

BEFORE THE NORTH CAROLINA  
UTILITIES COMMISSION

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

In the Matter of: )  
Application by Duke Energy ) **JOINT COMMENTS OF NORTH**  
Carolinas, LLC and Duke Energy ) **CAROLINA JUSTICE CENTER,**  
Progress, LLC for Approval of ) **SOUTHERN ALLIANCE FOR**  
Proposed Electric Transportation Pilot ) **CLEAN ENERGY, AND SIERRA**  
 ) **CLUB ON THE PHASE II**  
 ) **ELECTRIC TRANSPORTATION**  
 ) **PILOT PROGRAMS**  
 )

The North Carolina Justice Center (NCJC) and the Southern Alliance for Clean Energy (SACE), along with the Sierra Club (together, “Joint Commenters”) appreciate the opportunity to submit the following joint comments on Duke Energy Carolinas, LLC (“DEC”) and Duke Energy Progress, LLC’s (“DEP”) (together, “the Companies”) Joint Request for Approval of Phase II Electric Transportation Pilot Programs filed in docket numbers E-2, Sub 1197 and E-7, Sub 1195 (the “Phase II Pilots”). Joint Commenters generally support the Phase II Pilots as proposed and ask the Commission to approve them subject to the modifications set forth in these comments.

**I. Introduction**

Since the Companies submitted their first application for approval of electric transportation (ET) pilot programs in March 2019 (the “Phase I Pilots”), electric vehicle (EV) ownership has continued to rapidly expand throughout the country. To date, over 1.7 million light-duty battery EVs (BEVs) and plug-in EVs (PHEVs) have been sold in

the United States, up from 1 million at the end of 2018.<sup>1</sup> In North Carolina, EV adoption is also growing, with the number of BEVs and PHEVs totaling 24,946 vehicles, up from roughly 13,000 vehicles at the end of 2018. Although annual sales did not significantly increase from 2019 to 2020, likely as a result of the coronavirus pandemic, EV sales for the first two months of 2021—1,057 vehicles—are on pace to outnumber the total sold in 2020 (5,442 vehicles).<sup>2</sup>

The number of electric vehicle supply equipment (“EVSE”) units, commonly called charging stations, has also increased in the past several years. In their application for the Phase I Pilots, the Companies stated that there were 43 publicly-available direct-current fast charging (“DCFC”) stations with 86 access plugs in the state.<sup>3</sup> Now, including Tesla’s charging network, there are 115 DC fast charging stations with 381 access plugs.<sup>4</sup> Additionally, while the exact numbers as of 2018 are unknown, there are now 835 public Level 2 charging stations consisting of 1,801 access plugs. However, even with these increases in recent years, the current number of charging stations is not close to the number of stations needed to accommodate the 80,000 zero emission vehicle

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<sup>1</sup> Alliance for Automotive Innovation, U.S. Light-Duty Advanced Technology Vehicle (ATV) Sales (2011-2021), <https://www.autosinnovate.org/resources/electric-vehicle-sales-dashboard> (last visited July 22, 2021) (updated through February 2021).

<sup>2</sup> *Id.*; see Jeffrey Ryser, US EV sales tumble in 2020, but EV load increases with more charging stations, S&P Global (Jan. 29, 2021), <https://www.spglobal.com/platts/en/market-insights/latest-news/electric-power/012821-us-ev-sales-tumble-in-2020-but-ev-load-increases-with-more-charging-stations>.

<sup>3</sup> Application for Approval of Proposed Electric Transportation Pilot at 3 [hereinafter Phase I Application].

<sup>4</sup> U.S. Dep’t of Energy, Alternative Fuels Data Center, Electric Vehicle Charging Station Locations, [https://afdc.energy.gov/fuels/electricity\\_locations.html#/find/nearest?fuel=ELEC](https://afdc.energy.gov/fuels/electricity_locations.html#/find/nearest?fuel=ELEC) (last visited July 28, 2021).

goal in Executive Order 80<sup>5</sup> or the various projections for EV growth in the coming years.

Although EV sales and charging station deployment continue to increase in North Carolina, there continue to be barriers to EV adoption and the state has significant progress to make before it reaches the goal set forth in Executive Order 80 of 80,000 zero-emission vehicles by 2025.<sup>6</sup> These consumer barriers to EV adoption include high upfront costs compared with similar traditional vehicles, EV range, range anxiety, lack of awareness, and lack of model availability.<sup>7</sup> Increasing the availability of charging stations is one way to break down these prevailing barriers and decrease consumer anxiety. In a recent report, the International Council on Clean Transportation stated that “[g]reater availability of charging infrastructure at home, the workplace, and public locations is critical to growing the electric vehicle market, increasing driver confidence and expanding overall visibility and exposure to the technology.”<sup>8</sup>

As charging station deployments increase, it is important that they are deployed equitably across North Carolina. Low- to moderate-income (LMI) communities and communities of color can benefit considerably from electric transportation because they tend to be disproportionately burdened by pollution from transportation and other sources, and because of the lifetime cost-of-ownership savings offered by EVs. These

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<sup>5</sup> Exec. Order 80, North Carolina’s Commitment to Address Climate Change and Transition to a Clean Energy Economy (Oct. 29, 2018).

