STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH

DOCKET NO. E-2, SUB 927
DOCKET NO. E-2, SUB 1287
DOCKET NO. E-7, SUB 1032
DOCKET NO. E-7, SUB 1261

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

Docket No. E-2 Sub 927 In the Matter of Petition by Duke Energy Progress, LLC, for Approval of Modifications to Residential Service Load Control Rider Docket No. E-2, Sub 1287 In the Matter of Application by Duke Energy Progress, LLC for Approval of PowerPair Solar and Battery Installation Pilot Program Pursuant to Order of the North Carolina Utilities Commission Docket No. E-7, Sub 1032 In the Matter of Petition by Duke Energy Carolinas, LLC, for Approval of Modifications to Residential Service Load Control Rider Docket No. E-7, Sub 1261 In the Matter of Application of Duke Energy Carolinas, LLC, for Approval of PowerPair Solar and Battery Installation Pilot Program Pursuant to Order of the North Carolina Utilities Commission	)	**REPLY COMMENTS OF DUKE ENERGY CAROLINAS, LLC AND DUKE ENERGY PROGRESS, LLC**

BACKGROUND

In the above dockets, Duke Energy Carolinas, LLC ("DEC") and Duke Energy Progress, LLC ("DEP" and together as the "Companies") filed for the North Carolina Utilities Commission (the "Commission") to approve: (1) a proposed PowerPair^{SM} Solar and Battery Installation Pilot Program ("PowerPair^{SM}" or "Pilot") for both DEC and DEP; (2) proposed modifications to DEP's existing, Commission-approved Residential Service Load Control Rider LC-9 Program ("EnergyWise"), which are related to the Pilot; and (3) proposed modifications to DEC's existing, Commission-approved Residential Power Manager Load Control Service Rider PM Program ("Power Manager"), which also are related to the Pilot (together with the EnergyWise modification, the "DSM Program Modifications").[1]

After filing the Pilot Application and the DSM Program Modifications, the Commission issued orders requesting comments on the same. Specifically, it ordered:

- With regard to the Pilot, that on or before August 7, 2023, Public Staff – North Carolina Utilities Commission ("Public Staff") and intervenors file initial comments, and that, on or before August 28, 2023, all parties file reply comments.
- Upon request of Public Staff and support from the Companies and other intervening parties, the Commission subsequently ordered that the initial comments deadline about the Pilot Program and the DSM Program Modifications be August 21, 2023,

[1] As explained below, these filings arise out of the Companies' efforts to comply with the Commission's March 23, 2023, Order in Docket Nos. E-2, Sub 1287 and E-7, Sub 1261 (the "Order"), which directed the Companies to each develop a pilot program to evaluate operational impacts to the electric system of behind the meter residential solar plus energy storage. The Companies' proposed modifications to the EnergyWise and Power Manager Programs seek to add battery control options ("Battery Control Options") to those programs. The Battery Control Options would be available to certain participants in the Pilot.

and that reply comments about the Pilot Program and the DSM Program Modifications have a deadline of September 11, 2023.

Pursuant to the Commission's order, Public Staff, Attorney General's Office ("AGO"), Solar Energy Industries Association ("SEIA"), Southern Alliance for Clean Energy ("SACE"), Vote Solar, and the North Carolina Sustainable Energy Association ("NCSEA") filed on August 21, 2023, initial comments about the Pilot and the DSM Program Modifications.[2] After evaluation of those initial comments, the Companies now submit the following reply comments.

EXECUTIVE SUMMARY

Significantly, in initial comments,[3] the Public Staff, the AGO, SEIA, SACE, Vote Solar, and NCSEA generally support the Pilot, the Pilot's compliance with the Order, and the DSM Program Modifications.[4]

To the extent Public Staff, the AGO, SEIA, SACE, Vote Solar, or NCSEA disagreed with or suggested specific recommended changes to certain aspects of the Pilot or the DSM Program Modifications, the Companies address those below. In doing so, the Companies also emphasize that, based on those parties' initial comments and stakeholder feedback and in an effort to reasonably compromise, they now propose several amendments to the Pilot and the DSM Program Modifications. Notably, the Companies are also dedicated to exploring and filing at appropriate times future Pilots that may include

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[2] Public Staff and SACE, Vote Solar, NCSEA filed corrected initial comments on August 25, 2023.

