

STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH

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

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of:)
Application by Duke Energy Carolinas,)
LLC, and Duke Energy Progress, LLC,) INITIAL COMMENTS OF
Request for Approval of Phase II Electric) CALSTART’S COALITION FOR
Transportation Pilot Programs) COMMERCIAL ELECTRIC VEHICLES
)
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Introduction

Pursuant to the North Carolina Utilities Commission’s (“Commission”) June 14, 2021 Order, CALSTART’s Coalition for Commercial Electric Vehicles submits the following comments regarding Duke Energy’s proposed phase II electric transportation pilot programs. CALSTART is a member-based 501c3 non-profit with regional offices across the country, including in Florida, Michigan, and New York. CALSTART seeks to accelerate the commercialization of clean transportation technologies in the U.S., and with our “Global Drive to Zero” program, across the world. CALSTART has over 280 organizational members including vehicle and component manufacturers, transit agencies, goods movement operators, investor-owned utilities, publicly-owned utilities, and electric vehicle service providers. CALSTART has engaged in utility proceedings in Michigan, Missouri, New York, California and many other states.

CALSTART’s Coalition for Commercial Electric Vehicles “CCEV” includes the following commercial vehicle and commercial electric vehicle charging providers: Arrival, Daimler, EVgo, Greenlots, Lion Electric, Morgan Olsen, Nikola, and Volvo Group. The goal of CCEV is to collectively advance utility programs that support fleet electrification and affordable commercial charging solutions. CCEV works to ensure that utility programs support the growth of commercial electric vehicles through thoughtful program and rate design and adoption of best practices for fleet solutions, as we are confident

that the role of the utility is paramount for fleet adoption of electric vehicles. If CCEV members have differing perspectives on this proposed program, these will be addressed in their separately filed comments.

Our coalition appreciates the opportunity to comment on Duke's filings under E-2 Sub 1197 and E-7 Sub 1195 and specifically the proposed electric vehicle phase II pilot programs. Our coalition identified North Carolina early on as a key market where we expect to see rapid adoption of commercial electric vehicles, given the state's commitments to transportation electrification, and it is an important market for CCEV member companies. However, the pace and scale of adoption of EVs in North Carolina depends in part upon the necessary policy and regulatory frameworks being implemented to support the state's goals. For these reasons, we decided to formally engage in this proceeding.

Through CALSTART's work with our members across the country, it has become clear that there are certain utility programs that are foundational to transportation electrification, and without such programs it is likely that states will get left behind on the rapid progress towards electrification. These key program designs CCEV advocates for include:

- 1) Utility-side make-ready infrastructure support, both in the form of interconnection assurances and by utilities installing and owning the necessary distribution-system upgrades;
- 2) Incentives for customer-side "make-ready" costs and EV supply equipment (EVSE);
- 3) Rate-design that makes the cost of charging clear, and ensures that it is cost-competitive with diesel as a fuel source;
- 4) Fleet planning and support services that help fleets to not only install their first few chargers, but to plan for EV adoption over 5-10 years.

CCEV agrees that utility and customer side make-ready infrastructure investment is a foundational element to utility investment in EV infrastructure, although it is only one of several needed incentives and mechanisms by which utilities can accelerate EV adoption. Often, we have found that these critical programs are most likely to develop after a state-wide plan has been created for transportation electrification that clarifies the role of utilities, through a framework policy document or Commission developed "roadmap". It is very helpful if these roadmaps clearly lay out the vision for the role of the utility in this transformation to clean transportation. It was a key milestone for North Carolina to release

its ZEV plan in 2019, highlighting the importance of converting to electric fleets,¹ however this plan focused on overall statewide activities and not only on the Commission's activities. In recognizing that Duke is developing a suite of EV programs in the absence of a Commission-developed policy roadmap for utility programs, and with our commendation for Duke's efforts, we offer these comments on the present filing.

