

STATE OF NORTH CAROLINA UTILITIES COMMISSION RALEIGH

DOCKET NO. E-7, Sub 1261

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of)	
Application of Duke Energy Carolinas, LLC)	APPLICATION OF
for Approval of its PowerPair SM Solar and)	DUKE ENERGY CAROLINAS,
Battery Installation Pilot Program Pursuant to)	LLC FOR APPROVAL OF
the North Carolina Utilities Commission's)	POWERPAIRSM SOLAR AND
March 23, 2023, Order in Docket Nos. E-2, Sub)	BATTERY INSTALLATION
1287 and E-7, Sub 1261)	PILOT PROGRAM
)	

In compliance with the North Carolina Utilities Commission's ("Commission") March 23, 2023, Order in Docket Nos. E-2, Sub 1287 and E-7, Sub 1261 ("the Order") and pursuant to N.C. Gen. Stat. § 62-133.9 and the Commission's March 31, 2009, REPS Order in Docket No. E-7, Sub 873, Duke Energy Carolinas, LLC ("DEC," "Duke," "Company," or "Applicant") hereby applies to the Commission for approval of its PowerPairSM Solar and Battery Installation Program, a residential solar plus battery pilot program ("the Pilot Program") to be effective no earlier than 120 days following approval.¹ As outlined below, the Pilot Program will evaluate the operational impacts to the electric system of behind the meter residential solar plus energy storage, the cost-effectiveness of those impacts, and the role of residential solar plus storage in meeting applicable carbon reduction requirements.

¹ As explained below, DEC concurrently is seeking the Commission's approval in Docket No. E-7, Sub 1032 to modify its existing Power Manager program to include a new battery control option, which is an option in which it proposes certain Pilot Program participants must participate.

In support of this Application, the Company respectfully shows the Commission the following:

1. The Applicant's general offices are located at 410 South Wilmington Street, Raleigh, North Carolina, and its mailing address is:

Duke Energy Carolinas, LLC
P.O. Box 1006
Charlotte, North Carolina 28201-1006

2. The names and addresses of Applicant's attorneys are:

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3. By way of background, on March 23, 2023, the Commission issued the Order, directing the Company "to develop a pilot program" in accordance with the Order that will "evaluate operational impacts to the electric system, if any, of behind the meter residential solar plus energy storage." *Order*, at p. 5. *See also id.*, at p. 6 (Noting the pilot "should elucidate" the "potential operational costs and benefits" and "the cost-effectiveness of achieving any such operational benefits in light of the various provisions of the [Inflation Reduction Act ("IRA")]") The Commission further instructed that the "pilot should be instructive as to the potential role of residential solar

plus storage in meeting the carbon reduction requirements established by N.C. Gen. Stat. § 62-110.9 as well as the evolving and complex needs of the electric system.” *Id.*

4. The Commission ordered that the pilot satisfy the following requirements:

a. *Storage Requirement* - “Participants in the pilot would be required to install solar PV arrays paired with energy storage.” *Id.*, at p. 6. “At this time, the pilot would be available only to those residential customers who are installing solar PV for the first time.” *Id.*

b. *Requirement to Participate in Net Metering*

- Participation in NEM: “Participants would not be required to participate in Power Manager,”² but they “would be required to participate in net energy metering (NEM).” *Id.*, at p. 6.
- Two Participant Groups: To “maximize the information obtained from the pilot,” there “should be two groups of participants (cohorts):
 - One group of participants would be served under the time-of-use (TOU) rates approved by the Commission in its Order Approving Revised Net Metering Tariffs,

² The Order arose out of the Company’s application for approval of a Smart Saver Solar Energy Efficiency Program (“Smart Saver EE Program”). *See* Dkt. No. E-2, Sub 1287, at *Application*. That proposed Program aimed to encourage reductions in customers’ energy consumption from the grid and demand by strategically combining various design features, including a requirement that participants enroll in the Company’s winter-focused Power Manager Load Control Service Rider, which is also known as Bring Your Own Thermostat (“BYOT Program”). *Id.*, at pp. 1-3. *See also Order*, at p. 1 (Noting the Smart Saver EE Program’s requirement for participants to “participate for 25 years in” Power Manager and its BYOT Program).

