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August 21, 2023

VIA ELECTRONIC FILING

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

RE: Duke Energy Carolinas, LLC and Duke Energy Progress, LLC Second

Status Report on Make Ready Credit Programs Docket Nos. E-7, Sub 1195 and E-2, Sub 1197

Dear Ms. Dunston:

Please find enclosed for filing Duke Energy Carolinas, LLC and Duke Energy Progress, LLC's (the "Companies") Second Status Report on Make Ready Credit Programs in the above-referenced docket. Certain information included in the Report constitutes trade secrets, and information is being filed under seal pursuant to N.C. Gen. Stat. § 132-1.2. Parties to the docket may contact counsel for the Companies regarding obtaining copies pursuant to an appropriate confidentiality agreement.

If you have any questions, please let me know.

Sincerely,

Jason A. Higginbotham

Jason Higginbothan

Enclosure

cc: Parties of Record

STATE OF NORTH CAROLINA UTILITIES COMMISION 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 STATUS REPORT OF
DUKE ENERGY CAROLINAS, LLC
AND DUKE ENERGY PROGRESS,
LLC ON MAKE READY CREDIT
PROGRAMS

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 North Carolina Utilities Commission's ("Commission") February 18, 2022, *Order Approving Make Ready Credit with Conditions*, in the above-captioned Docket Nos. E-7, Sub 1195 and E-2, Sub 1197 ("ET Dockets"), and submit this Second Status Report on the Companies' Make Ready Credit Programs.

BACKGROUND

On April 30, 2021, the Companies filed an application in the ET Dockets, pursuant to N.C. Gen. Stat. § 62-140, requesting approval of proposed Make Ready Credit ("MRC") Programs for DEC and DEP. After receiving comments and reply comments, the Commission issued an Order Approving Make Ready Credit Programs with Conditions on February 18, 2022 ("MRC Order"). This Order directed Duke to file semiannual reports with the Commission and the electric transportation stakeholder group ("ETSG") containing the information to be specified by the Commission after the Commission's

receipt of Duke's compliance filing. The semiannual reports were to commence one year after the Commission's MRC Order.

In Section I, the Companies update their progress in expanding the MRC Programs. In Section II, the Companies further report on the specific program analytic topics the Commission requested information on: (i) the amounts of the credits and the estimates of the cost; (ii) the adoption rates for each type of EV; (iii) the EV loads; (iv) the costs observed per installation; (v) revenue credits paid; and (vi) any other distribution system cost impacts associated with EVSE development. Section II also includes metrics providing insight on regional and demographic attributes of customers receiving MRC, compared to general customer base, using census and other readily available data.¹

I. UPDATE ON MAKE READY CREDIT PROGRAMS

Since the Companies' last (and initial) report on the MRC programs, several enhancements to the program segments have been or are being implemented. To improve the customer experience in and enable more volume through the Contractor Option, a third-party vendor was selected to streamline processes and implement a management platform for that portion of the program. The vendor will also identify diverse contractors as well as those that can enhance the program's support of rural communities. To expedite the application process for non-residential customers, the Companies are also working to launch an online application portal and to make it possible for the Customer Usage Profile data to be submitted via webform.

The Companies continue to leverage AMI data to obtain information about MRC participants. To enable tracking of participants and gaining insights around EV charging

¹ MRC Order at 14-15

behavior, the Customer Connect billing system is being utilized to flag participating premises. The flag is manually entered currently, but automation of this process is on the program roadmap. From January 1, 2023 to June 30, 2023, the volume of customer participation for each segment of the MRC Programs is discussed below.

