ranging consensus reached in this docket represents a solution for NEM reform in North Carolina that is not only innovative, but also fulfills the mandates of H.B. 589—which requires the Companies to examine the impacts to all customers.

**H.B. 589 Does Not Require the Commission to Conduct the Investigation into the Costs and Benefits of Customer-Sited Generation.**

1. H.B. 589 requires “an investigation of the costs and benefits of customer-sited generation.” Several parties submitted comments that argued H.B. 589 prohibits the Companies from performing this investigation and that it should instead be performed by the Commission.<sup>4</sup> However, H.B. 589 does **not** require the

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<sup>3</sup> The Companies recognize that the timing of the request for extension filed on May 12<sup>th</sup> was not ideal and provided the Commission and its staff with limited time to review the request given that reply comments were due that same day. The Companies are grateful to the Commission and its staff for providing additional time, and will endeavor to submit future filings in a more timely manner, where possible.

<sup>4</sup> The NC WARN Parties and, in separately submitted joint comments, 350 Triangle, 350 Charlotte, and NC-APPPL argue that the Commission should require an independent, Commission-led investigation.

Commission to actually conduct this investigation. This is simply an attempt to create an issue where none exists.

2. To be clear, H.B. 589 requires that “each **electric public utility** shall file for Commission approval revised net metering rates for electric customers.” N.C.G.S. § 62-126.4(a) (emphasis added). H.B. 589 mandates that “[t]he **Commission** shall establish net metering rates.” N.C.G.S. § 62-126.4(b) (emphasis added). Although H.B. 589 clearly tasks the utilities with filing, and the Commission with approving NEM tariffs, H.B. 589 does not task a specific party with the investigation of the costs and benefits of customer-sited generation.

3. As such, the Companies can, **and did**, conduct such an investigation in conjunction with stakeholders through both an embedded and marginal cost analysis in the Rate Design Study. Although the Companies conducted the investigation, the Commission was provided with detailed updates and insight about the process through the Companies’ quarterly updates in the Rate Design Study docket. To now require the Commission to halt the progress made by the Companies and the stakeholders to once again perform the same time-consuming, fact-intensive analysis would waste Commission time and resources and only serve to delay NEM reform in North Carolina—which must necessarily align these costs with benefits in accordance with H.B. 589.

**The Rate Design Study Fulfilled H.B. 589’s Mandate to Investigate the Costs and Benefits of Customer-Sited Generation.**

4. The Rate Design Study fulfilled H.B. 589’s requirements to investigate the “costs and benefits of customer-sited generation” by conducting both embedded and marginal cost studies, which are attached as **Exhibit B**. By employing both



embedded and marginal cost studies, the Companies ensured a wide range of costs and benefits are examined. Specifically, embedded cost studies examine “costs that have already been incurred and need to be recovered.” Marginal cost studies examine “the costs of the next unit.” Although these studies are referred to as marginal and embedded “cost” studies, the studies also analyzed benefits.

5. As explained below, these methodologies are widely-accepted in North Carolina as well as in the industry. The Companies would not consider it appropriate to utilize methodologies or count benefits that do not have legal or regulatory basis in North Carolina. However, several parties suggested that the Commission should order a “Value of Solar Study” to determine the costs and benefits of customer-sited generation in North Carolina.<sup>5</sup> To be clear, these Value of Solar studies utilize a similar analysis of marginal and embedded costs that the Companies deployed in this proceeding. The Companies’ analysis considered costs and benefits, including the value of this energy, in the specific context of the Companies’ service territories in North Carolina. This fact was acknowledged by Public Staff which stated:

The Public Staff believes Duke’s balance of costs and benefits represents a reasonable compromise between NEM and non-NEM residential customers. The Public Staff further believes that this balance must be monitored on a regular basis, as costs and benefits change and as more non-utility [Distributed Energy Resources (“DERs”)] are added . . . While a value of DER study in North Carolina might reveal marginal additional benefits from DERs, as stated above, the studies included with this filing and reviewed by the Public Staff capture the bulk of the known and verifiable benefits.

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<sup>5</sup> These parties include the Environmental Working Group, the NC WARN Parties, and the 350 Parties.

6. As an initial matter, the Companies agree with the Public Staff that these studies should be monitored and updated. This is especially important as methodologies and data are refreshed to ensure distributed energy resources (“DERs”) are valued fairly with respect to comparable, non-distributed resources. However, as explained by the Public Staff, a “Value of Solar” analysis would yield very little benefit (if any). To be clear, ordering such a study would unnecessarily delay these proceedings, stall required NEM reform, and likely result in contentious proceedings that would frustrate compliance with H.B. 589. Ordering a Value of Solar study now, even after months-long discussions and numerous stakeholder workshops, is simply unnecessary and would not result in any additional consensus.

7. As for the Companies’ embedded and marginal cost analyses, the Environmental Working Group insists that the “Companies’ proposal does not align with national best practice guidelines.” However, in reality, both the marginal and embedded cost perspectives are widely used in ratemaking nationwide and reflect cost allocation principles endorsed by the National Association of Regulatory Utility Commissioners (“NARUC”).<sup>6</sup> These perspectives are utilized in North Carolina, reflect cost allocation methodologies that are in-line with Commission orders in the Companies’ rate cases, and have been utilized in all of the retail rate designs currently in place for the Companies.

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<sup>6</sup> Embedded and marginal cost ratemaking principles are clearly endorsed by NARUC, as shown by the “Electric Utility Cost Allocation Manual” (January 1992). Further evidence for this is shown in NARUC’s Publication titled “Aligning Rate Design Policies with Integrated Resource Planning” (January 1994), which states “Utility rates are based in large part on embedded and/or marginal cost studies.” (page 6).

8. NC WARN, North Carolina Climate Solutions, and Sunrise Movement Durham (the “NC WARN Parties”) also unjustly attack the Companies’ methodologies by advocating for the use of the National Energy Screening Project’s National Standard Practice Manual for Benefit-Cost Analysis of Distributed Energy Resources. However, according to a lead author of that manual, as of January 2022, that standard has been considered or introduced in 40 states and **only been applied in three states**—New Hampshire, Rhode Island, and Arkansas.<sup>7</sup>

9. In contrast, the Companies’ cost analysis used methodologies for valuing DSM/EE and cost allocation that have been approved by the Commission and are based on the practices that are widely-utilized across the country. For example, the Companies utilized the Commission-approved retail cost-of-service studies and the mechanism for evaluating DSM/EE programs to determine how to account for costs and benefits in the marginal and embedded costs analyses. By utilizing the retail cost-of-service studies from the most recent rate cases and the mechanism for evaluating DSM/EE programs, the analysis places rooftop solar on a level playing field with the precedents for ratemaking in North Carolina and evaluation of DSM/EE programs.

10. Although, the NC WARN Parties improperly characterize the test year 2018 data used in these studies as “ancient,” the NC WARN Parties completely disregard the fact that the compliance cost-of-service studies form the basis for all of the Companies’ retail rates. The use of a historical test year has an extensive precedent

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<sup>7</sup> Michals, Julie and Woolf, Tim, “National Standard Practice Manual for Benefit-Cost Analysis of Distributed Energy Resources (NSPM for DERs)”, February 17, 2022, available here: [https://assets.ctfassets.net/416ywc11a9md/67cbeBw09ecfEDw87tWWAu/653af120f05e9d23ee886ad894d71472/Cost-Effectiveness\\_National\\_Energy\\_Screening\\_Project\\_2.17.22.pdf](https://assets.ctfassets.net/416ywc11a9md/67cbeBw09ecfEDw87tWWAu/653af120f05e9d23ee886ad894d71472/Cost-Effectiveness_National_Energy_Screening_Project_2.17.22.pdf).

in North Carolina. The Companies have not had any rate cases since the compliance cost-of-service studies were filed based on the 2018 test year, which is why the Companies utilized 2018 as the test year in this docket. No costs have been added to base rates since this 2018 test year. Therefore, it would be inappropriate to consider the recovery of costs that are not currently being recovered in retail rates.

11. In accordance with the compliance cost-of-service study, the Companies considered the upward pressure put on rates due to the reduction in revenue from customers with NEM. The Companies compared that analysis to benefits arising from NEM customers related to energy, distribution capacity, transmission capacity, and production capacity.

12. The Environmental Working Group argues that “lost revenues are not a cost of service.” However, the Companies **must** consider how lost revenues put upward pressure on rates. Measuring this upward pressure on rates is a primary goal of the cross-subsidy analysis. Put simply, if sales decrease, then higher prices are needed in order to recover the revenue requirement. Therefore, the Companies properly accounted for lost revenues/sales as putting upward pressure on rates in both the marginal and embedded cost studies. The treatment of lost revenues has an extensive precedent in North Carolina with regards to both ratemaking and DSM/EE program cost effectiveness. Although the Companies do not currently accept the National Energy Screening Projects’ National Standard Practice Manual for Benefit-Cost Analysis of Distributed Energy Resources (i.e., the cost-benefit methodology preferred by the NC WARN parties), it should be noted that resource also recognized that lost revenues put upward pressure on rates. It states “[r]eductions in sales from [Distributed

Energy Resources] will put upward pressure on rates.”<sup>8</sup> Finally, denying the upward pressure lost revenues and sales put on rates would inherently also challenge the notion that increased sales and revenues put downward pressure on rates.

13. As for the benefits considered, the Environmental Working Group claimed that the “Companies’ rate design investigation that looked at marginal costs and embedded costs does not equal an investigation of the value or benefits of customer-sited generation.” Environmental Working Group Comments, at 8. However, as described above, in both the marginal cost analysis and embedded cost analysis, recognized benefits in terms of energy, distribution capacity, transmission capacity, and production capacity were included.<sup>9</sup> As discussed below, these benefits were quantified and are expressly identified on **Exhibit B**.

14. For DEP, when analyzing these factors under the embedded analysis, these benefits amount to \$746.63 per year for an average solar generator under the current policies. For DEC, the benefits per year for an average solar generator amount to \$632.94 and \$666.80 under rate schedules RS and RE, respectively. These values are highlighted in the “Cost-of-Service Reduction from Solar” portion of the embedded cost studies attached as **Exhibit B**. Particularly notable in the embedded cost analysis is that transmission and production costs were reduced by 68-75%. This clearly reflects that a quantifiable benefit was not only identified but also included in the Companies’ analysis.

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<sup>8</sup> *The National Standard Practice Manual For Benefit-Cost Analysis of Distributed Energy Resources*, p. 8-13, (August 2020).

<sup>9</sup> The avoided cost values for transmission and distribution (“T&D”) capacity are based on estimates as to the avoided cost of not having to build T&D assets and not only deferring spending, as the NC WARN Parties claim.

15. When analyzing these benefits from a marginal cost perspective, they amount to \$463 for DEP per year for an average solar generator under current policies. For DEC, this analysis also includes \$662 and \$537 in benefits per year for an average solar generator under rate schedules RS and RE, respectively. These values are highlighted in the “Total Benefits” portion of the marginal cost studies attached as **Exhibit B**.

