PLACE: Dobbs Building, Raleigh, North Carolina

DATE: Thursday, November 21, 2019

TIME: 10:30 a.m. - 12:45 p.m.

DOCKET NO: E-2, Sub 1197

E-7, Sub 1195

BEFORE: Chair Charlotte A. Mitchell, Presiding

Commissioner ToNola D. Brown-Bland

Commissioner Lyons Gray

Commissioner Daniel G. Clodfelter

Commissioner Kimberly W. Duffley

Commissioner Jeffrey A. Hughes

IN THE MATTER OF:

Application by Duke Energy Carolinas, LLC, and Duke Energy Progress, LLC, for Approval of Proposed Electric Transportation Pilot

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P R O C E E D I N G S

CHAIR MITCHELL: Good morning. Let's come to order, please. I'm Charlotte Mitchell, the Chair of the Utilities Commission and with me this morning are Commissioners ToNola D. Brown-Bland, Lyons Gray, Daniel G. Clodfelter, Kimberly W. Duffley, and Jeffrey A. Hughes.

I now call for hearing Docket Numbers E-2, Sub 1197 and E-7, Sub 1195, regarding the Application by Duke Energy Carolinas, LLC, and Duke Energy Progress, LLC, for Approval of a Proposed Electric Transportation Pilot.

On March 20th, 2019, Duke Energy Carolinas and Duke Energy Progress, I'll refer to them collectively as Duke, filed an Application in these two dockets pursuant to North Carolina General Statute § 62-140 requesting the approval of Duke's proposed Electric Transportation Pilot Program.

On April 4th, 2019, the Commission issued an Order requesting comments and reply comments on Duke's proposal. The Commission received Petitions to Intervene by the following parties and granted those petitions. Those parties include the North Carolina Sustainable Energy Association, the Sierra Club,

ChargePoint, Inc., Environmental Defense Fund, North Carolina Clean Energy Business Alliance, Zeeco Systems d/b/a as Greenlots, and jointly Southern Alliance for Clean Energy and the North Carolina Justice Center.

The Commission has received numerous Statements of Position from interested persons and comments and reply comments from the parties.

On October 25th, 2019, the Commission issued an Order in which the Commission set these two dockets for hearing on this date and at this time in order to obtain additional information on the public interest and ratemaking implications of Duke's proposed pilot program.

The Commission has not requested testimony and will not allow cross examination of persons responding to the Commission's questions, although, I will allow questions on the Commission's questions.

On November 1st, 2019, the Commission issued an Order providing notice to the parties containing a list of some of the topics about which the Commission expects to ask questions today. The Order also directed Duke to have personnel available at this hearing who are prepared to address these topics and other issues involved in Duke's application.

Pursuant to the State Ethics Act, I remind all members of the Commission of their duty to avoid conflicts of interest, and inquire at this time as to whether any Commissioner has any known conflict of interest with respect to any matters coming before us this morning?

(No response)

Please let the record reflect that no such conflicts have been identified. So we will now move forward with the proceeding and I call on counsel to announce their appearances beginning with Duke.

MS. FENTRESS: Good morning, Chair Mitchell. Commissioners, my name is Kendrick Fentress and I'm appearing on behalf of Duke Energy Carolinas and Duke Energy Progress.

CHAIR MITCHELL: Good morning, Ms. Fentress.

MR. ALLEN: Chair Mitchell and Members of the Commission, my name is Dwight Allen and I'm also appearing on behalf of Duke Energy Progress and Carolinas.

CHAIR MITCHELL: Good morning, Mr. Allen.

MR. KAYLOR: Good morning. Robert Kaylor also appearing on behalf of Duke Energy Progress and Duke Energy Carolinas.

CHAIR MITCHELL: Good morning, Mr. Kaylor.

MR. JIMENEZ: Good morning, Chair Mitchell. Nick Jimenez from the Southern Environmental Law Center for NC Justice Center and Southern Alliance for Clean Energy.

CHAIR MITCHELL: Good morning, Mr. Jimenez.

MR. LEDFORD: Chair Mitchell, Members of the Commission, Peter Ledford on behalf of the North Carolina Sustainable Energy Association. With me is Ben Smith.

CHAIR MITCHELL: Good morning, gentlemen.

MS. DOWNEY: Good morning. Dianna Downey from the Public Staff representing The Using and Consuming Public.

CHAIR MITCHELL: Good morning, Ms. Downey.

MR. QUINN: Good morning. My name is Matthew Quinn. I am here on behalf of Sierra Club.