Customer Credit and Homebuilder Options

Customer Credit

Application volumes are progressively increasing. Since the last report, there have been 2,705 additional Customer Credit Option applications, a 264% increase since the initial program period ending December 2022. Of the 2,705 applications received, 2,228 credits have been fulfilled, a 338% increase, and 477 applications were invalid. The application is considered invalid when an applicant fails to provide the following documentation: (i) detailed invoice from the Contractor for the make ready infrastructure ("MRI"), with separate line items for labor and materials (ii) a copy of the approved permit from the municipal or local permitting authority; (iii) summary of any grant funding received as part of the project and, for residential customers, and (iv) evidence of EV registration. Applicants may subsequently provide missing information, thus allowing an invalid application to be approved.

To improve the customer experience and enable program participation, language on the webpage, application portal and in-program communications sent during the process of application review continues to be updated to better educate participants on specific documentation requirements to fulfill an application. Application review processes have also been improved. For applications that are invalid due to vehicle registration fuel type not reflecting an EV, a manual search of the car's Vehicle Identification Number ("VIN")

is now standard procedure given that certain plug-in hybrids may register as internal combustion. Furthermore, for applications that are deemed invalid due to the absence of a permit or final inspection, communications are provided to the applicant advising that their electrical contractor may still be able to obtain a permit with the local permitting authority after install, allowing the customer to complete program requirements as well as increase assurance of a safe installation.

Homebuilder Option

There have been no applications for the Homebuilder Option. The program management team still views this segment as critical and is working towards implementing a maturation plan to encourage builders to participate. Program personnel have engaged other departments internal to the Companies to discuss their experiences in working with builders in an effort to modify the application process to encourage builder participation. To date, one builder has contacted the program team, and the team expects that builder to apply for credits.

Contractor Credit Option

Application volumes in the Contractor Option are on the rise. Since December 31, 2022, there have been 1,168 applications received, a 233% increase in total volume as compared to the Companies' Initial Report, and 183 credits fulfilled since the last report, a 177% increase. Of the 1,168 applicants, 445 customers are pending site assessments or awaiting final inspections of the completed installation. 337 applications were invalid, and 203 applicants chose to withdraw. Applications are considered invalid if the required EV registration is not received or the Duke Energy service account address does not match the address on the EV registration. Additionally, detailed invoices and copies of approved

permits from the municipal or local permitting authority are provided to the Companies by the Program-approved contractor, on behalf of the customer, after installation is complete. Customers who withdrew stated they preferred to seek additional quotes or to select their own electrical contractor to facilitate the install.

Details about the Contractor Credit Option are continuing to be updated on the Companies' webpage to highlight the steps from start to finish along with specific documentation needed for a complete application. To increase transparency of the process to applicants, touchpoint communications will soon be sent to customers regarding the statuses of their application and/or installation and to retrieve information needed.

To enhance the customer experience, a third-party vendor has been selected to host an application portal for the Contractor Option and to facilitate installations by scheduling appointments for the applicant with their selected electrician. This modification will automate processes and provide a seamless experience for the customer and program electricians. This vendor is also accountable to assist in enrolling diverse contractors and to further ensure rural communities are served.

Non-Residential Option

There have been 30 applications and 18 credits fulfilled since the last report. The program terms for non-residential customers are similar to the Customer and Contractor Credit Options above, except no EV registration is required for non-residential customers, because such installations may be facilitating the charging of EVs owned by others.

Applicants are continuing to complete the Customer Usage Profile form to provide information on the estimated use of each EV charger. To aid in collection of accurate data, the Customer Usage Profile form will become a webform for applicants to fill out promptly

online and submit to the program team. This automation ceases applicants from manually downloading the form, inputting the requested data, and emailing the form to submit.

The Companies have created a Charger Prep Credit waiver such that the account holder can assign payment of the make ready credit to a designated recipient that paid for the infrastructure installation. This waiver is applicable, for example, in a scenario in which a commercial property manager installs chargers on an account held by a tenant occupant.

Finally, based on prospective customer feedback, the Companies intend to consider how to accommodate make ready installations that are implemented for the purpose of charging a corporate fleet vehicle at the residence of the employee (thus leading to a scenario in which EV registration data does not match the customer account data).