16. Despite these quantified and recognized benefits in the Companies’ studies, certain parties alleged that other benefits—benefits that have never been recognized by this Commission—should be included in the Companies’ evaluation. For example, 350 Triangle, 350 Charlotte, and NC-APPPL (the “350 Parties”) argue that societal benefits should be included when evaluating NEM generation. However, to date, societal benefits have never been identified or quantified in North Carolina in this context. These benefits are not part of the existing cost of service methodologies in North Carolina. Because they are not actual direct costs of providing service, the Companies do not believe it is appropriate to include these potential benefits in the rate design for NEM. The Companies believe these benefits may be appropriate to consider when evaluating DSM/EE incentives, where the long-term value of DERs is considered. This approach would analyze rooftop solar on a level playing field with any other DER.

17. In conclusion, the results from the Rate Design Study (i) arise from Commission-approved and industry-accepted methodologies, (ii) utilize the most recent Commission-approved cost-of-service data, and (iii) properly account for recognized costs **and** benefits arising from these NEM customers. This investigation

was utilized to create rate structures that accurately capture the currently recognized benefits and 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).

**The Rate Design Study Revealed the Potential for NEM Customers to Pay Less Than Their Full Fixed Cost of Service Under the Existing NEM Programs.**

18. As outlined above, H.B. 589 requires the Companies to deploy NEM rates that ensure customers pay their full fixed cost of service to reduce the cross-subsidies borne by non-participants. These cross-subsidies can arise where the costs to serve NEM customers do not align with the benefits provided by NEM customers. The embedded and marginal cost studies performed by the Companies and discussed during the Rate Design Study revealed that there are two primary reasons under the Companies’ existing NEM programs (the “Existing NEM Programs”) that costs and benefits do not align, which results in a potential cross-subsidy: (i) volumetric rate structures and (ii) overpayment for customer generation that is exported to the grid.

19. Although volumetric rates are utilized by traditional retail customers who consume all their energy needs from the utility, it is generally accepted that volumetric rates do not fully capture the costs to serve NEM customers. Volumetric rates are simplistic, bundled rates that not only represent the cost of energy consumed by that customer but also the customer’s use of distribution, transmission, and generation systems. Therefore, as a customer reduces its consumption of energy, it also reduces its volumetric charge, and therefore avoids paying for costs related to generation capacity, transmission capacity, and distribution capacity, as well as a portion of customer costs and public benefit programs, that were not reduced and are still attributable to that customer. Volumetric rates over-represent costs avoided when

a customer only reduces its energy consumption. This incongruity arises because NEM customers have a significantly different usage profile than non-NEM customers and require a more complex rate design structure to accurately reflect their use of, and contributions to, distribution, transmission, and generation systems.

20. For example, NEM customers may consume less electricity from the Companies during a sunny summer afternoon because their solar panels are producing energy which they can consume. However, these same customers rely on the utility for their full power requirements during peak times such as winter mornings. As such, the Companies must plan and build their systems for NEM customers just as they do for non-NEM customers. But under a simplistic volumetric approach, NEM customers would not fully contribute to those system costs on par with non-NEM customers because they consumed less energy from the grid. As such, these customers experience disproportionately reduced electric bills under volumetric rates. The Companies are left to recover this deficit from non-participating customers, which could result in an unwarranted cross-subsidy at the expense of non-NEM customers.

21. A similar unwarranted cross-subsidy can arise when utilities overpay for the power exported to the grid by customer-generators. This again arises because the volumetric charge for residential customers includes the recovery of non-energy costs, which are not necessarily reduced due to these exports. Therefore, the system cost savings are not equivalent to the retail price. The incremental difference between the retail rate offered to customer-generators and the rates offered to utility-scale solar is a cost that is borne by retail customers.



22. The Rate Design Study examined both the potential cross-subsidy as a result of volumetric rates and as a result of overpayment for exported power. The Rate Design Study revealed a potential embedded cost cross-subsidy per NEM bill in the range of \$25-\$30 in DEC and \$35-\$40 in DEP. The Companies' analyses also revealed a potential marginal cost cross-subsidy per NEM bill in the range of \$30-\$35 in DEC and \$58-\$63 in DEP. As described above, these values were determined by utilizing Commission-approved methodologies and industry-standard practices. These methodologies and supporting spreadsheets were shared with stakeholders and members of Public Staff who participated in the Rate Design Study process.

23. To address the potential cross-subsidy arising under volumetric rates, the NEM Tariffs deploy a series of innovative best practices—such as an MMB, GAF, and non-bypassable charges—to more accurately capture the costs and benefits of serving NEM customers. The NEM Tariffs also mitigate the risk of a cross-subsidy arising from an inflated credit for excess exports by proposing to pay NEM customers a rate equal to the Commission-approved avoided cost rates that the Companies pay to utility-scale qualifying facilities (“QFs”) under PURPA.

24. The Public Staff acknowledges the success of these mechanisms in reducing the cross-subsidy by noting that although “it is impossible to eliminate any cross-subsidy” the total subsidy under the NEM Tariffs “is reduced significantly.” Public Staff Comments, at 25, 27. As a result, the Public Staff determines that the Companies' reductions in cross-subsidies when compared to the Existing NEM Programs “are within an appropriate band of reasonableness.” Public Staff Comments, at 27.

25. Contrary to the Public Staff’s comments, the NC WARN Parties argue that the cross-subsidy estimates provided by the Companies are “unreliable” because the analysis focused upon residential customers. To be clear, residential customers are the **primary driver** of cross-subsidies on the Companies’ systems resulting from NEM. Cross-subsidization occurs to a lesser extent with non-residential NEM customers because they are already on more complex rate structures (i.e., not purely volumetric) that more closely track the costs to serve those customers. The Public Staff acknowledged the same by stating that “the cross-subsidy issue is not as critical for non-residential NEM as it is for residential NEM.” Public Staff Comments, at 23.

26. The NC WARN Parties suggest that certain parties to the MOU disagree as to the amount of the cross-subsidy under Existing NEM Programs. See NC WARN Parties Comments, at 14. To be clear, the Companies noted **in their Application** that “not all parties [to the MOU] agree on the extent to which cross-subsidization arises under Existing NEM Programs.” Application, at 8 n.4. Yet, the parties to the MOU were able to engage in constructive, meaningful dialogue to reach a reasonable compromise based on data and jointly present NEM Tariffs to the Commission that fulfill the mandates within H.B. 589.

27. As described above, the studies performed identified the need to better align costs with benefits in accordance with H.B. 589. These studies employed Commission-approved methodologies and were shared in a transparent forum. The Companies provided routine updates regarding these studies and corresponding stakeholder efforts to identify areas of opportunity to mitigate the potential cross-subsidy going forward. Challenges to the results of this data-driven, stakeholder-

centric, investigation of costs and benefits at this late stage must be carefully scrutinized.

**The Rate Structures within the NEM Tariffs Represent Current Best Practices that Reduce Potential Cross-Subsidy by Aligning Costs with Benefits.**

28. To achieve the goals within H.B. 589, the Companies leveraged the Rate Design Study, examined various dynamic rate-making tools, and developed tariffs that better align the cost to serve NEM customers. These rate structures represent 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.

a. TOU-CPP Rate Schedules

29. The TOU-CPP rate schedules utilized by the NEM Tariffs have been approved by this Commission and were vetted by interested stakeholders. These rate schedules are currently active in both DEC and DEP, and the Companies do not believe that it is appropriate to reconsider these rate schedules in this docket—particularly given the substantial time and effort by the Companies and interested stakeholders in developing those rate schedules.

30. The Commission approved the TOU-CPP rate schedules in Docket Nos. E-2, Sub 1280 and E-7, Sub 1253, complete with comments and intervenors.<sup>10</sup> Parties in these dockets had ample time and opportunity to provide comment and input. Stakeholders also had an opportunity to comment on those rate schedules in the Rate

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<sup>10</sup> These TOU rates are available to all residential customers.

Design Study.<sup>11</sup> As discussed both in the Rate Design Study and in the technical report filed in Docket No. E-2, Sub 1280, the Companies' ensured these TOU-CPP rates accurately reflect peak, off-peak, and discount times on the Companies' systems by examining the Companies' historic marginal energy costs, loss-of-load expectations from the latest Resource Adequacy Studies, load research forecasts, and solar production forecasts.

31. TOU-CPP rates more closely align costs with benefits because they are able to better account for the fact that both energy and capacity costs differ greatly based on the time when customers utilize the utility system. In this specific context, TOU-CPP rates can drive additional cost-benefit alignment because solar production is very time-dependent (i.e., without storage it only produces during hours with sunlight), which means there are only certain periods of time during which these generators can provide benefits to the Companies' system. As discussed in the Companies' Application, these are the primary reasons why requiring NEM customers to be on a TOU-CPP rate schedule is central to improving the cost causation of NEM programs and policies.

32. To illustrate the importance of TOU-CPP rates, consider an NEM customer that produces energy in the middle of a mild, sunny day. From the utility's perspective, this energy has little value or carbon reduction impact since, at some times, it is necessary to curtail utility-scale solar to maintain the reliability of the grid. In

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<sup>11</sup> The Companies alerted all participants in those meetings, including NC WARN, of their intention to file these rate schedules. In fact, comments were submitted by various participants, such as the Public Staff, North Carolina Justice Center, North Carolina Housing Coalition, Southern Alliance for Clean Energy, and the National Resources Defense Council.

contrast, any solar generation produced by NEM customers during winter mornings, when the system is the most likely to be capacity constrained, would be extremely valuable.<sup>12</sup> The TOU-CPP rates adjust throughout the day, and seasons, to ensure that the rates accurately reflect the system costs and benefits at that specific time. It is important to note that the higher cost time periods in the TOU-CPP design generally align with carbon intensity as well. Therefore, they provide not only a price signal to customers, but a carbon intensity signal as well.

33. As described in the Application, customers under the NEM Tariffs will be able to net exported energy against imports made by the utility over the month within each TOU-CPP pricing period, with any net imports billed at the rate in effect for that pricing period. In the Companies' Application, the Companies proposed to allow exports during on-peak and critical peak periods to offset imports within the on-peak period. However, the Public Staff recommends that the Companies modify the NEM Tariffs to allow exports during critical peak periods to offset imports within that same critical peak period. *See* Public Staff Comments, at 33. The Companies understand and appreciate the Public Staff's opinion on this matter. In response to feedback, the Companies are amenable to making this small change to the netting policy. It should be noted that this change would not materially change any of the models the Companies have provided related to this docket.

34. NCEMC outlined these concepts in their comments, noting that appropriately designed TOU and CPP rates "can help to align costs and also provide

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<sup>12</sup> The times when the Companies' systems are most likely to be capacity constrained were demonstrated through the results of the Companies' Load Adequacy Studies—which were shared in the Rate Design Study process—and examined in detail in the Companies' most recent avoided cost proceedings.

price signals [to customers] considering investing in [behind-the-meter] generation.”  
NCEMC Comments, at 6.