<sup>6</sup> *Id.*

<sup>7</sup> Anh Bui, et al., *Aug. 2020 Briefing: Update on electric vehicle adoption across U.S. cities*, International Council on Clean Transportation, at 2 (Aug. 2020), <https://theicct.org/sites/default/files/publications/EV-cities-update-aug2020.pdf>.

<sup>8</sup> *Id.* at 4.

communities may not see the benefits of electrified transportation, however, due to a lack of charging stations and other factors. In cities across the country, including New York, Los Angeles, Chicago and Oakland, certain neighborhoods have significantly more charging stations than others, leading to EV charging deserts.<sup>9</sup>

Joint Commenters strongly support an equitable transition to electric transportation, and encourage the Commission and the Companies to further reduce barriers to EV adoption and ownership in the state. Data gathered during the Phase II Pilots and the Companies' deployment of EVSE, particularly in underserved areas, is important to the future growth of EV adoption in the state. Joint Commenters therefore ask the Commission to approve the Phase II Pilots subject to the modifications set forth in these comments.

## **II. Background on Phase II Pilots**

On March 29, 2019, the Companies filed their application for the Phase I Pilots, requesting to implement seven programs totaling over \$76 million.<sup>10</sup> Following the filing, multiple parties, including the Joint Commenters, petitioned to intervene in the dockets, filed initial and reply comment letters, participated in a limited hearing, and filed proposed orders. On November 24, 2020, the Commission issued an *Order Approving Electric Transportation Pilot, in Part*, approving: (1) a reduced EV school bus program that provides funding to offset the purchase of 15 school buses; (2) the deployment of 160 public Level 2 charging stations; (3) the deployment of 80 multi-family dwelling

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<sup>9</sup> Jonathan Gomez, Why equity must be central to EV infrastructure, GreenBiz (May 25, 2021), <https://www.greenbiz.com/article/why-equity-must-be-central-ev-infrastructure-planning>.

<sup>10</sup> See Phase I Application.

Level 2 charging stations; and (4) the deployment of 40 DC fast chargers at 20 locations.<sup>11</sup>

In its Order, the Commission directed the Companies to work with the Public Staff to convene a stakeholder process before filing a second phase of its ET Pilot, if any, consisting of public Level 2 charging, multifamily dwelling Level 2 charging and DC fast charging programs.<sup>12</sup> The Commission also directed the Companies to consider the following specific criteria in future ET pilot filings: (1) proper scale and scope; (2) rate design; (3) cost-benefit analysis; (4) leverage other funding; (5) make-ready approach; (6) objectives, metrics, and verification; and (7) reporting and stakeholder engagement.<sup>13</sup>

On May 24, 2021, at the conclusion of the six-month-long stakeholder process, the Companies filed their proposed Phase II Pilots. In their filing, the Companies state that the goal of the Phase II Pilots is to offer solutions to current EV adoption barriers by increasing the number of public charging stations and thereby overcoming consumer anxiety about battery range.<sup>14</sup> Further, the Companies believe that “the proposed Phase II Pilots will yield additional valuable information for the Commission and ET Stakeholders to review regarding how to efficiently foster equitable adoption in areas with customer groups in North Carolina that may be less served by the current EV market.”<sup>15</sup>

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<sup>11</sup> Order Approving Electric Transportation Pilot, in Part at 16-19.

<sup>12</sup> *Id.* at 19.

<sup>13</sup> *Id.* at 20-21.

<sup>14</sup> Joint Request by Duke Energy Carolinas, LLC and Duke Energy Progress, LLC for Approval of Phase II Electric Transportation Pilot Programs at 2 [hereinafter Phase II Application].

<sup>15</sup> *Id.* at 2.

To accomplish their intended goals, the Companies propose a portfolio of three programs. First, they propose a “Customer-Operated EV Supply Equipment (EVSE) Tariff Pilot.” In this pilot program, customers are billed for installations of EVSE on a monthly basis for a specific contract term. Customers operate the EVSE while Duke owns and maintains the EV charging equipment. The monthly rates vary from around \$13/month for a non-networked residential EVSE to over \$1,500/month for a networked, 150 kilowatt (kW) DCFC.<sup>16</sup>

Next, the Companies propose “Utility-Operated Public Charging Phase II Pilots” consisting of three components. First, they propose to install, own, and operate up to 480 public Level 2 charging station outlets (the “Public L2 Pilot”). These stations “will be installed at key publicly accessible locations in [Duke Energy’s] North Carolina service territory to enable charging in the public sector in underserved areas and build driver confidence in EVs, with site selection specifically targeted to low-to-moderate income and rural communities.”<sup>17</sup> Second, the Companies propose to install up to 480 multifamily dwelling Level 2 charging station outlets (the “MFD L2 Pilot”). These will also be sited in LMI and rural communities.<sup>18</sup> Third, the Companies propose a “to install, own and operate 180 DC fast charging station outlets (the “DCFC Pilot”). These will be located along highway corridors and are intended to create a “foundational network” of public DC fast chargers.<sup>19</sup>

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<sup>16</sup> *Id.*, Attachments A-B.

<sup>17</sup> *Id.*, Attachments C-D.

<sup>18</sup> *Id.*, Attachments E-F.

