STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH

DOCKET NO. E-100, SUB 180

In the Matter of:	)	INITIAL COMMENTS
	)	
Investigation of Proposed Net	)	OF THE
	)	
Metering Policy Changes	)	ENVIRONMENTAL WORKING
	)	GROUP

Pursuant to North Carolina Utilities Commission ("Commission") *Order Requesting Comments,* entered on January 10, 2022 in the above-referenced docket, as extended by the Commission's *Order Granting Extension of Time* entered on March 3, 2022, Intervenor, the Environmental Working Group ("EWG"), through undersigned counsel, hereby submits the following comments:

SUMMARY

The net energy metering ("NEM") tariff revisions set out in the Joint Application of Duke Energy Carolinas, LLC ("DEC") and Duke Energy Progress, LLC ("DEP") (collectively, the "Companies") must be rejected by the Commission because they work against clear public policy goals, do not meet statutory rate making requirements or best practices, would discourage investment in customer-sited energy generation, and would not result in the least-cost, safe, and resilient electric system required to meet the carbon neutrality goals needed to combat the worst effects of our changing climate. Prior to revising the current net metering tariffs, the Commission must require a transparent and comprehensive benefit-cost analysis conducted pursuant to the national best

practices laid out in the National Standard Practice Manual for Benefit-Cost Analysis of Distributed Energy Resources.

INDEX OF ATTACHMENTS

EWG submits the following attachments filed contemporaneously with these Initial Comments.

Attachment A: **K. Rábago: Review of Duke NEM Rate Revision Proposal and Recommendations for Investigation of Costs and Benefits of Customer-Sited Generation.**

Attachment B: **G. Smith: Duke Energy's Role in Utility Efforts to Limit Customer Choice and Customer-Owned Behind-the-Meter Solar**

Attachment C: **T. Woolf, et al., National Standard Practice Manual for Benefit-Cost Analysis of Distributed Energy Resources – Summary, National Energy Screening Project (Aug. 2020).**

DISCUSSION

EWG works to empower people to live healthier lives in a healthier environment. In support of that mission, EWG creates and solicits research reports that help people make safer and more informed choices about the energy choices they make and the companies they support. EWG's regulatory focus of energy policy has included rate design and public policy issues related to consumer use of and access to customer-sited solar energy generation. The following constitutes a discussion of the legal and evidentiary deficiencies with the proposed NEM tariff revisions. Large portions of this discussion draw from the reports prepared by Mr. Rábago and Mr. Smith, which provide more detailed discussion and supporting citations.

The revisions to NEM rates proposed by the Companies for implementation by January 1, 2023, are unduly complex, discriminatory against residential solar customers, not supported by transparent data or analysis, heavily rely on fixed charges that are unfair, and violate applicable law and public policy. As detailed below, the proposed revisions must be rejected, and a transparent and comprehensive evaluation of both the costs and benefits of customer-sited solar generation must be required.

I. NC Public Policy and Law Require that All Rates be Just and Reasonable, Non-Discriminatory, and Avoid Wasteful, Uneconomic, and Inefficient Uses of Energy.

Established North Carolina law mandates that electric rates be "just and reasonable… without unjust discrimination, undue preferences or advantages, or unfair or destructive competitive practices" and consistent with "conservation of energy resources."[1] Further, rates must be fixed in a manner that results in the "least cost mix of generation and demand-reduction measures which is achievable."[2] Every rate must be "just and reasonable"[3] and the burden is on the utility to prove that any changed rate is also "just and reasonable."[4]

In October of 2021, through the adoption of H.B. 951 ("the Carbon Plan") North Carolina law makers directed the Commission "take all reasonable steps" to reduce CO_2 emissions by 70% by the year 2030 and to achieve carbon

[1] N.C. Gen. Stat. § 62-2(a)(4).
[2] N.C. Gen. Stat. § 62-2(a)(3a).
[3] N.C. Gen. Stat. § 62-131(a).
[4] N.C. Gen. Stat. § 62-134(c).

neutrality by 2050.[5] Included among the directives was the revision of net metering rates.