35. In this docket, these TOU-CPP rates achieve the goal of accurately reflecting the costs and benefits of customer-sited generation at specific times of the year and specific times of the day. Therefore, requiring NEM customers to be on a time-based rate design is a foundational and essential step towards improving the rate design goal of reflecting cost causation.

b. Monthly Minimum Bill

36. As explained in the Application, the MMB ensures recovery of costs related to the distribution system—costs that are largely fixed. These fixed costs are allocated to customers based on demand-related costs, not energy usage per customer. This means that although NEM customers can reduce their bill under volumetric rates through self-consumption, the Companies do not see a corresponding decrease in these fixed costs, and residential customers do not see a corresponding decrease in allocated costs in the cost of service study.

37. If the NEM customer’s bill falls below the fixed costs that are properly attributable to them, the Companies must collect the deficit from all retail customers. The MMB works to achieve H.B. 589’s cost-alignment goal by ensuring that the customer’s bill for proper customer and distribution costs does not fall below the minimum system costs of serving that customer. In doing so, the MMB ensures that non-participants are not forced to bear these costs.

38. The MMB for DEC is \$22 and \$28 for DEP.<sup>13</sup> These amounts reflect the compliance customer unit costs under the Companies' most recent compliance cost-of-service studies and were derived in accordance with Commission-approved methodologies.<sup>14</sup> The customer unit cost is the total customer classified costs divided by the number of bills. Customer classified costs are costs that increase as a function of the number of customers served (e.g., billing costs, metering costs, costs of connecting to the system, etc.). Therefore, the customer unit cost reflects the amount of customer costs associated with each bill. The customer unit costs have been rounded to the nearest whole number in determining the MMB for simplicity.

39. Although the 350 Parties characterize the implementation of the MMB as a penalty, the actual data reveals that the MMB mirrors the **minimum cost** to serve these NEM customers—a requirement of H.B. 589. Furthermore, applicable riders and the fixed charge count in full towards the MMB under the NEM Tariffs. These greatly reduce the impact of the MMB. According to the Companies' estimates, the MMB would increase the average NEM bill by roughly \$1 per month in DEC and \$3 per month in DEP. As such, this measure is far from a penalty and simply recovers the minimum costs to serve these customers in accordance with H.B. 589. In fact, the MMB is intended as an alternative to a higher fixed charge for customer-generators, which would increase bills for all customer-generators including those that would already contribute more than the customer unit cost.

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<sup>13</sup> As described in the Application, the MMB can be satisfied by the (i) applicable Basic Charge, and (ii) the portion of the monthly volumetric energy charges specific to customer and distribution costs, and riders.

<sup>14</sup> A portion of these costs are classified as customer costs and are recovered through certain volumetric charges.

c. Monthly Grid Access Fee and Non-Bypassable Charges

40. As explained in the Application, the NEM Tariffs also utilize a GAF and non-bypassable charges (“Non-Bypassables”). Both of these charges will be tied to the size of a customer’s system, and will further align costs and benefits of serving NEM customers, while incentivizing system sizes that are tailored to each customer’s specific needs.<sup>15</sup>

41. Importantly, the GAF is only applied to solar facilities in excess of 15 Kw-dc. For each Kw-dc over this amount, customers would pay \$2.05 per month for DEC and \$1.50 per month for DEP. The GAF is applied to these larger systems because they represent the greatest potential for cross-subsidization. Specifically, customers with these larger systems can significantly reduce the kWh purchased from the utility, thereby avoiding costs properly attributable to them, such as distribution demand costs. By applying the GAF to only these larger systems, the Companies mitigate this risk of cross-subsidy by ensuring recovery of distribution demand costs.

42. The Non-Bypassable charge in the NEM Tariffs will be applied as a monthly charge per Kw-dc of the customer generator’s capacity. These charges are designed to recover all costs related to DSM/EE, storm cost recovery, and cyber security. These charges are required because, without them, program expenses and non-energy linked costs would be avoided by NEM customers and ultimately collected disproportionately from non-solar customers.

43. By tying both of these charges to the size of a customer’s system—and pairing them with the TOU-CPP rates mentioned above—the NEM Tariffs encourage

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<sup>15</sup> The Companies note that these measures were largely uncontested in the initial comments.



customers to size their systems to meet their needs, thereby reducing the cross-subsidy. When utilized in conjunction with the MMB, these measures align costs and benefits, reduce the cross-subsidy, and provide benefits to all customers in the Companies' North Carolina service territories.

44. Although these rate structures are required to reduce the cross-subsidy pursuant to H.B. 589, the Companies understand that these mechanisms are necessarily more complex than the current volumetric rates under Existing NEM Programs. As such, the Companies are developing a bill calculator that will help customers estimate savings from adding rooftop solar. This calculator will model all aspects of a customer's bill—including the GAF, MMB, and Non-Bypassables—and will help customers overcome some of the additional complexity in adopting rate designs better aligned with cost causation.<sup>16</sup>

d. Export Credit

45. The NEM Tariffs propose to pay NEM customers a rate equal to the Commission-approved avoided cost rates that the Companies pay to utility-scale QFs under PURPA for excess exports. As explained by the Public Staff, these rooftop generators are properly characterized as QFs under PURPA, and they deliver the same intermittent power to the grid as the utility-scale QFs. By utilizing those same avoided cost rates, the rates paid to these customers for exported generation accurately capture the benefits provided to the power system by customer-generation and mitigate the risk of cross-subsidy.

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<sup>16</sup> A similar calculator was successfully deployed in South Carolina and can be found here: <https://ecs-solar-calc.duke-energy.app/estimate>.

46. The Companies agree with the Public Staff's recent statement that the avoided cost docket (Docket No. E-100, Sub 175) is the appropriate forum for deciding excess export rates for net metering customers.<sup>17</sup> In this case, the rates paid for export credits (the "Net Excess Energy Credit" or the "NEEC") would be updated every two years for all customers under the NEM Tariffs, concurrent with avoided cost proceedings.

47. In response to other recent recommendations made by the Public Staff in the current avoided cost docket, the Companies will base NEEC rates on a 5-year term, including both energy and capacity credits where applicable and weighted using a typical rooftop solar production profile. Weighting avoided cost credits based on a typical rooftop solar production profile will help ensure that annualized NEEC rates accurately reflect the average value of energy and capacity from NEM customers over time-of-use periods and across months.<sup>18</sup>

**The Stipulation Provides an Appropriate "Bridge" Option for Eligible Customers and Creates Additional Benefits for All Customers.**

48. The Companies, from the outset, explored options to provide existing customers with a gradual transition from Existing NEM Programs to the NEM Tariffs. The Companies' initial proposal in the Application was to provide existing customers with the following option: (i) a monthly bill credit at avoided cost for net excess, (ii) a small non-bypassable charge, and (iii) a monthly minimum bill of \$10 more than the

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<sup>17</sup> In *Initial Statement of the Public Staff* filed February 24, 2022 in Docket No. E-100, Sub 175, the Public Staff stated that "the appropriate methodology for calculating the avoided cost rate used for the NEEC [Net Excess Energy Credit in the revised net energy metering tariffs] should be decided in this docket."

<sup>18</sup> The Companies also analyzed the potential for seasonal NEEC rates and found that the impact on avoided cost credits was negligible, i.e., within 5% for both DEC and DEP, further justifying utilization of the simplified annualized rate.

basic facilities charge. This rate option would be available to existing NEM customers when the NEM Tariffs are approved and would remain in effect until December 31, 2037.

49. Several parties noted that under that option, existing NEM customers would experience a reduction in their bill savings due to the change in compensation for net exports and certain non-bypassable charges once the H.B. 589 grandfathering period ends on January 1, 2027.<sup>19</sup>

50. In response to comments submitted in this docket, the Companies engaged with the North Carolina Rooftop Solar Installers to develop an alternative that maintains the Companies' focus on gradualism under H.B. 589, while expanding flexibility for existing and eligible new customers. During those discussions, the North Carolina Rooftop Solar Installers manifested a willingness to engage in a meaningful discussion of potential solutions, as opposed to a desire to obstruct, delay, and create confusion. As a result of two Commission extensions that allowed the parties time to collaborate and discuss potential options, the Companies and the NCRSI developed a transition option for NEM reform in North Carolina that will create additional benefits for all customers (participating, non-participating, and low-income). As with other parties in this docket that engaged in good faith negotiations with the Companies, a compromise was eventually reached. The terms of this compromise are memorialized in the Stipulation.

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<sup>19</sup> To be clear, the Companies fully considered existing NEM customers and are not proposing any retroactive change to customers' bills in this docket. Instead, the Companies are proposing a balanced solution.

51. At a high level, the rate mechanics of this alternative rate design (the “Proposed Bridge Rate”) include monthly netting at applicable avoided cost rates and the same MMB and non-bypassable charge as the NEM Tariffs.<sup>20</sup> However, the Proposed Bridge Rate does not include a GAF or mandatory TOU-CPP rates. Additionally, the following customers would be exempted from the MMB under the Proposed Bridge Rate: Homes specifically built for low-income and vulnerable customers (e.g., Habitat for Humanity), LIHEAP recipients, and CIP recipients.<sup>21</sup>

52. The Proposed Bridge Rate would be available to all residential customers (regardless of their current rate schedule) who apply for NEM on or after January 1, 2023, until December 31, 2026, (subject to the early termination of the Proposed Bridge Rate, as described in the Stipulation).

53. Current NEM customers may remain on their current rate until January 1, 2027 at which point they will transition to the Proposed Bridge Rate or may choose to move to the NEM-TOU rate in effect at that time. Customers may remain on the Proposed Bridge Rate for 15 calendar years after the date on which the customer submitted an interconnection application (the “Bridge Rate Period”), less the number of years they were on an alternative NEM rate structure prior to January 1, 2027.<sup>22</sup> After that, the customer will move to the NEM-TOU rate in effect at the end of the Bridge Rate Period.

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<sup>20</sup> The Proposed Bridge Rate would replace the option for legacy customers outlined in Section IV of the Companies’ Application.

<sup>21</sup> Customers that receive this exemption from the MMB must have a PV system size no greater than 8 kW-DC.

<sup>22</sup> Section 13 of the Stipulation outlines certain items that would terminate the availability of the Proposed Bridge Rate, which include new EE/DSM programs that would be available to customers taking service on the Proposed Bridge Rate.

54. The Proposed Bridge Rate is subject to the participation caps in Table 1. If the cap is reached, customers could still add rooftop solar, but they would only have the option of being on Schedule Purchased Power or one of the applicable TOU rates (RSTC or TOU-CPP).

Table 1

	Total Capacity (MW)		Total NC
	DEP	DEC	
2023	32.7	29.0	61.7
2024	35.9	31.9	67.8
2025	39.5	35.1	74.6
2026	43.5	38.7	82.2

55. The Stipulation includes additional provisions that aim to create benefits to all customers above and beyond the alternative NEM rates outlined above. These provisions range from additional consumer protection measures to collaboration on the valuation of DERs in the future.