Transparency of the Make Ready Credit

For prospective non-residential and multi-family applicants, the program website lists the maximum credit amounts for Level 2 and DC Fast Chargers sites with aggregate capacity less than or equal to 50 kW. For sites at which the aggregate capacity of the EVSE is above 50kW, a custom calculation is required. To provide potential participants with transparency and ability to self-conduct scenario planning, the calculator tool on the program website has been updated to assist with credit estimates for large installations. The calculator tool now provides more comprehensive kW ranges to incorporate chargers that are becoming available on the market. The potential applicant utilizes the tool by inputting the required data (type of charger, number of chargers, nameplate kW and intended use of charger(s)) to tabulate an estimated credit amount.

Participant Satisfaction

For the Customer Credit Option and non-residential participants who submit complete and accurate applications, program credits have been provided via a mailed check within one billing cycle. The program has garnered positive feedback from participants via voluntary survey. Of the 463 responses received, 380 participants (82%) are extremely satisfied with the process and highly likely to recommend to a neighbor or acquaintance.

For the 110 participants who submitted responses to the survey for the Contractor Credit option, 84 participants (76%) are extremely satisfied with the program and the overall process of getting their home ready for an EV charger.

Each survey allows for open-ended responses to garner feedback to improve the program and the customer experience by inquiring if there are suggestions to improve the program and seeking specifics around what worked well. Most participants stated that it should be publicized or advertised more as they heard about the program through neighbors or friends. As of April, paid social media marketing has been initiated and has further prompted program applications. Survey responses also recommended to provide clearer guidelines regarding format of the invoices. This feedback was implemented by the program management team by providing an example of an adequate invoice on the application portal for reference.

Customer and Contractor Option Electrical Installers

In keeping with the Companies' position that all customer segments should have access to EV programs, the Companies continue efforts to ensure that the contractor networks extend into rural areas for the MRC Programs. For the Customer Credit Option, over 500 unique electrical installation companies have been utilized by customers.

To date, five total electrical companies have been selected to support the Contractor

Credit Option. Of these, four are being onboarded at the time of this report and will work directly with the aforementioned third-party vendor to provide installation services to customers. As the MRC Programs mature, the program team and the third-party vendor will continue to identify a diverse and wide-reaching pool of contractors to support the program.

Marketing/Outreach

To enable program participation for residential customers, marketing strategies have been formulated with focus on education. These marketing efforts began in early March of 2023 with a series of emails sent to prospective customers likely to purchase an EV. The goal of the emails was to engage customers before they purchase an EV and/or invest in installing charging infrastructure. The campaign consisted of approximately 975,500 emails sent from March 2023 to June 2023 to residential customers. These emails promote education around EVs and insights regarding the Companies' Make Ready Credit programs.

Additionally, the Companies provided educational marketing to encourage non-residential customers to invest in EV charging infrastructure for their businesses. The campaign began in April 2023 and provided 68,300 emails that were distributed to prospective participants. Furthermore, in May 2023 a communication was collectively sent to 2,000 governmental and municipal agencies regarding the U.S.'s Department of Transportation Charging and Fueling Infrastructure ("CFI") Grant Program to promote awareness around the complementary funding opportunities from both the CFI and MRC programs.

Conversations with non-residential customers who are proactively investigating opportunities to offset costs for future projects continue to evolve. The program fact sheet,

a condensed version of the MRC Programs' webpage, continues to provide a quick resource for DEC or DEP representatives such as large account managers, community relations managers and other customer-facing personnel to send to potential non-residential participants.

Lastly, the Companies have begun to engage with local EV dealers to reach customers at the point of sale by providing MRC program brochures for their EV clients. The Companies will expand the marketing to include low- to moderate- income and rural customers in the second half of 2023. Social media marketing was initiated in April on Meta, Facebook, and Instagram, highlighting the MRC residential program, while the non-residential program was marketed on LinkedIn. This effort has steadily increased traffic to the program webpages. A new landing page is being created to guide commercial developers to all resources available to them while spotlighting EV adoption and the MRC programs.