The Commission, via the Order, declined to approve the Smart Saver EE Program. It then ordered the development of the pilot program. In doing so, the Commission noted that participants in the pilot program “would not be required to participate in Power Manager,” *id.*, at p. 6 – a statement presumably referring to Power Manager’s BYOT Program, which had been a key component of the proposed Smart Saver EE Program application.

Investigation of Proposed Net Metering Policy Changes, Docket No. E-100, Sub 180 (“NEM Order”). This group “would have complete control of the use of the energy storage device.” *Id.*

- The second group of participants “would be served under the Bridge Rate approved by the Commission in the NEM Order. Participants in this cohort must give the utility complete control over the energy storage device.” *Id.*

c. *Requirement for Participant Incentives:*

- Monetary Incentives:
 - “Participants will receive an incentive of \$0.36 per watt toward the customer’s cost of installing the solar PV array.” *Id.*
 - Additionally, DEC should establish “a monetary incentive for pairing with energy storage [that is] likewise based on the watt capacity of the battery.” *Id.*
 - DEC “should consider the impact of the IRA tax credits on the amounts of the participant incentives to be offered by Duke and include in its recommendation its conclusions as to that impact.” *Id.*, at p. 7.
- Limitation of Incentives: “Each participant’s incentives for the solar generative component would be limited to a maximum

installed capacity of ten kilowatts (kW) alternating current. The parties should discuss and recommend a similar maximum on the participants incentive for the battery component.” *Id.*

d. *Utility Cost Recovery*

- DEC is “authorized to recover all reasonable and prudent costs of the Solar+ participants incentives and program administrative costs by amortizing the total program incentives during a calendar year and administrative costs over a 20-year period, including a return component adjusted for income taxes at the utility’s overall weighted average cost of capital established in its most recent general rate case, to be included in the costs recoverable by” DEC through G.S. 62-133.8(h). *Id.*

e. *Eligibility Requirement* - The pilot “would be offered only to all-electric residential customers and to customers who use electricity for all purposes other than cooking.” *Id.*³

f. *Enrollment Requirements:*

- Enrollment Period; Maximum Annual Limit: The pilot “would be open to enrollment of participants for three years, and subject to a maximum annual limit of” 10,000 kW of solar generation

³ As noted above, the Company’s proposed Smart Saver EE Program required participants to join Power Manager’s BYOT Program. The BYOT Program is available only to certain electric customers. Thus, the proposed Smart Saver EE Program was only going to be available to electric customers and customers who are all-electric except for cooking purposes. *See* Dkt. No. E-2-, Sub 1287, at *Application*, at pp. 2-3. That requirement may have been carried over into the Order for the pilot program.

each year for DEC's participants. *Id.* "The parties should discuss and make a recommendation as to whether a similar maximum should be set for battery capacity." *Id.*

- Length of Participation: "Participants would be required to participate in the program for at least ten years. The parties should recommend a mechanism for the recovery of some portion of the participants incentives in situations where a participant does not participate in the program for at least ten years." *Id.*

g. *Requirement for Research Objectives* - "In addition to studying the operational impacts of residential solar paired with energy storage and the cost-effectiveness of achieving such impacts, Duke's research objectives should include a study of the accessibility of solar plus storage to different residential customer demographics." *Id.* "During the three-year open enrollment Duke should gather information such as participant income, family size, home ownership, urban/rural location, and pre-pilot/post-pilot electricity usage." *Id.*

h. *Reporting Requirement* - DEC shall "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." *Id.*, at p. 8.