[3] Including Public Staff's and SACE, Vote Solar, and NCSEA's corrected Initial Comments.

[4] *See, e.g., Public Staff Corrected Initial Comments*, at pp. 8-9; *AGO Initial Comments*, at p. 7; *SEIA Initial Comments*, at p. 2; and *SACE, Vote Solar, & NCSEA Corrected Initial Comments*, at p. 3.

additional cohorts (e.g. one related to medical devices) and a program for non-residential customers.

The Companies' proposed amendments to the Pilot and DSM Program Modifications include:

Specified Changes to the Pilot:

- *Switching of Cohorts:* The Pilot applications ("Pilot Applications") include two groups of cohorts, Cohorts A and B, and suggest requiring participants to remain in their initial Cohort for a one-year period before switching to a different Cohort (subject to availability). Pursuant to Public Staff's filed comments, the Companies now propose that the Pilot require participants to remain in their initial Cohort for *two years* before they can switch Cohorts (subject to availability). Additionally, the Companies propose that participants be allowed to switch Cohorts a total of two times within the 10-year enrollment period (subject to availability).

- *Final Reports:* The Companies agree to include a narrative on the interactions with ISOP in their final reports.

- *PowerPair^{Sm} Incentive for Battery Storage Installation:* In response to Public Staff's recommendation to increase the one-time PowerPair^{SM} Incentive for Battery Storage Installation from \$240/kWh to \$500/kWh, the Companies, for reasons more fully explained below, propose increasing the incentive to \$400/kWh, which will be limited to no greater than a maximum installed capacity of 13.5 kWh. This revised amount is based on the average North Carolina system costs and achieves an overall cost reduction that the Companies believe is reasonable. The Companies will monitor customer adoption rates of the Pilot and are open to adjusting this incentive in the future if necessary to increase that adoption.

Specified Changes to the DSM Program Modifications:

- *Required Number of Control Events:* In their filings with the Commission about the DSM Program Modifications, the Companies proposed to initiate up to 36 Control Events annually. The Companies do not oppose Public Staff's recommendation to utilize a minimum of 30 Control Events each year, while not exceeding the proposed 36 event annual limit.

- *System Emergency Clause in Tariffs:* Public Staff recommended an addition to the System Emergency Clause in the Companies' proposed tariffs for the DSM Program Modifications. The Companies agree to add the following language to the clause:

> *"The Company reserves the right to prevent the Customer's Battery from charging from the grid if continuity of service is threatened, or to disconnect the customer's load entirely if the operation of the Customer's Battery threatens the reliability or safety of the Company's system. The Company's exercising of this right does not constitute a Control Event."*

- *Minimization of Charging Batteries During On-Peak Periods:* Pursuant to Public Staff's recommendation, the Companies agree to minimize, to the greatest extent possible, charging of Customer Batteries during on-peak periods.

- *Final Reports:* The Companies agree to include in their final reports about the Pilot a discussion about participation rates of Cohort B's customers (participating in the Battery Control Option) who own their solar and storage equipment system versus those who lease their system.

REPLY COMMENTS

I. Initial Commenters Generally Support and Recommend Commission Approval of the Pilot and the Related DSM Program Modifications.

Public Staff, the AGO, SEIA, SACE, Vote Solar, and NCSEA all generally support and recommend that the Commission approve the Pilot and the related DSM Program modifications. Significantly:

- In initial comments, Public Staff noted that, "[b]ased on its investigation, [it] generally supports the PowerPair pilot and the Battery Control Options, as each is proposed."[5]
- The AGO, in its initial comments, wrote that it "believes that the Companies' proposed Pilot Programs (and related, requested [DSM] Program Modifications) satisfy the requirements set forth by the Commission" in the Order.[6]
- Via its initial comments, SEIA also "supports the Commission's adoption of the program, as proposed[.]"[7]
- SACE, Vote Solar, and NCSEA similarly support approval of the Applications, commenting that the Applications "comply with the terms of the Commission's Order in Docket Nos. E-2, Sub 1287 and E-7, Sub 1261 and should provide valuable information to Duke and the Commission on the value of customer-sited distributed energy resources."[8]

The Companies appreciate the overall support for – and feedback from the initial commentors about – the Pilot and DSM Program Modifications. They also recognize that the initial commentors have proposed specific changes to or future recommendations for the Pilot and the DSM Programs (collectively, "Programs"). As explained below, the Companies adopt a number of those recommended changes to the Programs.

