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Date: August 9, 2019

To: Ms. Kim Jones
Director
North Carolina Utilities Commission
430 North Salisbury Street
Raleigh, NC 27603
Email: kjones@ncuc.net

Dockets: Duke Energy Carolinas, LLC and Duke Energy Progress, LLC's Application for Approval of Proposed Electric Transportation Pilot, **Docket Nos. E-2 Sub 1197 and E-7 Sub 1195**

Dear Ms. Jones,

I. SUMMARY

Siemens appreciates the opportunity to provide these comments in the above-captioned docket. We respectfully urge the Commission to approve the Electric Transportation Pilots ("Pilots") as proposed in the Duke Energy Carolinas, LLC and Duke Energy Progress, LLC's ("Duke") applications filed March 29, 2019. The Pilots will provide financial, environmental and economic development benefits to North Carolinians including EV owners, ratepayers, schools, and other customer groups.

In these comments, we focus on responding to Public Staff's comments on the following issues, with details provided below:

1. In contrast to Public Staff's contention that no additional pilots are needed[1], there is a critical shortage of EV charging infrastructure that is retarding the adoption of EVs in the state – and thereby depriving Duke's ratepayers of significant economic benefits. This shortage would be alleviated, in part, by Duke's proposed pilots.

2. Public Staff states that the revenue from Duke's proposed chargers over three years would be $65 million less than the cost of the pilots. This misses the point, which is that additional EV adoption will create substantial additional utility revenues associated with revenues for fueling **all EVs in the state** (not just at Duke's chargers) – which will greatly exceed the pilot program costs in the aggregate.

[1] - Public Staff Comments, p. 2, July 5, 2019.

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3. Public Staff argues that Duke's request for preapproval of its pilot costs is "misplaced" and that Duke should treat this as an investment "in the normal course of business and seek cost recovery in a general rate case."[2] However, **unlike traditional utility investments,** these pilots are entirely new types of investment for Duke and for the industry in general; our impression is that the Commission would *want* to review and approve these costs in advance to reduce risk for both ratepayers and Duke (lower risk equals lower overall costs).

Therefore, Siemens respectfully urges the Commission to reject Public Staff's recommendations proceed with approving the proposed pilots.

II. SIEMENS OVERVIEW

Siemens is a global leader in eMobility® and considers eMobility to be a key driver of economic benefits from emerging technologies and job opportunities. Our USA-manufactured EV chargers and EVSE electrical components not only drive business efficiencies for our customers at workplaces, transit, utilities, fleets, etc. and show our commitment in terms of investments and local employment; they are also being shipped around the world as a part of Siemens $5+ billion export revenue from this country. As the automobile revolution unfolds around the world, Siemens's Plug to Grid™ eMobility product portfolio that encompasses hardware, software and services is being deployed in 35 countries globally. We are motivated to support communities and cities that want to use technology to be competitive as a place to live, work and play in with advanced transportation at the heart of this evolution. Siemens employs over 4,360 personnel in the state of North Carolina at 20 locations, generating over $234 million of in-state sales.

III. ADDITIONAL PILOTS ARE NEEDED TO ENABLE NORTH CAROLINIANS TO RECEIVE THE SUBSTANTIAL ECONOMIC BENEFITS OF EVS

There is a compelling case for electric utilities, including Duke, to provide additional EV charging infrastructure via pilots. First, over its lifetime, **every EV in a utility's service territory provides an estimated $3,219 in benefits to non-EV-owners** due to the greater throughput of kWh through the existing transmission and distribution network.[3] At an EV penetration rate of only 1% in the state of North Carolina, this translates into $105 million. Moreover, the money paid for the kWh to fuel these EVs – a similar order of magnitude – flows to in-state generators rather than outside oil producers. The health benefits associated with reduced air emissions are a significant bonus to these quantifiable economic benefits.

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[2] - *Op. cit.,* at 3.

[3] Siemens analysis based on Department of Energy, Energy Information Administration and Union of Concerned Scientists data, July 23, 2019.

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Second, obtaining these economic and health benefits requires a robust EV charging infrastructure. There is a current shortage of installed chargers, which retards the adoption of EVs.

Third, the role of the utility in addressing the shortage of chargers is critical. *The competitive market has not kept up with the need of the customers.* Utilities have expertise, asset deployment and management capabilities, operations and maintenance personnel, access to patient capital, and other strengths. At the same time, by being involved in providing charging, utilities can help ensure that EVs are true grid assets – when smart chargers are used – and can help manage peak demand, respond to intermittent renewable resources, enhance resiliency, and deliver other grid benefits.