5. In the Order, the Commission ordered the Company, “the Public Staff, and other interested parties” to develop a pilot program in accordance with its Order and “file such program for Commission approval within 90 days” (by June 21, 2023). *Id.*

6. Pursuant to the Order, the Company has developed the proposed Pilot Program. Notably, on May 15, 2023, the Company convened a broad stakeholder meeting with all parties to Docket Nos. E-2, Sub 1287, E-7, Sub 1261, and E-100, Sub 180 to garner feedback on the proposed pilot design elements. It subsequently convened multiple stakeholder meetings with subsets of the broader group and has received extensive comments and feedback about the Program from those stakeholders,⁴ the North Carolina Attorney General’s Office, and from Public Staff. The Company’s Application reflects comments and feedback received to date.

Purpose & Description of Pilot Program:

7. The purpose of the Pilot Program is two-fold: (1) to incentivize eligible residential homeowners to install solar panels and a battery storage system, which will help support carbon reduction, and (2), in compliance with the Commission’s Order, to analyze the operational impacts to the electric system of behind the meter residential solar plus energy storage, the cost-effectiveness of those impacts, and the role of residential solar plus storage in meeting applicable carbon reduction requirements.

8. In brief, the Pilot Program is available to eligible residential customers who install and operate a new solar photovoltaic electric generating system (“Solar Panels”) paired with a battery storage system (“Battery”) (collectively, “Installed Equipment”).

⁴ Those stakeholders include Solar Energy Industries Association (SEIA); Vote Solar; the Southern Alliance for Clean Energy (SACE); Sunrun; the North Carolina Sustainable Energy Association (NCSEA), Yes Solar Solutions; Sundance Power Systems, Inc.; and Southern Energy Management, Inc.

The Pilot Program will pay participants incentive amounts for the Solar Panels and Battery which will offset homeowners' costs of installing the equipment and thus make the switch to solar a more affordable and attractive option. It also will enable the Company to gain valuable insight and data regarding the operational impacts of behind the meter residential solar plus energy storage.

9. As outlined below and in the proposed tariff, the Pilot Program complies with the goals of the Commission's Order. To the extent that the Pilot Program deviates from the Order's requirements or adds requirements where the Order is silent, those proposals seek to enhance customer participation in the Program and thus the ability of the Company (and stakeholders and the Commission) to effectively study the operational impacts of residential solar paired with energy storage and the cost-effectiveness of those impacts. Furthermore, the Program – and each of its elements – will make solar more affordable for residential customers and thus will help support carbon reduction and promote a more sustainable energy future.

Requirements & Details of Program:

10. *Requirements for Installed Equipment:* The Pilot Program, per the Order, will be available to eligible residential customers who install and operate Solar Panels paired with a Battery storage system. The Installed Equipment must be installed by a Company-approved installer and will be subject to inspection and verification upon request by the Company.

In accord with the Order, participation in the Program is limited to customers who – in addition to meeting other requirements set forth below – are installing Solar Panels and a Battery storage system for the first time (which includes installations completed

no earlier than 90 days prior to submission of application to the Pilot Program). Thus, customers who are installing additional solar generation to an existing solar generation system are not eligible to participate in the Pilot Program.

The Order is silent about whether participants must own the Installed Equipment. The Company proposes that participants in the Pilot Program can either own (by outright purchase or financing) *or* lease the Installed Equipment. By allowing participants to own or lease the Installed Equipment, the potential pool of participants in the Pilot Program expands (which will result in a larger pool of research to achieve the Order's objectives). If participants lease the Installed Equipment, the Company will make available training for installers to promote clear communication of financial values of incentives and eligibility.

11. *Required NEM Participation:* In accord with the Order, participants in the Pilot Program will be required to participate in net energy metering (NEM).

12. *Two Cohorts:* As directed by the Order, the Pilot Program will have two groups of participants, Cohort A and Cohort B, which are defined as follows:

- a. Cohort A: Per the Order, this group of participants will be served under the TOU rates approved by the Commission in its NEM Order and they will have complete control of the use of the energy storage device.
- b. 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. Consistent with granting the Company control over the battery storage device, while still allowing customers to obtain value from this

substantial investment, Cohort B participants will be required to participate in a new demand response offering, which is outlined below.

