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January 6, 2023

VIA ELECTRONIC FILING

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

**Re: Duke Energy Carolinas, LLC and Duke Energy Progress, LLC's
Second Joint Status Report on Phase II Pilot Programs and Motion
for Authorization to File Additional Update
Docket Nos. E-7, Sub 1195 and E-2, Sub 1197**

Dear Ms. Dunston:

Enclosed for filing in the above-referenced dockets is Duke Energy Carolinas, LLC and Duke Energy Progress, LLC's Second Joint Status Report on Phase II Pilot Programs and Motion for Authorization to File Additional Update.

If you have any questions, please do not hesitate to contact me.

Sincerely,

Kendrick C. Fentress

Enclosure

c: Parties of Record

OFFICIAL COPY

Jan 06 2023

STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH

DOCKET NO. E-7, SUB 1195
DOCKET NO. E-2, SUB 1197

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of:

Application by Duke Energy Carolinas, LLC, and Duke Energy Progress, LLC, for Approval of Proposed Electric Transportation Pilot)	SECOND JOINT STATUS REPORT OF DUKE ENERGY CAROLINAS, LLC AND DUKE ENERGY PROGRESS, LLC ON PHASE II PILOT PROGRAMS AND MOTION FOR AUTHORIZATION TO FILE ADDITIONAL UPDATE
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NOW COME Duke Energy Carolinas, LLC (“DEC”) and Duke Energy Progress, LLC (“DEP”) and together with DEC, “Duke” or the “Companies”) by and through counsel, and, pursuant to the Commission’s December 2, 2022 *Order Accepting Filing of Report on Development of Phase II Pilot Programs And Setting Date for Second Report*, in the above-captioned dockets, and the Commission’s July 13, 2022 *Order Allowing Withdrawal of Proposed Customer Operated Electric Vehicle Supply Equipment Pilot Programs and Extending the Time for Developing Remaining Phase II Pilot Proposals* (“Phase II Pilot Status Report Order”), in the above-captioned Docket Nos. E-2, Sub 1197 and E-7, Sub 1195 (“ET Dockets”), and submit this Second Joint Status Report on the Companies’ Phase II Electric Transportation Pilot (“Phase II Pilot”) programs.

On March 29, 2019, the Companies filed an application in the ET Dockets, pursuant to N.C. Gen. Stat. § 62-140, requesting approval of seven proposed electric transportation pilot (“ET Pilot”) programs. After receiving comments and reply comments and

conducting a hearing, the Commission issued an *Order Approving Electric Transportation Pilot Programs, In Part* (“ET Pilot Order”). The ET Pilot Order approved the Companies’ proposed Public Level 2 Fast Charging pilot and approved, on a modified scale, the Companies’ proposed Electric Vehicle School Bus, Direct Current Fast Charging, and Multi-Family Dwelling Charging pilots (collectively, “Phase I Pilots”). The ET Pilot Order approved the framework for the modified ET Pilot programs, declined to approve four other pilot programs, and directed Duke and the parties to these dockets to engage in stakeholder collaborative discussions about the structure and implementation of the approved programs. The ET Pilot Order also required Duke to file within six months Duke’s proposed Phase II ET Pilot Programs.

Consistent with the ET Pilot Order, on May 24, 2021, the Companies filed an application requesting approval of proposed Phase II Pilot programs, proposing four Phase II Pilots. As stated in the application, the “Phase II Pilot Programs are designed, after approximately six months of engagement with, and input from, the Electric Transportation Stakeholder group (“ET Stakeholder Group”) to comport with the Commission’s ET Order and to provide valuable feedback on how best to help North Carolina reach Executive Order No. 80’s (“EO 80”) goal of 80,000 zero emission vehicles on North Carolina roads by 2025.”¹

On February 21, 2022, the Commission issued an *Order Requiring Further Collaboration and Report on Proposed Phase II Pilots* (“Phase II Pilot Order”). This Order directed Duke to continue working with the Electric Transportation Stakeholder Group (“ETSG”), and to refine and modify its Phase II Pilots to take into consideration the

¹ Executive Order No. 80, North Carolina’s Commitment to Address Climate Change and Transition to a Clean Energy Economy, Oct. 29, 2018.

possibility of receiving direct funding under the Infrastructure Investment and Jobs Act (“IIJA”), H.R. 3684, 117th Cong. (2021), enacted on November 15, 2021, and/or other recently available sources of federal funds. In addition, the Commission directed Duke to file a report within 90 days updating the Commission on its progress on these directives.