In short, ratepayers benefit from more EVs, but EV adoption is slowed by the problem of insufficient charging infrastructure – so **ratepayers benefit directly** from utilities leveraging their capabilities to help solve the infrastructure shortage.

IV. IT IS APPROPRIATE TO CHARACTERIZE DUKE'S PROPOSAL AS PILOTS

Public Staff argues that Duke's proposal is "a request for preapproval of infrastructure spending and not a proof-of concept pilot program."[4] Siemens respectfully disagrees. In its pilots, Duke proposes to deploy seven different programs to evaluate how successful they would be in the unique context of North Carolina. EV adoption varies by state policy, climate, urban vs. rural population, and other characteristics as illustrated in the figure below. Public Staff suggests using pilot results from South Carolina, which should, in fact, be leveraged. However, as the figure shows, South and North Carolina already differ meaningfully on just the number of laws and incentives for EVs, in addition to other factors.

[4] *Op. cit.* at 19.

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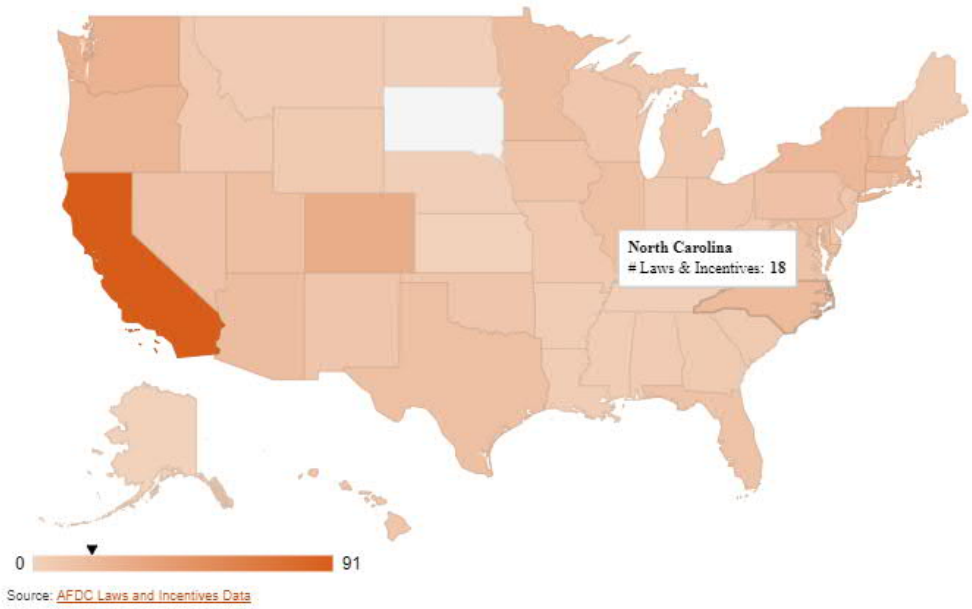

Figure 1: Electric Vehicle Incentives and Laws by State

As Public Staff notes,

> "The value of a pilot project is to allow a utility to test a concept at a smaller scale without incurring significant costs that ultimately would be borne by customers. If a pilot is successful, the program can be deployed system-wide without the risk of program non-viability. If a pilot is unsuccessful, customers would be responsible for a fraction of the costs compared to a system-wide deployment."[5]

These programs are unlike any investments Duke has made before, because they are new for Duke's North Carolina utilities and because they involve rapidly evolving markets (EV adoption) and technology (EV charging equipment). Unlike transformers or substations or other regular investments in the "ordinary course of business," the pilots involve risks and considerations that have not been addressed by the Commission prior, namely the context of EVs. Public Staff itself "acknowledges that the EPRI Study suggests two key findings: (1) the EV world is dynamic and (2) charging infrastructure is being deployed and charging speeds are improving."[6] In this rapidly changing world, the expenditures are appropriately presented to the Commission for advance review and approval.

Siemens respectfully suggests Duke's proposed pilot testing is appropriate before further deployment in North Carolina.

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[5] *Op. cit.* at 13.
[6] *Op. cit.* at 15.

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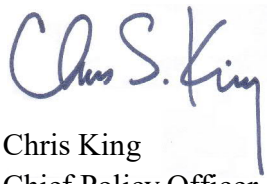
V. CONCLUSION

Duke's proposed pilots would constitute a modest but critical step in addressing the several barriers to EV adoption related to the lack of EV charging infrastructure and, therefore, move toward capturing the significant benefits EVs for the state's residents and Duke's ratepayers. In conclusion, Siemens respectfully encourages the Commission to consider our arguments in reviewing and approving the Pilots.

Respectfully submitted,



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Cc: Service List **Docket No. E-2 Sub 1197**
Service List **Docket No. E-7 Sub 1195**