The Company proposes that the Pilot Program's participants be split equally between Cohorts A and B (with 50% of participants belonging to Cohort A and the remaining 50% belonging to Cohort B). Additionally, it proposes a 20% minimum Cohort participation, and notes that it may suspend accepting new participation under the net metering riders associated with either Cohort in order to achieve the required minimum levels of participation under each.

The Company also proposes that customers may switch Cohorts after completion of 12 months in their originally selected Cohort, subject to availability.⁵ If customers make such a switch, immediately upon switching, they will be subject to applicable terms and conditions and eligibility requirements for continued participation in the Pilot Program.⁶ Switching between Cohorts will not affect the Contract Period (defined below).

The Pilot Program initially only will have Cohorts A and B. However, based on stakeholder feedback, the Company, in conjunction with those stakeholders, will develop and file a request for additional pilot groups (such as income qualified customers, customers dependent on medical devices, or other targeted participants)

⁵ The Company proposes that a switch only may occur after 1 year of participation in the original Cohort as that time period will enable the Company to obtain valuable research data from the consumer's participation (and any differences between participation) in the Cohorts.

⁶ The Order does not address whether participants may switch Cohorts. Customer needs may shift and evolve over time. Based on that and on stakeholder feedback, the Company (subject to the above limitations) proposes allowing customers to switch cohorts if a switch best suits their needs.

within twelve (12) months after the implementation and launch of the Pilot Program (if approved).

13. *Cohort B's Mandatory Participation in Power Manager's Battery Control Option:* Per the Order, Cohort B participants “must give the utility complete control over the energy storage device.” *Order*, at p. 6. The Company interprets that provision to mean that Cohort B must give the utility significant demand response control over the Battery storage device, while not eliminating the value underlying the customer’s investment in the device. To satisfy that requirement, the Company proposes that Cohort B participants be enrolled in a new demand response offering for customer-owned storage resources, which will be known as “Battery Control” and will be a new demand response measure within a modified Power Manager tariff.⁷

The Company has a number of existing residential demand response measures, which all fall under the umbrella of its Commission-approved Power Manager tariff.⁸ Power Manager is a residential program that uses smart technology to reduce and effectively shift power consumption used by major appliances in customers’ homes (such as central air systems) during times of unusually high electricity demand. In a separate filing, the Company is seeking Commission approval to modify Power

⁷ Cohort B will not be required to participate in any other Power Manager program, such as the BYOT Program.

⁸ The Commission rejected requiring participants in the pilot program to join Power Manager. However, that rejection presumably stemmed from the Company’s proposal that Smart Saver EE Program participants join Power Manager’s *BYOT Program*. Significantly, as noted above, the Company’s Pilot Program does not include any BYOT Program requirement (or involve smart thermostats). Instead, it is requiring that Cohort B participants – in accord with the Order – be subject to utility control of their Battery storage systems. The Company is proposing to create a new program, Battery Control, under the umbrella of Power Manager, to accomplish that control.

Manager, effective no earlier than 180 days from approval, to include the new Battery Control program.

Through Battery Control, participants, including Cohort B, will give the Company control of their Batteries, allowing the Company to remotely dispatch the Batteries. To provide a high-quality participant experience, the Company proposes that, under Battery Control, it or a third party would be able to control customer Batteries up to 18 times per winter control season (during the months of December through March); up to 9 times per summer control season (during the months of May through September); and up to 9 times in the remaining months (collectively, referred to as “Control Events”). A Control Event is defined as the initiation of a signal to control the Battery and, within 48 hours later, discharging it. The Company will not discharge the Battery below a 20% state of charge. The Company also reserves the right for interruption outside of these parameters in the event continuity of service is threatened.