On May 11, 2022, the Companies filed a Joint Motion to Withdraw Customer Operated Electric Vehicle Supply Equipment Pilots from Phase II Pilot Proposals and to Hold Phase II Pilot Dockets in Abeyance (“Joint Motion”). The Commission issued its Phase II Pilot Status Report Order.

Consistent with the Phase II Pilot Status Report Order, the Companies withdrew their proposed electric vehicle supply equipment (“EVSE”) Pilots for DEC and DEP respectively. On August 15, 2022, the Companies filed them for approval not as Pilots, but as standalone programs, in the above-captioned dockets. That application remains pending.

Additionally, on August 16, 2022, DEC filed an application for approval of a vehicle to grid (“V2G”) pilot in Docket No. E-7, Sub 1275. This application remains pending as well.

The Companies also have approved Managing Charging Pilots for EVs in Docket Nos. E-2, Sub 1291 and E-7, Sub 1266. Those Managed Charging Pilots are intended to increase knowledge of managed charging and to test novel technology, customer acceptance, complex cost of service-based price signals and the integration of managed charging into system resources. One feature of the Managed Charging Pilots is that Duke will partner with automotive original equipment manufacturers, (“OEMs”) to test the Open Vehicle Grid Integration Platform (“OVGIP”). The OVGIP, owned and operated by the

OEMs, establishes a two-way utility interface that applies utility industry communication standards and provides interoperability with the OEMs' vehicle telematics application.

UPDATE ON ELECTRIC VEHICLE PHASE II PILOTS

For the Commission's convenience, the Phase II Pilots include the following:

- **Public L2 Phase II Pilot.** Pilot is intended is to develop and maintain publicly accessible L2 EV charging stations to support EV adoption and serve Duke's customers. For the L2 Phase II Pilot, the Companies had proposed 160 ports.
- **Multi-Family Level 2 Phase II Pilot.** Multi-family locations will include apartments, condominiums, and retirement homes. For this component of the Phase II Pilot, the Companies had proposed 160 ports.
- **Highway Corridor Fast Charging.** The Companies also intend to install 80 fast chargers for highway corridor fast charging across their service territories.
- **EV School Bus Program.** In Phase II, the Companies propose a deployment of approximately 4-6 buses at 10-15 sites for a total of 60 buses.

The Companies continue to work with the ETSG, with an ongoing focus on meeting the needs of underserved communities, to refine and modify its Phase II Pilots. The most recent ETSG meeting was held on September 29, 2022, and the next meeting will be held in January 2023.

The Companies continue to support and track progress of the NC IJA programs, most notably activity related to National Electric Vehicle Infrastructure ("NEVI") funding. To that end, at the request of the North Carolina Department of Transportation ("NC DOT"), the Companies presented on best practices and engagement for prospective market recipients of IJA funding on October 18, 2022. Using their experiences and lessons learned from Phase I, the Companies have been able to provide input on challenges such as supply chain, securing contracts with site hosts and on how the details of EV charger components can impact the need for driver education. The Companies also continue to engage with NC DOT on critical items such as designing efficient processes for NEVI site capacity inquiries. NC DOT continues to work toward release of solicitations

for the first phase of NEVI sites. The Companies also look forward to Spring 2023 stakeholder engagements, to be led by NC DOT, to begin design for deployment of excess NEVI funds to underserved communities, consistent with the Companies' goals that all North Carolinians have access to electric transportation options.

The Companies were regular working group participants in the development of the Clean Transportation Plan ("CTP"), and they continue their support. The CTP is expected by April 7, 2023, with a draft available for comment in February of 2023. Most recently, the Companies met with NC DOT on December 15, 2022. The Companies shared lessons learned and observations from programs and activity across the Duke Energy footprint, on topics such as, education and frequently asked questions about EVs, the importance of simplifying adoption, rate structures/EV charging load management and considerations/structures that will enable medium- and heavy-duty as well as large fleet electrification. Because these planning efforts still anticipate critical milestones, the Companies are as yet still unable to fulfill the Commission's order to reconsider the Phase II pilot programs meaningfully in the context of how they may be complementary to current state & federal activity.