The process for revision of net metering rates is clearly set out by statute. Revised rates must be filed with the Commission for approval. evised rates set by the Commission must be: 1) "nondiscriminatory;" and 2) "established only after an investigation of the costs and benefits of customer-sited generation."[6] Further, the Commission shall set net metering rates "under **all tariff designs** that ensure that the net metering retail customer pays its full fixed cost of service."[7]

The current NEM tariff applies to both residential and nonresidential customers who generate energy on site for their own use. A qualifying residential customer "may be served on any residential rate schedule" and non-residential customers may be served under a general service or industrial rate. Currently, both residential and non-residential customers have **the option** to enroll in time of use with critical peak periods (TOU-CPP) rate-based tariff, based on their individual uses and choice. For any customer not under TOU-CPP rates, renewable energy credits are retained by the Companies. Currently, charges for energy consumed in excess of what is generated, and credits for excess energy delivered to the grid are applied at the applicable retail rate for both residential

[5] H.B. 951, Session Law 2021-165, Part I, Section I.
[6] N.C. Gen. Stat. §62-126.4(b).
[7] *Id.*

and non-residential customers.[8] Current rates are non-discriminatory as to residential and non-residential energy generating customers, and as to solar and non-solar generation, and support on-site generation of clean energy in furtherance of public policy goals.

II. <u>The Companies' Proposed Revisions to the NEM Tariffs are Discriminatory, Not Based in an Evaluation of Benefits and Costs, and Violate Applicable Law.</u>

To understand the proposed NEM revisions, one must look beyond the Application to the revised tariff language. The Application is conveniently vague on most points and provides that the revised tariff will be available "to **customers** who submit an application on or after January 1, 2023."[9] The Companies then describe the complex components of the revised tariff (a Monthly Minimum Bill, a Monthly Grid Access Fee, Non-Bypassable Charges, lop-sided netted rates that allow charging high retail rates for energy consume – but paying low avoided-cost rates for energy exported to the grid, and all tied to a TOU-CPP rate mechanism. Without providing any data or transparent analysis to support their conclusions, the Companies argue that these components "necessarily work in a symbiotic manner" such that "even the tweaking of one would necessitate recalculation of every other component," thus, the Companies propose no revision to any component for 10 years.[10] Ironically, the Companies then admit

[8] *See,* Joint Application, Ex. No.1, Rider NM (NC)(DEC), pdf p. 26; and Ex. No. 2, Ex. No. 2, Rider NM 4B (DEP), pdf p.37. Residential systems are limited to 20kW or less, while non-residential customers are limited to 1000kW or less.
[9] Joint Application, p. 13.
[10] Id.

that the NEM rate critical TOU-CPP tariffs are "outside the scope of this proceeding."[11]

A. The Proposed Revised Tariffs Are Discriminatory and Do Not Apply Across All Rate Designs.

Revised net metering rates "shall be nondiscriminatory,"[12] but the Application clearly discriminates between residential and non-residential customers, and between customers generating solar energy and those generating energy from other sources.

1. Residential vs Non-Residential

The Application throughout refers generally to "customers" or "NEM customers," with no distinction between residential and non-residential customers. The language of the proposed revisions to the NEM tariffs, however, imposes significant new conditions and restrictions, but **only on residential NEM customers.** The existing tariff is closed to new residential customers after January 1, 2023. The revised NEM rate bars residential customers from selecting a flat rate, and mandates that all residential NEM customers receive service under TOU rates. Further, credits for excess energy delivered to the grid are applied, not at the same TOU rates being charged the residential customers, but at only the much lower avoided cost rates. **None of these revised terms apply to non-residential on-site generating customers.** The Companies provide no mention and no justification in the Application for this discriminatory treatment of residential customers. Nor do the Companies provide any analytical basis or data

[11] Id., p 17.
[12] N.C. Gen. Stat. §62-126.4(b).

to support why this discriminatory, "one-TOU-size-fits-all-residential-customers-only" revised NEM is just or reasonable. This unjustified restriction on customer-sited energy generation available to residential customers should be rejected.