56. Taken as a whole, the Stipulation provides a gradual transition option from the Existing NEM Programs for eligible customers, while creating additional future benefits for all of the Companies' customers. These compromises reached by the NCRSI and the Companies represent a collaborative effort to account for a broad range of interests, while also adhering to the NEM directives and timelines within H.B. 589.<sup>23</sup>

**The NEM Tariffs Are a Result of Broad Stakeholder Engagement and Support.**

57. Both the Proposed Bridge Rate and the NEM Tariffs result from broad stakeholder engagement and account for a wide range of interests. As discussed above,

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<sup>23</sup> If the Proposed Bridge Rate is approved by the Commission, the Companies will file revised tariffs reflecting the same.

the Proposed Bridge Rate is the product of the Companies' continued effort to engage stakeholders, even after the Application was filed. As for the TOU-CPP option under the NEM Tariffs, those innovative rate structures were developed through the Rate Design Study process, during which the Companies engaged in productive and in-depth dialogue with stakeholders on NEM over the course of seven workshops. Attendees representing a broad range of interests discussed NEM reform in North Carolina.

58. This evaluation of NEM was included in the working group labeled "Fast Track" which means it was designated as a high-priority topic. In other words, the Fast Track process allowed for more focused debate outside of the broader Rate Design Study. The Companies submitted updates to the Commission throughout the Fast Track process. *See* Docket Nos. E-7, Sub 1214 and E-2, Sub 1219.

59. During the Rate Design Study process, the Companies provided stakeholders with the data underlying the Companies' presentations throughout the process, including the (i) results of embedded and marginal costs, (ii) confidential load forecasts, and (iii) confidential data that informed the Companies' selection of TOU periods.<sup>24</sup>

60. However, the NC WARN Parties characterize the Rate Design Study as "untimely" and "half-hearted."<sup>25</sup> These characterizations stand in direct conflict with the documented stakeholder process, which reveals a process that was broad, inclusive, and provided thoughtful consideration.

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<sup>24</sup> Confidential information was only shared with those parties that agreed to sign a non-disclosure agreement.

<sup>25</sup> Although the comments were filed jointly, NC WARN was the only NC WARN Party that participated in the Rate Design Study.

61. Although the NC WARN Parties attack the stakeholder process, it should be noted that NC WARN not only participated in the process, but actually presented to the stakeholder group on July 29, 2021 (approximately four months before the Companies' application was filed in this docket). During that presentation and throughout the entire Rate Design Study process, NC WARN had the opportunity to discuss ideas and reform proposals.

62. Instead, NC WARN utilized their presentation on July 29, 2021 to complain about inclusion of NEM topics in the Fast Track process and argue that the NEM program successfully implemented by the Companies in South Carolina should not be used as a starting point in North Carolina. NC WARN repeated these same arguments once again in subsequent comments submitted in the Rate Design Study docket on November 15, 2021 (the "NC WARN Rate Design Comments")—more than three months since the Companies addressed these concerns in the Rate Design Study.

63. It comes as no surprise that this pattern of attack repeats itself in this docket. However, the Companies have consistently responded to NC WARN, whether it be in the Rate Design Study, in response to the NC WARN Rate Design Comments, or in this docket—the Fast Track process is specifically designed to discuss high-priority topics and the Companies view the South Carolina model as a best-practice given that it successfully utilizes rate-making tools to benefit all customers.

64. The rhetoric of the NC WARN Parties clearly demonstrates their desire to block this compromise solution and, in so doing, prevent compliance with H.B. 589. In fact, even before the Rate Design Study started, NC WARN released a press release in which they "vowed to mount a legal and grassroots challenge" to the Companies'

efforts to reform net metering—before the Companies had even presented a proposal to the Rate Design Study participants.<sup>26</sup>

65. Put simply, NC WARN’s pattern of behavior indicates that an extension is not warranted. Even if more time is granted, there is no evidence that such an extension will produce a better product for North Carolina customers. The NC WARN Parties should not be able to hold up the real and substantial progress made in this docket by continuing to advance the same unsupported accusations before the Commission.

**The NEM Tariffs Allow Customers to Obtain Savings That Are Similar—if Not Better—Than Savings Obtained Under Existing NEM Programs.**

66. Certain commenters seem to believe that the Companies are intentionally driving down the market for solar in North Carolina by proposing NEM Tariffs that align costs of serving NEM customers with the benefits provided by those customers. To be clear, the driver for proposing the new rate design and net export compensation arrangement is to comply with the net metering provisions of H.B. 589—not to intentionally reduce rooftop solar adoption rates. Even still, Public Staff has acknowledged that “Duke’s proposal will not do away with or prohibit net metering,” and the Companies’ data indicates the same.

67. As the Companies have previously acknowledged, the Companies’ modeling shows that the proposed NEM Tariffs would reduce annual savings when compared to Existing NEM Programs by roughly 30%. However, this estimate does not account for reforms that provide incentives to NEM customers where they choose

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<sup>26</sup> NC WARN press release, dated February 23, 2021, and found here: <https://www.ncwarn.org/2021/02/duke-energy-seeks-to-undermine-solar/>



to implement actions that benefit all customers—specifically, the (i) pricing signals sent by the TOU-CPP rates or (ii) Smart Saver Solar Energy Efficiency Program (“Smart Saver Solar”). In each case, customers can utilize these measures to further reduce their bills, increase their cost savings, while also providing a value to all customers.<sup>27</sup>

68. As for the TOU-CPP rates, they have the potential to offer savings for customers who take advantage of their pricing signals. Customers may increase their bill savings by consuming power during off-peak and discount time periods when electricity costs are lower. Alternatively, customers may choose to export power during on-peak and critical peak time periods when the power is more valuable to the Companies’ systems. In both scenarios, the customer is able to respond to these pricing signals and increase savings, while also providing additional benefits to all retail customers. The TOU-CPP designs may also encourage developers and customers to site and install solar in ways that maximize the value to the grid rather than aggregate solar production, creating additional benefits.

69. The Companies also propose to offer the Smart Saver Solar incentive to these NEM customers, which would significantly reduce the upfront costs of rooftop solar installations and improve the economic proposition of adding rooftop solar. As Thomas Beach and Patrick McGuire of Crossborder Energy note in their report, “the bill savings from solar adoption are similar to those available under existing NEM, but only if the Smart Saver Solar incentive is included.” NCSEA/SACE/Vote Solar

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<sup>27</sup> The Smart Saver program is before the Commission in Docket Nos. E-2, Sub 1287 and E-7, Sub 1261.

Comments, at 10. To receive the Smart Saver Solar incentive, customers must also agree to participate in the Companies' Winter BYOT offering for a period of 25 years and allow third-party control over the BYOT. The Winter BYOT programs drive benefits to all customers through this third-party control by shifting demand to reduce costs on the system during peak times.

70. Although the Smart Saver Solar incentive is not part of this docket, it is a part of the compromise struck in the MOU and it would have an important impact on the economics of potential electric customers willing to abide by the BYOT requirements. Importantly, this compromise ties an incentive to measurable benefits to all customers, thereby adhering to H.B. 589 and its mandate to align costs with benefits.

71. In some aspects, the upfront Smart Saver Solar incentive has qualities that make it more valuable than bill savings. First, the value of this upfront incentive is clear and carries essentially no risk, unlike bill savings which are inherently difficult to predict and based on multiple assumptions. Second, an upfront incentive is provided at the time of installation and therefore is more valuable than savings that will only occur after multiple year (this is due to the time value of money concept in economics and finance). Put together, these two benefits might also provide a third benefit in terms of marketing. It is likely easier to sell a system that, for example, has a net upfront cost of \$5,000 than an identical system with a net upfront cost of \$10,000—regardless of the fact that the net financial proposition of the latter offer is identical after several years due to different levels of bill savings. The marketing value of having a lower initial cost could help the rooftop solar market grow.

72. Clearly, as stated by the Public Staff, the NEM Tariffs do not limit the growth of distributed energy resources such as rooftop solar as some commenters would have this Commission believe. Rather, these reforms are necessary to align with H.B. 589, while also coming up with solutions that permit expansion and integration of these resources in a way that drives value for all customers.

**The NEM Tariffs Will Drive Increased Savings for Customers by Serving as a Platform for Emerging Technologies.**

73. The NEM Tariffs were developed to be a platform from which to encourage adoption of emerging technologies that would drive increased savings for NEM customers. Initially, smart thermostats would be the main complementary technology being bundled with rooftop solar under the NEM Tariffs, but the Companies believe that the NEM Tariffs provide opportunities for DERs and other technologies to be bundled in a similar manner.

74. Specifically, customer-sited energy storage, including electric vehicles, could be deployed in a way that reduces the amount of energy the customer consumes from the grid. These were a key consideration in the development of the dynamic pricing rate schedules that were part of the Rate Design Study because accurate TOU-CPP rates are critical to enabling deployment of those technologies, which is a primary reason why those rates are utilized within the NEM Tariffs. However, the Rate Design Study did not specifically evaluate battery storage in the NEM context where customers can export energy to the Companies.

75. Such a subsequent evaluation is critical to ensure that new DERs and technologies are properly deployed and valued in a way that creates benefits for non-participants. Without creating a proper relationship to cost causation, these new

technologies could increase rates for non-participants. The impact on non-adopters of these technologies, such as energy storage, is especially important since these technologies are often difficult for low-income or vulnerable customers to adopt.

76. As such, the Companies agree with the Public Staff's recommendation to "study and consider how the NEM Tariffs might be modified, in this docket or the near future, to better facilitate and accommodate energy storage coupled with renewable generation." Public Staff Comments, at 38. The Companies believe that further study on this topic is appropriate to better understand potential interactions between NEM generation and energy storage. Therefore, potential modifications to NEM Tariffs will be considered in the Companies' evaluation and development of future rates and programs related to energy storage (including electric vehicles).

**Benefits Associated with Renewable Energy Credits ("RECs") Flow to All Customers When Those RECs Are Retained by the Companies.**

77. The Companies understand Public Staff's recommendation that requiring utility ownership of RECs is no longer necessary in light of the significant reduction in the cross-subsidy under the NEM Tariffs. However, by the Companies maintaining ownership of the RECs, the benefits associated with each REC flow to all customers, which helps further reduce the potential marginal cost cross-subsidy. Therefore, the Companies believe that the historic logic of retaining utility ownership over RECs remains appropriate.<sup>28</sup>

**H.B. 589 Does Not Require the Companies to Propose "Flat-Rate" NEM Tariffs.**

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<sup>28</sup> The Companies agree with the Public Staff's other recommendation – that the Rider RSC language should be revised so that the utility retains all RECs produced, not only RECs associated with energy delivered to the grid. This reduces administrative complexity.

78. H.B. 589 mandates that “[t]he Commission shall establish net metering rates under all tariff designs that ensure that the net metering retail customer pays its full fixed cost of service.” N.C.G.S. § 62-126.4(b). The plain language of this provision ensures that each tariff established by the Commission pursuant to H.B. 589 achieves the primary goal of NEM reform thereunder—reducing the cross-subsidy by ensuring each customer “pays its full fixed cost of service.”

79. The NC WARN Parties attempt to introduce confusion into this proceeding by providing an incomplete quote and claiming that this language does not refer to a reduction in the cross-subsidy. Instead, the NC WARN Parties argue that this language requires the Companies to maintain “flat rate” tariffs for NEM customers. Specifically, the NC WARN Parties state that:

[T]he Companies would seek to eliminate an entire class of tariffs—namely, flat-rate NEM customers. This proposal violates the mandate of House Bill 589, which states: ‘The Commission shall establish net metering rates under all tariff designs.’