Not only will Battery Control enable the Company to exert the requisite control over Cohort B’s Batteries, but it also will allow for accepted, transparent reporting to help accomplish the Order’s research goals.

To encourage prolonged participation in Cohort B (and customers’ granting to the utility control over their Battery storage systems),⁹ Cohort B participants – by virtue of participating in Battery Control – will receive an additional monetary incentive of \$6.50/kW (nominal/continuous output) adjusted by a flat battery capability factor per month (“Battery Control Incentive”).

⁹ Customers may be hesitant to turn over control to the utility. The Battery Control Incentive may overcome such hesitation.

14. *Additional Eligibility Requirements:* In addition to the requirements noted above, customers must comply with the following to be eligible for either Cohort of the Pilot Program:

- a. The customer must be installing solar generation and a battery storage system at the premises for the first time. Customers who are installing additional solar generation to an existing solar generation system are not eligible to participate in the Pilot Program. The customer must agree to and comply with all of the Pilot Program's terms and conditions.
- b. The maximum export to the grid from the customer's energy system, including, but not limited to, the Installed Equipment, must not exceed 20 kW-AC at any time.
- c. The customer must own the premises, including access and rights to the location, on which the Installed Equipment is located, and Installed Equipment must be located on Customer's owned premise.¹⁰
- d. The customer's Battery must comply with interconnection standards and maintain internet connectivity in order to track usage data. Approved Battery models will be posted on the Company's website.

15. *Customers May Have Electric or Gas Heating Systems:* Although the Order states that the pilot should be "offered only to all-electric residential customers and to customers who use electricity for all purposes other than cooking," the Company, based

¹⁰ The Order is silent regarding whether home ownership is a requirement of the Pilot Program. However, the Company submits that ownership is consistent with the Order's objective to have participants be in the Program for at least ten years.

on outside stakeholders' prompting, proposes that the Pilot Program be available to customers with electric or gas heating systems.

In doing so, it notes that the Company's proposed Smart Saver EE Program proposed an electric heat limitation only because that program required installation and use of an electrical smart thermostat. *See* Dkt. No. E-7-, Sub 1261, at *Application*, at pp. 2-3. Here, the Pilot Program does not involve any similar BYOT requirement. Furthermore, the Company contends that an electrical heat limitation would inappropriately restrict and limit the participant pool and thus the research data from this Program. Stated differently, allowing gas heat customers to participate will ensure a wider participation in the Pilot Program and result in an expansion of the data available to achieve the Order's research objectives.

16. *PowerPairSM Incentive Payment*: Pursuant to the Order, the Pilot Program will provide the following one-time monetary installation incentives ("PowerPairSM Incentive") for both Cohorts:

- **\$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 ("PowerPairSM 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 ("PowerPairSM Incentive for Battery").

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

The Order limits the PowerPairSM Incentive for Solar to a maximum installed capacity of 10 kW-AC and suggests a “similar maximum” for the PowerPairSM Incentive for the Battery. As noted above, the Company proposes that the PowerPairSM Incentive for Battery be limited to a maximum installed capacity of 13.5kWh. That capacity represents the standard installed Battery capacity consumers utilize in conjunction with the Solar Panels envisioned by the Order (e.g. with an installed capacity of 10 kW-AC). Thus, the Company contends that allowing the Incentive Payment for the Battery to extend up to that standard installed capacity is not only reasonable, but equitable.

To receive a PowerPairSM Incentive payment, the customer must submit a Certificate of Completion indicating that installation of the Solar Panels and Battery is complete, and the Company shall confirm that billing under the applicable net metering rider has commenced. The customer must also complete an enrollment process to provide the Company access to operating data for the Installed Equipment. The installation completion will be determined based on the Operational Date of the Installed Equipment, and it may be no earlier than 90 days prior to submission of an application and no later than 270 days following notification of the PowerPairSM Incentive allocation (“PowerPairSM Reservation”).