Stakeholder Engagement

The program team continues to offer support and updates to stakeholders. Quarterly ETSG meetings showcase the program's maturation plan, marketing efforts, and updated program participation. These meetings allow for stakeholder questions along with any other suggestions that may help with engagement and participation.

The team also continues to be engaged with the Southern Alliance for Clean Energy (SACE) in efforts that they are managing. Most recently the SACE and Moms Clean Air Force is looking to host a webinar for school districts in North Carolina to help educate them about the Clean School Bus Grant Program that is currently underway. The program anticipates participating in this webinar to present on the MRC program.

The Large Account Management group internal to Duke Energy also acts as an advisor for the program. When opportunities become available, the program team is available to these stakeholders and offers guidance on the program's application process. This engagement has led to the success of several approved DC fast charging applications recently; 6 in total with a sum of \$460,500 in credits. While the program team felt this participation to be noteworthy enough to warrant mention, please note that these application approvals occurred after June and are not included in the data below. The team will expand on these interactions and data in upcoming reports.

II. PROGRAM ANALYTICS

1. Analysis of the credit amounts and the estimates of costs to maintain the balance between EVSE costs and EV loads.

As articulated in Section 3 EV Loads, the Companies' analysis of residential EV loads using AMI meter data indicates that the average consumption per participant is very close to the Companies' originally filed value of 225 kWh per month. Further, as implied by the Cost Per Installation data Section 4, average credit amounts paid are constrained by participants' Demonstrated Costs. As a result, the Companies do not propose to change the maximum credit values for residential customers nor assumptions underlying those values at this time.

With respect to non-residential credit amounts, while participation volumes have increased since the last report, the program does not as of yet have sufficient quantity of data points through which it can evaluate loads and, therefore, credit calculations. As non-residential participation increases, the program will evaluate credit amounts accordingly.

2. The adoption rates for each type of EVSE.

The following table shows responses from 1,951 Customer Credit Option

applicants and 314 Contractor Credit Option applicants who provided details about their EV charger in their applications. To broaden the analysis, the data is inclusive of responses from invalid applications, as opposed to approved applications only, because invalid applications may likely be subsequently completed.

Table 1. Residential Charger Adoption Rates by EVSE Rating

Residential:			
EVSE Type	EVSE Rating:	Amount adopted:	
Residential L2	12 – 32 amps	202	
Residential L2	40 – 48 amps	1,195	
Residential L2	50 – 60 amps	850	
Residential L2	80 amps	18	
	Total	2,265	
*Applications captured 40 unique EV charger brands			

Table 2 displays responses from the Customer Usage Profile form from applications submitted by non-residential applicants. One application was for a rental car agency where fleet usage was projected and required a custom calculation to accommodate the 350kW nameplate rating.

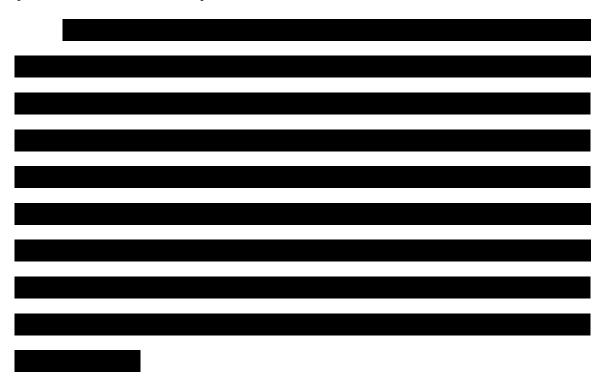
Table 2. Non-Residential Charger Adoption Rates by Use Case & EVSE Rating

