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December 12, 2022

VIA ELECTRONIC FILING

Ms. Shonta Dunston
Chief Clerk
North Carolina Utilities Commission
4325 Mail Service Center
Raleigh, North Carolina 27699-4300

**RE: Duke Energy Carolinas, LLC's Application for Approval of Vehicle-
to-Grid Pilot Program
Docket No. E-7, Sub 1275**

Dear Ms. Dunston:

Enclosed for filing in the above-referenced docket is Duke Energy Carolinas, LLC's Reply Comments.

Please do not hesitate to contact me if you have any questions or need additional information.

Sincerely,

A handwritten signature in black ink that reads "Kendrick C. Fentress". The signature is written in a cursive, flowing style.

Kendrick C. Fentress

Enclosures

cc: Parties of Record

OFFICIAL COPY

Dec 12 2022

**STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH**

DOCKET NO. E-7, SUB 1275

In the Matter of
Application by Duke Energy Carolinas,)
LLC for Approval of Electric Vehicle-to-)
Grid Pilot Program Pursuant to N.C. Gen.)
Stat. § 62-133.9 and Commission Rule R8-)
68

**DUKE ENERGY CAROLINAS, LLC’S
REPLY COMMENTS**

NOW COMES Duke Energy Carolinas, LLC (“DEC” or the “Company”) pursuant to Commission Rule R8-68(d)(2) and respectfully submits its reply comments in response to initial comments made by the Public Staff – North Carolina Utilities Commission (“Public Staff”) and Vote Solar on the Company’s pending Electric Vehicle-to-Grid Pilot Program (“V2G Pilot”). Both parties recommend overall that the Commission approve the V2G Pilot; no parties recommended that the Commission disapprove the V2G Pilot. The Company’s Reply Comments, therefore, respond to certain of the Public Staff’s and Vote Solar’s specific recommendations in their respective initial comments.

BACKGROUND

1. On August 16, 2022, DEC, pursuant to North Carolina General Statute (“N.C. Gen. Stat.”) § 62-133.9 and North Carolina Utilities Commission (the “Commission”) Rule R8-68, filed its proposed application for approval (“Application”) of its V2G Pilot as a new demand-side management (“DSM”) program. As noted in the Company’s Application, the V2G Pilot is to learn more about managing peak load conditions using electric vehicle (“EV”) batteries through evaluating: (i) the bi-directional V2G technology, (ii) the availability and performance of EV batteries, and (iii) the impact on battery life and functionality. Importantly, this V2G Pilot will also

provide valuable insights on customers' willingness to allow control of their respective EV batteries.

2. On September 13, 2022, the Public Staff filed a motion to extend the September 15, 2022 deadline for filing comments pursuant to the Commission Rule R8-68(d)(2).

3. On September 16, 2022, the Commission granted the Public Staff's motion and required that comments be filed by November 14, 2022.

4. On November 14, 2022, the Public Staff filed its Comments. Also on November 14, 2022, Vote Solar timely petitioned to intervene in this docket and also filed Comments.

5. On November 21, 2022, DEC filed a motion to extend the time to file its Reply Comments until December 12, 2022, which the Commission allowed by order issued November 28, 2022.

REPLY COMMENTS

I. Public Staff

6. In its Comments, the Public Staff reported that the Company's filing satisfied Commission Rule R8-68(c) and that it was consistent with N.C. Gen. Stat. § 62-133.9, Commission Rule R8-68(c), and the Commission's *Order Approving Revisions to Demand-Side Management and Energy Efficiency Cost Recovery Mechanisms*, issued on October 20, 2020 in Docket No. E-7, Sub 1032. The Public Staff recommended approval of the V2G Pilot as a new DSM Pilot pursuant to Commission Rule R8-68. (Public Staff Comments at 11.)

7. The Public Staff also recommended that the Company file an Evaluation, Measurement, and Verification ("EM&V") Plan as soon as it becomes available, but not later than 90 days following implementation of the V2G Pilot. (Public Staff Comments at 12.) The Company

agrees with this recommendation and will file an EM&V Plan at the Commission as soon as possible, but not later than 90 days following implementation of the V2G Pilot.

8. The Public Staff also recommended that the Commission require DEC and the Public Staff to jointly develop a reporting template and to file the template prior to implementation of the Pilot. The Public Staff recommended that the Company file such a report on a quarterly basis.