CHAIR MITCHELL: Good morning, Mr. Quinn.

MS. KEMERAIT: Good morning. Karen Kemerait here on behalf of NCCEBA.

CHAIR MITCHELL: Good morning, Ms. Kemerait.

Any other counsel? Okay. We will proceed then with Duke. Please call your witnesses to the stand.

MS. FENTRESS: Thank you, Chair Mitchell. I would call Laura Bateman and Lang Reynolds to the stand.

Chair Mitchell, would you like me to have them introduce themselves and give their positions within the Company?

CHAIR MITCHELL: Please do so. That will be helpful. Thank you.

MS. FENTRESS: Mr. Reynolds, could you please introduce yourself and give your position in the Company and why you're here today?

MR. REYNOLDS: Good morning. I'm Lang Reynolds, Director of Electric Transportation.

MS. BATEMAN: Good morning. I'm Laura Bateman. I'm a Director in the Carolina's Rates and Regulatory Strategy Group.

MS. FENTRESS: Thank you, Chair Mitchell.

CHAIR MITCHELL: Good morning. We appreciate your being here this morning. So we will -- Members of the Commission have questions for you all and we will just jump right in. I will go ahead and get started and then ask Members of the Commission to be prepared as well.

Before we start with our questions,

Ms. Fentress, would you like for either of your witnesses to walk through the information you provided to us?

MS. FENTRESS: The information we provided was really suppose to just be a helpful backdrop for the Commission and those attending this hearing to have facts. They're supportive of our answers based on the topics that the Commission put forward. I will note Slide 2 has fixed facts and figures of North Carolina EV registrations. I do want to identify the source of that information. That is from the auto alliance which is a trade organization of auto manufacturers. We just thought it would be helpful for the Commission to refer to throughout the questions. And certainly, if you have a question about it, please do pose it to our witnesses.

CHAIR MITCHELL: Okay. Thank you, Ms. Fentress.

We will move ahead with questions from the Commission and I'll get started.

First question is, and I'll just direct my questions to the panel and either one of you all or both of you all may answer. I'd like to know a little bit more about the plan for communications and

outreach. I understand from Duke's application as well as comments from the parties made in this docket that customer knowledge and understanding of EVs is one of the significant or primary barriers to EV adoption. So help me understand more about what you all propose to overcome this barrier.

MR. REYNOLDS: Sure. So as you mentioned it's -- awareness is one of the main barriers that we see to adoption of EVs. According to some studies, about 60 percent of consumers aren't even aware that electric vehicles are an option for purchasing when they're looking for a new vehicle. So the education and outreach portion of the pilot is really designed to increase awareness and make sure that the investments that are included in the pilot are utilized by our customers.

So specifically, we have included some of the items that we intend to roll out under that education and outreach portion which are things like digital marketing as well as print marketing and other physical marketing towards our customers. We also have events such as ride and drive events, and we have other possible partnerships with things like auto dealerships and other groups like Plug-In NC through

Advanced Energy and other partners that we work with for outreach events.

CHAIR MITCHELL: Can you say anything more about the partnerships?

MR. REYNOLDS: Not at this time.

CHAIR MITCHELL: Are those -- the partnerships with auto industry, are those already -- are those to be formulated or are they already formulated? I mean --

MR. REYNOLDS: Those are to be formulated I would say. We do have some existing relationships with certain auto companies that are more, you k now, more progressive on this I would say, such as Nissan. We've already worked with them on an offer for Duke Energy customers that gives them a discount off of the Nissan Leaf. So they've been very active in this space. Other manufacturers have not been as active. And the connection between the auto maker to the dealership is sometimes more difficult to work with in terms of putting on events and things like that. So, for instance, this week we have a booth at the Charlotte Auto Show where we're showing off an electric vehicle, and we tried to work with manufacturers to get other electric vehicles at that

show, but we had to go and do the booth by ourselves basically because we couldn't get the dealerships to come along with us.

CHAIR MITCHELL: Okay. Thank you. My next question pertains to the objectives of the pilot. First, sort of a two-part question here, walk us through the objectives of the pilot again. I know they're stated in your application and in the comments that you all filed in the dockets, but help us understand the objectives of the pilot. And maybe provide a response to some of the comments that have been filed in this docket which suggest that the objectives aren't the -- sufficiently specific.

