BEFORE THE
PUBLIC SERVICE COMMISSION OF
SOUTH CAROLINA

DOCKET NO. 2019-182-E

In the Matter of: South Carolina Energy Freedom Act (H.3659) Proceeding Initiated Pursuant to S.C. Code Ann. Section 58-40-20(C): Generic Docket to (1) Investigate and Determine the Costs and Benefits of the Current Net Energy Metering Program and (2) Establish a Methodology for Calculating the Value of the Energy Produced by Customer-Generators	)))))))))))	**REBUTTAL TESTIMONY OF LON HUBER FOR DUKE ENERGY CAROLINAS, LLC AND DUKE ENERGY PROGRESS, LLC**

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Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Lon Huber, and my business address is 550 South Church Street, Charlotte, North Carolina.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by Duke Energy Corporation ("Duke Energy"). My role is Vice President, Rate Design and Strategic Solutions. In this capacity, I am responsible for rate design and pricing for all of Duke Energy's affiliated utility operating companies, including Duke Energy Carolinas, LLC ("DEC") and Duke Energy Progress, LLC ("DEP") (DEC and DEP are herein referred to collectively as the "Companies").

Q. DID YOU PREVIOUSLY FILE DIRECT TESTIMONY IN THIS PROCEEDING?

A. Yes, I did.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY IN THIS PROCEEDING?

A. The purpose of my rebuttal testimony is to:

- Clarify why the Companies utilized the Summer Coincident Peak ("Summer CP") demand metric in performing the embedded cost studies (collectively, the "Embedded Cost to Serve Studies") presented by the Companies' Witness Harris in his direct testimony;
- Clarify the benefit of utilizing both a marginal cost analysis test and an embedded cost analysis to determine cost-shift, or the elimination thereof;

- Address the need to examine the impact of the current net energy metering ("NEM") programs (the "Existing NEM Programs") on low-income individuals; and
- Summarize the relevant and proper findings to be drawn by the Public Service Commission of South Carolina (the "Commission") from this generic proceeding.

Q. PLEASE SUMMARIZE YOUR REBUTTAL TESTIMONY.

A. As the Companies' Witness Brown detailed in his direct testimony in this docket, S.C. Act No. 236 of 2014 ("Act 236") was intended to jump-start NEM in the state of South Carolina. In that regard, Act 236 was successful. Indeed, the Companies exceeded their respective minimum capacity goals for the Existing NEM Programs and, collectively, serve NEM customers with over 100 MW of customer-sited generation. However, even with the success of the Existing NEM Programs, S.C. Act No. 62 of 2019 ("Act 62") requires a critical evaluation of Existing NEM Programs to determine how to build upon that success in crafting the next generation of NEM under Act 62 (the "Solar Choice Program").

Importantly, the Companies' cost-benefit evaluation performed in this docket and outlined in the direct testimony of the Companies' Witness Harris revealed that the Existing NEM Programs contain a cost-shift to non-NEM customers resulting from the usage profile of NEM customers. At a high-level, this cross-subsidization arises from the fact that rates under the Existing NEM Programs are elementary and not sufficiently aligned with the Companies' cost to serve NEM customers, resulting in a shortfall on the Companies' cost recovery that must be

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accounted for by other non-NEM customers. Many of the other parties in this docket provided testimony indicating that this "cost-shift," "subsidization," or "cross-subsidization" is a common occurrence under NEM programs, and the Office of Regulatory Staff's ("ORS") Witness Horii specifically estimated the cost-shift under the Existing NEM Programs, which aligns with the Companies' estimate of the same.[1] In short, the various cost-benefit analyses and supporting testimony in this docket—even though each may utilize different tests or study methods—all arrive at common conclusions within a relatively narrow range. Going forward, the Commission should encourage the range of data, tests, and analysis supplied in this docket for future methodological dockets. These will be important points of comparison as the Commission evaluates new NEM rate designs in the Solar Choice Program dockets. Establishing a range of cost shift occurring under Existing NEM Programs in this docket will be an important baseline for reviewing reductions in cost shift in the Solar Choice Program dockets, and the Companies believe these actions are fully consistent with the analysis and mandates set out in Act 62.

Further, these range of results of cost shift resulting from the Existing NEM Programs is what Act 62 seemed to contemplate via its mandate to "fairly allocate costs and benefits to eliminate any cost shift or subsidization associated with net metering to the greatest extent practicable" in the development of the Solar Choice

[1] The Companies' Witness Harris estimated a cost-shift in the range of $30-$60, while ORS Witness Horii estimated a cost-shift of approximately $45. Direct Testimony of Bradley Harris p. 12, lines 11-13; Direct Testimony of Brian Horii p. 13, lines 18-19.