2. Solar v. Non-Solar

The current NEM tariffs are available to customers who generate on-site energy whether from the sun, wind, micro-hydro or biomass-fuel. However, the mandatory TOU-CPP rate under the revised tariffs would apply only to residential generators, the majority of which rely on solar powered energy generation. Except for being a mandatory, "symbiotic" component of the proposed tariff for residential customers, the TOU-CPP tariffs are "outside the scope of these proceedings."[13] However, in other proceedings, the Companies propose a CPP window from 6 pm to 9 pm[14], at which time rates would be highest and residential solar customers would be unable to generate energy for their own consumption or for export. The TOU-CPP would not directly impact energy generation by any other source other than solar in the same way. In clear violation of the law, the revised tariffs proposed here discriminate against residential customers and against solar energy generating customers and must be rejected.

[13] Joint Application, p. 13.
[14] Response to Duke Energy's Rate Design Study Quarterly Status Report for Third Quarter 2021. NCWARN and Appalachian Voices, NCUC Docket No. E-7, Sub 1214 and Docket No. E-2, Sub 1219, November 15, 2021.

B. The Proposed Revised Tariffs Were Not Preceded by the "Investigation of the Costs and Benefits of Customer-Sited Generation" As Required by Statute.

Revised net metering rates shall be "established **only after** an investigation of the costs **and benefits** of customer-sited generation,"[15] but no such investigation has been conducted on which the Commission may rely to approve the Companies' request tariff revisions.

1. The Companies' Rate Design Study Does NOT Satisfy the Mandate to Investigate Costs and Benefits.

The Companies maintain that they fulfilled the statutory requirement though their Rate Design Study that revealed the "*potential* for NEM customers to not pay their full fixed cost to serve" and maintain there is a "*potential* embedded cost cross subsidy that range from $25-30 in DEC and $35-40 in DEP." This position is without support in the record or in any transparent analysis of benefits and costs.

In response to requests for the underlying data regarding their purported investigation of the benefits of solar, the Companies pointed to the "final versions of the embedded and marginal cost studies and supporting modeling."[16] 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.

[15] N.C. Gen. Stat. §62-126.4(b) (emphasis added).
[16] The Companies Response to NC WARN's Data Request No. 1-16; and Companies Response to the Public Staff's Data Request No 2.

As discussed in further detail below and in the report by Karl Rábago, a nationally recognized leader and innovator in electricity and energy law, policy and regulation, the Companies' approach is not connected to any meaningful or reliable analysis of specific costs to serve NEM customers. Rábago notes:

> the Companies failed to provide any evidence to support a just and reasonable quantification and treatment of any such cost shifts or to demonstrate in any meaningful way that the potential cost shifts are sufficiently significant to justify adjustment through the net metering tariff. **Lost revenues are not a cost of service.** If lost revenues were considered costs, then all customers would be required to pay the average *bill* for their respective class.[17]

Similarly, the NC Attorney General has recognized that the Rate Design Study relied upon by the Companies does not satisfy the statutory requirements to investigate the costs and benefits of customer-sited generation. In comments regarding the Companies' request to approve their proposed Smart $aver Solar Energy Efficiency Program, the N.C. Attorney General's Office observed:

> While the Comprehensive Rate Design Study investigated the cost of customer-sited generation, it did not investigate potential benefits of customer-sited generation. The potential benefits are many – from reducing carbon emissions by offsetting fossil fuel generation to improving grid resilience – and they must be investigated and quantified. [18]

Because the Companies submitted the Application without the investigation of benefits as well as costs as required by statute, it is, at a minimum, premature at this time and must be rejected.

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[17] Attachment A, Rábago Report, p. 16.
[18] Comments of the Attorney General's Office, Docket E-2, Sub 1287 (DEP) and Docket No. E-7, Sub 1261, March 15, 2022.