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[5] *Public Staff Corrected Initial Comments*, at p. 8.

[6] *AGO Initial Comments*, at p. 7.

[7] *SEIA Initial Comments*, at p. 2.

[8] *SACE, Vote Solar, & NCSEA Corrected Initial Comments*, at pp. 2-3

II. <u>**The Companies' Proposed Changes to and Future Actions Regarding the Pilot.**</u>

The Companies, upon evaluation of initial comments and in continued efforts to work collaboratively with stakeholders, propose a number of changes and future recommendations about the Pilot in response to the feedback received in the initial comments. Each is discussed in detail below.

A. <u>**The Companies Agree to Submit Future Modifications to the Pilot at Appropriate Times.**</u>

Several initial commentors, including the AGO, SEIA, SACE, and Vote Solar, urged the Companies to consider future improvements and modifications to the Pilot. *See, e.g. AGO Initial Comments*, at p. 7 (Suggesting that "future requests for the Pilot Program include additional customer groups); *SEIA Initial Comments*, at p. 2 (Urging the companies to "explore the role that third-party aggregators could play in optimizing customer experiences and expectations"); and *SACE, Vote Solar, and NCSEA Corrected Initial Comments*, at p. 4 (Expressing support for the fact that "Duke is willing to explore a future solar plus storage cohort focused on customers who are dependent on home medical devices"). The Companies acknowledge that the Pilot is a preliminary program that they (and the Commission) will continuously monitor and adjust and modify as necessary to improve. As a result, they anticipate submitting future modifications to the Pilot at appropriate times.

One such future modification will pertain to additional Cohorts. The Companies appreciate the AGO's, SACE's, Vote Solar's, and NCSEA's suggestion to explore adding other Cohorts to the Pilot. While the Companies propose that the Pilot initially only have Cohorts A and B, they are committed to developing and filing a request for additional

Cohort groups (such as the ones suggested by AGO, SACE, and Vote Solar, which include income-qualified customers, customers dependent on medical devices, and a comparable program for non-residential customers or other targeted participants) within twelve (12) months after implementation and launch of the Pilot (if approved).

B. The Companies Agree to Adjust the Time Period for and Total Number of Switching between Cohorts.

As directed by the Order, the Pilot will have two groups of participants, Cohort A and Cohort B.[9] In the Pilot Applications, the Companies suggested that participants may switch Cohorts after completion of 12 months in their originally selected Cohort (and subject to availability). *Pilot Applications*, at p. 11. However, Public Staff, in its initial comments, recommended that, "[f]or purposes of the [Pilot's] research objectives," "participants be required to remain in their initial cohort for at least three years and that, after that initial term, switching cohorts should be permitted no more than twice in the 10-year enrollment timeframe." *Public Staff Corrected Initial Comments*, at p. 10 (Emphasis added). Public Staff also recommended that, during the suggested "initial three-year

[9] The Applications define the Cohorts as follows:

- Cohort A: Per the Order, this group of participants will be served under the TOU rates approved by the Commission in its Order Approving Revised Net Metering Tariffs, *Investigation of Proposed Net Metering Policy Changes*, Docket No. E-100, Sub 180 ("NEM Order"). This group also will have complete control of the use of the energy storage device.

- Cohort B: Per the Order, this second group of participants will be served under the Bridge Rate approved by the Commission in the NEM Order and give the Company complete control over the battery storage device.

Pilot Applications, at pp. 3-4.

period, customers in Cohort A should not be permitted to participate in their utility's respective Battery Control Option." *Id.*

While the Companies agree with Public Staff's recommendation that participants should not be permitted to switch cohorts more than twice in the 10-year enrollment timeframe, they disagree with Public Staff's suggestion that participants should be required to remain in their initial Cohort for *three* years. Instead, they propose a compromise *two-year* requirement before participants may switch from their initial Cohort (subject to availability). In other words, the Companies recommend that the Pilot now require participants to remain in their initial Cohort for *two years* before they are permitted to switch Cohorts (subject to availability). Additionally, during that initial 2-years, the Companies propose that Cohort A participants not only be prohibited from switching into Cohort B, but also be barred from participating in a Battery Control Option. The Companies submit that this 2-year period is a good faith compromise between its initial 12-month suggestion and Public Staff's 3-year recommendation. Further, a 2-year required participation in the initial Cohort reasonably reflects: (a) the need to obtain valuable – and sufficient – data regarding participation (and any differences between participation) in the Cohorts and (b) a recognition that technology and customer needs may change over time and that customers will desire the ability to switch Cohorts based on those changes.