<sup>19</sup> *Id.*, Attachments G-H.

Finally, the Companies propose a second phase of their EV School Bus Program, consisting of a concentrated deployment of 10-15 buses at 10-15 sites. Under the program, Duke Energy will fund up to \$225,000 per bus and will retain ownership rights to the bus battery. The purpose “is to support procurement of Electric Vehicle School Buses (“EVSB”) by public school transportation systems to facilitate market adoption, collect utilization and other load characteristics to understand grid and utility impacts, and explore the potential for vehicle-to-grid power flow from EVSB batteries.”<sup>20</sup>

### **III. Recommendations**

#### **A. Equitable Distribution**

For aspects of the Phase II Pilots application with limited availability,<sup>21</sup> Joint Commenters recommend that the Commission require Duke Energy to show that it has attempted to allocate the benefits of the Phase II Pilots equitably before accepting applicants on a first-come-first-served basis. As SACE and NCJC discussed in their initial comments on the Phase I Pilots application, the principle of first-come-first-served is not appropriate for the allocation of customer-funded resources because it inherently advantages the potential recipients who are able to apply first, and those who can move first typically are those with the most resources, who can afford the time, attention, and expertise required to monitor for these opportunities and react to them quickly.<sup>22</sup>

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<sup>20</sup> *Id.*, Attachments I-J.

<sup>21</sup> Joint Commenters understand the EVSE Tariff portion of the Phase II Pilot not to be limited, but that the Companies plan to accept applicants for the Public L2 Pilot, DCFC pilot, and EV School Bus pilot on a first-come-first-served basis.

<sup>22</sup> Initial Comments of North Carolina Justice Center and Southern Alliance for Clean Energy at 18.

## B. Customer-Operated EVSE Tariff Pilot

1. Dynamic time-of-use rates should be opt-out rates for EVSE Tariff Pilot participants.

To encourage EV adoption and ensure that additional load from EVs does not exacerbate peak demand, it is important that the Companies send clear price signals to encourage charging to take place during less expensive, off-peak times of the day. Recently, DEC proposed three dynamic time-of-use rate designs in Docket No. E-7, Sub 1253 that “were explicitly created with EV charging in mind and have the potential to offer the lowest total cost of charging EVs thus far available in DEC’s territory given beneficial load shapes.”<sup>23</sup> If the Commission approves DEC’s proposed dynamic rate designs, the rates should be incorporated into the EVSE Pilot Tariff as opt-out (default) rates. Incorporating the rates as opt-out rates will likely increase the number of customers who take advantage of the dynamic rates. Similarly, if DEP proposes and the Commission approves similar rates, those rates should also be incorporated into this pilot program. At the very least, the Commission should direct the Companies to educate EVSE Pilot participants about the availability and benefits of the dynamic rate designs.

2. The EVSE Tariff Pilot should only be available for networked EVSE.

As currently proposed, the EVSE Tariff Pilot allows residential and non-residential customers the option to choose between a non-networked EVSE and a networked EVSE. For residential customers, the cost difference between a non-networked EVSE and a networked EVSE is relatively small (an additional \$3.67/month for DEC and \$3.65/month for DEP). For Level 2 chargers for non-residential customers,

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<sup>23</sup> Phase II Application at 7.

however, there is a significant price difference between the non-networked charger monthly rate of \$17.01 (DEP) and \$17.17 (DEC) and the lowest priced networked charger rate of \$71.97 (DEP) and \$72.49 (DEC). Thus, if presented with the two options, many customers would choose non-networked charger simply because of its cheaper price.

Unfortunately, non-networked chargers cannot provide the same depth of information as networked chargers. Networked chargers are connected to the internet and they can collect usage data, balance loads during peak demand (through managed charging), and provide functions such as billing and real time updates of charging.

For a pilot program such as this, the data collected from customers participating in the program is vitally important. First, the data can help the Companies, the Commission and interested parties gain insight into usage patterns, monitor uptime (the percentage of time that EVSE is working and can provide charging), and monitor the percentage of time that it is online. The data can also be used to better understand the relationship between EV charging stations deployed through the EVSE Tariff Pilot and EV registrations in the state.

Second, this data can be used to help shape future load management techniques in the Companies' service territories. As more electric vehicles increase demand on the Companies' system, load management becomes increasingly necessary to ensure that additional electric vehicles do not exacerbate peak demand, require the installation of additional distribution grid resources, undermine utility conservation efforts, or otherwise drive up costs on customers. The Companies are clearly interested in the potential for managing customers' load through the EVSE Tariff Pilot, stating that “[u]nder the

proposed [EVSE Tariff] Schedules, the Companies may provide programs and/or services to help customers manage charging during off-peak hours.”<sup>24</sup> Duke should use the EVSE Tariff Pilot as an opportunity to gather data and use that data to help customers manage their charging. The only way to directly manage charging (i.e., through a mechanism other than a time-of-use rate) is through networked charging networks.

For the above reasons, Joint Commenters urge the Commission to allow only networked EVSE options for those participating in the EVSE Tariff Pilot. However, Joint Commenters are concerned that the high cost of the non-residential networked charger available through the EVSE Tariff Pilot and question whether it aligns with the EVSE Tariff Pilot’s goal to reduce the up-front costs of EVSE. Therefore, we also recommend that the Commission consider discounted monthly rates for non-residential customers meeting specific equity criteria, such as serving EV drivers in low to moderate income and rural communities.