Non-Residential:			
EVSE Type	EVSE Rating:	Amount adopted:	
	30 amps	8	
Public L2 Charger	40 - 48 amps	32	
	50 - 60 amps	6	
Workplace L2 Charger	48 amps	4	
	60 amps	1	
Mark: Fam. I 2 Channer	40 amps	5	
Multi-Fam L2 Charger	60 amps	3	
Public DCFC	50kW	1	
Fleet DCFC	350 kW	1	
Total 61			

3. The EV Loads

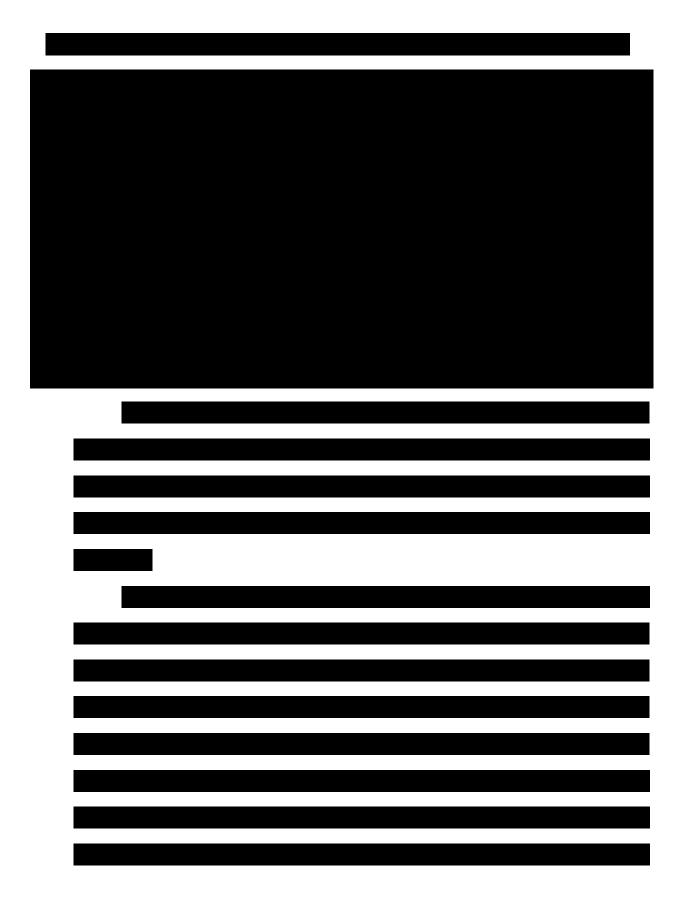
The Companies are filing information on the EV Loads as required by the Commission in its MRC Order. Because of Code of Conduct restrictions on disclosing non-public customer information related to energy usage specific to a group of customers², and because the information is developed through proprietary methodology³, the Companies are filing this information confidentially.

[BEGIN CONFIDENTIAL]

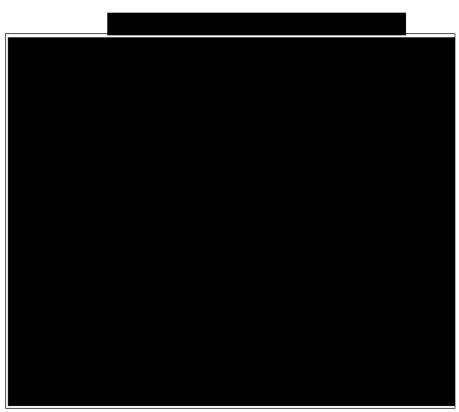


² See, Definition and Sec. III of the Code of Conduct, Appendix A of the Commission's Order Granting Motion to Amend Regulatory Conditions, Docket No. E-2, Sub 1095A, E-7, Sub 1100A, and G-9, Sub 682A, issued August 24, 2018 (explaining that non-public data specific to a customer's or group of customers' load profile, energy usage, billing and credit history, among other things, should not be disclosed by Companies.)