C. **<u>The Companies Will Include Additional Information in their Annual and Final Reports.</u>**

As outlined in the Pilot Applications, the Companies will file annual reports on the Pilot and final reports that include robust discussion and analysis of the data and information gathered through the Pilot. *Pilot Applications*, at p. 23. The Companies are committed to working with stakeholders on an agreeable reporting structure and the contents of those reports. *Id.*

In that regard, the Companies appreciate SACE, Vote Solar, and NCSEA's suggestion about the reports' contents, namely, to include a narrative on the interactions with ISOP in their annual reports. *See SACE, Vote Solar, & NCSEA's Corrected Initial Comments*, at p. 8. The Companies agree to this suggestion.[10]

D. The Companies Agree to Increase the Amount of the PowerPair^{SM} Incentive for Battery Storage Installation.

Pursuant to the Order, the Pilot will provide monetary installation incentives to participants. In the Pilot Applications, the Companies proposed the following incentives:

- **\$0.36/Watt-AC for Solar Panel Installation**,[11] which will be limited to a maximum installed capacity of 10kW-AC, will be capped at \$3,600.00 per residence, and will be a one-time incentive ("PowerPair^{SM} Incentive for Solar"); and
- **\$240/kWh for Battery Storage Installation**, which will be limited to no greater than a maximum installed capacity of 13.5 kWh and will be a one-time incentive ("PowerPair^{SM} Incentive for Battery Storage Installation").
- **\$6.50/kW (nominal/continuous output) for participants in a Battery Control Option**, which will be adjusted by a flat battery capability factor per month ("Battery Control Incentive").

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[10] Likewise, as noted below, the Companies agree to Public Staff's suggestion that, with regard to the DSM Program Modifications, the Companies include in their final reports a discussion of participation rates between customers who own their solar and storage equipment versus customers who lease their system. *Public Staff Corrected Initial Comments*, at p. 11.

[11] This amount is per the Order. *Order*, at p. 6.

Pilot Applications, at p.15. The Companies estimated that, with the Pilot's incentives and the IRA tax credit, participants will have substantial savings on the total cost of their Installed Equipment. *Id.*, at p. 17.

Public Staff, through its initial comments, contend that the PowerPair^{SM} Incentive for the Battery Storage Installation ($240/kWh for a maximum amount of $3,240) is too low and "too conservative to truly incentivize the deployment of customer-sited energy storage eligible for participation in the pilot program." *Public Staff Corrected Initial Comments*, at p. 19. Thus, Public Staff contends that the Incentive for the Battery Storage Installation should increase (and more than double from $240/kWh) to $500/kWh. *Id.* It argues for such an increase based on its estimated system cost of $52,386 (for Solar Panels of 10kW-AC and a Battery of 13.5 kWh).[12] *Id.* Per Public Staff, if the Pilot offers an increased $500/kWh PowerPair^{SM} Incentive for Battery Storage Installation, "the customer would receive approximately $10,350 [$6,750 of which would be from the Incentive for Battery Storage Installation and $3,600 of which would be from the Incentive for Solar Panel Installation] which would cover approximately 20% of [its] total estimated system cost." *Id.*, at pp. 19-20.

The Companies understand Public Staff's desire to and rationale for an increase in the PowerPair^{SM} Incentive for Battery Storage Installation, but they disagree with the suggested amount of the increase.[13] However, the Companies are willing to modify their

[12] Public Staff utilizes the following numbers for its calculation: $3.52 per W for Solar (equaling $35,200 for 10W Solar) and $1,273 per kWh for Battery (equaling $17,185.50 for a 13.5 kWh Battery). *Public Staff Corrected Initial Comments*, at p. 19.