NC WARN Parties Comments, at 8.

The NC WARN Parties conveniently omit important context by not including the latter portion of that sentence, which focuses exclusively on ensuring that each “net metering retail customer pays its full fixed cost of service.” N.C.G.S. § 62-126.4(b). The omission changes the meaning of the sentence, which when read properly, is about ensuring that NEM customers pay at least their full fixed cost of service—not about maintaining the ability to net meter under all rate designs. This is particularly important given that the current “flat-rate” regime is what creates the circumstances in which customers would not pay their full fixed cost of service. Claiming that H.B. 589—which focuses on reducing the cross-subsidy—requires the Companies to maintain the

regime that creates the cross-subsidy, is simply illogical and creates an unreconcilable read of H.B. 589.

80. Furthermore, if H.B. 589 intended to mandate a specific tariff design (such as flat rate), it could have done so. However, it did not. Instead, it expressly provides that the Companies may design tariffs that “include fixed monthly energy and demand charges” to better reflect cost causation.

81. When read in context (including the remainder of the sentence that the NC WARN Parties omitted in their comments), it becomes clear that the reference to “all tariff designs” ensures that each tariff approved by the Commission thereunder ensures that NEM customers pay their “full fixed cost of service.” The NEM Tariffs proposed in this proceeding achieve that goal, and the benefits arising to all customers from these tariffs should not be denied due to selective quotation by the NC WARN Parties.

**The Companies Are Committed to Addressing Non-Residential NEM Reform in Subsequent Proceedings Before the Commission.**

82. The Companies’ NEM reforms proposed in this proceeding focus on residential customers because this class of customer is the primary driver of cross-subsidies on the Companies’ systems. The Public Staff acknowledged the same by stating that “the cross-subsidy issue is not as critical for non-residential NEM as it is for residential NEM.” Public Staff Comments, at 23.

83. This is primarily due to the fact that non-residential customers take service under more complex rate structures that already include mechanisms to better align costs with benefits—such as demand charges. However, residential NEM customers remain on simplistic volumetric rates that do not as accurately capture the

costs and benefits of serving these NEM customers. By focusing on residential customers, the Companies and the parties to the MOU attempt to first address the rate class that creates the largest risk of cross-subsidies. Therefore, reforming this rate class first provides the most benefits to all of the Companies' customers.

84. Achieving this alignment of costs and benefits required numerous stakeholder meetings, complex analytics, and focused discussions regarding potential pathways forward for residential NEM in North Carolina. As such, the Companies, the parties to the MOU, and almost all stakeholders (except NC WARN and the Environmental Working Group) felt it necessary to address residential NEM reform first in isolation.

85. However, the Companies agree with the Public Staff that non-residential NEM reform should be addressed as well. As such, the Companies committed in the MOU to "work collaboratively with stakeholders to develop a policy proposal for the next generation of non-residential NEM." MOU, at 2.

86. There is, however, no reason to stall the momentum of this process based upon unsubstantiated claims regarding timing of non-residential reform. The Companies have been transparent from the beginning that residential NEM reform would take priority given that reform of the residential class will provide the greatest benefit to all of the Companies' customers by striking at the heart of the cross-subsidy.

**The Commission Should Not Link Consideration of the NEM Tariffs and the Smart Saver Solar Program.**

87. The Companies, as well as the other parties to the MOU, agree with the AGO that the NEM Tariffs are designed to work in concert with the Companies' proposed Smart Saver Solar program proposed in Docket Nos. E-2, Sub 1287 and E-7,

Sub 1261. As SEIA noted in its comments, “the availability of an upfront incentive for participating in energy efficiency and demand response is what makes this compromise work and what opens up the possibility of sustained growth for the rooftop solar market in North Carolina.” SEIA Comments at 3.

88. In its “Report on the Duke NEM Settlement and SmartSaver Solar EE Programs” attached as Exhibit A to the initial joint comments submitted on behalf of NCSEA, SACE, and Vote Solar (“Crossborder Report”), Crossborder Energy came to a similar conclusion:

The DEC/DEP NEM reform proposal is the product of dialogue and negotiation between the utilities and important stakeholders, including key representatives of the solar industry as well as clean energy advocates. The development of complex new net metering program through constructive discussions, negotiation, and compromise is a welcome development given that similar issues in other states have resulted in protracted litigation and public controversy. The proposed new NEM tariffs and the associated SmartSaver Solar incentive represent a complicated mix of interrelated concessions and compromises among the involved stakeholders...

Customers who invest in clean distributed solar generation need to see adequate bill savings to make their investment a reasonable economic proposition ... Significantly, the availability of the SmartSaver Solar incentive is pivotal [to achieving adequate bill savings]...

Crossborder Report, at 3.

89. Because customers may choose to take advantage of these measures simultaneously, certain comments suggest that the Commission link its consideration of these measures by delaying an order in this docket or otherwise conditioning one program upon the other.



90. Although the NEM Tariffs and Smart Saver Solar work in conjunction to provide increased benefits to all customers, the Commission should **not** link consideration of these matters because the analysis of each matter is very different.

91. The NEM Tariffs in this proceeding were developed to achieve the directives handed down by H.B. 589, which include developing rate structures that ensure customers pay their full fixed cost of service through an investigation of costs and benefits. These goals were achieved through a robust stakeholder process within the Rate Design Study, which was specific to NEM matters in North Carolina.

92. On the other hand, the Smart Saver Solar program is the subject of a different docket and was tailored to fulfill N.C. Gen. Stat. § 62-133.8 and Commission Rule R8-68—which were unmodified by the NEM reform provisions within H.B. 589. Separate from the NEM requirements in H.B. 589, the relevant DSM/EE requirements in North Carolina require the Companies to perform a qualitative measure screening to ensure EE/DSM measures are: “(a) commercially available and sufficiently mature, (b) applicable to the . . . service area demographics and climate, and (c) feasible for a utility DSM/EE Program.” The Smart Saver Solar program was also the result of a separate and distinct stakeholder process within the DSM/EE Collaborative.

93. Although these analyses are distinct, to the extent the Commission wishes to consider these separate analyses on similar timeframes, it may do so. The procedural schedules for these separate proceedings are on similar tracks such that the Commission could consider them at the same time, without delay, if the Commission so chooses. However, neither H.B. 589 nor the Commission’s procedural schedule in

these dockets require the Commission to delay a decision on the NEM Tariffs in anticipation of an order in the Smart Saver Solar docket.

94. Similarly, conflating the analyses such that they are interchangeable or somehow conditioned upon the other would effectively re-write North Carolina law by tying these programs together in a way that North Carolina law simply does not. Instead, the law requires that each offering be independently analyzed and ruled upon in the context of the distinct requirements imposed upon each by North Carolina law and this Commission.

**The Commission Should Not Condition NEM Reform under H.B. 589 upon Development of the Carbon Plan under H.B. 951.**

95. The Companies agree with the Public Staff that rooftop solar “should be fairly evaluated with all other options and should be incorporated into the Commission’s carbon reduction plan if it constitutes a least-cost step toward compliance.” Public Staff Comments, at 33. However, the Commission is not tasked with that evaluation in this docket but must address the requirements of H.B. 589. Instead, this docket determined whether the NEM Tariffs proposed achieve the distinct goals of H.B. 589, which require the Companies to ensure NEM customers pay their “full fixed cost of service.” These goals are separate from the carbon-emission goals within H.B. 951 and the cost to serve these customers is not influenced, altered, or changed by future carbon-emission dockets.

96. As described above, aligning costs to serve in accordance with H.B. 589 requires a complex rate structure that accounts not only for the export credits but also for the nuances of serving NEM customers that are not accurately captured by

volumetric rate structures. On the other hand, the carbon-emission goals within H.B. 951 as they relate to NEM will focus on a much narrower issue—valuation of the energy generated by these customers in the broader context of carbon emissions.

97. However, the AGO suggests that the Commission delay an order in this proceeding until “there is more clarity on the role customer-sited generation will play in meeting the carbon reduction goals of House Bill 951.” The joint comments submitted by the 350 Parties go even further to request that the Commission deny the NEM Tariffs entirely because the Carbon Plan has not yet been approved.

98. Rooftop solar may play a role in achieving the carbon-emission goals of H.B. 951, and as such it will be fully considered. Rooftop solar may play a role in achieving the carbon-emission goals of H.B. 951, and as such it will be fully considered. To this end, the Companies believe that the methodologies for valuing distributed energy resources should take into account the carbon plan and the impact it will have on system planning. This aligns with, and in no way contradicts, the goal of this filing which is to send accurate price signals through rate design that recover embedded costs while encouraging customers to provide the maximum amount of value to the system. While such additional value streams are not the subject of this docket, this work will allow such value streams to be analyzed in future dockets.

99. However, in this docket, the Companies must first fulfill the cost-of-service related goals within H.B. 589, which involve the robust and complex modeling and analysis the Companies and participating stakeholders performed through the Rate Design Study. If the legislature intended to condition NEM reform upon the carbon-emission goals in H.B. 951, it would have done so. It did not. As such, there is no policy

justification for abandoning these efforts and combining this work in a subsequent docket that involves separate and distinct policy goals.

### CONCLUSION

100. As described above, the NEM Tariffs heed the call of H.B. 589 to institute NEM reform in North Carolina by reducing the cross-subsidy arising to non-participating customers through innovative rate design. This reduction in cross-subsidization results in a benefit to all of the Companies' customers—including low-income customers. The NEM Tariffs also mitigate bill impacts to existing customers through the Proposed Bridge Rate, which was developed through weeks of negotiations with stakeholders after the Application was filed. The NEM Tariffs also permit new customers to achieve savings similar to those realized under the Existing NEM Programs through a combination of TOU rates and an incentive. The NEM Tariffs represent a broad coalition of stakeholder support, and the Companies believe this residential reform is a critical first step in achieving the required NEM reforms outlined in H.B. 589. Therefore, the Companies respectfully re-iterate their request for approval of the following:

1. Duke Energy Carolinas, LLC's NEM Tariff (including the Proposed Bridge Rate);<sup>29</sup>
2. Duke Energy Progress, LLC's NEM Tariff (including the Proposed Bridge Rate); and

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<sup>29</sup> As noted above, the Companies will file revised NEM Tariffs upon approval of the Proposed Bridge Rate.

3. To provide any further relief the Commission deems to be just and reasonable and in the public interest.

Respectfully submitted, this the 20<sup>th</sup> day of May 2022.

s/Jack Jirak

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

**EXHIBIT A**

(see attached)

STATE OF NORTH CAROLINA  
UTILITIES COMMISSION  
RALEIGH

DOCKET NO. E-100, SUB 180

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of:	)	
	)	
Investigation of Proposed Net Metering	)	
Policy Changes	)	<b>STIPULATION</b>
	)	
	)	
	)	

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NOW COME Duke Energy Carolinas, LLC (“DEC”); Duke Energy Progress; LLC (“DEP”) (collectively, the “Companies”); Sundance Power Systems, Inc.; Southern Energy Management, Inc.; and Yes Solar Solutions (collectively, the “North Carolina Rooftop Solar Installers” and together with the Companies, the “Stipulating Parties”), through counsel and pursuant to N.C. Gen. Stat. § 62-69, respectfully submit the following Agreement and Stipulation of Settlement (“Stipulation”) for consideration by the North Carolina Utilities Commission (“Commission”) in the above captioned docket (the “Docket”).