We encourage the Commission to adopt a framework for the state's policy on the role of utilities, which should establish either a framework or criteria for deciding when utility ownership of EV infrastructure is necessary or important. Furthermore, such a framework could ensure that EV programs - whether on-going programs, such as the Make Ready Credit Program or pilots, such as the Phase II and Phase II Electric Transportation Pilots - are complimentary. It is commendable that Duke has proposed - and continues to propose - a variety of different programs and pilots intended to spur EV adoption across multiple customer segments and use cases, but the lack of such an overarching framework can inadvertently lead to customer confusion and duplicative incentives. Indeed, a Commission-established framework can be helpful to ensure that different utility programs collectively fill in any missing gaps. To wit, based on our reading of this filing and the Make Ready Credit filing, neither addresses the upgrades that may be necessary up to the point of the customer's meter. Our overall request is for Duke to both tighten and expand upon the program/pilot descriptions: clarify what they are, what they are intended to accomplish, and how the separately filed EV programs plus existing line extension and distribution upgrade programs are intended to work together. We wish to emphasize that in our experience multiple approaches and incentives are needed to meet different customer needs. Overall, this pilot filing is an important step for North Carolina but it doesn't represent all that is needed, and therefore we ask the Commission to encourage Duke to go further in creating the necessary ecosystem of transportation electrification programs and rates.

- 1) Duke's Line extension policy for commercial charging must be clarified and improved, this should be done through the EV pilot proceeding: (section E page 26)

¹ North Carolina Department of Transportation, "North Carolina ZEV Plan", October 2019, at 17.

Commercial fleets and charging developers cannot make decisions without concrete information regarding the full costs they will be expected to bear. A customer-side make ready and EVSE program will only be effective if the necessary distribution system upgrades are made, and fleets/ developers aren't expected to shoulder unknown or uncertain costs. It is our position that utilities should cover utility-side of the meter costs. Since this is utility owned infrastructure, the utility and other customers will also benefit from these upgrades. There is precedent for covering 100% of utility-side upgrades and rate-basing these investments, which are utility owned.²

Duke's existing front-of-the-meter policies³, including distribution system infrastructure upgrade policies, are challenging to understand in this context and do not seem to be designed with EV charging in mind. There is too much risk placed on developers for unknown costs. The line extension policies are very complicated and hard to understand for new customers who have never gone through the upgrade process.

Duke's existing line extension policies⁴ cover costs from the secondary side of the distribution transformer to the customer meter. The Phase II ET Pilot discusses "Distribution Extra Facilities" - additional charges for the primary transformer and/or primary conductor and makes reference to the "Companies Service regulations". It would be helpful if, through the ET pilot filings, Duke would explain how these policies, and others, will work together for utility side "make ready" upgrades that will likely be needed to serve fleets and DCFC applications. Then, the Commission can review and weigh in on whether these policies need to be changed so that the state's transportation electrification goals can be achieved.

² See California Public Utilities Commission decisions 18-05-040; Massachusetts D.P.U. 17-13 approval of National Grid's Electric Vehicle Market Development program, Sept 10, 2018.

³ Duke Energy Progress LLC, Line Extension Plan E-68, Effective June 1, 2021, NCUC Docket No. E-2, Sub 1219 and Duke Energy Carolinas LLC, North Carolina First Revised Leaf No. 400, Effective June 1, 2021, NCUC Docket No. E-7, Sub 1214, Order dated March 31, 2021

⁴ *Id.*

It is unclear whether there are any exceptions to the existing line extension policies that might apply to EVSE. Our understanding of the existing line extension policies is that for non-residential extensions of more than 500 feet, the same credit system calculations proposed in the Make Ready program would seem to be applied: the customer would pay all costs for the extension, minus the “credit” they receive. The credit would equal the expected revenue increase for a 3-5 years (as long as that is not greater than cost of construction). We would appreciate Duke clarifying if we have interpreted this correctly.

In the Phase II EV pilot program, our reading of existing policies is that if non-residential customers want to install multiple DCFCs at their facilities, then there could be a need for engineering studies and potential upgrades to transformers and substations, depending on existing capacity. Since these costs are not discussed in this proposal, and do not seem to be addressed, we are concerned that either customers would be subject to these charges, or that pilots will be restricted to those installations that will not have a significant impact on distribution infrastructure .