³ See, N.C. Gen. Stat, § 66-152(3), which defines a "trade secret" as business or technical information, including but not limited to a formula, pattern, program, device, compilation of information, method, technique, or process that: a. Derives independent actual or potential commercial value from not being generally known or readily ascertainable through independent development or reverse engineering by persons who can obtain economic value from its disclosure or use; and b. Is the subject of efforts that are reasonable under the circumstances to maintain its secrecy.











[END CONFIDENTIAL]

4. The cost per installation.

The MRC program continues to defray the installation costs associated with infrastructure necessary to make a customer's location ready for installation of an EV charger. For residential participants, the average net out of pocket cost is \$270, compared to customers who are not participating in the program, making installation of the EV charging infrastructure more affordable and accessible.

For participating non-residential customers, the program similarly provides a cost offset for infrastructure investments to support EV charging equipment. Notably, the degree to which credits offset costs for the public and workplace non-residential use cases

that have been approved is significantly less than that for residential installations. This is unsurprising given that the majority of EV charging – and therefore associated revenue – occurs in residential settings rather than in public locations or at work.

Table 5. Per Installation Costs & Credit Amounts by Program Option

Program Segment	Total Approved	Average Install	Average Credit
	Applications	Cost	Paid
Customer Credit	2,228	\$1,353	\$1,008
Contractor Credit	183	\$1,160	\$966
Non-Residential	16	\$29,370	\$3,484
Multi-Family Dwelling	2	\$29,226	\$4,411
Homebuilder	0	0	0

5. The revenue credits paid.

Please see response to item 4 above.

6. Any distribution system cost impacts associated with EVSE deployment.

Minimal impacts to the distribution system have been observed since that last program status report. Approximately 1% of participants required upgrades to their DEC or DEP utility service to accommodate EV charging. Upgrades vary but typically include increasing the size of transformers and/or secondary and service wire. As additional chargers are added, the Companies will carefully monitor the effects on distribution transformers. The Companies also plan to continue development of managed charging offerings to help mitigate this issue.

7. Demographic attributes of participants.

In response to the Commission's MRC Order, the Companies have derived the demographic data presented in the graphs from the customer satisfaction survey that is sent to our Customer Credit Option applicants. The selected third-party vendor for the Contractor Credit Option will send participant survey that will include voluntary demographic questions. This information will be available for the next report. The survey

and demographic responses are completed by participants on a voluntary basis. Figure 4 below illustrates that most participants are within the age ranges of 35-44, with a moderate number of participants being 65 and above. Per Figure 5, most MRC participants have two individuals currently living in their household.