3. The EVSE Pilot Tariff should include an expiration date.

From Joint Commenters’ review of the Companies’ application, the EVSE Pilot Tariff is not limited to a specific period of time or a specific number of customers. The EVSE Schedules do provide minimum contract terms for the various types of charging infrastructure, such as: three years for residential Level 2 EVSE, five years for non-residential Level 2 EVSE, and ten years for DCFC infrastructure, but do not provide an expiration date for the pilot.<sup>25</sup> In contrast, the utility-operated public charging programs

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<sup>24</sup> *Id.*, Attachment A at 1, Attachment B at 2.

<sup>25</sup> *Id.*, Attachment A at 4, Attachment B at 4.

expire after 36 months. For instance, in the Public L2 program proposed schedule, the Companies provide that “[t]his Phase 2 pilot program will expire 36 months following its initial effective date.”<sup>26</sup>

As the Commission provided in its Order, the “scale and scope of a pilot program should be set in a manner that allows the utility to test a concept at a smaller scale . . . .”<sup>27</sup> Although it may be reasonable for the EVSE Tariff Pilot to continue longer than the 36 months allotted for the public charging programs, there should still be a time limit on the EVSE Tariff Pilot. Upon completion of the Pilot, the Companies, hopefully with the input of stakeholders, can analyze the data gathered and determine whether to move forward with proposing a permanent program.

4. Duke Energy should remove the provision in the EVSE Tariff Pilot schedules requiring a deposit for the contract term, particularly for residential customers.

The Companies state that the proposed Phase II Pilots will yield information about “how to efficiently foster equitable EV adoption in areas with customer groups in North Carolina that may be less served by the current EV market.”<sup>28</sup> With respect to the EVSE Tariff Pilot, the Companies state that it “allows for low up-front cost, which makes EVSE installation affordable for customers.”<sup>29</sup>

Unfortunately, the proposed EVSE Tariff Pilot schedules potentially impose high up-front costs on customers. Under the “Contract Period” section of the EVSE Schedules,

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<sup>26</sup> *Id.*, Attachment C at 1, Attachment D at 1.

<sup>27</sup> Order at 20.

<sup>28</sup> Phase II Application at 2.

<sup>29</sup> *Id.* at 11.

the Companies state that they “may require a deposit not to exceed 40% of the revenue for the original term.”<sup>30</sup> To meet the goals of the Phase II Pilots to remove obstacles to EV adoption and allow for low up-front cost for EV charging equipment, the Commission should require the Companies to remove this provision.

5. Duke Energy should consider tariffed on-bill financing for the EVSE Pilot.

As currently proposed under the EVSE Tariff Pilot, the Companies will provide charging infrastructure in exchange for the customer paying a monthly rate. At the end of a customer’s contract term, however, it is unclear whether the Companies will remove the EVSE or will offer to sell it to the customer, and if the latter, what the depreciated cost of that EVSE would be.

One potential additional option that the Companies should consider would be to offer a tariffed on-bill financing option for EVSE. Tariffed on-bill financing in this context would be designed to similarly limit the upfront costs of EVSE to customers while making it clear that those customers have a defined term after which those charges on their utility bills would cease and the EVSE would become the property of the customer. This option would provide a mechanism that allows a path to ownership for participating customers and allow the monthly charge to come to an end. After completing the requisite number of monthly charges on their bills, those customers would no longer be required to pay a monthly fee for the EVSE because they would own the charging infrastructure. Pursuant to a settlement in the most recent Duke Energy rate cases, the Companies are working with stakeholders on a pilot tariffed-on bill program

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<sup>30</sup> *Id.*, Attachments A-B.

for energy efficiency upgrades. As the Companies develop more experience with this framework, the Joint Commenters recommend that the Commission direct the Companies to work with stakeholders on devising a tariffed on-bill option for financing EVSE.

Another option which is not clearly stated in the EVSE Tariff Pilot schedules is the opportunity to participating customers to purchase the EVSE at its depreciated value at the end of their contract term. This would likely benefit both the customers and the Companies, as the customers would be able to continue using the asset and the Companies would be able to recoup the cost of the charging infrastructure (if it had not already done so through the monthly payments).

6. The Commission should require the Companies to consider the effects of demand charges on DCFC customers.

The Companies should be required to consider the effects of demand charges on customers operating DCFC stations, including those who are participating in the EVSE tariff pilot. Commercial customer rates typically include a demand charge that is based on the customer's maximum peak demand during any given month. This demand charge is often measured based on a customer's peak demand regardless of when that demand occurs. Particularly when utilization of DCFC is low, as it tends to be due to the early stage of the market, these types of charges "pose a significant challenge to the economics of EV charging, particularly at commercial and public charging locations."<sup>31</sup> In some instances, "[f]or charging sites dominated by relatively rare, yet very power-intensive,

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<sup>31</sup> Farnsworth, et al., Regulatory Assistance Project, Beneficial Electrification of Transportation (Jan. 2019), <https://www.raonline.org/wp-content/uploads/2019/01/rap-farnsworth-shipleysliger-lazarbeneficial-electrification-transportation-2019-january-final.pdf>.