To encourage EV growth in NC, the Commission should approve the utilities covering 100% of EVSE-enabling distribution system upgrades for the next 5 years. This is justified based on grid and ratepayer benefits, including but not limited to increased electricity sales and better asset utilization. Rate-basing utility side make ready is not only appropriate but should be done to facilitate adoption. Therefore, we also strongly encourage Duke to offer some form of comprehensive utility owned and operated full make ready (customer and utility side), fully financed program, as an additional complement to the customer-owned approach. In other states, the Commissions have established an overall budget cap for both front of the meter and behind the meter make-ready programs,⁵ which would be a valuable exercise for this Commission as well.

2) *Comparison to “Make Ready Credit” proposal*

⁵ California Public Utilities Commission D. 18-05-040; New York Public Service Commission, Case 18-E-0138, “ORDER ESTABLISHING ELECTRIC VEHICLE INFRASTRUCTURE MAKE-READY PROGRAM AND OTHER PROGRAMS,” July 16, 2020; Dominion, Smart Charging Pilot Program, SCC PUR-2019-00154, March 26, 2020.

In comparing the separately proposed “make ready” credit to the utility owned program proposed in this present filing, our coalition observes that the value provided is unequal. We assert that the “make ready credit” incentive should be comparable to the utility ownership model proposed in this pilot. It seems like the utility would be “made whole” through this EV pilot design (or even potentially make a profit off the monthly charges), but private developers would only receive a small incremental incentive under the “make ready” credit design. The value of these two proposals should be neutral with regards to ownership. It is not justified to have one type of owner (non-utility) bear a large portion of the costs of an equivalent project while a utility owned project is reimbursed at 100% by the customer.

3) *Recommended improvements and additions to the EVSE Tariff Pilot.*

CALSTART has observed that a utility ownership model for customer-sited infrastructure appeals to certain customers, such as small fleets, who don’t want to own EV charging infrastructure (EVSE) and prefer their utility to take care of the EVSE. These types of customers may lean towards this EVSE tariff program vs the “make ready” credit program. Based on our experience, we expect that other, larger or more experienced fleets will feel comfortable owning their own equipment. Therefore, it is important that this program design be fair and efficient and ensure that customers do not overpay vs. what it would have cost to install EVSE on their own. To solve this, we have some recommended design changes. We also suggest that the Commission and Duke may want to frame this program as a financing tool. Under a financing program, the amount of the monthly on-bill financing should be calculated with a finite number of payments representing EVSE and installation costs, after which time the equipment will be fully paid off and owned by the customer.

It is unclear that this EVSE tariff program, as proposed would provide an attractive financing or “charging as a service” option for fleets or charging developers. In the attachment A, p. 4 it is noted that the pilot programs will be three years, with the possibility of extension. Contract periods for non-residential L2 are 5 years and DC-FC contracts are 10 years. Does that mean that the tariffs will continue

unchanged for the contractual period? Based on our estimates, for most applications, the utility would be made whole after 5-6 years.

Duke's EV tariff proposed here may be intended to be more of a "charging as a service" model, wherein the Duke manages and maintains the equipment throughout its lifetime (including replacement if necessary). If so, this should be clarified. Charging as a service may be appealing to some types of fleets, but the filing is not completely clear whether this is what Duke is offering. If this is a financing mechanism, Duke should establish a payment cap that falls short of full EVSP costs, ongoing costs like networking, and maintenance over the expected lifetime of the equipment. If a financing mechanism is *not* what Duke intended in this filing, we highly encourage Duke to propose such a program as part of this Phase 2 pilot and as an alternative to a "charging as a service" program.