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Programs.[2] On this point, not only are the parties in this matter aligned on key portions of the analysis of Existing NEM Programs, but also on the tools that may be utilized to fulfill this mandate in Act 62. For example, I provided the Commission with an overview in my direct testimony of rate-making designs in other jurisdictions that have been used to more closely align the cost to serve NEM customers with the rates paid by those NEM customers. Time-variant pricing is one of those mechanisms, and is specifically contemplated by Act 62 as a way to align "the customer's ability to achieve bill savings with long-term reductions in the overall cost the electrical utility will incur in providing electric service."[3] SCCCL/SACE/UF/VS Witness Beach likewise provided the Commission with an overview of the benefits that time-variant pricing can provide, and noted that they can "align rates more closely to the changes in the utility's costs over the course of the day."[4] ORS Witness Horii opined that time-variant rates "better provide price signals to customers regarding the utility's variable costs . . . [and] better align with cost causation,"[5] and noted that an ideal tariff would pair these time-variant rates with other rates that collect things like (i) fixed costs regardless of customer usage and (ii) the customer's maximum usage of the grid.[6] Throughout the varying methods of analyses and differing underlying viewpoints submitted in this docket, there appears to be a common theme throughout—a more complex rate design is required to build upon the Existing NEM Programs and meet the new requirements

[2] The Companies will propose NEM tariffs for the Solar Choice Program on November 2, 2020.
[3] S.C. Code Ann. § 58-27-845(D).
[4] Direct Testimony of R. Thomas Beach p. 28, lines 10-12.
[5] Direct Testimony of Brian Horii p. 40, lines 9-11.
[6] Direct Testimony of Brian Horii p. 40, lines 7-16.

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of Act 62. With the information provided in this docket, the Commission will be in a much better place to evaluate the Companies' proposed tariffs for the Solar Choice Program, once filed for approval.

II. RESPONSE TO ORS WITNESS HORII

Q. ON PAGE 18, LINE 20, THROUGH PAGE 19, LINE 21, ORS WITNESS HORII DISCUSSES THE DEMAND METRIC UTILIZED BY THE COMPANIES IN THE EMBEDDED COST TO SERVE STUDIES. PLEASE EXPLAIN WHY THE COMPANIES USED THAT DEMAND METRIC.

A. In their analysis, the Companies allocated generation capacity costs using the Summer CP, which is consistent with the Companies' most recently Commission approved Cost of Service Studies. The ORS supported these Cost of Service studies in Docket Nos. 2018-318-E (DEP) and 2018-319-E (DEC), and the ORS concluded that "the methodology applied in constructing the Company's COSS [is] reasonable."[7] These Cost of Service studies were deemed just and reasonable by the Commission and approved in Order Nos. 2019-341 and 2019-323. In their analysis in this docket, the Companies applied the same cost of service methodology—including the use of the Summer CP to allocate generation capacity costs—that was supported by the ORS and approved by the Commission.

Although the ORS suggests the use of a different allocator, the Companies cannot employ an allocator that deviates from a Commission-approved allocator until such proposed allocator is fully considered in a separate rate proceeding before

[7] Direct Testimony of Michael L. Seaman-Huynh p. 6, lines 3-4.

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the Commission where the Commission can collect input from various parties and issue an order adopting the new allocator.

Q. ON PAGE 14, LINE 6, THROUGH PAGE 15, LINE 15, ORS WITNESS HORII DESCRIBES HOW MARGINAL COST AND EMBEDDED COST APPROACHES COULD ARRIVE AT DIFFERENT ESTIMATES OF THE COST-SHIFT. PLEASE EXPLAIN WHY BOTH APPROACHES PROVIDE MEANINGFUL INSIGHT.

A. Cross-subsidization studies based on marginal and embedded cost of service studies answer different questions. As ORS Witness Horii acknowledged, "[b]oth estimates are valid and important for the Solar Choice Metering Tariff design discussion."[8] The Companies' Witness Harris described the purpose of two cost studies in his direct testimony—embedded cost studies answer if customer-generators <u>are paying</u> for their fair share of historical costs, while marginal cost studies answer if customer-generators <u>will pay</u> for their share of future costs. As costs change over time, historical and future costs will typically not be exactly the same and may even differ substantially. Both historical and future costs will be incurred by the utility and should be reflected in prices.