**I. BACKGROUND**

1. On November 29, 2021, the Companies filed a Joint Petition for Approval of Net Energy Metering (“NEM”) Tariffs in Compliance with G.S. § 62-126.4 and House Bill 951 (the “Application”). The proposal in the Application arose from the Memorandum of Understanding filed simultaneously therewith, by and among 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 “MOU Parties”).

2. On January 10, 2022, the Commission issued an Order Requesting Comments.<sup>1</sup>

3. On March 29, 2022, Sundance Power Systems, Inc., Southern Energy Management, Inc., and Yes Solar Solutions (collectively, the “North Carolina Rooftop Solar Installers”) filed joint comments to the Application, as permitted by the Commission. The comments submitted by North Carolina Rooftop Solar Installers oppose certain aspects of the Companies’ Application. Subsequently, the Companies, the MOU Parties, and the North Carolina Rooftop Solar Installers engaged in dialogue to determine whether a compromise could be reached on these disputed issues in accordance with H.B. 589.

4. On April 22, 2022, the Companies and the North Carolina Rooftop Solar Installers requested an extension of time in this Docket for the parties to file reply comments. The Companies and the North Carolina Rooftop Solar Installers explained that such an extension was warranted because it would enable the parties to “further engage in dialogue in an effort to reach a resolution on these issues.”<sup>2</sup>

5. As a result of those discussions, the Companies, the MOU Parties, and the North Carolina Rooftop Solar Installers now desire to resolve and settle certain issues that will narrow the number of issues in controversy in this Docket, as described more fully below.

6. This Stipulation reflects certain non-binding understandings reached by the Stipulating Parties to advance NEM reform in North Carolina in accordance with H.B. 589, subject to Commission approval.

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<sup>1</sup> The initial dates set by the Commission were extended via orders issued on March 3<sup>rd</sup> and April 25<sup>th</sup>.

<sup>2</sup> The Commission granted that request on April 25<sup>th</sup>.



## II. PROPOSED BRIDGE RATE

7. The Companies agree to propose for Commission approval an additional NEM rate design as outlined on Exhibit A (subject to the annual capacity limits therein) (the “Proposed Bridge Rate”) as an alternative to the default time-of-use (“TOU”) rate design for NEM proposed in the Application. Upon Commission approval, the Proposed Bridge Rate would be available to all residential customers (regardless of their current rate schedule) who apply for NEM on or after January 1, 2023, until December 31, 2026, (subject to the early termination of the Proposed Bridge Rate, as described below), subject to the applicable caps for each calendar year outlined below.

8. Current NEM customers may remain on their current rate until Jan 1, 2027 at which point they will transition to the Proposed Bridge Rate or may choose to move to the NEM-TOU rate in effect at that time. Customers may remain on the Proposed Bridge Rate for 15 calendar years after the date on which the customer submitted an interconnection application (the “Bridge Rate Period”), less the number of years they were on an alternative NEM rate structure prior to Jan 1, 2027. After that, the customer will move to the NEM-TOU rate in effect at the end of the Bridge Rate Period. The Stipulating Parties agree, for purposes of this Stipulation and without prejudice to the position of any Stipulating Party in any future proceeding, that the Proposed Bridge Rate, if approved by the Commission, would comply with H.B. 589.

9. The following groups of customers will be exempt from the MMB under the Proposed Bridge Rate: Homes specifically built for low-income and vulnerable customers (e.g. Habitat for Humanity), LIHEAP recipients, and CIP recipients. Customers that receive this exemption from the MMB must have a PV

system size no greater than 8 kW-DC. The Stipulating Parties will work together to identify low-income or vulnerable groups of customers that could be exempted in the future.

10. The Proposed Bridge Rate is subject to the participation caps in Table 1. If the cap is reached, customers could still add rooftop solar, but they would only have the option of being on Schedule Purchased Power or one of the applicable TOU rates (RSTC or TOU-CPP).

Table 1

	Total Capacity (MW)		Total NC
	DEP	DEC	
2023	32.7	29.0	61.7
2024	35.9	31.9	67.8
2025	39.5	35.1	74.6
2026	43.5	38.7	82.2

11. Proposed Bridge Rate Annual Capacity is available on a first come/first serve basis and the customer should request the Proposed Bridge Rate when submitting the NEM interconnection application.

12. Customers have 1 year from the application date to make their system operational (meter exchange date) or they lose their Proposed Bridge Rate capacity reservation.

### **III. EARLY TERMINATION OF PROPOSED BRIDGE RATE**

13. The Proposed Bridge Rate will terminate for some, or all, customers upon the occurrence of either of the following events:

- If the Commission approves a Smart Saver Solar Program for electric heat customers that contains an amount equal to, or greater than, the total amount an eligible participant is proposed to receive in Docket Nos. E-7, Sub 1261 and E-2, Sub 1287, the Proposed Bridge Rate will terminate only for electric heat

customers and electric heat customers will not be eligible for the Proposed Bridge Rate. If the Proposed Bridge Rate terminates for electric heat customers the Proposed Bridge Rate capacity limits shall be reduced by 50% from the numbers shown in Table 1 (above).

- If at any time during the Bridge Rate Period, an energy efficiency (“EE”) program associated with the installation of solar rooftop PV containing a total incentive or combination of incentives that equal at least \$0.60/watt for applicable TOU rates is approved by the Commission for all eligible residential customers (regardless of heating source) in Docket Nos. E-2, Sub 1280 and E-7, Sub 1253, the Proposed Bridge Rate will terminate for applicable customers.

#### **IV. FUTURE EE/DSM MEASURES**

14. The Companies would propose, and the other Stipulating Parties will support, incentives for DSM/EE measures related to adding solar plus other measures available to eligible gas heat customers. The Stipulating Parties would vigorously advocate in North Carolina for approval of these incentives, as well as the recovery of net lost revenues and Portfolio Performance Incentive (“PPI”) that are permitted for any Commission-approved cost effective EE or DR program.

15. The Stipulating Parties would work together to propose and support a DSM/EE mechanism that properly values distributed energy resources. This value would be at least equivalent to the value of the Companies’ levelized marginal supply-side resources included in the Companies’ approved carbon plan and would appropriately reflect the costs of moving to zero-carbon resources that provide energy and capacity to the Companies’ electric system.

#### **V. CONSUMER PROTECTION**

16. The Stipulating Parties would work together to design and implement agreed-upon reasonable measures to ensure that prospective NEM customers receive accurate information regarding the terms and conditions of the programs contemplated in this Stipulation, including accurate representations of estimated electric bill savings. The Stipulating Parties would explore developing eligibility criteria for any North Carolina companies that would apply for the Proposed Bridge Rate on behalf of their customers. Any proposed measures would only be implemented if they are agreed upon by all Stipulating Parties and are in compliance with all applicable laws and regulations. The Stipulating Parties agree to make best efforts to design these measures by January 1, 2023.

#### **VI. AGREEMENT IN SUPPORT OF SETTLEMENT; NON-WAIVER**

17. The Stipulating Parties shall act in good faith and use their best efforts to recommend to the Commission that this Stipulation be accepted and approved. The Stipulating Parties further agree that this Stipulation is in the public interest because it reflects a give-and take of contested issues and results in rates (with respect to the stipulated issues) that are just and reasonable. The Stipulating Parties agree that they will support the reasonableness of this Stipulation before the Commission and in any appeal from the Commission's adoption and/or enforcement of this Stipulation. The Stipulating Parties, including their agents, further agree that communications regarding this Stipulation, either between the Stipulating Parties or with non-signatories hereto, shall be supporting of the terms agreed to in this Stipulation.

18. The Stipulating Parties agree to support the time-of-use option outlined in the Application as the default rate option for NEM applications that are received

after December 31, 2022, subject to the limited availability of the Proposed Bridge Rate.

19. Neither this Stipulation nor any of the terms shall be admissible in any court or Commission except insofar as such court or Commission is addressing litigation arising out of the implementation of the terms herein or the approval of this Stipulation. This Stipulation shall not be cited as precedent by any of the Parties regarding any issue in any other proceeding or docket before this Commission or in any court.

20. The provisions of this Stipulation do not reflect any position asserted by any of the Stipulating Parties but reflect instead the compromise and settlement among the Stipulating Parties as to all the issues covered hereby. No Stipulating Party waives any right to assert any position in any future proceeding or docket before the Commission or in any court.

## **VII. RECEIPT OF EVIDENCE AND WAIVER OF CROSS-EXAMINATION**

21. The Stipulating Parties agree that the Application, pre-filed comments, and exhibits filed by the Stipulating Parties on the settled issues may be received into evidence without objection. The Companies agree to waive cross examination of the North Carolina Rooftop Solar Installers' witnesses and the North Carolina Rooftop Solar Installers agree to waive cross examination of the Companies' witnesses in any upcoming evidentiary hearing in the Docket. If, however, questions are asked by any Commissioner, or if questions are asked or positions are taken by any person who is not a Stipulating Party, then any Stipulating Party may respond to such questions by presenting testimony or exhibits and cross-examining any witness with respect to such testimony and exhibits.

### **VIII. SUBJECT TO COMMISSION APPROVAL**

22. This Stipulation is the product of negotiation and compromise of a complex set of issues, and represents certain non-binding understandings reached by the Stipulating Parties. The terms and conditions set forth herein are all conditioned upon the Commission's approval of the same in their entirety. If any Stipulating Party withdraws from the Stipulation, each Stipulating Party retains the right to seek additional procedures before the Commission with respect to issues addressed by the Stipulation and shall be bound or prejudiced by the terms and conditions of the Stipulation.

### **IX. MISCELLANEOUS**

23. This Stipulation shall be interpreted according to North Carolina law.

24. The North Carolina Rooftop Solar Installers agree to execute a joinder to the MOU. For the avoidance of doubt, the terms and conditions of the MOU remain in full force and effect; provided, however, to the extent the express understandings in this Stipulation conflict with the NEM offerings in the MOU, this Stipulation shall control.

25. The Stipulating Parties agree to positively characterize each other's collaboration at public events and in the media (including social media). The Stipulating 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 Commission issues a final order.

26. Each Stipulating Party acknowledges its consent and agreement to this Stipulation by authorizing its counsel to affix his or her signature to this document

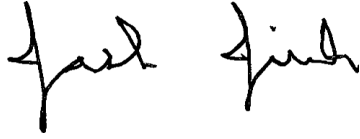
where indicated below. Counsel's signature represents his or her representation that his or her client has authorized the execution of this Stipulation.

27. This Stipulation may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Execution by facsimile or electronic signature shall be deemed to be, and shall have the same effect as, execution by original signature.

[signatures follow]

The foregoing is agreed and stipulated this 13th day of May, 2022.