Furthermore, in the EVSE Tariff Pilot, we observe some unnecessary sizing limitations in the pilot proposal that pose what we believe is an unintentional foundational issue for the usefulness of this pilot: the proposal (Attachment A, p. 1) specifies that level 2 chargers only go up to 9.6 kW, and therefore we wish to note that L2 charging for commercial vehicles is often much higher—up to 19.2 kw. Light duty EV's are increasingly able to accept higher power levels as well from a level 2 charger. DCFC doesn't begin until 25 kW. Therefore, the Tariff should include an option for an EVSE Monthly Rate serving 9.7-19.2 kW, with rates reflecting the higher cost of higher capacity chargers.

We observe that the monetary value the Tariff offers customers interested in DCFC is not necessarily as high as for level 2 charging: we estimate the time needed to repay the investment on the monthly rate is around 4.5 - 6.5 years for DCFC.⁶ Perhaps if warranty or maintenance costs were included, it would represent better value for the consumer—we understand that these are not included in the current

⁶ Example: an ABB 24 kW DC Wallbox would cost roughly \$20,000 for a basic wall installation. $\$20k/372 = 53.8 \text{ mo} = 4.5 \text{ year}$ repayment, not including maintenance and network fees).

proposal. Also, an additional consideration for DCFC proposed costs is whether there is a limit to the number of chargers per site that can participate in this program. This is unclear to us from the filing.

We observe that there is a significant cost increase in the non-residential table for networked vs non-networked chargers⁷. So, we are concerned that any customers that are providing free charging (perhaps to employees) will likely elect the cheaper non-networked rate. This could prevent data capture that might be valuable to the utility, and therefore we encourage Duke to consider how they may capture charging data from these non-networked customers.

We also note that while the Tariff offers welcome predictability for certain monthly customer costs, significant uncertainty remains about “other” one-time costs. “For L2 and/or DCFC electrical panel/wiring upgrades, a one-time non-refundable contribution will be made by the Customer for the costs above any make-ready incentives the Company may offer, and the Customer has applied for and received. The electrical panel/wiring upgrades on the Customer’s side of the meter remain the property of the Customer.”⁸ As we have noted elsewhere in these comments, the more transparency and predictability there is about the full range of costs associated with purchase, installation and operation of EVSE infrastructure, the more likely customers will be to participate.

4) This pilot proposal needs to further clarify managed charging parameters

The proposal says Duke will “help customer manage charging during off-peak hours”⁹ – but it is unclear to us whether this refers to automated managed charging, smart charging or primarily just passive customer education. We assume this means that customers have the option of opting into utility-controlled managed charging to optimize charging costs, but we would ask that this be clarified.

Also, the non-residential Level 2 EVSE pilot has different tariffs for participants who have managed charging (which requires networking) vs non-networked charging. Duke should consider including

⁷ Attachment A, Electricity No. 4, North Carolina Original Leaf No. 254, p. 1

⁸ Attachment A, Electricity No. 4, North Carolina Original Leaf No. 254, p. 2 Section D

⁹ Attachment B, ET-6, p. 1

customer education for the non-networked pilot customers. This would ensure that customers become aware of the benefits of charging during off-peak hours and the opportunity to have non-networked customers also participate in off-peak charging is not lost.

5) *Duke should include plans for Program Evaluation.*

CCEV recommends that Duke clarify and further expand upon how it will evaluate this pilot program and what sort of metrics it will use to determine whether it will file for a full program after the pilot period ends. It would also be valuable for the Commission to weigh in on what metrics it thinks are most relevant to pilot evaluation. While the proposal calls for quarterly reporting to stakeholders, this is not a substitute for full program evaluation. Before or shortly after this pilot is approved, the Commission should clarify how and when they will evaluate the success of the pilot, and by what criteria the Commission will determine whether this should be a full program rather than just a pilot.

Upon evaluation, the Companies will have access to data from the participants - and for networked participants, data on charging patterns. It is important to define metrics at the beginning to ensure that the right data is collected and appropriately anonymized for evaluation or further research and development. For example, you will need customer-level data to evaluate programs intended to encourage off-peak charging.