MR. REYNOLDS: So the objectives are to first and foremost gather data around the impacts of electric vehicle charging across our system from multiple types of electric vehicles. We are also looking to advance market adoption of electric vehicles throughout our service territories. We also intend to support the installation of a foundational level of infrastructure in support of that advanced adoption of electric vehicles. And we're also looking to support the Governor's Executive Order 80 to have 80,000 electric vehicles on the roads of North

Carolina by 2025.

MS. BATEMAN: The only thing I might add is the school bus battery part of the pilot where we're looking to study how we might leverage the school bus battery for system benefits.

MR. REYNOLDS: Yeah, we do have a goal to ensure that the pilot does address all customer -- a broad cross section of customers including public transit and school buses, and so that's also one of the goals.

In terms of the criticisms that goals are not specific enough, you know, this is an emerging market. It's something that there is technology coming out every day in the electric vehicle market. Electric vehicles have been around for a number of years, but there are advances that have been occurring over that time and we've done studies in the past, but we have a need for more data, and we also see the need for utility investment in order to support advanced market growth.

CHAIR MITCHELL: And how do you all respond to the comment that's been made that there are and have been a number of pilots instituted over recent and not-so-recent years both by your Company and

others, different jurisdictions, and that at this point in time there is sufficient pilot -- there is sufficient data out there to be able to move forward at least in certain respects or sort of have a better understanding of the market than maybe otherwise suggested in your application? Can you just respond to that, that general point?

MR. REYNOLDS: Yeah, we would definitely disagree with the position that we already have enough data. If you look at the pilot that we did, Charge Carolinas back in 2012, it was a research study, and gathered data from Duke Energy Carolinas customers from basically three types of vehicles that were available at that time, which was the Chevy Volt and the Nissan Leaf. Excuse me, two types of vehicles. And so since that time those vehicles have become a very small part of the market. The charging impacts of vehicles is much greater than from those early models. And we've also seen that there are significant differences in data from vehicles on different systems. And different geographies, demographics, and travel patterns all impact the energy impacts of charging an electric vehicle. So we think that specific data from our customers on our

system here in North Carolina is required in order to create an address, the future programs that we hope to design around electric transportation.

MS. BATEMAN: I just wanted to add to the some of the other goals that he mentioned. The -- encouraging the electric vehicle adoption, we think the utility is kind of uniquely positioned to lay that foundational infrastructure for the fast charge stations.

And I think Lang told me that there have been no -- since we filed the application, there have been no installations of fast chargers from the competitive market since we filed that. So basically the market is not developing the infrastructure. It's not being built by the competitive market and so we think the utility has a role, can play a role in installing that foundational infrastructure where it's not necessarily competitive in the competitive market right now, or economical in the competitive market; that we can lay that foundational infrastructure that will allow -- that will encourage EV adoption.

And we think it's appropriate for the utility to do that because we think eventually there will be system benefits for utility customers due to

more efficient use of the electric system and then also the public policy benefits as well. And we've done programs like this in the past where there's some cross subsidization, because what we're proposing at least in the initial years would create some cross subsidization in order to fund that foundational infrastructure but I liken it to maybe the job retention rider which is something that this Commission has approved that allows cross subsidization but the reasons for that are similar to the reasons for this program. It encourages sufficient use of the system and there are public benefits to it in terms of the job creation.

Another example would be the economic development rider that both utilities have where we offer a discount for companies to move into our state to create jobs, to use our system, add kilowatt hours to our system, creating a benefit to the system from an efficient use perspective. And again, we offer those customers a discount for those first five years and that is subsidized by other customers. And so we think this program is similar where there can be some subsidization of that initial level of foundational infrastructure paid for by the utility customers

because they will in the long run reap a benefit of more efficient use of the system, more kilowatt hours on our system that our fixed costs can be spread over, so leading to lower rates for all customers, or lower cost per kWh for all customers, and then also it's consistent with the public policy goals of the State.

CHAIR MITCHELL: One of the criticisms the application or your portfolio program has received is that the metrics for success are not sufficiently clear or even identified. Can you speak to that criticism please?

MR. REYNOLDS: Yeah, I can speak to that. And I'd like to point out first of all that we have an overwhelming level of support on this proposal. Most of the I guess stakeholder filings have been supportive. But in terms of that criticism around the metrics that we have, I think we clarified that in our reply comments that we are more than willing to identify specific metrics for each of the programs. And really in terms of success we're looking to identify the costs and benefits of these different segments. So EV charging is not an homogeneous. You know, it's not one thing. We proposed seven different programs in this filing and so we're looking to

identify the cost and benefits of each of these different segments in these specific programs. And so that's going to be a big part of the program is to really get data around those costs and benefits, both for the utility and also for the participants, and then understand what the impacts of each of these segments is on the utility system.