Assuming satisfaction of those requirements, the Company will provide to the Customer the PowerPairSM Incentive.

17. *Impact of IRA Tax Credit on Participants:* Customers may qualify for United States federal tax credits, such as the IRA tax credit, as a result of installing the

Installed Equipment. Per the Order's instruction, the Company has considered the impact of the IRA tax credits on the amounts of the PowerPairSM Incentive.

18. *Cost & Savings after Incentives and IRA:* The Installed Equipment (assuming Solar Panels of 10kW-AC and a Battery of 13.5 kWh) is estimated to cost approximately \$30,000.00. However, as shown by the below illustrative calculations,¹² that cost is likely almost halved by the value of the Pilot Program's incentives and the IRA tax credit, subject to the assumptions:

- Cohort A: Following the Pilot Program's incentives and IRA tax credit, the Installed Equipment will cost approximately \$16,000.00 for Cohort A participants:

\$30,000 (systems cost)
- \$3,600 (PowerPair SM Incentive for Solar Panels)
- \$3,240 (PowerPair SM Incentive for the Battery)
- <u>\$7,200 (IRA tax credit)</u>
\$15,960 (remaining cost of systems)

Thus, in this example, this Cohort may obtain savings of approximately \$14,000 (plus TOU savings).

- Cohort B: Following the incentives and IRA tax credit, the Installed Equipment will cost approximately \$11,300.00 for Cohort B participants:

\$30,000 (system cost)
- \$3,600 (PowerPair SM Incentive for Solar Panels)
- \$3,240 (PowerPair SM Incentive for the Battery)

¹² These are examples for illustration purposes only.

-\$4,700 (Battery Control Incentive over 10 years)

- \$7,200 (IRA tax credit)

\$11,260 (remaining cost of system)

Thus, in this example, Cohort B may obtain savings of approximately \$18,700.

19. *Enrollment Period / Maximum Annual Limit:* Per the Order, the Pilot Program will be open to enrollment of participants for three years.

The Order provides that the Pilot Program should be “subject to a maximum annual limit of 10,000 kW of solar generation each year” for the Company’s participants. *Order*, at p. 7. However, external stakeholders requested that the Pilot Program not include such a yearly limitation; they instead requested the Company permit a 30,000 kW capacity immediately in order to avoid stops and starts in the market and more quickly boost and expand participation. The Company thus proposes that total participation in the Pilot Program be limited to no greater than 30,000 kW-AC of Solar Panels (and not include a 10,000 kW annual limitation). If and when that participation limit is met, no additional customers will be enrolled in the Pilot Program. The Company notes that immediately opening the Pilot Program up to full Solar Panel capacity will permit the Program to expand quickly (and enlarge its research data) if there is significant, early participation interest.

The Order states that the “parties should discuss and make a recommendation as to whether a similar annual maximum should be set for battery capacity.” Rather than recommend a jurisdictional battery capacity maximum, the Company recommends a maximum incentivized jurisdictional capacity (up to 13.5 kWh per participant). It

believes that capping the jurisdictional incentive will effectively impact the jurisdiction's battery capacity.

20. *Application Requirements & Enrollment Process:* As indicated above, participation in the Pilot Program is at the Company's discretion and subject to capacity and participation limits. In order to apply for and request service under the Pilot Program, customers must complete and submit an application on the Company's website ("Application").

Applications must state the nameplate capacity in kW-AC for the Solar Panels and in kW-DC and kWh for the Battery for which the PowerPairSM Incentive is sought.

Customers may submit Applications for the Pilot Program no earlier than the first day of the Application period – the date for which will be posted on the Company's website with at least thirty days' notice. The Company will accept applications for an initial four-week period. During that period, the Company will review submissions for eligibility and work with customers to resolve issues with their application.