**DUKE ENERGY CAROLINAS, LLC**

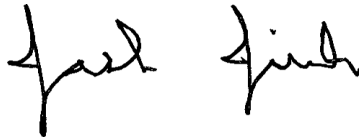


By: \_\_\_\_\_

Name: Jack E. Jirak

Title: Deputy General Counsel

**DUKE ENERGY PROGRESS, LLC**



By: \_\_\_\_\_

Name: Jack E. Jirak

Title: Deputy General Counsel



**SUNDANCE POWER SYSTEMS, INC.**

By: *s/ Dave Hollister*

Name: Dave Hollister

Title: Owner, Sundance Power Systems, Inc.

**SOUTHERN ENERGY MANAGEMENT, INC.**

By: *s/ Bob Kingery*

Name: Bob Kingery

Title: Owner, Southern Energy Management, Inc.

**OFFICIAL COPY**

**May 20 2022**

**YES SOLAR SOLUTIONS**

By: *s/ Stew Miller*

Name: Stew Miller

Title: Owner, Yes Solar Solutions

EXHIBIT A

## Proposed Bridge Rate

1. This rate is available to residential customers eligible for NEM. This rate will generally be available from January 1, 2023 until December 31, 2026, subject to the early termination event.
2. Eligible residential customers would be able to net exported energy against imports from the Companies, with any net exports being credited at the applicable avoided cost rate at the end of billing period (this practice is commonly referred to as “monthly netting”).
3. Eligible residential customers would be subject to the non-bypassable charge as described on page 15 of the Companies’ Application submitted in this Docket. This non-bypassable charge will also be in effect beginning January 1, 2027 for customers who apply for NEM prior to January 1, 2023.
4. Eligible residential customers shall have the ability to participate in a Commission-approved EE program associated with solar rooftop with a mandatory eligibility requirement to participate for multiple years in a specific Commission-approved demand response (DR) program capable of delivering a minimum required amount of year-round peak reduction (including winter) would receive a total incentive or combination of incentives that equal at least \$0.60/watt for applicable TOU rates approved by the Commission in Docket Nos. E-2, Sub 1280 and E-7, Sub 1253.
5. Applicability of the total incentive or combination of incentives that equal at least \$0.60/watt incentive for participation in the approved energy efficiency and demand-response program associated with the residential installation of solar

described above will be subject to maintaining cost effectiveness of the program as required in the Company's approved EE/DSM cost recovery mechanism.

6. Eligible residential customers would be subject to the minimum bill as described on pages 13-14 of the Companies' Application submitted in this docket.

**EXHIBIT B**

(see attached)

Embedded Cost Study Results

DEP		
	RES	RES Proposal
Non-Net Metering Annual Cost-of-Service <sup>1</sup>	\$ 1,860.44	\$ 1,860.44
Net Metering Annual Cost-of-Service <sup>2</sup>	\$ 1,143.58	\$ 1,143.58
Value of Exports	\$ 29.76	\$ 100.09
Cost-of-Service Reduction from Solar	\$ 746.63	\$ 816.96
Revenue Reduction <sup>3</sup>	\$ 1,177.93	\$ 839.28
Annual Solar Cross-Subsidy <sup>4</sup>	\$ 431.30	\$ 22.32
Monthly Solar Cross-Subsidy <sup>4</sup>	\$ 35.94	\$ 1.86
Reduction in Solar Cross-Subsidy		95%

DEC				
	RS	RE	RS Proposal	RE Proposal
Non-Net Metering Annual Cost-of-Service <sup>1</sup>	\$ 1,460.17	\$ 1,577.98	\$ 1,460.17	\$ 1,577.98
Net Metering Annual Cost-of-Service <sup>2</sup>	\$ 847.06	\$ 931.13	\$ 847.06	\$ 931.13
Value of Exports	\$ 19.83	\$ 19.94	\$ 66.67	\$ 67.07
Cost-of-Service Reduction from Solar	\$ 632.94	\$ 666.80	\$ 679.78	\$ 713.93
Revenue Reduction <sup>3</sup>	\$ 941.70	\$ 1,028.64	\$ 680.91	\$ 700.04
Annual Solar Cross-Subsidy <sup>4</sup>	\$ 308.76	\$ 361.84	\$ 1.13	\$ (13.89)
Monthly Solar Cross-Subsidy <sup>4</sup>	\$ 25.73	\$ 30.15	\$ 0.09	\$ (1.16)
Reduction in Cross-Subsidy			100%	104%
		Current RS & RE Weighted Average	Proposal RS & RE Weighted Average	
Weighted Solar Cross-Subsidy		\$ 27.59	\$ (0.43)	
Weighted Reduction in Solar Cross-Subsidy			102%	

Assumptions	RS	RE	Proposal
Percent of Population (DEC)	58%	42%	
<b>Coincident Peaks <sup>5</sup></b>			
DEC	\$ (0.003509)		
DEP	\$ 0.006550		
	Current NEM	Proposal	
Annual Excess Exports kWh <sup>5</sup>	860	2,892	

Unit Costs <sup>6</sup>	unit	E-2 Sub 1219		E-7 Sub 1214	
		DEP	DEC - RS	DEC - RE	
P&T Demand	\$/kW-Month	\$ 15.54	\$ 15.66	\$ 16.29	
D Demand	\$/kW-Month	\$ 1.50	\$ 2.03	\$ 2.07	
Energy	\$/kWh	\$ 0.0346	\$ 0.0231	\$ 0.0232	
Customer	\$/Month	\$ 27.64	\$ 21.96	\$ 22.84	

Notes
[1] All-in CoS for Customers before solar. Equals costs calculated in Calculations tab plus rider adjustments.
[2] All-in CoS for Customers after solar. Equals costs calculated in Calculations tab plus rider adjustments.
[3] Calculated from SAS model, used 2018 data set to match CoS test year, current rates
[4] Positive number = solar putting upward pressure on rates for other customers, negative number = solar putting downward pressure on rates for other customers
[5] Annual kWh not netted due to netting conventions
[6] From most recently approved Cost of Service study, used to calculate Cost of Service Reduction from Solar

**DEC RS**

No Solar					
Month	Energy	D Demand	P&T Demand	Customer	Total COS
1	\$ 30.16	\$ 12.98	\$ 62.61	\$ 21.96	\$ 127.71
2	\$ 19.05	\$ 12.98	\$ 62.61	\$ 21.96	\$ 116.60
3	\$ 20.86	\$ 12.98	\$ 62.61	\$ 21.96	\$ 118.41
4	\$ 17.47	\$ 12.98	\$ 62.61	\$ 21.96	\$ 115.02
5	\$ 28.27	\$ 12.98	\$ 62.61	\$ 21.96	\$ 125.82
6	\$ 38.91	\$ 12.98	\$ 62.61	\$ 21.96	\$ 136.47
7	\$ 40.25	\$ 12.98	\$ 62.61	\$ 21.96	\$ 137.80
8	\$ 39.03	\$ 12.98	\$ 62.61	\$ 21.96	\$ 136.58
9	\$ 35.45	\$ 12.98	\$ 62.61	\$ 21.96	\$ 133.01
10	\$ 23.61	\$ 12.98	\$ 62.61	\$ 21.96	\$ 121.16
11	\$ 22.07	\$ 12.98	\$ 62.61	\$ 21.96	\$ 119.62
12	\$ 26.42	\$ 12.98	\$ 62.61	\$ 21.96	\$ 123.97
<b>Annual Total</b>	<b>\$ 341.54</b>	<b>\$ 155.77</b>	<b>\$ 751.34</b>	<b>\$ 263.51</b>	<b>\$ 1,512.16</b>

	Energy	D Demand	P&T Demand	Customer	Total COS
CoS Savings	\$ 105.47	\$ 9.71	\$ 513.98	\$ -	\$ 629.17
% Savings	31%	6%	68%	0%	41.6%

Net Metering					
Month	Energy	D Demand	P&T Demand	Customer	Total COS
1	\$ 24.06	\$ 12.17	\$ 19.78	\$ 21.96	\$ 77.97
2	\$ 14.72	\$ 12.17	\$ 19.78	\$ 21.96	\$ 68.63
3	\$ 14.83	\$ 12.17	\$ 19.78	\$ 21.96	\$ 68.74
4	\$ 11.29	\$ 12.17	\$ 19.78	\$ 21.96	\$ 65.20
5	\$ 17.70	\$ 12.17	\$ 19.78	\$ 21.96	\$ 71.61
6	\$ 23.31	\$ 12.17	\$ 19.78	\$ 21.96	\$ 77.22
7	\$ 25.41	\$ 12.17	\$ 19.78	\$ 21.96	\$ 79.32
8	\$ 24.63	\$ 12.17	\$ 19.78	\$ 21.96	\$ 78.54
9	\$ 24.18	\$ 12.17	\$ 19.78	\$ 21.96	\$ 78.09
10	\$ 16.49	\$ 12.17	\$ 19.78	\$ 21.96	\$ 70.41
11	\$ 17.31	\$ 12.17	\$ 19.78	\$ 21.96	\$ 71.22
12	\$ 22.14	\$ 12.17	\$ 19.78	\$ 21.96	\$ 76.05
<b>Annual Total</b>	<b>\$ 236.06</b>	<b>\$ 146.06</b>	<b>\$ 237.35</b>	<b>\$ 263.51</b>	<b>\$ 882.99</b>

**DEC RE**

No Solar					
Month	Energy	D Demand	P&T Demand	Customer	Total COS
1	\$ 58.39	\$ 19.26	\$ 58.78	\$ 22.84	\$ 159.26
2	\$ 29.38	\$ 19.26	\$ 58.78	\$ 22.84	\$ 130.25
3	\$ 33.67	\$ 19.26	\$ 58.78	\$ 22.84	\$ 134.54
4	\$ 23.46	\$ 19.26	\$ 58.78	\$ 22.84	\$ 124.33
5	\$ 29.74	\$ 19.26	\$ 58.78	\$ 22.84	\$ 130.61
6	\$ 37.70	\$ 19.26	\$ 58.78	\$ 22.84	\$ 138.57
7	\$ 39.15	\$ 19.26	\$ 58.78	\$ 22.84	\$ 140.02
8	\$ 38.35	\$ 19.26	\$ 58.78	\$ 22.84	\$ 139.23
9	\$ 35.36	\$ 19.26	\$ 58.78	\$ 22.84	\$ 136.23
10	\$ 27.22	\$ 19.26	\$ 58.78	\$ 22.84	\$ 128.10
11	\$ 35.62	\$ 19.26	\$ 58.78	\$ 22.84	\$ 136.50
12	\$ 45.00	\$ 19.26	\$ 58.78	\$ 22.84	\$ 145.87
<b>Annual Total</b>	<b>\$ 433.05</b>	<b>\$ 231.12</b>	<b>\$ 705.30</b>	<b>\$ 274.04</b>	<b>\$ 1,643.51</b>

	Energy	D Demand	P&T Demand	Customer	Total COS
CoS Savings	\$ 122.53	\$ 12.87	\$ 530.00	\$ -	\$ 665.40
% Savings	28%	6%	75%	0%	40.5%