CHAIR MITCHELL: I have several questions specific to the school bus program. Can you talk some or help us understand how the VW settlement funds, if any were made available for school buses, how those would be utilized in addition to investment proposed by Duke?

MR. REYNOLDS: So the proposal is designed to leverage VW settlement funding among other sources. And so right now the way the funding works for school buses specifically is that it's funded at the state level through DPI to procure those new school buses. And there's a certain -- there's a set budget for procurement of school buses and that is designed to procure a specific number of buses around the replacement needs and the expansion needs for the different school districts across the state.

So given the fact that there's a set budget

and these new vehicles, these EV school buses are more expensive than the conventional diesels, there's a need to basically pool different sources of funding in order for these deployments to happen on the electric vehicle side.

So it was designed to basically take some of the utility program funding and some of the VW settlement funding together to offset the incremental cost of those electric vehicle school buses.

CHAIR MITCHELL: Okay. So the -- so if a district applied to participate in the program and also received settlement funds that district would get the full extended rebate that you all proposed in addition to the settlement fund?

MR. REYNOLDS: That's right.

CHAIR MITCHELL: Okay.

MR. REYNOLDS: Up to the full cost of the bus was the intent. You don't want to see -- excuse me, we don't want to see double-dipping in a sense of the funding along with our funding.

CHAIR MITCHELL: Can you talk for a minute about what the Companies have done to gauge school district interest?

MR. REYNOLDS: Yeah. We've had a lot of

interest from school districts that have reached out to us. And we've also submitted letters of support under that VW settlement application from the DEQ which was due I think a couple of months ago. So we've talked with four different school districts specifically about this already and we anticipate that there would be more appetite. If we have an approved program that we can market, we are confident that we would have more appetite from the school districts.

CHAIR MITCHELL: And which four districts are those?

MR. REYNOLDS: It was Cherokee, Wake County, New Hanover, and then we had a fourth one that was a charter school I believe.

MR. ALLEN: Was that in Chapel Hill? Do you recall? Or from that area?

MR. REYNOLDS: Yes.

CHAIR MITCHELL: I have several questions on the residential program. How do you all respond to the proposal that the rebate be halved?

MR. REYNOLDS: So what we proposed we feel is an appropriate rebate level in terms of the thousand dollars that we originally proposed. And that was based on data around the cost of

installing -- purchasing and installing a level two charger at a residential location. We heard criticism around some of the cost of the different segments of the pilot so we proposed in our reply comments to reduce that level to $500, which we are willing to do. We don't think it's, you know, reflected in our original application. We think that the original level is appropriate. But if it's deemed necessary we're willing to reduce that level and see if we can obtain the level of subscription that's necessary to really get good enough data.

CHAIR MITCHELL: Another of the criticisms received about the residential program is that it lacks experimental rate offerings. There is no -- there's no rate design component associated with the program. Can you respond to that and help us understand why the Company hasn't proposed experimental rate designs?

MR. REYNOLDS: Yes. So we have -- we proposed the first year would be baseline data gathering. So we really need more data as I mentioned with the previous study being over seven years old right now. We need updated data from our residential customers around when they're charging and how much

they're charging, and the impacts of that vehicle charging.

So the first year of the pilot is designed to gather that data. The second or the two years following that first year is designed to perform basically charge management, different types of charge management to see how willing our customers are to participate in that and the value of managing charging to the utility system.

So we feel like we need to gather the data first. And experimental tariffs are one option that could come out of the pilot after the end of -- after we reach the end of the pilot.

MS. BATEMAN: And I would just add, if you look at several of the programs some of them have load control aspects to them and then several of the others require the customer to be on a time-of-use rate option, and both of those are ways to encourage off-peak charging. And so I think, like Mr. Reynolds said, that this is a pilot to learn, to learn what types of mechanisms work with different customer segments, and I think we'll take this learning and then go from there.

MR. REYNOLDS: And we do have existing

time-of-use tariffs for residential customers. So to the extent that they're already on a time-of-use rate they would continue to be subject to that rate.

MS. BATEMAN: Also, I'll just add to how you design the electric vehicle time-of-use rates. You know, if we do offer specific ones in the future it depends, too, on -- so the net benefits that we expect to receive from electric vehicles and the increased adoption of electric vehicles there is a net revenue benefit to the system and how that net revenue benefit is spread to the customers will influence or how you design your EV rates will influence how that net benefit is spread. And so you can design them to spread the benefit to all customers or to have more of the benefit rest with the EV customers. And so I think that's again some learning what we have to do and work through this pilot in order to determine what the best option is there.