bouts of fast charging, demand charges can add up to 90 percent of total electricity costs, leaving many sites deeply in the red.”<sup>32</sup>

Public utility commissions and utilities have taken steps to limit demand charges that may result from installing fast charging infrastructure because of the potential for low utilization of the DCFC stations at this stage of the market. For example, Florida Power & Light’s (FPL) five-year pilot program seeks to address the demand charge barrier by implementing a demand charge limiter.<sup>33</sup> Similarly, the Maryland Public Service Commission approved a temporary demand charge credit for utilities that were implementing pilot programs.<sup>34</sup> And in California, Southern California Edison was approved to provide a five-year demand charge holiday for new and existing EV customers.<sup>35</sup> The Rocky Mountain Institute (RMI) has recommended specific characteristics for DCFC charging station tariffs, including limited or on demand charges. Where demand charges are found to be necessary, RMI stated that it is “essential that

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<sup>32</sup> Jeff St. John, Getting the Rates Right for a Public EV Charging Build-Out, Greentech Media (Feb. 16, 2021), <https://www.greentechmedia.com/articles/read/getting-the-rates-right-for-a-public-electric-vehicle-charging-buildout>.

<sup>33</sup> Florida Public Service Commission, Commission Conference Agenda, Dec. 1, 2020, [https://psc-fl.granicus.com/MediaPlayer.php?view\\_id=2&clip\\_id=3314&meta\\_id=3696136](https://psc-fl.granicus.com/MediaPlayer.php?view_id=2&clip_id=3314&meta_id=3696136).

<sup>34</sup> Order No. 88997 at 56, *Petition of the Electric Vehicle Work Group for Implementation of a Statewide Electric Vehicle Portfolio*, Case No. 9478 (Md. P.S.C. Jan. 14, 2019).

<sup>35</sup> Decision of the Transportation Electrification Standard Review Projects at 110–17, *Application of San Diego Gas & Electric Company for Approval of SB 350 Transportation Electrification Proposals and Related Matters*, Decision 18-05-040 (Cal. P.U.C. May 31, 2018).

they be designed only to recover location-specific costs of connection to the grid, not upstream costs of distribution circuits, transmission, or generation.”<sup>36</sup>

Because demand charges may add significant costs to participants in the EVSE Tariff Pilot, Joint Commenters recommend that the Companies study the implications of current demand charges and rate structures on the DCFC participants in the EVSE Tariff Pilot, and on DCFC owned by the Companies developed through Phase I and Phase II, and submit the results of the study along with tariffs that will encourage EV adoption while reducing demand charges within one year of the date of this Order.

### **C. Public L2 Charging and MFD L2 Charging Programs**

Joint Commenters strongly support the Companies’ proposal to deploy public charging infrastructure in currently underserved areas throughout its service territories. As NCJC and SACE discussed in their initial comments on the Phase I Pilots, the proximity impact of transportation is disproportionately borne by people of color and people with low incomes. Electrifying transportation can help reduce the proximity impact of transportation, particularly the air pollution impact.<sup>37</sup> Thus, NCJC and SACE recommended that the Companies and the Commission attempt to distribute the benefits of the ET Pilots equitably.

Similarly, Sierra Club also focused on the need to improve access to clean transportation for all customers, recommending in its initial comments on the Phase I

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<sup>36</sup> Garrett Fitzgerald and Chris Nelder, Rocky Mountain Institute, EVgo Fleet and Tariff Analysis, Phase I: California (Mar. 2017), [https://rmi.org/wp-content/uploads/2017/04/eLab\\_EVgo\\_Fleet\\_and\\_Tariff\\_Analysis\\_2017.pdf](https://rmi.org/wp-content/uploads/2017/04/eLab_EVgo_Fleet_and_Tariff_Analysis_2017.pdf).

<sup>37</sup> Initial Comments of North Carolina Justice Center and Southern Alliance for Clean Energy at 17.

Pilots that “any future filing . . . includes additional solutions directed at improving access to clean transportation options for low and moderate-income communities.”<sup>38</sup>

Sierra Club then recommended several examples that the Companies could implement, including dedicating a specific percentage of infrastructure installed in specific communities, designating that bus electrification will primarily serve and/or travel through certain LMI communities and communities disproportionately burdened by air pollution, and siting DCFC and Public Level 2 stations together at community charging hubs.<sup>39</sup>

In their Phase II Pilots, the Companies follow the recommendations of Joint Commenters and seek to improve access to clean transportation options for all customers by prioritizing low to moderate income communities and rural communities for the deployment of public Level 2 and multifamily dwelling Level 2 chargers. Joint Commenters support the Companies’ plan to install charging stations in these areas, subject to the modifications set forth below.

1. The Companies should ensure that charging stations will benefit underserved customers.

In the Phase II public charging pilots, the Companies have an opportunity to gather valuable data that should help determine whether deploying utility-owned assets in LMI and rural communities lead to an increase in EV adoption in those communities. However, to gather that information, the Companies first need to ensure that charging stations are actually being deployed in those communities.

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<sup>38</sup> Initial Comments of Sierra Club at 17-18.