UPDATE ON PHASE I PILOTS

The Companies are now able to provide a significant progress report on Phase I as well as operating data on the public charging infrastructure portion of the Pilots.

A. Status of Public Charging Installations (as of December 1, 2022)²

	Approved by NCUC	Commissioned	Engineering & Construction	Additional Contracted	Site Hosts Needed
Public DCFC	40 Dispensers ³	12 Dispensers	10 Dispensers	0 Dispensers	9 Sites/18 Dispensers
Public L2	160 Ports ⁴	40 Ports	44 Ports	16 Ports	~24 Sites/60 Ports
Multi-Family Dwelling L2	80 Ports ⁵	8 Ports	54 Ports	0 Ports	~7 Sites/18 Ports

B. Obtaining Public Charging Site Host (& related) Agreements

Early interest from prospective site hosts far surpassed approved charger counts. However, in executing Site Host Agreements with associated easement and liability waiver agreements as required by the Companies, many site hosts are reluctant or refuse to take on such perceived liabilities, making recruitment a challenge that was not anticipated. This was especially true for a handful of national chains that were to serve as site hosts for multiple Direct Current Fast Charger (“DCFC”) locations. Losing these anticipated site hosts mid-2022 significantly impeded progress in the DCFC space but was an important lesson learned with respect to installations of L2 charging and DCFC locations. Additionally, processes for gaining approval from municipalities in particular have proven time consuming, as multiple levels of approvals are needed or even that of a local board that meets only on a periodic schedule.

² Table shows DEC and DEP combined.

³ Referred to in the tariffs as DCFC “stations.”

⁴ Referred to in the tariffs as “stations.”

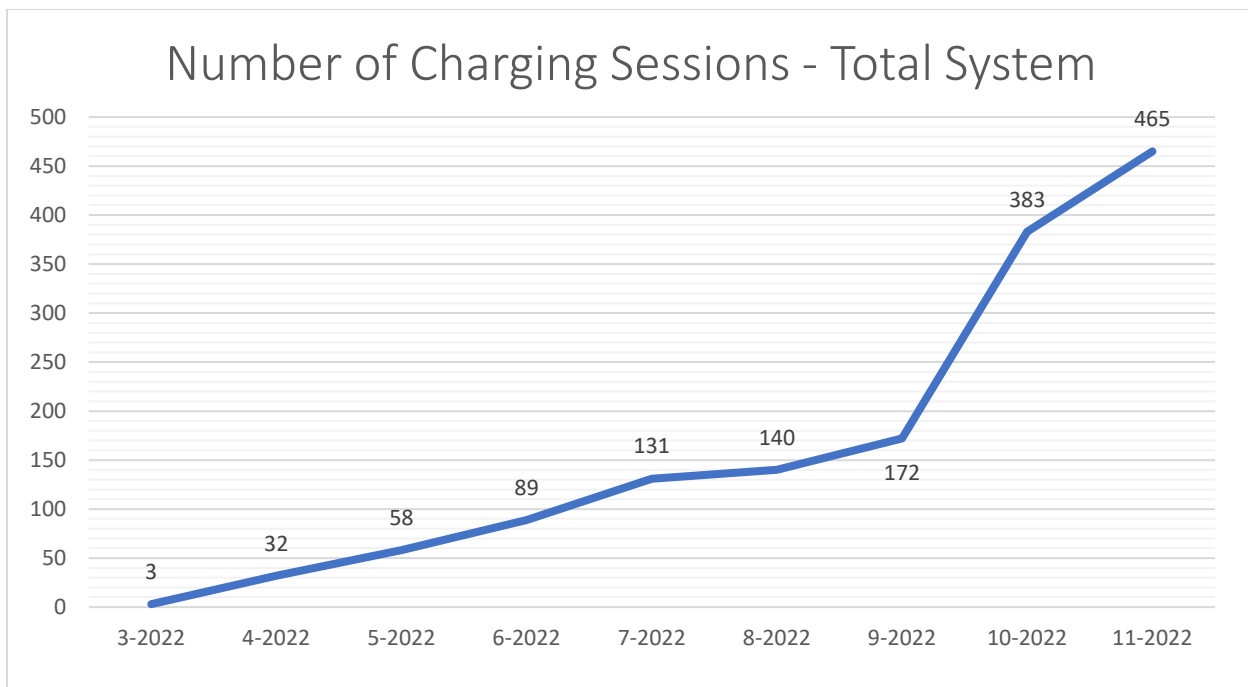
⁵ Referred to in the tariffs as “stations.”