[13] In doing so, the Companies would note that increasing upfront incentives to the customer doesn't directly correlate to more savings for the customer due to the IRA tax credit, which is calculated based on customer investment after incentives.

initial recommendation to better align with system costs appropriate for the North Carolina market. As such, the Companies propose that the one-time PowerPair℠ Incentive for Battery Storage Installation be increased to $400/kWh (while still being limited to no greater than a maximum installed capacity of 13.5 kWh). This revised amount is based on the average North Carolina system costs and achieves (at least) a seventeen percent (17%) overall cost reduction for the customer, an amount which the Companies contend is reasonable. Illustrative examples below reflect Public Staff's and the Companies' proposals regarding the overall anticipated savings and cost reductions from the Pilot and the IRA tax credit:

Public Staff's Proposal ($0.36/Watt Solar & $500/kWh Battery)	**Cohort A**	**Cohort B**		**The Companies' Counter Proposal ($0.36/Watt Solar & $400/kWh Battery)**	**Cohort A**	**Cohort B**
System Costs	$ 52,386	$ 52,386		System Costs[14]	$ 52,386	$ 52,386
Solar Upfront Incentives	$ 3,600	$ 3,600		Solar Upfront Incentives	$ 3,600	$ 3,600
Storage Upfront Incentives	$ 6,750	$ 6,750		Storage Upfront Incentives	$ 5,400	$ 5,400
IRA Tax Credit	$ 12,611	$ 12,611		IRA Tax Credit	$ 13,016	$ 13,016
DSM Payments over 10 years	$ -	$ 3,976		DSM Payments over 10 years	$ -	$ 3,976
Net System Costs	$ 29,425	$ 25,449		Net System Costs	$ 30,370	$ 26,394
Nets Savings	$ 22,961	$ 26,937		Nets Savings	$ 22,016	$ 25,992
Costs Reduction	44%	51%		Costs Reduction	42%	50%
Costs Reduction with Duke Credits	20%	20%		Costs Reduction with Duke Credits	17%	17%

The Companies contend that their proposed, modified Incentive for Battery Storage Installation ($400/kWh) is reasonable, and thus request the Commission incorporate into the Pilot. That said, the Companies are committed to monitoring customer adoption levels

[14] The Companies agree to utilize the same System Costs (from Energy Sage) as Public Staff. *See* (for solar) North Carolina Solar Panel Cost: Is Solar Worth It In 2023? | EnergySage; (for energy storage) 2023 Cost of Energy Storage in North Carolina | EnergySage.

of the Pilot and evaluating whether future modifications of this incentive amount may be necessary to increase such adoption.

III. <u>The Companies' Response to Initial Comments about Other Proposed Changes to and Recommendations for the Pilot.</u>

The initial commentors requested various other additional requirements or changes to the Pilot, namely with regard to data collected and tracked through the Pilot and information included in the Companies' annual and final reports about the Pilots. The Companies address those comments – and their reasons for objecting to them – below.

A. <u>The Companies Are Committed to Collecting and Tracking Data Obtained from the Pilot.</u>

As directed by the Commission's Order, the Companies will utilize the operating data from customers in the Pilot to study the operational impacts of residential solar paired with energy storage and the cost-effectiveness of achieving such impacts. In doing so, the Company will have research objectives that include a study of the accessibility of solar plus storage to different residential customer demographics. Additionally, during the three-year enrollment period, the Companies, to the extent feasible, will attempt to gather information such as participant home ownership, urban/rural location, and (for Cohort B participants) pre-pilot/post-pilot electricity usage. The Companies also will submit a plan for collecting and analyzing data specified by and in support of the Order's research objectives as soon as it is available.

1. <u>Recommendation to Collect Data Regarding All-Electric Versus Gas Heating Customers.</u>

Public Staff, in initial comments, seeks for the Companies to also collect data to distinguish and track any differences in system impacts between all-electric and gas heating customers in each Cohort. *Public Staff Initial Comments*, at pp. 13-14. The Companies appreciate this suggestion and reiterate their commitment to collecting and tracking data obtained from the Pilot. As part of that effort, they will investigate their ability to collect such data from customers during the interconnection process, but they note that such consumer-provided data likely would be unverified and provided to the Companies at the customer's option.