<sup>39</sup> Sierra Club Phase I Initial Comments at 17-18.

The Companies have proposed to deploy 50% of Public Level 2 and MFD Level 2 stations in LMI communities and 50% in Tier I and II counties.<sup>40</sup> However, siting in LMI communities and Tier I and II counties does not necessarily mean installing the charging stations in underserved communities. For instance, not all multi-family dwellings located in LMI communities are occupied by LMI residents, particularly in gentrifying communities. Similarly, not all locations in Tier I and II counties are rural and underserved as they make up the vast majority (80%) of the counties in North Carolina. Therefore, the Companies should establish more specific criteria for selecting the sites to deploy the charging infrastructure.

NCJC and SACE met with the Companies prior to the filing of the Phase II Pilot application to discuss site selection. As noted in their application, NCJC and SACE recommended that the Companies identify multifamily properties that received tax incentives through the Low Income Housing Tax Credit (LIHTC) program for installation of Level 2 charging stations. The program “awards developers federal tax credits to offset construction costs in exchange for agreeing to reserve a certain fraction of units that are rent-restricted and for lower-income households.”<sup>41</sup> It is also a straightforward way to ensure that the MFD L2 Pilot chargers are serving lower income people. There is a list of LIHTC properties and the properties are spread across the entire state, including throughout the Companies’ service territories.<sup>42</sup> The Companies could

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<sup>40</sup> *Id.*

<sup>41</sup> Mark P. Keightley, An Introduction to the Low-Income Housing Tax Credit, Congressional Research Service, RS22389 (Jan. 26, 2021), <https://fas.org/sgp/crs/misc/RS22389.pdf>.

<sup>42</sup> See *Find Awarded Projects*, North Carolina Housing Finance Agency, <https://www.nchfa.com/rental-housing-partners/rental-developers/find-awarded-projects>

also work with cities' housing and neighborhood service departments as those departments often provide funding for affordable housing and already have relationships with these properties, including with LIHTC or other affordable housing properties. Identifying sites in these ways would help ensure that the charging stations reach LMI households.

2. Site selection for Public Level 2 charging and MFD charging should be coordinated to create community-wide charging networks.

To successfully determine whether deployment in underserved areas increases EV uptake, charging stations should be deployed in a coordinated and organized fashion that prepares a community for electric transportation. Joint Commenters recommend that the Companies deploy Public Level 2 and MFD Level 2 charging stations in close proximity to one another to create communities that are preparing for electric vehicles. Doing so would help alleviate common concerns around range anxiety, thus leading to increased EV uptake. Furthermore, creating EV-ready communities could increase EV adoption by opening the door for other entities to begin offering programs aimed at increasing access to clean transportation, such as programs that provide financing for EVs or car-sharing programs.

3. Outreach is critical to the Public Level 2 and MFD Level 2 Pilots' success.

To successfully implement the public charging program, the Companies must take time to reach out to and raise awareness in communities prior to selecting sites and beginning deploying charging stations. The Companies should take the time needed to

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(last visited July 29, 2021); see also *LIHTC Database Access*, U.S. Dep't of Housing and Urban Dev., <https://lihtc.huduser.gov/> (last visited July 29, 2021).

educate public officials, host community meetings, and receive feedback from specific communities before they begin deploying the Level 2 chargers. This outreach and engagement should be done in collaboration and coordination with stakeholders and community organizations already working in the targeted LMI and rural communities, possibly through a subgroup of the ET Collaborative. While this means that the Public L2 and MFD L2 Pilots may be pushed back by three to six months, it will likely result in a more equitable and more well-utilized charging network. Further, the Commission should require the Companies to develop a strategy for marketing and outreach, as well as tailored materials, targeted for customers rural and low-income areas.

4. Customers using the MFD Level 2 charging stations should be charged at residential rate.

As currently proposed, “MFD L2 charging services will be offered in exchange for an L2 Charging Fee consistent with the Kilowatt-Hour Charge of the Company’s first block energy rate of the most current Small General Service (SGS) Schedule, plus \$0.02/kWh.<sup>43</sup> For DEC, the first block energy rate for the SGS Schedule is 11.3739 cents/kWh, and for DEP, the first block energy rate for the SGS Schedule is 11.118 cents/kWh. Thus, for MFD L2 charging services, customers will pay 13.3739 cents/kWh in DEC territory and 13.118 cents/kWh in DEP territory.

Meanwhile, customers on residential service rates with L2 charging stations at their homes pay a lower per kWh rate (based on the residential service schedule, not the TOU rate, which varies based on the time of day the charging station is used). DEC customers on the residential service rate pay 9.3826 cents/kWh. DEP customers on the

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<sup>43</sup> Phase II Application, Attachments E-F.

residential service rate pay between 10.271 cents and 10.772 cents/kWh based on the time of year.

Customers using the MFD L2 charging stations are like already residential customers of the Companies. For EV purposes, the difference between MFD residents and those with single family homes is that MFD residents are not able to install a charging station and charge their vehicles like those who have single family homes. However, they should not be penalized by having to pay roughly 3 cents/kWh more (the difference between the SGS + \$0.02 rate proposed by the Companies and the residential rate) to charge their vehicles. Furthermore, the Companies' goal of the Phase II Pilots is to remove obstacles to EV adoption. The Companies should treat residential customers—whether living in MFDs or single-family homes—similarly for EV charging.