We also recommend that Duke clarify how it will evaluate and adjust program design during the pilot period. For example, how will Duke respond, and what changes might it propose if customer uptake is much lower than expected, or if there is not diversity amongst the types of customers taking advantage of this program? It is very important that stakeholders have visibility into how well the pilot is working and how it is meeting its goals. We recommend, at a minimum, a mid-term review after which Duke could come back and modify the program if necessary. Evaluation metrics would not necessarily have to be time-bound and could instead be based on achieving a target number of stations, customers, etc. As one example, CCEV would like to see customer participation by segment reported on a quarterly basis.

We recommend that Duke rely upon the EV stakeholder group to provide further specific suggestions on this topic.

6) *This pilot should establish fleet assistance programs.*

Fleet planning/ technical assistance programs are a critical component of EV programs and should be part of this pilot. Such programs have been established by *many* utilities across the country including DTE, Consumers Energy (MI), National Grid (NY), Southern CA Edison, PG&E, etc. We encourage Duke – in consultation with the EV stakeholder collaborative - to move quickly to develop specific recommendations and a comprehensive program to support fleet electrification, and to file it as part of this docket within the next six months.

7) *Comments on utility owned DCFC program and utility owned public L2 charging program:*

We are encouraged to see Duke proposing various methods aimed at energizing the charging landscape in North Carolina and laying the groundwork necessary for widespread EV adoption, and offer these comments on further improvements to this filing. As a coalition of diverse members, CCEV is neutral on the issue of utility ownership. However, as noted earlier, it seems like Duke’s proposed program designs would make itself whole when it owns, installs and operates chargers, but private developers would receive a smaller incremental incentive through the make-ready credit, or may end up paying more than the direct costs for EVSE purchase, installation and network fees under the Phase 2 pilot, as proposed. The value of incentives received by non-utility public charging developers should be comparable to the amounts that the utility would reimburse itself for, since both are being funded by ratepayers.

Regarding provisions for chargers serving low and moderate income (LMI) communities, we recognize that Duke is responding to clear direction from the Commission and CCEV is supportive of equitable charging asset development. However, LMI goals and targets will benefit from being more clearly defined which may better inform how the utility-ownership based pilots will bridge the gaps in

underserved sectors. Moving forward, the Commission should more clearly specify the criteria by which these LMI pilots will be evaluated, as we noted above in recommendation No. 4.

8) Recommendations for moving forward with an EV Framework

North Carolina has made a bold commitment to an electric transportation future. Because North Carolina is clearly committed to the role of the utility in growing the EV market—it would be more impactful for this Commission to approve an overall multi-year budget for a comprehensive suite of EV programs, including customer-side and utility make-ready, as well as a vision for the overall role of the utility and utility ownership. CALSTART suggests that North Carolina should regularly evaluate the state’s public charging network, and Duke should present an analysis of the need for utility ownership of public L2 and DC-FC charging. Upon the conclusion of this pilot, the Commission should develop a framework that lays out the role for utility ownership for public feedback.¹⁰ For example, the New York Public Service Commission released its Electric Vehicle Infrastructure Order last year,¹¹ Connecticut very recently published a Decision laying out their EV charging framework,¹² and the CA Public Utilities Commission, which has approved many EV programs over the past decade, just released a decision clarifying which charging segments needed utility intervention in CA and why.¹³ Upon the conclusion of this pilot, CALSTART recommends North Carolina should do the same by clarifying the need for public charging in the state and the role of utility ownership in meeting that need.

9) Comments on the school bus pilot program:

CCEV is encouraged to see Duke’s support for electric school buses, which will dramatically benefit North Carolina’s school children by reducing their exposure to diesel pollutants while enabling school districts to save money on fuel costs. Providing a \$225k purchase incentive is generous. We agree

¹⁰ These are the recommendations of CALSTART as an organization and not per se of all our CCEV members.

¹¹ CASE 18-E-0138; “ORDER ESTABLISHING ELECTRIC VEHICLE INFRASTRUCTURE MAKE-READY PROGRAM AND OTHER PROGRAMS”, July 16,2020.