C. Concerns with Supply Chain

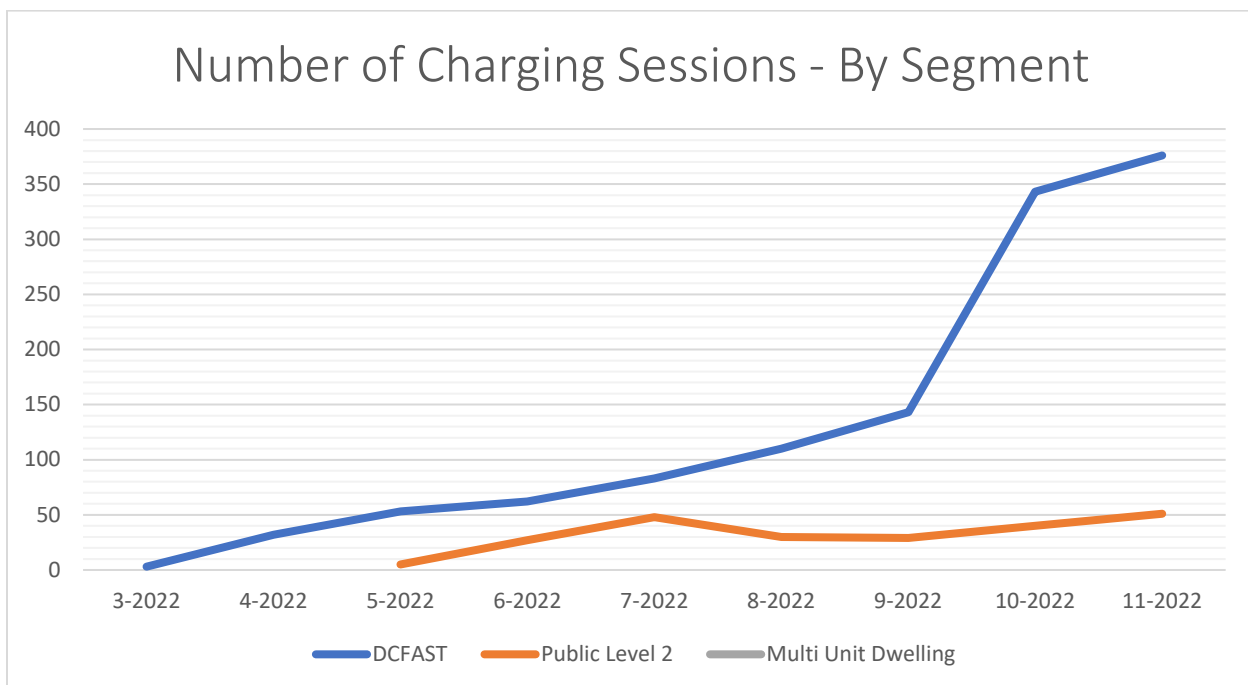
While DCFCs currently can have lead times of more than one year, the Companies have leveraged both early procurements and strong vendor relationships to secure enough DCFCs to complete Phase I. Level 2 charging hardware is less problematic in terms of manufacturing lead times. The Companies' concerns with obtaining other electrical components necessary to complete the make-ready infrastructure are growing. The national shortage of transformers is becoming increasingly pronounced. Additionally, distribution panels and even conduit, at times, have also been flagged by vendors as being in short supply.