2. Recommendations to Collect Other Types of Data.

The Companies note that several initial commentors, including SACE and Vote Solar, have requested that the Commission require the Companies to collect a multitude of other types of data too, such as participants' race/ethnicity, income level, employment status, disability status, language spoken, and family size. *See, e.g. SACE & Vote Solar Initial Comments*, at p. 8. The Companies disagree with these requests. The Companies currently do no collect such data and have no reliable means to collect such data in connection with the Pilot. Not only is the collection and tracking of such additional data burdensome, but the Companies have concerns about privacy, practicability, and unreliability. For instance, collecting data about family size, employment status, and income information:

- Could be considered invasive and thus deter customer participation and/or reduce participant satisfaction with the Pilot;
- Could be impractical to obtain and/or difficult to track over time, thus muddying the waters of studying the accessibility of solar plus storage. Notably, tracking a participant in a snapshot of time at the beginning of Pilot participation and then using that data point to analyze, for example pre-Pilot and post-Pilot electricity usage, could be rendered useless if any

of the proposed data collection points change during that period and impact electrical use. Additionally, it would be administratively burdensome to go back to the participant years after the Pilot to update those data points; and

- Could create data quality issues when the information collected cannot be verified.[15]

Moreover, the Companies do not believe that requiring them to collect such additional data would yield any meaningful results that could inform how they would propose to make potential changes in the future to the Pilot. The Companies also submit that any use of these invasive data points to recommend a specific incentive or program designs (such as ones tied to age, gender, race/ethnicity, languages spoken, education level, employment status, or disability status) could be perceived as discriminatory.[16]

B. **The Companies Object to Reporting Requirements that Expand Beyond That Required by the Order.**

The Commission's Order directs the Companies to "file annual status reports on the pilot program in addition to a final report that includes robust discussion and analysis of the data and information gathered through the pilot." *Order.*, at p. 8. As noted above and in the Pilot Applications, the Companies, in compliance with the Order, have committed to filing such final reports. *Pilot Applications*, at p. 23.

[15] If data cannot be verified, it should be evaluated and weighted appropriately if utilized to inform future pilots or programs.

[16] However, as noted above, the Companies believe that the Pilot should be accessible to low to moderate income ("LMI") households, and they look forward to future discussion on potential new opportunities to engage LMI customers. They also intend to leverage existing resources that are currently in place with their existing income-qualified programs and engage other external stakeholders that work with LMI households.

Public Staff, in initial comments, recommends that the Companies go above and beyond that and: (a) "collect sufficient data during the initial [Cohort time] period to evaluate the benefits and cost-effectiveness of the PowerPair Pilot and the Battery Control Option," and (b) via filed EM&V reports, "present this information along with recommendations as to whether the program should be continued, modified, or discontinued, and should base this recommendation on an evaluation of the costs and benefits of the PowerPair Pilot and the Battery Control Option relative to the costs and benefits of utility-scale solar and energy storage resources procured pursuant to the Carbon Plan." *Public Staff Initial Comments*, at p. 30.

The Companies disagree with this recommendation. First, Public Staff's recommendation is onerous and greatly expands the scope of the final report requirements specified in the Commission's Order. Additionally, the Companies do not agree that an independent EM&V study is the appropriate means of evaluating costs and benefits of the Pilot, which is simply designed to incentivize the installation of solar plus storage outside the framework of an EE/DSM program. Lastly, consistent with Commission Rule and as discussed in the Companies' applications to modify their respective DSM programs, the Companies plan to leverage a third-party evaluator to perform a formal EM&V for those programs.

IV. <u>The Companies' Proposed Changes to DSM Program Modifications Based on Initial Comments.</u>

The Companies, after evaluation of initial comments and in continued efforts to work collaboratively with stakeholders, propose several changes to DSM Program modifications, which are outlined below.

A. <u>The Companies Agree to Utilize a Minimum of Thirty (30) Control Events a Year.</u>

As set forth in the Companies' R8-68 filings for the DSM Program Modifications, they proposed to modify the DSM Programs to add Battery Control Options which would permit the Companies or third-parties acting on their behalf to control the customer's battery system for up to eighteen (18) times per winter control season months December through March, nine (9) times per summer control season May through September, and nine (9) times in remaining months ("Control Events"). In initial comments, Public Staff "recommended" that, "for the purposes of the PowerPair pilot and achieving the Commission's research objectives, as well as maximizing the Battery Control Options' system benefit, [] that Duke be required to utilize a minimum of 30 Control Events each year." *Public Staff Corrected Initial Comments*, at p. 23. The Companies are agreeable to this recommendation and commit to utilizing a minimum of thirty (30) Control Events each year.

B. <u>The Companies Agree to Modify the Tariffs' System Emergency Clause.</u>

The Companies have included a System Emergency Clause in the proposed tariffs for the DSM Program Modifications. Public Staff, in its initial comments, recommended that the clause be modified to include the following language:

> The Company reserves the right to prevent the Customer's Battery from charging from the grid if continuity of service is threatened, or to disconnect the customer's load entirely if the operation of the Customer's Battery threatens the reliability or safety of the Company's system. The Company's exercising of this right does not constitute a Control Event, and the Company will not discharge or charge the Customer's Battery during such an event.