Joint Commenters recommend that the Companies offer MFD L2 charging services based on residential flat rates. Although the typical residential rates are flat rates that do not encourage customers to shift charging to off-peak times, customers living in MFD likely will need to share EVSE and as a result may be unable to shift charging to off-peak times.

#### **D. DCFC Pilot**

The Companies propose to install, own and operate between 80 and 180 DC fast charging station outlets (the “DCFC Pilot”) for highway corridor charging.<sup>44</sup> These are intended to create a “foundational network” of public DC fast chargers in Tier 1 and Tier

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<sup>44</sup> *Id.* at 17.

II counties.<sup>45</sup> The Joint Commenters are supportive of this program because there is a shortage of DC fast charging outlets along highway corridors, particularly in more rural counties. According to data collected by the Department of Energy, there are currently about 115 public DCFC stations in North Carolina (including Tesla),<sup>46</sup> with the majority of those clustered along the I-40/I-85 corridor connecting the Triangle, Triad, and Charlotte-Mecklenburg metropolitan areas, along I-95, or Buncombe County.<sup>47</sup>

However, as noted above with regard to the multifamily dwelling program, the Joint Commenters have concerns about how the Companies will decide to locate those DCFCs. As noted above, Tier I and Tier II designations are extremely broad, covering 80 counties in the state. And importantly, the proposed tariffs do not themselves require Duke Energy to install those DCFCs in Tier I or Tier II counties.<sup>48</sup> The Joint Commenters request that the Commission require the Companies to prioritize locations where there are currently no DCFC stations and include language in the applicable tariff indicating that those stations will be installed in underserved, rural areas. Another type of underserved area that the Companies should consider for deploying DCFC stations are urban areas where residents rely on ride sharing services. As EVs become more prevalent amongst ride-sharing providers, the Companies should explore areas that could allow for fast charging to allow those drivers to serve the transportation needs of areas that are underserved by transit options.

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<sup>45</sup> *Id.*, Attachments G-H.

<sup>46</sup> U.S. Department of Energy, Alternative Fuels Data Center (as of July 28, 2021) (<https://afdc.energy.gov/stations/states>).

<sup>47</sup> ChargeHub (<https://chargehub.com/en/charging-stations-map.html>)

<sup>48</sup> Phase II Application, Attachments G & H.

The DCFC program should also make transparent which locations would require transformer upgrades to provide DCFC (50-350kW) at scale as well as locations that meet charger gap criteria. If the utility were allowed to upgrade service in locations that are currently underserved, this could also benefit third-party EVSE companies who may also then invest in adding DCFC stations as well. In any event, making this data available will aid third-party EVSE companies in better targeting DCFC deployment.

In addition, Joint Commenters reiterate concerns about demand charge issues for private entities that install DCFC. The Fast Charge Fee proposed by the Companies would not be competing on a level playing field with third-party EVSE fast charging providers, who would be hit with steep demand charges under existing tariffs.

#### **E. EVSB**

Joint Commenters support the Companies' desire to deploy 4-6 EVSB at 10-15 sites and understand the important data that can be gained by deploying multiple buses in a single school district. However, Joint Commenters submit that it is particularly important to distribute the benefits of the EVSB pilot equitably. The problems with first-come-first-served allocation are particularly salient for this program because of the opportunity to lift some pollution burden suffered by children in underserved communities. In addition, the relatively low number of EVSB involved in the pilot should make targeting easier to administer. Furthermore, distributing according to first-come-first-served will not allow the Companies to ensure that EVSB are distributed across the various geographies and rural-vs-urban use cases that exist across the state. It is important that the data collected is applicable to as wide a range of school districts as possible to support future electric school bus procurement decision making.

The Commission should require the Companies to affirmatively contact school districts that represent the state's geographical and demographic diversity, including those whose residents disproportionately suffer from air pollution, particularly those that are also low-income, and to prioritize their applications, only accepting applications on a first-come-first-served basis after expending reasonable effort to solicit applications from the school districts described above, and providing reasonable time to apply, EVSB remain available.

In order to facilitate participation by low-income school districts, Joint Commenters recommend requiring the Companies to offer full funding for EVSB that would serve pollution-burdened or low-income school districts if after reasonable efforts by the Companies and the school district, the school district is unable to secure additional funding to cover the approximately \$150,000 incremental cost for EVSB and its charging equipment that the Companies estimate will remain even after EVSB pilot funding. Joint Commenters are concerned that the combination of this funding gap and first-come-first-served distribution pursuant to the Companies' discretion, will result in few if any EVSB provided to pollution-burdened or low-income school districts.