Therefore, both marginal and embedded perspectives should be considered in this proceeding and in future Solar Choice Program dockets. Any conclusions in the current generic docket should not exclude or otherwise limit the use of

[8] Direct Testimony of Brian Horii p. 15, lines 20-21.

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marginal cost and embedded cost analysis to determine cost-shift or the elimination thereof in any Solar Choice Program docket.

III. RESPONSE TO ORS WITNESS RUOFF

Q. ON PAGE 3, LINES 18 THROUGH 20, ORS WITNESS RUOFF STATES, "NATIONAL STUDIES MAKE CLEAR THAT HIGHER INCOME CONSUMERS ARE OVERREPRESENTED AMONG ROOFTOP SOLAR ADOPTERS AND LOWER-INCOME CONSUMERS ARE UNDERREPRESENTED." PLEASE DISCUSS THE EXISTING NEM PROGRAMS AS THEY RELATE TO LOW-INCOME CONSUMERS.

A. A stated goal of Act 62 is to "expand the opportunity to support solar energy and support access to solar energy options for all South Carolinians."[9] However, the unique consideration of solar initiatives designed for low-income individuals who are customers of regulated utilities could be addressed in the Companies' energy efficiency dockets or a separate targeted generic docket—however, these considerations are outside of the scope of this generic docket.

It is generally true that lower-income individuals are not as likely to participate in rooftop solar programs as higher-income individuals; however, neither Act 236 nor Act 62 expressly require a cost benefit examination of the Existing NEM Programs to determine those programs' impact on lower-income individuals. Nevertheless, there are positive impacts to lower income individuals that will result from reducing or eliminating cross-subsidization. Such an analysis

[9] S.C. Code Ann. § 58-41-40.

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is not required by this generic docket, but potential benefits derived from eliminating cross-subsidization, among other things, could be relevant and appropriate in the Solar Choice Program docket.

IV. CONCLUSION

Q. DO YOU AGREE THAT THE TESTIMONY FILED IN THIS DOCKET GENERALLY SUPPORTS UTILIZING MORE COMPLEX RATE DESIGN TOOLS IN DEVELOPING TARIFFS UNDER THE COMPANIES' SOLAR CHOICE PROGRAM?

A. I do. In particular, I think there is some level of agreement among ORS Witness Lawyer, ORS Witness Horii, SCCCL/SACE/UF/VS Witness Beach, Dominion Witness Everett, and myself. SCCCL/SACE/UF/VS Witness Beach advocates for time of use rates—calling them a "key solution"—as well as a minimum bill.[10] Likewise, ORS Witness Horii sets forth "hallmarks" of an "ideal" Solar Choice tariff, which include time-varying rates, a service charge, and a monthly demand charge.[11] Although I will not repeat the testimony previously provided on this subject, I think it is important to note that there is a consistent message from parties on all sides that any successor tariff should implement more complex rate design tools, consistent with Act 62.

[10] Direct Testimony of R. Thomas Beach p. 28, line 10.
[11] Direct Testimony of Brian Horii p. 40, lines 5-6.

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Q. WHAT CONCLUSIONS CAN BE DRAWN FROM THE TESTIMONY PROFFERED IN THIS GENERIC DOCKET?

A. When you examine the record before the Commission, there are many areas of general agreement. While certain details within various studies may have varied or have been challenged, the net results were all within a reasonable range that yielded common results. I respectfully submit that the Commission find:

- The Companies' cost benefit analyses performed in this docket utilized appropriate evaluation tests (including the Companies' approaches to measuring cost-shift), employed a range of acceptable assumptions and inputs—including inputs previously approved by the Commission—which together provide a reasonable framework to: (i) examine Existing NEM Programs and (ii) develop the Solar Choice Program;
- The analyses performed in this docket indicate that a cost-shift and a subsidy arise under the Existing NEM Programs;
- Act 62 mandates that the Solar Choice Program utilize a more complex rate-design structure—such as time-variant pricing—than those utilized in Existing NEM Programs to eliminate this cost-shift and subsidy "to the greatest extent practicable;"
- Future Solar Choice tariffs contemplate new mechanisms to recover utility fixed costs, independent of customer usage, and charges to recover a customer's maximum use of the grid;
- The Commission will evaluate a broad range of rate structures in the Companies' upcoming Solar Choice Program dockets and leverage the

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analyses performed herein when developing the Solar Choice Program in compliance with Act 62.

Q. DOES THIS CONCLUDE YOUR PRE-FILED REBUTTAL TESTIMONY?

A. Yes, it does.

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