9. The Company and the Public Staff were able to successfully complete work on a reporting template prior to the filing of these Reply Comments. On December 2, 2022, the Public Staff and DEC met to jointly develop a reporting template based on the recommendations in the Public Staff's Comments. (Public Staff Comments at 10-11.) The Public Staff and DEC have agreed that the Reporting Template should reflect the following:

Reporting Template

The Company will file the first report nine (9) months from the date of the Commission Order approving the V2G Pilot, and every six (6) months thereafter. The first report will include information for the first 6 months of the V2G Pilot. The Company will include the information below for each event (12 events per report):

- Number of participants/vehicles available during each event;
- Number of participants/vehicles unavailable during the event, including when the vehicle becomes unavailable during the event (beginning, middle or end of event);
- EV battery kilowatt capacity received during each event;
- Any observed rebound or spikes in charging load following the conclusion of each event;
- Any issues with receiving charging information, inability to discharge the battery, or other pertinent information on telematic system performance and functionality;

- Incentives conveyed to customers each month (both through lease reductions and payment of annual vehicle availability incentives);
- Individual participation statistics including:
 - Total number of participants as of the first day of each month;
 - Total new participants;
 - Total participants removed from the V2G Pilot; and
 - Reasons why participants were removed from the V2G Pilot; and
- Any other information, including factors impacting customer acceptance of the terms and conditions of the Pilot, that will inform future commercialization of the V2G Pilot.
- Information that may be related to managed charging options or distribution system conditions (reliability, quality of service, etc.,) that warrant response from the Company may also be included as it becomes available for review.

Based on the foregoing, the Company requests that the Commission approve this Reporting Template as appropriate for use if the V2G Pilot is approved.

II. Vote Solar

10. Like the Public Staff, Vote Solar filed Comments supporting approval of the V2G Pilot. Vote Solar additionally recommended that the Commission add two supplemental elements to DEC's proposed V2G Pilot. These supplemental elements were intended to enable evaluation of the V2G Pilot performance at the feeder level as a hosting capacity constraint mitigation tool. These additional elements were that DEC should:

- Report on V2G pilot participation kW reduction performance at the feeder and substation level, using anonymized customer data.

- Use one test event in summer and one test event in winter to test the ability for V2G discharging to mitigate distribution constraints.

11. Vote Solar then offered that if any participants were on a feeder experiencing reverse power flow issues or other capacity constraints, these participants should be used. If no participants were on a constrained feeder, DEC should perform modeling to analyze how the actual participant V2G performance would have affected a feeder with reverse power flow and other capacity constraints.

12. Representatives of the Company met with representatives of Vote Solar to discuss its proposed additions to the V2G Pilot's scope. Although the Company appreciated the discussion with Vote Solar, the Company and Vote Solar were unable to reach agreement on the necessity or advantage of adding the two new, proposed elements to the V2G Pilot.

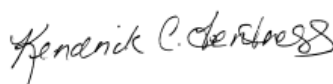
13. Put simply, the Company tailored its V2G Pilot specifically to allow the Company to assess the potential system benefits, technical capability, and customer willingness to allow a utility to leverage electric vehicle batteries in the framework of demand response. The V2G Pilot was not designed to, nor does it have the necessary scope to, provide learnings specific to locational values and impact on distributed energy resource ("DER") integration capabilities. While the Company may be able to collect some locational information regarding participants in the V2G Pilot, given the small scale of the pilot, the broader applicability of any data will likely be limited. In its *Order Approving Electric Transportation Pilot, In Part*, issued on November 24, 2020 in Docket Nos. E-2, Sub 1197 and E-7, Sub 1195 ("Phase I EV Order"), the Commission directed the Company to be mindful of the proper scale and scope of EV Pilots so that it may "test a concept at a smaller scale." (Phase I EV Order at 20.) Thus, the Company has designed this pilot to obtain specific data on the goals listed above.

14. Additionally, with the small number of intended participants (fewer than 100), the Company is concerned publishing locational data publicly could potentially compromise the ability to ensure the privacy of participants and possibly implicate the Company's Code of Conduct, which limits the Company's ability to share potentially competitively sensitive non-public customer usage data, even when anonymous and aggregated.¹

15. Although the Company does not agree that Vote Solar's proposed supplemental elements are necessary or helpful to accomplishing this Pilot's purpose, the Company will commit to use any lessons learned and applicable data collected regarding location of participants to inform its work with stakeholders to develop any future V2G programs that could inform the future calculation location values and DER integration capabilities.

Based on the foregoing, the Company respectfully requests that the Commission issue an order approving the V2G Pilot as a new DSM Pilot consistent with N.C. Gen. Stat. § 62-133.9, Commission Rule R8-68 and the Mechanism and approve the Reporting Template developed by the Public Staff and the Company as appropriate for reporting on the V2G Pilot.

Respectfully submitted, this the 12th day of December, 2022.



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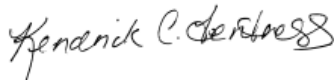
ATTORNEY FOR DUKE ENERGY CAROLINAS, LLC

¹ On pages 45-51 of Appendix A of the Commission's *Order Granting Motion to Amend Regulatory Conditions*, issued Aug. 24, 2018, in Docket Nos. E-2, Sub 1095A, E-7, Sub 1100A, and G-9, Sub 682A, the Code of Conduct restricts the Company's ability to disclose non-public energy usage data specific to a customer or group of customers.

CERTIFICATE OF SERVICE

I certify that a copy of Duke Energy Carolinas, LLC's Reply Comments, in Docket No. E-7, Sub 1275, has been served by electronic mail, hand delivery, or by depositing a copy in the United States Mail, 1st Class Postage Prepaid, properly addressed to parties of record.

This the 12th day of December, 2022.



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