**F. The Commission should require the Companies to file regular reports to help stakeholders meaningfully evaluate the success of the Phase II Pilots and related transportation electrification projects.**

The Commission should require the Companies to file quarterly reports on the progress of implementing the proposed Phase II Pilots and the data gathered, along with a larger annual report assessing the pilot's effectiveness, challenges, and lessons learned about customer charging behavior. With the Companies appropriately engaged in a multifaceted approach to helping the State meet EO 80's goals, including various

proposals for EV rate design and pilots targeting discrete EV use cases, meaningful reporting requirements are key to ensuring that the proposed Phase II Pilots will, as the Companies intend, “allow for direct comparison to the EVSE Tariff Pilot and the Make Ready Credit deployments, which ultimately involve customer-owned and operated structures.”<sup>49</sup> Joint Commenters agree with the Companies that the Phase II Pilot is likely to “yield additional valuable information for the Commission and ET stakeholders to review,”<sup>50</sup> especially as to critically important market segments that are currently underserved and the pilot is aimed at reaching: low- and moderate-income customers, those in less urban areas, and the gap in available DC fast charging stations.<sup>51</sup> To ensure this information is timely and presented in a valuable format, offering the greatest impact on lessons learned and information that can help guide future investments, the Commission should establish both quarterly and annual reporting obligations for the Phase II Pilots.

Moreover, in order to be consistent with the Commission’s prior Order in the Phase I Pilot, additional reporting obligations must be required here, which will also help ensure that the information learned through this pilot and others is as accessible and useful as possible. While the Companies’ application has a section addressing “Reporting Activities and Continued Stakeholder Meetings” in which the Companies states that they intend to continue the ongoing quarterly stakeholder meetings, it makes no commitment on sharing data or its internal assessments of program implementation

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<sup>49</sup> *Id.* at 14.

<sup>50</sup> *Id.* at 2.

<sup>51</sup> *Id.*

and effectiveness.<sup>52</sup> This open-ended assurance does not comport with the Commission’s November 24, 2020 Order on the Phase I pilot, which clearly states that for future proposals, “the Commission will require” that those programs are designed to meet certain criteria, including stating that “[e]ach pilot program should have clearly defined goals, metrics for evaluating performance, and a verification process.”<sup>53</sup> Although the Companies set out a set of overarching goals for the Phase II Pilots, including to “provide valuable feedback on how best to help North Carolina reach Executive Order 80’s goal of 80,000 zero emission vehicles on North Carolina roads by 2025,”<sup>54</sup> there are no metrics in the Companies’ application for evaluating the effectiveness of the program and no commitment to a specific verification process. Consistent quarterly and annual reporting obligations, with clearly defined metrics, will ensure the Companies’ assessment of the pilot is transparent and will make the quarterly ET Stakeholder Group meetings that the Companies intend to continue<sup>55</sup> far more effective.

The Commission should thus require both quarterly and annual reporting, both to ensure that the Companies share data with the ET stakeholder group in a transparent manner and to ensure that the Companies, the Commission, and the public gain valuable insights from the Companies’ various transportation electrification pilots and rate design

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<sup>52</sup> *Id.* at 2, 20.

<sup>53</sup> North Carolina Utility Commission, In the Matter of Duke Energy Carolinas, LLC and Duke Energy Progress, LLC, for Approval of Proposed Electric Transportation Pilot, Docket Nos. E-2, Sub 1197 and E-7, Sub 1195, Order Approving Electric Transportation Pilot, In Part, at 20-21 (Nov. 24, 2020).

<sup>54</sup> Phase II Application at 1.

<sup>55</sup> *Id.* at 20.

efforts. We propose the Commission require, at a minimum, the following metrics be addressed in the Companies' quarterly and annual reporting on the Phase II pilot:

Quarterly reporting:

- Number, status and locations of charging stations deployed for each pilot component;
- Anticipated charger installations, including type of charger, number of chargers, location, and installation date;
- Charger replacements, and location;
- Accuracy of the Companies' measurements for electricity consumed and the EV portion of a customer's bill, by pilot segment;
- Program expenses, by pilot segment;
- Participation data by location and income bracket for any residential component;
- Prices per kWh charged to drivers, by pilot segment;
- Proportion of charging on-peak vs. off-peak for customers on any then-available time-of-use rate;
- Any changes to the program the Companies have made or intend to make based on data gathered.

Annual reporting:

- Evaluation of progress toward pilot goals;

- For each pilot segment (school bus, DCFC, Public L2, multi-family dwelling), number of chargers installed and whether installation serves rural and low- and moderate-income communities;
- Lessons learned, in conjunction with other pilots and rate offerings, including the Make Ready Tariff, the EVSE Tariff Pilot.
- Costs (capital and operation) of pilot implementation, by pilot segment;
- Electricity sales from the pilot, by segment, and any implications this has for electricity rates;
- Grid benefits of the pilot;
- Extent of DCFC charging gap in North Carolina, and progress toward closing that gap;
- Effectiveness of public education and outreach;
- Effectiveness at reaching rural and low- and moderate-income customers;
- Opportunity to optimize utility-investments with available federal funding for transportation electrification.

#### IV. **Conclusion**

For the foregoing reasons, Joint Commenters respectfully request that the Commission approve the Phase II Pilots subject to the modifications set forth above.

Respectfully submitted this the 29th day of July, 2021.

s/ Nicholas Jimenez

Nicholas Jimenez

s/ David Neal

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CERTIFICATE OF SERVICE

I certify that all parties of record on the service list have been served with the foregoing comments either by electronic mail or by deposit in the U.S. Mail, postage prepaid.

This the 29th day of July, 2021.

s/ Nicholas Jimenez