2. Potential Cost Shifts Cannot Be Determined Without Assessment of the Potential Benefits of Customer-Sited Generation.

Based upon nationwide studies and the recommendations of the National Energy Screening Project, customer-sited energy generation, also called "distributed generation" ("DG") contribute a number of benefits to the utility system. Those benefits typically include multiple components: Generation (energy generation, system capacity, renewable portfolio and environmental compliance, and market price effects); Transmission (increased capacity and decreased system losses); and Others, including decreased distribution system losses, decreased collection costs, and increased system resilience. In addition to benefits to the utility and to the customer generator, there are societal benefits that must be considered: grid resilience, decreased greenhouse gas emissions, job creation, public health, energy security and reduced impacts to low-income populations.[19] The Commission has the express authority – and the responsibility in light of the Carbon Plan – to include non-energy benefits in its cost-benefit analysis.[20]

An independent Value of Solar Study in North Carolina conducted in 2013 found that "even when treating lost revenues as a cost of non-utility solar generation, and only evaluating fifteen years of system operation, **the benefits**

[19] Attachment C, the NSPPM-DER, Summary, p. xi-xii.
[20] Attachment B, Smith Report, p. 18, citing, *Order Approving Revisions to Demand-Side Management and Energy Efficiency Cost Recovery Mechanisms*, NCUC Docket No. E-2, Sub 931 (Oct 20, 2020), p.3. https://starw1.ncuc.net/NCUC/ViewFile.aspx?Id=5aaea5ce-6458-41fe-ab2d-14d86881092d

of solar were greater than the costs."[21] The Commission should, at a minimum, require the Companies to conduct a transparent reconciliation of their internal evaluation to this independent analysis which showed that NEM customers are subsidizing all others on the systems.

The Companies' Rate Design Study is not an "investigation of the costs and benefits of customer-sited generation" as required by N.C. Gen. Stat. §62-126.4(b) and does not support the Companies' proposed revision of NEM rates. Thus, the Application must be rejected.

III. Increased Fixed Rates Support Utility Bottom Line at the Loss Of Investment in Customer-sited Energy Generation.

North Carolina public policy provides that rates for public utility service avoid "unfair or destructive competitive practices" and avoid "wasteful, uneconomic and inefficient uses of energy."[22] However, as discussed in his report, Smith details an almost decade-long nationwide effort by power utilities, including Duke Energy, to limit competition from what the industry has labeled "disruptive technologies," such as customer-owned solar and energy efficiency investments as threats to their profit margins.

Utility industry analysts have described net metering as "a significant potential adverse impact to utility investors."[23] A centerpiece of industry

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[21] Attachment A, Rábago Report, p. 21, citing R.T. Beach & P.G. McGuire, *The Benefits and Costs of Solar Generation for Electric Ratepayers in North Carolina,* Crossborder Energy (Oct. 18, 2013).
[22] N.C. Gen. Stat. §62-2(a)(4).
[23] Attachment B, Smith Report, p. 3 citing, *Disruptive Challenges: Financial Implications and Strategic Responses to a Changing Retail Electric Business*, Edison Electric Institute, (Jan. 2013), p. 6. http://roedel.faculty.asu.edu/PVGdocs/EEI-2013-report.pdf

recommendations to counter competition from customer-generated energy is to increase fixed charges. Indeed, the first priority recommended by industry advisors is: "[i]nstitute a monthly customer service charge to all tariffs … to recover fixed costs and eliminate the cross-subsidy biases that are created by distributed resources and net metering, energy efficiency, and demand-side resources."[24] Another high priority was to "[a]nalyze revision of net metering programs … so that self-generated DER sales to utilities are treated as supply-side purchases at a market-derived price."[25] In other words, the industry recommends basing the export rate on the much lower wholesale (or avoided cost) rate. Instead of basing their NEM tariff revision on North Carolina law and the statutorily required cost-benefit analysis, the Companies' proposal comes straight from the utility industry playbook.