Public Staff Corrected Initial Comments, at pp. 23-24. The Companies agree to this suggested modification *with an edit to remove* the following proposed language (which is also highlighted above): "and the Company will not discharge or charge the Customer's Battery during such an event." The Companies contend that reserving the right to *discharge* the Customer's battery if the continuity of service is threatened is an important use of demand response. Notably, the Companies generally agree not to charge the Customer's Battery during such an event but suggest that the first sentence of Public Staff's suggested addition sufficiently covers that point and thus another sentence regarding the same is repetitive and unnecessary.

C. <u>The Companies Agree to Minimize, to the Greatest Extent Possible, Charging Customer Batteries During On-Peak Periods.</u>

As noted above, the DSM Program Modifications will, through Battery Control, grant the Companies (or a third party acting on their behalf) the ability, at its discretion, to charge, discharge, and store energy using the Customer's Battery. In initial comments, Public Staff seeks for the Companies to minimize, to the greatest extent possible, charging Customer Batteries during on-peak periods. *Public Staff Corrected Initial Comments*, at p. 25. The Companies are amenable to this suggestion and agree, to the greatest extent possible, to minimize charging Customer Batteries during on-peak periods.

D. <u>The Companies Agree to Include Additional Information in their Annual and Final Reports about Participation Rates Between Battery Control Option Participants Who Own Versus Lease Their Equipment.</u>

As noted above, the Companies will file annual reports on the Pilot and final reports that includes robust discussion and analysis of the data and information gathered through the Pilot. *Pilot Applications*, at p. 23. In initial comments, Public Staff requested that the Companies "include a discussion of participation rates between [Cohort B] customers who own and customers who lease their [solar and storage equipment] in their final report."[17] *Public Staff Corrected Initial Comments*, at p. 11. The Companies agree to do so.

V. The Companies' Response to Initial Comments about Other Proposed Changes to the DSM Program Modifications.

The initial commentors requested several other changes to the DSM Program Modifications, such as to the Battery Control Option Incentive and a future move "toward a pay-for-performance model." The Companies address those comments – and their reasons for objecting to them – below.

A. The Companies Believe It is Premature to Increase the Battery Control Incentive at This Juncture.

As outlined in their submissions to the Commission, the Companies have proposed that Battery Control participants in the DSM Programs be provided a monthly incentive payment following the successful installation and enrollment of their Installed Equipment ("the Battery Control Incentive"). Specifically, they have suggested that participants receive a \$6.50/kW monthly incentive credit[18] which will be based on their battery's

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[17] In initial comments, Public Staff noted that, while the Companies limit participation in the Pilot to customers who own their solar and storage equipment, they propose to allow participants in the DSM Programs' Battery Control Options to own or lease the solar and storage equipment. Per Public Staff, it "does not object to these requirements for the period of the pilot," but it states that "[t]he ability to lease equipment, as opposed to owning the equipment, has not historically been a practice utilized in the DSM/EE portfolio of programs, although the Battery Control Option is unique in the magnitude of the cost of the equipment being installed and controlled by the Companies." *Id.*

In response, the Companies note that limiting participation in the Battery Control Options to only those who own the systems would reduce participation. Additionally, they do not believe that system ownership is as important for the DSM Programs' Battery Control Options as it is for the Pilot as the Battery Control Options permit the Company the ability to control the system during a control event regardless of whether the customer owns or leases the equipment.

However, system ownership is necessary for the Pilot as the upfront incentive was developed in consideration of ten (10) years of customer participation, and leasing a system may result in a customer not maintaining control of a system for the full 10 years.

[18] SEIA, in its initial comments, noted that the Companies must be "flexible and patient with distinct customer situations to prevent strict application of any clawback of rebates or expulsions from the program."

nameplate continuous discharge capacity (as such is defined by the battery manufacturer) adjusted by a capability factor.[19] Public Staff, in its initial comments, has suggested: (1) increasing the amount of the Battery Control Incentive from $6.50/kW to $10/kW, and (2) using the average amount of power discharged from the Customer's Battery during discharge events as the basis for the incentive (rather than the capability factor). *Public Staff Corrected Initial Comments*, at p. 29.