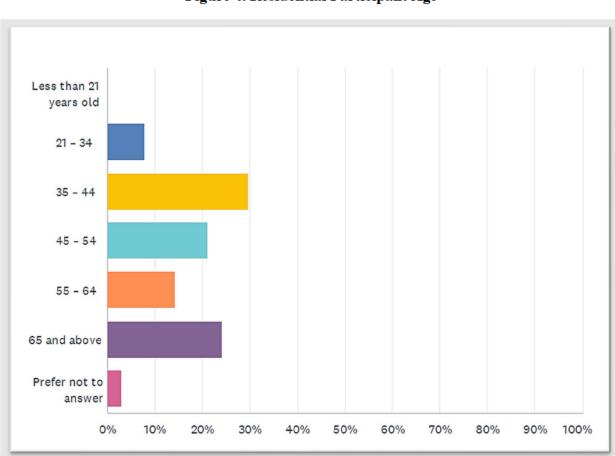


Figure 4. Residential Participant Age

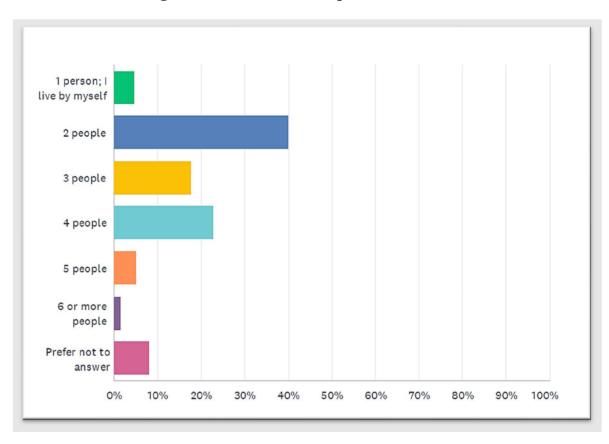


Figure 5. Residential Participant Size of Household

Educational levels can be seen in Figure 6 along with income in Figure 7. These graphs illustrate that most participants have a bachelor's or graduate degree and full-time employment. However, since the initial report, the Companies have seen a 700% increase in high school/GED-educated participants and an 800% increase in participants with associates/trade degrees participants.

Figure 6. Residential Participant Education Level

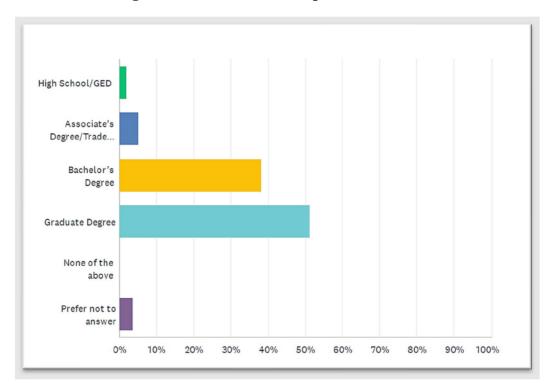
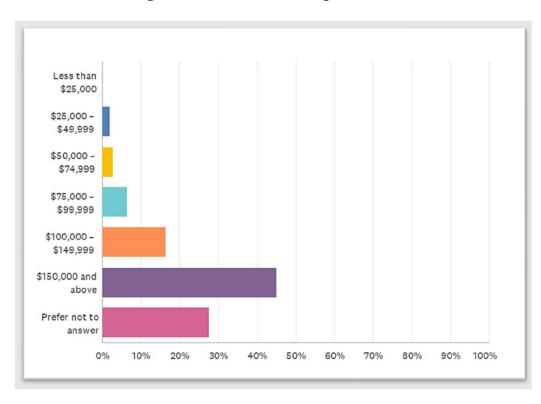


Figure 7. Residential Participant Income⁴



⁴ As noted above, Residential Participant Income is reported voluntarily in participant surveys. The Companies do not collect or maintain income data on their customers in the ordinary course of their business.

8. Insight on regional attributes of participants.

According to the United States Census Bureau's 2020 urban and rural definition⁵, and based on the Companies' own internal data, 65% of DEC participants in the MRC Programs reside in an urban area and 34% are in rural communities. For DEP, 30% of participants reside in an urban area and 69% are in rural communities.

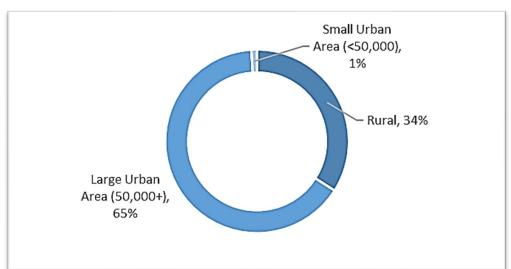
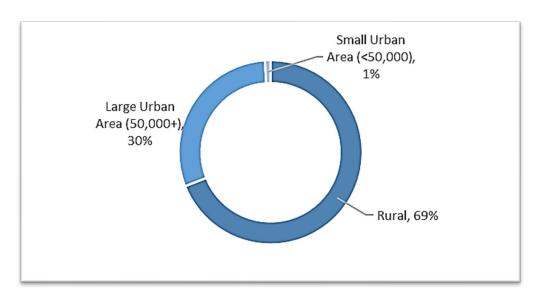