The Companies argue that the revised tariffs are needed to address "potential cost shifts" wherein low usage customers are being "subsidized" by high usage customers. Independent studies have shown the opposite to be true:

> …. [D]istribution costs are largely driven by peak demands, which are highly correlated with energy usage. Thus, many low-usage customers impose lower demands on the system and should therefore be responsible for a smaller portion of the distribution system costs. Furthermore, many low-usage customers live in multi-family housing or in dense neighborhoods, and therefore impose lower distribution costs on the utility system than high-usage customers… Fixed charges reduce customers' control over their bills, disproportionately impact *low-usage and low-income*

[24] *Id*., p. 3.
[25] *Id.,* p. 18.

customers, dilute incentives for energy efficiency and distributed generation, and distort efficient price signals."[26]

The Application provides the Companies with another avenue to increase fixed charges, this time on solar customers in the form of a minimum bill, which, as it increases, will eventually dissuade other customers from investing in solar and will lead to greater monopoly control over the electric system and inevitable higher costs for everyone. The Commission should reject the Companies' efforts in this proceeding to establish rates that create unfair competitive practices as to residential solar generation.

IV. The Companies' Proposed Energy Generation Credit at Avoided Costs Rates Creates Significant Risk of Energy Waste, Economic Inefficiency, and Environmental Harm

As noted above, a key element of the proposed tariff revision is that excess energy outflows to the grid would no longer be credited at the retail rate, but at the significantly lower avoided cost rate. Net metering outflow rates impact net metering investment decisions, and these revisions would significantly impede investment in consumer sited generation and lead to energy waste. "All rate design is incentive rate design,"[27] and this rate design would operate to discourage customer investment in on-site solar energy generation.

The Rábago report details the many ways that a significant difference in the inflow rate (charges for electric service) and the outflow rate (credit for energy

[26] Attachment B, Smith Report, p.11, citing *Caught in the Fix: The Problem With Fixed Charges for Electricity*. Synapse Energy Economics, prepared for Consumers Union (Feb. 9, 2016), p. 26 https://www.synapse-energy.com/sites/default/files/Caught-in-a-Fix.pdf

[27] Attachment A, Rábago Report, p.13.

exported to the grid) impact energy use and customer choices. A low rate for excess energy exported to the grid is likely to result in: 1) less peak energy production to the grid; 2) uneconomic sizing of DG systems with 25+ year impacts; and 3) exacerbated subsidies flowing from net metered customers to the utility and other customers. Rábago explains:

> Excess energy from net metered customers, when properly planned and accounted for by the utility, backs down utility generation and reduces loading on transmission and distribution systems—often during peak hours when marginal losses are higher. … Moreover, excess generation is not stored by the utility, but immediately serves the nearest unserved load—as a simple matter of electrical physics. As the energy serves that load, it passes through a utility revenue meter, **earning the utility a full billing charge at the applicable retail rate and reducing if not eliminating any claim of net lost revenues due to customer self-generation**. This means that the utility collects a full retail rate's worth of revenues, which includes allocated charges for fixed cost recovery, for every kWh of export from a net metered facility.
>
> … Of course, if the utility chooses to ignore the injections of energy, it will waste customer money by continuing to generate as if the local generation was not available. And because billing systems have very small variable costs and the distribution system is already in place, **the only amount the utility pays for the injected energy—energy that it otherwise would have had to generate or purchase, transmit, and distribute—is the net metering outflow compensation rate.**[28]

The confiscatory net metering outflow compensation rates the Companies propose here will deny North Carolina the benefit of decades worth of non-polluting electricity generation. Discouraging net metered generation investment works in opposition to the goals of the NC Carbon Plan (HB 951) and its direction to the Commission to achieve carbon neutrality by 2050. Because the proposed revisions would result in outflow rates that do not reflect the full value of

[28] *Id*., p.15.

customer-sited energy generation and would have the effect of extending and exacerbating uneconomic costs for electricity service, the Application should be denied.

V. A Transparent and Comprehensive Benefit-Cost Analysis Under the NSPR-DER Framework Is Essential to Establishing Fair, Just and Reasonable Rates For Customer-sited Generation.