Similarly, SACE, Vote Solar, and NCSEA, in their initial comments, also suggest "there is room for even greater incentives for battery demand-response." *SACE, Vote Solar & NCSEA Corrected Initial Comments*, at p. 4. SEIA, via its initial comments, also suggest that "any permanent program move toward a pay-for-performance model." *SEIA Initial Comments*, at p. 3.

The Companies disagree with those suggestions at this juncture. They contend that they are premature at this initial phase and note:

- The Companies believe the proposed Battery Control Incentive will be attractive enough to entice customer participation in the Pilot and DSM Programs;
- Increasing the Battery Control Incentive at this initial stage could de-motivate customers from participating in Cohort A of the Pilot;

SEIA Initial Comments, at p. 3. The Companies generally agree with SEIA's recommendation for flexibility, but they note that there are no clawbacks of the Battery Control Incentive under either the EnergyWise or Power Manager Programs. Furthermore, they note that they will evaluate participants' expulsion from the Pilot from a program performance standpoint and reserve the right to remove from the Pilot a participant that exceeds four (4) Control Event opt-outs in a single year.

[19] The capability factor will be posted to the Company's website and will be updated based on EM&V results. The capability factor adjusts for operational and program constraints, including, but not limited to, reliability of device connection and system losses and systems not always being fully charged at the time of the event. The capability factor will be updated periodically based upon actual program results.

- There is no evidence provided justifying Public Staff's proposed increase to $10/kW;
- The Companies' proposed $6.50/kW incentive amount is reflective of the avoided capacity benefits to the Companies from the proposed Control Events;
- An increase (and overpayment) for an incentive (as opposed to paying an incentive needed to move the market) would result in increased ratepayer costs (and overcharging of customers); and
- The Companies plan to consider a Battery Control Incentive based on the average amount of power discharged from a Customer's Battery (rather than the estimated Battery capability factor) in the future and after EM&V is complete. (They also note their belief that Cohort A's data will show a similar scenario with TOU rate usage).

That said, the Companies are agreeable to re-evaluating the Battery Control Incentive amount if customers are slow to participate in (and thus perhaps may need an increased incentive to join in) the DSM Programs and/or data from the DSM Programs supports doing so.

B. <u>The Companies Do Not Agree to Waive the Battery Control Incentive's Capability Factor Adjustment During the Pilot's First Year.</u>

As noted above, the Companies have proposed a Battery Control Incentive of $6.50/kW monthly incentive credit, which will be based on a Customer's Battery's nameplate continuous discharge capacity (as such is defined by the battery manufacturer) adjusted by a capability factor. In its initial comments, SEIA "recommends that the capability factor adjustment be waived for at least the first year to allow actual battery performance to inform whether an adjustment is warranted to adequately share the risk of performance among ratepayers and participants." *SEIA Initial Comments*, at p. 4. The Companies do not agree with that recommendation.

In doing so, they note the capability factor is an adjustment necessary from day one of the program in order to appropriately account for system and capacity unavailability. Further, an important element of the proposed DSM Program Modifications is to accurately value the Battery output with system benefits. This means the Companies must also incentivize appropriately when using ratepayers' money. Further, they note that it is important to start with the battery capability factor applied to the Battery Control Incentive so as to avoid reducing incentives for Year 2.

CONCLUSION

WHEREFORE, Duke Energy Carolinas, LLC and Duke Energy Progress, LLC respectfully request the Commission consider the foregoing reply comments and (1) approve the Applications for the Pilot (as modified by the above) to be effective no earlier than 150[20] days following such approval, and (2) approve the DSM Program Modifications (as modified by the above) to become effective no earlier than 150 days following approval.

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[20] The Pilot Applications requested that the Pilots become effective no earlier than 120 days following approval. With regard to the DSM Program Modifications, the Companies originally requested that they become effective no earlier than 180 days following approval. However, to allow the Pilot and the DSM Program Modifications to become effective during the same time period, the Companies now modify those requests (and seek for effective dates no earlier than 150 days following approval).

Respectfully submitted this the 11th day of September 2023.

s/Kathleen Richard
Kathleen Richard
Duke Energy Corporation
P.O. Box 1551/NCRH 20
Raleigh, North Carolina 27602
Telephone: (919) 546-6776
Email: kathleen.richard@duke-energy.com

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