If eligible Applications exceed the participation limit (described above), the Company will enter them into the random selection process ("RSP"). Under the RSP, Applications will be assigned a place in line at random using an analytical software. Applications will then receive a PowerPairSM Incentive allocation ("PowerPairSM Reservation") or be placed on a waiting list. The Company will send communications to customers informing them of their placement and post the waitlist to the Company's website no later than six weeks after the opening date of the Application period. After communications are sent, a second Application period will open through the end of the

three-year enrollment window. Applications received in the second application period will be added to the waiting list in first come, first served order.

If eligible Applications do not exceed the participation limit in the initial Application period, the Company will continue to accept Applications through the end of the three-year enrollment window. In this case, PowerPairSM Incentives will be allocated to eligible Applications on a first come, first served basis. If the participation limit is met, Applications will be placed on a waiting list in the order they are received.

The Company may stop accepting new Applications before the end of the three-year enrollment window if it becomes evident that the waiting list is too long for new Applications to have a reasonable probability of receiving a PowerPairSM Incentive allocation. Waitlisted customers who are not allocated unused capacity by the end of the three-year enrollment window will have their Applications cancelled.

Customers who apply prior to installation of the Solar Panels and Battery must complete the installation within 270 days following Company notification of the PowerPairSM Reservation. If a customer receives a PowerPairSM Reservation but does not complete installation within 270 days, then the customer's application and PowerPairSM Reservation will be cancelled, and the resulting unused PowerPairSM Incentive capacity will be re-allocated to customers on the waitlist.

21. *Required Length of Participation:* In accord with the Order's directive, participants will be required to participate in the program for at least ten years (or 120 months) from the date of the PowerPairSM Incentive Payment ("Contract Period").

As indicated by the Order, there will be an early termination consequence. If any portion of the Installed Equipment is removed or if the customer fails to comply with

any of the Pilot Program's requirements within the Contract Period, an early termination charge may apply unless the termination is for good cause ("Early Termination Charge"). Good cause includes any act or circumstance resulting in early termination, which is beyond the control of the Customer, and includes circumstances where the Customer sells the home where the Installed Equipment is installed. The Early Termination Charge shall be equal to one minus the number of months since initial participation divided by 120 multiplied by the applicable PowerPairSM Incentive:

$$1 - (\# \text{ of Participating Months} / 120) * \text{PowerPair}^{\text{SM}} \text{ Incentive}$$

The Company reserves the right to terminate service and request repayment of the PowerPairSM Incentive payment at any time upon written notice to the customer if the customer intentionally violates any of the terms or conditions of this Pilot or operates the Installed Equipment in a manner which is detrimental to the Company and/or its customers and fails to correct such operation. The Company may also terminate service under this Pilot and request repayment of the PowerPairSM Incentive payment if the Customer intentionally misstates or misrepresents the operating capacity or operating characteristics of the Installed Equipment during the Contract Period.

22. *Inoperable Equipment:* If any portion of the Installed Equipment is rendered inoperable within the Contract Period, the customer may be assessed a monthly charge after a 90-day grace period ("Inoperable Equipment Monthly Charge"). Operable systems require a reliable and functioning internet connection and must be capable of generating electricity (Solar Panels) and storing electricity (Battery). The Inoperable Equipment Monthly Charge shall be equal to the total PowerPairSM Incentive payment amount divided by the total number of months in the term (120

months). The Inoperable Equipment Monthly Charge shall continue to be assessed until such time as the Installed Equipment is rendered operable again or until the end of the Contract Period. If the customer's Installed Equipment remains inoperable for a continuous 12-month period beyond the grace period, the customer may be removed from the Pilot Program and assessed an Early Termination Charge,

23. *Educational Sessions:* DEC and installers will work collaboratively to host educational sessions for installers on battery safety and permitting issues so they in turn can educate customers on those topics. DEC will include costs for such sessions in the Pilot Program's administration costs.