There can be little doubt that the evaluation of costs and benefits of customer-sited generation, as required by statute, would provide clarity and understanding between utilities, regulators, and stakeholders. Such evaluation can also provide a platform for evaluating and prioritizing grid modernization and for moving toward the Carbon Plan goals to reduce carbon emissions.

A. A National Standard of Care for Conducting Cost-Benefit Analyses

As discussed in detail in the Rábago report, the National Standard Practice Manual for Benefit-Cost Analysis of Distributed Energy Resources ("NSPM-DER") provides a road map for evaluating the benefits and costs of customer-sited generation.[29] The NSPM-DER is a comprehensive document that includes guiding principles, recommended process steps, impact category lists, definitions, and specific guidance on a wide range of issues associated with developing a BCA Framework and conducting cost effectiveness analysis.

As Rábago explains in detail, the Companies' proposal does not align with national best practice guidelines in several important ways. The proposal: 1) fails

[29] T. Woolf, et al, *National Standard Practice Manual for Benefit-Cost Analysis of Distributed Energy Resources,* National Energy Screening Project (Aug. 2020). Available at: https://www.nationalenergyscreeningproject.org/national-standard-practice-manual/. While the NSPM-DER was published recently, it reflects best practices articulated in a prior NSPM for efficiency resources and generally recognized in the industry. Mr. Rábago was a co-author of the manual.

to treat customer-sited generation as a utility system resource; 2) fails to account for alignment of the proposal, which predates HB 951, to Carbon Plan emission reduction goals; 3) fails to ensure symmetry by prioritizing utility profits over a competitive market for DG; 4) fails to account for the full range of utility impacts from DG; 5) fails to align with the 25+ years of benefit that customer-sited generation can produce; 6) fails to prove that the proposal avoids double counting of impacts; 7) fails to ensure transparency; and 8) fails to conduct the benefit cost analysis separately from rate impact analysis.[30]

In stark contrast to the Application submitted by the Companies in this proceeding, Rábago points to other jurisdictions where transparent and comprehensive evaluations of the value of solar and of DER have been successfully conducted to describe and quantify their costs and benefits, including Minnesota, Rhode Island, and New York.[31] If North Carolina is to embark on the clean energy future envisioned and mandated by its Carbon Plan goals, it must acknowledge and embrace these national best practices for transparently and systematically evaluating both the benefits and the costs of customer-sited generation, as required by the plain language of N.C. Gen. Stat. §62-126.4(b).

[30] Attachment A, Rábago Report, pp. 26-27.
[31] Attachment A, Rábago Report, pp. 22-23, and Ex. 3.

VI. Conclusion and Recommendations

EWG urges the Commission to ensure that NEM policy and any revision to NEM tariffs successfully drive decarbonization to avoid climate change's worst impacts on North Carolina's frontline communities, enhance access to customer generation for underserved communities, and set North Carolina on a course towards greater sustainability, equity, and resilience.

WHEREFORE, the Environmental Working Group respectfully requests that for the reasons outlined above, that the Commission deny the Joint Application for Approval of revised net metering tariffs. The Companies have not demonstrated the proposed rates to be just and fair and within the public interest. Further, EWG asks the Commission to direct that the existing net metering tariffs remain in effect, until a complete evaluation of the benefits and costs of customer-sited generation is conducted. Finally, the Commission should direct Commission Staff, and such external experts as required, to develop a framework and conduct a cost benefit evaluation for net metered generation in accordance with the principles, process, impacts, and other guidance in the NSPM-DER. Any subsequent proposal for revised rate must be grounded in the methods and evaluation of impacts established from pursuant to a cost benefit analysis that meets national best practices.

Respectfully submitted this 29th day of March, 2022.

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CERTIFICATE OF SERVICE

I hereby certify that I have this day served a copy of the foregoing *Initial Comments* by the Environmental Working Group upon each of the parties of record in these proceedings or their attorneys of record by deposit in the U.S. Mail, postage prepaid, or by email transmission.

This the 29th day of March, 2022.

LAW OFFICE OF F. BRYAN BRICE, JR.

By: /s/ Catherine Cralle Jones

Catherine Cralle Jones

Counsel for Environmental Working Group