Figure 8. Breakout of Urban and Rural DEC Participants

⁵ Source: Urban and Rural (census.gov)

Figure 9. Breakout of Urban and Rural DEP Participants



North Carolina program participants fall within 600 of North Carolina's total 2,195 census tracts, the smallest territorial entity for which population data is available. Of the 600 census tracts, 59% of participants reside in Wake (38%) or Mecklenburg (21%) counties. Figure 10 shows the concentrations of participants across the state and further demonstrates that the program supports residents of rural counties such as Polk, Lee, Moore and Chatham.

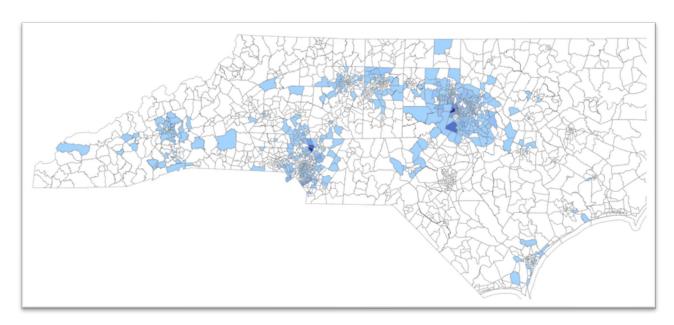


Figure 10. Census Tract Participation Heat Map

Census data also indicates that Wake and Cabarrus Counties encompass majority of the MRC Programs' participants. Wake County has the highest number of participants with 3.6% of total program participants residing in this tract with a population of 11,891. The census tract also reflects the population has a median age of 36 years.

Table 6 below shows North Carolina counties and the relative propensity for residents to participate, as measured using an index. An index is a useful tool to compare a specific group of people to a larger population; in this case, MRC participants to nonparticipants. An index value of 100 indicates that a given county has average propensity for MRC participation relative to the rest of the state. An index of 200 shows that the result is twice the average, and an index of 50 is half the average.

In Table 6, Cabarrus County is the highest indexing county in the program, meaning that a Cabarrus County resident is ~3.5 times more likely to participate than the average North Carolina resident. Chatham County indexes above Wake and Mecklenburg Counties

due to its lower population and higher number of program participants. Durham County is also among the top five counties for per capita participation.

Table 6: Top NC Counties for Per Capita Participation Rate, Indexed

NC County	# of Customers	Population	Index
Cabarrus	203	221,200	344
Wake	818	1,112,883	275
Chatham	45	75,070	224
Durham	134	320,146	157
Mecklenburg	458	1,100,984	156
Orange	60	147,376	152
Buncombe	61	266,981	86
Iredell	42	183,965	85
Forsyth	63	380,583	62
Johnston	31	211,320	55

CONCLUSION

The Companies will continue to work with the ETSG to identify additional ways to improve this program and to otherwise simplify EV adoption for all customer markets and by all customer classes. Additionally, a review will be conducted using participant AMI data to evaluate actual usage with the standardized kWh figure and assumptions to assess program credit amounts. The Companies expect to file their next semiannual report in early 2024.

Respectfully submitted, the 21st day of August 2023.

Jason A. Higginbotham

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Respectfully submitted, the 21st day of August 2023.

Jason A. Higginbotham

Associate General Counsel
Duke Energy Corporation

525 S. Tryon Street, ECA3 Charlotte, North Carolina 28202

Tel: 704.731.4015

<u>Jason.Higginbotham@duke-energy.com</u>

CERTIFICATE OF SERVICE

I certify that a copy of Duke Energy Carolinas, LLC and Duke Energy Progress, LLC Second Status Report on Make Ready Credit Programs, in Docket Nos. E-7, Sub 1195 and E-2, Sub 1197, 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 21st day of August, 2023.

Jason A. Higginbotham

won figginbothan

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