24. *Operating Data:* In accordance with the research objectives of the Order, by participating in the Pilot Program, the customer will: (a) grant the Company and, if applicable, a third party working on the Company's behalf, rights to access and use all data associated with operation and operating characteristics of Installed Equipment, and (b) agree to complete the steps necessary to provide access to Installed Equipment through the Company's designated process.

25. *Research Objectives:* As directed by the Commission's Order, the Company will utilize the operating data from customers in the Pilot Program, 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, it, 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.¹³

26. *Reporting:* Pursuant to the Order and REPS, DEC will file with the Commission annual status reports on the Pilot Program which will include pilot data and information to the extent available in accordance with the research objectives of the Order. It also will file a final report that includes robust discussion and analysis of the data and information gathered through the Program. The Company will work with stakeholders on an agreeable reporting structure and those reports' content.

27. *Utility Cost Recovery:* Per the Order and the REPS Order,¹⁴ DEC proposes that the Commission allow it to recover all reasonable and prudent costs of the Pilot Program incentives and program administrative costs by amortizing the total program incentives during a calendar year and administrative costs over a 20-year period, including a return component adjusted for income taxes at the utility's overall weighted average cost of capital established in its most recent general rate case, to be included in the costs recoverable by DEC through G.S. 62-133.8(h).

28. As highlighted above, the Pilot Program substantially satisfies the Order's requirements for a pilot program to "evaluate operational impacts to the electric system" of "behind the meter residential solar plus energy storage," *Order*, at p. 5.

¹³ The Company notes that some stakeholders have suggested the collection of other information, such as participant race, income and family size. However, due to concerns over invasiveness and unreliability, the Company does not plan to gather such information.

¹⁴ The REPS Order authorized the Company to use deferral accounting for REPS costs and to "use Account 182.3 for recording incremental REPS costs, as well as Accounts 254, 407.3, and 407.4, as necessary, for the ongoing deferral accounting." *REPS Order*, at p. 1-2.

29. However, the Company respectfully requests that the Commission, in authorizing the Pilot Program, allow it to deviate from the Order in the following few ways:

- a. Allowing the Incentive Payment for the Battery to be limited to a maximum installed capacity of 13.5kWh;
- b. By authorizing a requirement for Cohort B participants to join the modified Power Manager Program's Battery Control option;
- c. By permitting the Pilot Program to be available to customers with electric or gas heating systems; and
- d. By allowing the Company to immediately open the Pilot Program to a maximum limit of 30,000 kW of solar generation.

The Company submits that Commission approval of these reasonable deviations will not interfere with – but rather will complement – the objectives of the Order by enabling the Company to have control over Cohort B's Battery storage system and expanding the scope of potential participants and research results gleaned from the Program.

30. The Company has attached hereto as Exhibit 1 the proposed tariff for the Pilot Program.

31. The Company has attached hereto as Exhibit 2 the proposed terms and conditions for the Pilot Program.

WHEREFORE, DEC respectfully requests that the Commission:

1. Permit the Pilot Program to deviate from the requirements of the Order in the following ways:

- a. Allowing the Incentive Payment for the Battery to be limited to a maximum installed capacity of 13.5kWh;
 - b. By authorizing a requirement for Cohort B participants to join the modified Power Manager Program's Battery Control option;
 - c. By permitting the Pilot Program to be available to customers with electric or gas heating systems; and
 - d. By allowing the Company to immediately open the Pilot Program to a maximum limit of 30,000 kW of solar generation;
2. Approve the Pilot Program as outlined above and in the tariff attached hereto as Exhibit 1, effective no earlier than 120 days following approval;
3. Allow the Company to recover all reasonable and prudent costs of the Pilot Program incentives and program administrative costs by amortizing the total program incentives during a calendar year and administrative costs over a 20-year period, including a return component adjusted for income taxes at the utility's overall weighted average cost of capital established in its most recent general rate case, to be included in the costs recoverable by DEC through G.S. 62-133.8(h); and
4. Provide any other relief deemed just and reasonable by the Commission.

Respectfully submitted, this the 21st day of June 2023



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