D. Statistics from Installed Charger Base

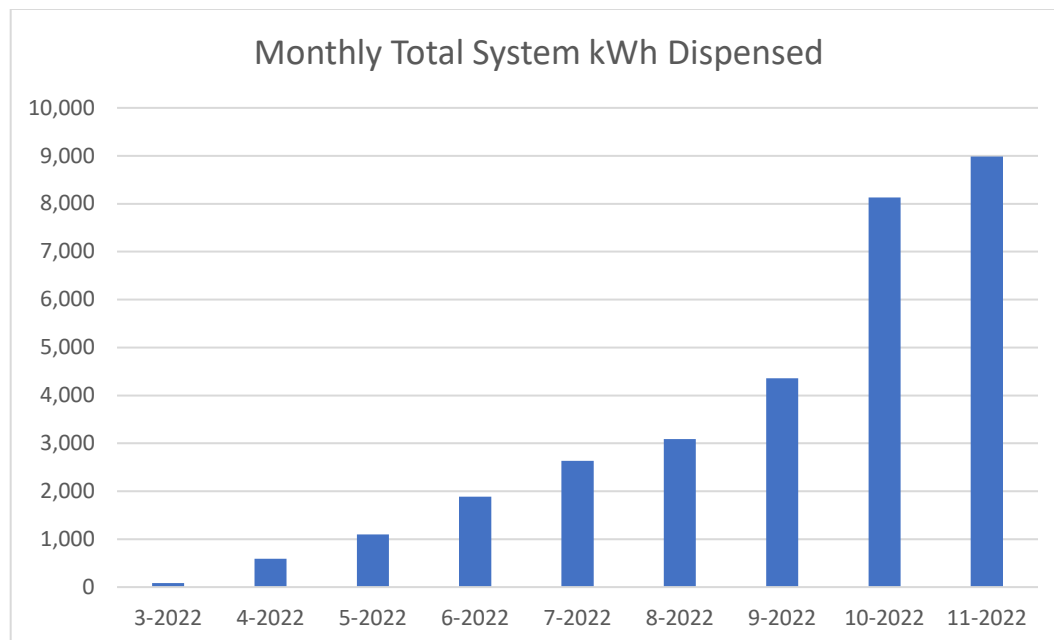
With sufficient chargers now installed, the Companies can begin to report trends and statistics for usage of Phase 1. The first figure below tracks the total number of charging sessions on the system per month beginning in March of 2022, when the first Phase 1 charger was commissioned. Session volume increases steadily per month, with a sharp increase observed between September and October.



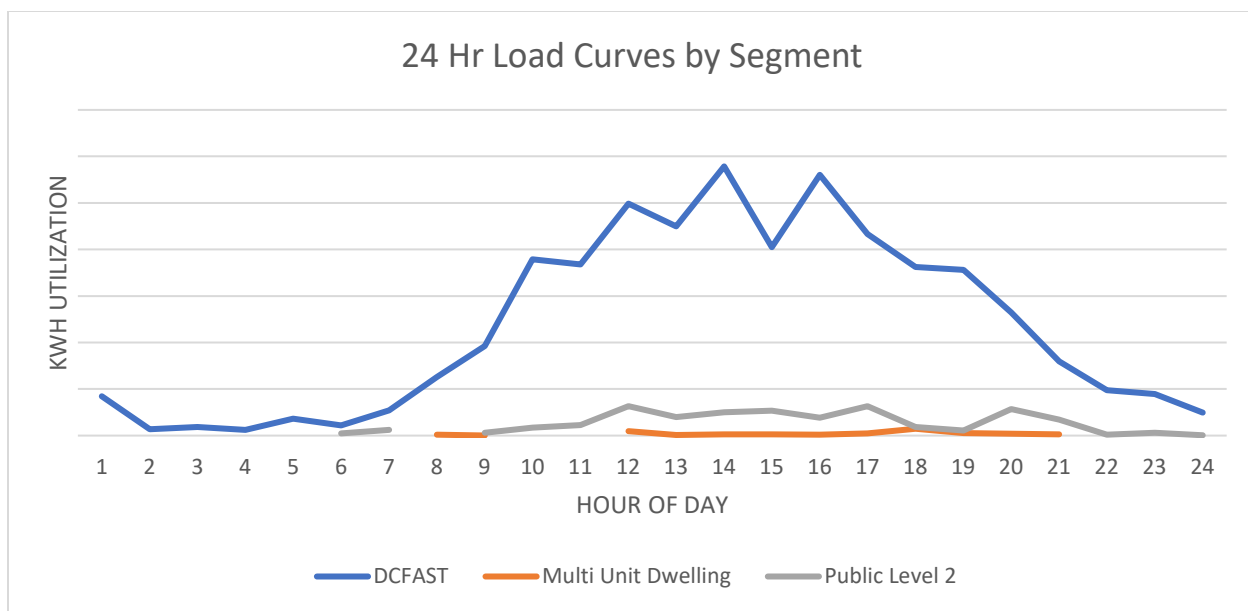
The next figure shows the same data but broken down into the three public charging use cases, revealing that the large uptick in usage in October was driven by the DCFC segment.