Net Metering					
Month	Energy	D Demand	P&T Demand	Customer	Total COS
1	\$ 49.32	\$ 18.19	\$ 14.61	\$ 22.84	\$ 104.95
2	\$ 23.71	\$ 18.19	\$ 14.61	\$ 22.84	\$ 79.34
3	\$ 25.15	\$ 18.19	\$ 14.61	\$ 22.84	\$ 80.78
4	\$ 15.54	\$ 18.19	\$ 14.61	\$ 22.84	\$ 71.17
5	\$ 18.05	\$ 18.19	\$ 14.61	\$ 22.84	\$ 73.68
6	\$ 21.30	\$ 18.19	\$ 14.61	\$ 22.84	\$ 76.93
7	\$ 23.36	\$ 18.19	\$ 14.61	\$ 22.84	\$ 79.00
8	\$ 23.01	\$ 18.19	\$ 14.61	\$ 22.84	\$ 78.64
9	\$ 23.16	\$ 18.19	\$ 14.61	\$ 22.84	\$ 78.79
10	\$ 19.17	\$ 18.19	\$ 14.61	\$ 22.84	\$ 74.80
11	\$ 29.37	\$ 18.19	\$ 14.61	\$ 22.84	\$ 85.01
12	\$ 39.39	\$ 18.19	\$ 14.61	\$ 22.84	\$ 95.02
<b>Annual Total</b>	<b>\$ 310.53</b>	<b>\$ 218.25</b>	<b>\$ 175.30</b>	<b>\$ 274.04</b>	<b>\$ 978.11</b>

**DEP**

No Solar					
Month	Energy	D Demand	P&T Demand	Customer	Total COS
1	\$ 62.86	\$ 11.43	\$ 59.59	\$ 27.64	\$ 161.52
2	\$ 35.00	\$ 11.43	\$ 59.59	\$ 27.64	\$ 133.66
3	\$ 39.27	\$ 11.43	\$ 59.59	\$ 27.64	\$ 137.93
4	\$ 29.92	\$ 11.43	\$ 59.59	\$ 27.64	\$ 128.58
5	\$ 43.25	\$ 11.43	\$ 59.59	\$ 27.64	\$ 141.92
6	\$ 57.52	\$ 11.43	\$ 59.59	\$ 27.64	\$ 156.18
7	\$ 59.59	\$ 11.43	\$ 59.59	\$ 27.64	\$ 158.25
8	\$ 58.03	\$ 11.43	\$ 59.59	\$ 27.64	\$ 156.69
9	\$ 53.03	\$ 11.43	\$ 59.59	\$ 27.64	\$ 151.70
10	\$ 37.63	\$ 11.43	\$ 59.59	\$ 27.64	\$ 136.29
11	\$ 41.55	\$ 11.43	\$ 59.59	\$ 27.64	\$ 140.21
12	\$ 51.21	\$ 11.43	\$ 59.59	\$ 27.64	\$ 149.87
<b>Annual Total</b>	<b>\$ 568.85</b>	<b>\$ 137.18</b>	<b>\$ 715.08</b>	<b>\$ 331.68</b>	<b>\$ 1,752.79</b>

	Energy	D Demand	P&T Demand	Customer	Total COS
CoS Savings	\$ 168.64	\$ 8.08	\$ 508.22	\$ -	\$ 684.95
% Savings	30%	6%	71%	0%	39.1%

Net Metering					
Month	Energy	D Demand	P&T Demand	Customer	Total COS
1	\$ 51.86	\$ 10.76	\$ 17.24	\$ 27.64	\$ 107.50
2	\$ 27.68	\$ 10.76	\$ 17.24	\$ 27.64	\$ 83.31
3	\$ 28.67	\$ 10.76	\$ 17.24	\$ 27.64	\$ 84.31
4	\$ 19.57	\$ 10.76	\$ 17.24	\$ 27.64	\$ 75.21
5	\$ 26.73	\$ 10.76	\$ 17.24	\$ 27.64	\$ 82.36
6	\$ 33.65	\$ 10.76	\$ 17.24	\$ 27.64	\$ 89.29
7	\$ 36.78	\$ 10.76	\$ 17.24	\$ 27.64	\$ 92.41
8	\$ 35.87	\$ 10.76	\$ 17.24	\$ 27.64	\$ 91.50
9	\$ 35.57	\$ 10.76	\$ 17.24	\$ 27.64	\$ 91.21
10	\$ 26.38	\$ 10.76	\$ 17.24	\$ 27.64	\$ 82.01
11	\$ 33.48	\$ 10.76	\$ 17.24	\$ 27.64	\$ 89.12
12	\$ 43.97	\$ 10.76	\$ 17.24	\$ 27.64	\$ 99.61
<b>Annual Total</b>	<b>\$ 400.20</b>	<b>\$ 129.10</b>	<b>\$ 206.86</b>	<b>\$ 331.68</b>	<b>\$ 1,067.84</b>



**DEC**  
**RS**

Month	Sum of Exports <sup>1</sup>	Sum of Imports <sup>2</sup>	Gross Load <sup>3</sup>	Solar Production <sup>4</sup>
1	458	1,044	1,308	723
2	384	638	826	572
3	754	643	905	1,016
4	896	490	758	1,164
5	713	768	1,226	1,171
6	606	1,011	1,688	1,283
7	535	1,102	1,746	1,178
8	533	1,068	1,693	1,157
9	380	1,049	1,538	869
10	551	716	1,024	860
11	373	751	957	578
12	259	960	1,146	445
<b>Total</b>	<b>6,441</b>	<b>10,240</b>	<b>14,816</b>	<b>11,015</b>

**DEP**  
**RES**

Month	Sum of Exports	Sum of Imports	Gross Load	Solar Production
1	434	1,498	1,816	752
2	393	800	1,011	604
3	775	828	1,135	1,081
4	952	565	864	1,251
5	780	772	1,250	1,257
6	693	972	1,662	1,382
7	609	1,063	1,722	1,268
8	605	1,036	1,677	1,246
9	428	1,028	1,532	932
10	589	762	1,087	914
11	377	967	1,200	609
12	256	1,270	1,480	466
<b>Total</b>	<b>6,891</b>	<b>11,563</b>	<b>16,436</b>	<b>11,762</b>

**RE**

Month	Sum of Exports	Sum of Imports	Gross Load (kWh)	Solar Production
1	401	2,127	2,518	792
2	405	1,022	1,267	649
3	804	1,084	1,452	1,172
4	1,029	670	1,012	1,371
5	872	778	1,282	1,376
6	813	918	1,626	1,520
7	712	1,007	1,688	1,393
8	706	992	1,654	1,368
9	493	999	1,525	1,019
10	641	826	1,174	989
11	383	1,267	1,536	651
12	252	1,698	1,940	494
<b>Total</b>	<b>7,512</b>	<b>13,390</b>	<b>18,673</b>	<b>12,794</b>

**Notes**

- [1] Energy exported to the grid (i.e. energy provided to the utility's system)
- [2] Energy imported from the grid (i.e. energy provided to NEM customer from the system)
- [3] Total customer load. For NEM customer equal imports plus solar production that stays behind the meter.  
Would be imports if solar did not exist.
- [4] Total solar production
- [5] Data was from DEC customers, therefore, the DEC peak was used to determine the CP

**Non-Coincident Peaks**

Description	RS	RE	RES
No Solar		6.40	9.31
Solar		6.00	8.79

**Coincident Peaks <sup>5</sup>**

6/19/18 HE 5pm

	RS	RE	RES
No Solar	4.00	3.61	3.83
Solar	1.26	0.90	1.11

**Monthly Upward  
 Pressure on Rates**

**DEP**

Current	\$	59.02
Proposal	\$	29.85
Percent Reduction - Marginal		49%

**DEC**

RS Current	\$	31.02
RS Proposal	\$	8.85
RE Current	\$	30.28
RE Proposal	\$	3.88
Weighted Average Marginal Cost	\$	30.69
Weighted Average Settlement Marginal	\$	6.61
Percent Reduction - Marginal		78%

	2022 DEC-NC RE System Benefits		
	Total Solar Gen	Solar Self-Service	Solar Exports
<b>Annual kWh Savings <sup>1</sup></b>	<b>13,054</b>	<b>12,567</b>	<b>487</b>
Avoided Electric Production <sup>2</sup>	\$382	\$373	\$9
Avoided Electric Capacity <sup>3</sup>	\$33	\$28	\$5
Avoided Electric T&D <sup>4</sup>	\$247	\$206	\$41
<b>Total Benefits</b>	<b>\$662</b>	<b>\$606</b>	<b>\$56</b>

Note: Avoided costs use prevailing values from DSM/EE mechanism

	Current	Proposal
<b>Total Benefits</b>	<b>\$662</b>	<b>\$662</b>
<b>Revenue Reduction</b>	<b>\$1,025</b>	<b>\$708</b>
<b>Monthly Cross-Subsidy</b>	<b>\$30</b>	<b>\$4</b>

**87%** Percent Reduction

Notes
[1] kWh comprised by self-service (consumed behind the meter) or exported on a monthly basis.
[2] Includes Fuel + O&M to produce kWh
[3] New Plant
[4] New Transmission and Distribution

	2022 DEC-NC RS System Benefits		
	Total Solar Gen	Solar Self-Service	Solar Exports
<b>Annual kWh Savings <sup>1</sup></b>	<b>10,760</b>	<b>10,327</b>	<b>434</b>
Avoided Electric Production <sup>2</sup>	\$315	\$306	\$8
Avoided Electric Capacity <sup>3</sup>	\$26	\$25	\$1
Avoided Electric T&D <sup>4</sup>	\$196	\$190	\$6
<b>Total Benefits</b>	<b>\$537</b>	<b>\$521</b>	<b>\$16</b>

Note: Avoided costs use prevailing values from DSM/EE mechanism

	Current	Proposal
<b>Total Benefits</b>	<b>\$537</b>	<b>\$537</b>
<b>Revenue Reduction</b>	\$909	\$643
<b>Monthly Cross-Subsidy</b>	\$31	\$9

**71%** Percent Reduction

Notes
[1] kWh comprised by self-service (consumed behind the meter) or exported on a monthly basis.
[2] Includes Fuel + O&M to produce kWh
[3] New Plant
[4] New Transmission and Distribution

	2022 DEP-NC RE-RS Wtd Avg System Benefits		
	Total Solar Gen	Solar Self-Service	Solar Exports
<b>Annual kWh Savings <sup>1</sup></b>	<b>11,724</b>	<b>11,371</b>	<b>353</b>
Avoided Electric Production <sup>2</sup>	\$334	\$331	\$3
Avoided Electric Capacity <sup>3</sup>	\$2	\$2	\$0
Avoided Electric T&D <sup>4</sup>	\$127	\$118	\$9
<b>Total Benefits</b>	<b>\$463</b>	<b>\$451</b>	<b>\$12</b>

Note: Avoided costs use prevailing values from DSM/EE mechanism

	Current	Proposal
<b>Total Benefits</b>	<b>\$463</b>	<b>\$463</b>
<b>Revenue Reduction</b>	\$1,171	\$821
<b>Monthly Cross-Subsidy</b>	\$59	\$30

**49%** Percent Reduction

Notes
[1] kWh comprised by self-service (consumed behind the meter) or exported on a monthly basis.
[2] Includes Fuel + O&M to produce kWh
[3] New Plant
[4] New Transmission and Distribution