¹² Connecticut Public Utilities Regulatory Authority, Docket No. 17-12-03RE04, Decision published July 14, 2021.

¹³ California Public Utilities Commission DECISION SETTING NEAR-TERM PRIORITIES FOR TRANSPORTATION ELECTRIFICATION INVESTMENTS BY THE ELECTRICAL CORPORATIONS, D.21-07-028, issued July 21, 2021.

that Duke should require customers to disclose all sources of third-party funding either received or requested, and agree that Duke should reserve the right to adjust the incentives to Customer described.

Since fleets will own the bus and chargers, they still may need assistance with the cost of chargers and charging installation, as well as technical assistance. We recommend that these school districts receive technical assistance funding as part of the incentive. We have observed challenges elsewhere because school districts are being given funding with no technical help for planning and deployment. We know from experience with transit bus electrification that providing up front planning assistance is much less costly in the long run. Also, the filing points out that school districts can take advantage of the make-ready credit, but a credit to cover partial costs may not be enough for them. For early adopters, districts may need 100% of the EVSE and make ready costs to be covered for this investment to be economical and affordable, given school districts' often constrained budgets. Whether Duke envisions utility ownership of the EVSE is not explicitly discussed, but allowing utility ownership of the EVSE as an option for school districts may be beneficial to support adoption.

The attachment is unclear regarding what Duke intends in saying the bus owner will “give the utility full control of the bus” charging¹⁴. In the attachment, Duke states this will be worked out in terms and conditions. Customer agrees to make bus “available for V2G as long as does not disrupt normal school operations.” But this is still fairly vague: Will the utility fully control/ manage the charging of the vehicle as well as control any bidirectional flow/ export power to the grid during times of high energy prices or grid constraints? What kind of signals will the utility be sending to the charger? The filing is unclear what the utility is hoping to accomplish via V2G school bus programs. If this could be clarified it would be easier to anticipate what types of V2G use cases this program may aim to pilot. This pilot should also refer to other V2G school bus programs currently underway throughout the country in its

¹⁴ Attachment I, Electricity No. 4, North Carolina Original Leaf No. 270, p.1

design and goals, as these programs have clearly established metrics, goals and check-in points that Duke could incorporate in its program design.¹⁵

Conclusion

CALSTART's Coalition for Commercial EVs applauds Duke's efforts to advance the EV market and encourage EV adoption by its customers. North Carolina's leadership on transportation electrification can be solidified by strong utility programs that support the growth of commercial EVs and commercial charging. Our comments provide some suggestions for how to improve the design of the Phase 2 pilot program. As discussed earlier, CCEV believes an ecosystem of utility programs is necessary to bring about transportation electrification, and it is important for the benefits of one program design to be fully considered alongside their complementary and alternative program designs. We interpret the Phase II Electric Transportation Pilot Program for utility owned EVSE as an alternative design to the "make ready credit" because one envisions utility ownership and the other customer ownership.

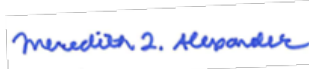
Therefore, we encourage the Commission to review these programs holistically and further, to consider additional programs and policies such as front-of the meter policy changes and rate designs that may be necessary pieces of the program landscape to encourage rapid EV adoption in North Carolina, particularly for fast charging and fleet charging. While we know that rate design discussions are underway with stakeholders, rate design efforts for EV charging should be folded into this proceeding and done simultaneously in order to increase the effectiveness of the incentives proposed here for EV charging infrastructure.

¹⁵Currently V2G school bus pilots are operating in California (SDG&E) and New York (ConEdison), Nevada (NV Energy, Sierra Pacific), and Michigan (DTE)

Respectfully submitted this 29th day of July 2021.

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CERTIFICATE OF SERVICE

I certify that the persons on the service list have been served with the foregoing *Comments* on behalf of CALSTART, either by electronic mail or by deposit in the U.S. Mail, postage prepaid.

This the 29th day of July, 2021

Jordan Price Wall Gray Jones & Carlton, PLLC

By: /s/ H. Weldon Jones, III

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