The following graph shows the monthly increase in kWh dispensed by the North Carolina Park & Plug system that corresponds with additional charging session count. In total, drivers in North Carolina have charged their EVs to the tune of nearly 31 MWh, enabling between 10,000 and 17,000 (estimated) miles of driving with zero tailpipe emissions.



Finally, average daily load curves are beginning to take shape, especially for the high usage DCFC segment. As shown in the chart below, DCFC usage is notable during normal hours in which drivers would travel long distance. The public level 2 segment curve also shows a measure of shape with usage concentrated in the afternoon and typical dinner time hours.



E. Phase I School Bus Program.

The Companies continue to support interested districts in their successful pursuit of North Carolina Department of Environmental Quality (“NC DEQ”) Volkswagen mitigation (“VW”) trust funds. With the award of NC DEQ VW funding to various participating districts in early fourth quarter of 2022, the focus of School Bus program staff since that time has been driving toward execution of those customers’ agreements. At this time, the program has secured customer agreements and the full complement of necessary funding (including program funds, customer funds, and funds from other sources) for 28 buses at 12 school districts. Of these, nine districts and eighteen buses have received support from the Companies in successfully receiving nearly \$5.3 million in VW mitigation funding from NC DEQ to compliment the funding available from the program and that customers themselves can bring to bear.

i. Status of School Bus Program Deployment

Approved by NCUC	Commissioned	Engineering, Procurement & Construction	Additional Contracted & Funding Secured
30 Buses	0 Buses	8 Buses	20 Buses

ii. Projected In-Service Timeframes

Q1 2023	Q2 2023	Q3 2023	Q4 2023
8 Buses	0 Buses	0 Buses	20 Buses

While the Companies continue to monitor IJJA funding opportunities for EV school buses (which are further along than NEVI planning) and are also necessarily supportive of customer interest in EV school buses, including outside the program, more progress is needed in Phase I deployments before a second Phase can be contemplated alongside lessons learned.

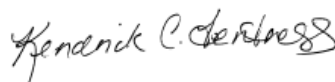
To allow for more time to complete those learnings, the Companies filed a Joint Request by Duke Energy Carolinas, LLC and Duke Energy Progress, LLC for Extension of NC Electric Transportation Pilot Phase I Electric School Bus Program in the above-captioned dockets on October 19, 2022 (“Joint Motion”). That motion, hereby incorporated by reference, remains pending. As noted above, supply chain issues have also caused delays in fully implementing the Phase I Electric School Bus Program. Additionally, there have been funding issues as described in the Joint Motion. The Companies have also discovered that while the North Carolina state contract lists three electric school buses as vehicle-to-grid capable, none have proven vehicle-to-grid (“V2G”) deployments in North Carolina. V2G capability is central to the goal of the School Bus Program as approved. Based on Duke Energy’s experience with electric school bus V2G technology in other jurisdictions, the capability appears to be immature and without

evidence of trouble-free deployments. Thus, the Companies filed their Joint Motion to allow for additional time to gain learnings from the Phase I School Bus Program.

CONCLUSION

Based upon the foregoing, the Companies respectfully request an additional eight months, up to and until Tuesday, September 5, 2023, to refine and modify its Phase II Pilots to take into consideration the possibility of receiving direct funding under the IIJA and/or other recently available sources of federal funds. These eight months should provide the Companies and the Commission more clarity on the completed CTP (due in early April 2023) and the development of community charger plans under NEVI. The Companies will continue to work with the ETSG to review Phase I learnings and development of potential other programs, but respectfully request that the Commission allow the Companies to file their next Joint Status Report on Phase II after adequate time to review information developed and impacts from the IIJA and other available federal/state funding in the coming year.

Respectfully submitted, this the 6th day of January, 2023.

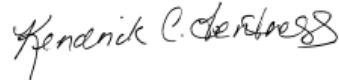


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CERTIFICATE OF SERVICE

I certify that a copy of Duke Energy Carolinas, LLC and Duke Energy Progress, LLC's Second Joint Status Report on Phase II Pilot Programs and Motion for Authorization to File Additional Update, in Docket Nos. E-7, Sub 1195 and E-2, Sub 1197, has been served on all parties of record either by electronic mail, hand delivery or by depositing a copy in the United States mail, postage prepaid.

This the 6th day of January, 2023.



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