CHAIR MITCHELL: My understanding of the residential program is that it involves an opt-out for those years two and three when the Company proposes to use load management programs. Can you help me understand why you allow for the opt-out and how that wouldn't interfere with the analysis that you're

attempting to do here or the data you're attempting to gather?

MR. REYNOLDS: The opt-outs are really designed to give our customers the charging that they need so we don't want to interfere with the customer experience. At the end of the day people need to have confidence that their cars are going to be charged in order to go about their daily lives. So we have the opt-out to allow them the opportunity if they really need it to not participate in those load management events.

MS. BATEMAN: And then I'd just --

CHAIR MITCHELL: And -- I'm sorry. Go ahead.

MS. BATEMAN: I would just add that this is a learning process through the pilot. So I think we would look to learn how load management works with the residential customer segment. You know, do most customers opt-out? Is the way that we're trying to do the load control not working? And so I think that's part of the learning. We don't want to design the program and then have a bunch of customers be upset because the load management isn't designed right or not working right. And so that's why the opt out is

there so we can learn through this process.

CHAIR MITCHELL: Can you all -- will you all just pull the mics closer to you. We've been told that folks in the back of the room are having a hard time hearing you. Thank you.

Can you all speak some to how the Company proposes to evaluate grid impacts associated with EVs? Is that part of this program or pilot?

MR. REYNOLDS: Yeah. That's definitely a large part of this program. So from each of these segments we're going to get all of the charging data and that will allow us to analyze the grid impacts. So in terms of the residential pilot we will have the average load curves from our residential customers. In terms of when is the peak happening, how much energy are they using, and then geographically where are these customers located, and how that lines up with our distribution system. And that's true for all of the other programs down the line. If you look at the fleet program, we have separate meters required under that program and so we'll be getting the metering data off of that and we'll perform the same kind of calculations around the peak impacts, the total energy used, the time it's used, and all of

those kinds of parameters.

CHAIR MITCHELL: And how do -- how will the Company cover the costs associated with any upgrades to the system that are required to accommodate the infrastructure that you envision installing pursuant to these programs? In other words, my guess is there will be some costs and the costs will probably vary widely wherever these facilities are installed, and how does the Company propose to recover those costs?

MR. REYNOLDS: Well, as it's proposed -- so there are a few different segments. And things like the fleet segment that would be the customer's responsibility to pay those upgrade costs. On the DC fast charge segment that would be Company's responsibility as we propose to pay for the whole installation cost of those stations.

MS. BATEMAN: So I would just add, like Mr. Reynolds said, the -- for the portions of the program where the Company will be owning and operating the charging station or electric vehicle station equipment, that those costs that we included include the cost of the upgrades to the grid needed to connect the charging station as well. And so those -- we've talked with our accounting groups and those would be

capital investments so they would be capitalized and then they would be recovered through depreciation and return on investment in base rate proceedings as applicable. And we think the charging stations, we estimate that they would have an expected depreciable life of around seven years so they would be recovered every seven years.

CHAIR MITCHELL: Okay. And just so I make sure I understand, you all have already made assumptions about network upgrades that will be required to facilitate the infrastructure installations and those numbers are included in what you've proposed here in this application?

MR. REYNOLDS: That's correct. The network or the upgrades are for the most part like a transformer upgrade at a customer's premises or at their location. So we haven't included -- you know, if there was a situation say in the DC fast charge program where we were looking at some kind of a location that was remote and needed a very extensive upgrade, that kind of upgrade has not been contemplated in the cost here. But that would be a pretty unusual situation.

CHAIR MITCHELL: In the Companies' reply

comments it proposed to remove two programs from the portfolio, the L -- the level two charging program and the multi-family program. Why did you all choose these two programs to remove?

MR. REYNOLDS: So the original application is -- our proposal was all of the segments that we thought were most needed to move the market forward here in North Carolina. But we did hear from stakeholders that there were concerns about the proposal being too large and too expansive. And so in an effort to respond to those requests from stakeholders, we looked at the segments and we believe that that is one of the segments that we could remove.

MS. BATEMAN: And just to clarify, we are still asking for approval of the whole program as we proposed it, but I think we said in the alternative we would ask for approval with those two programs removed. Again, to respond to some intervenor concerns.

CHAIR MITCHELL: Understood. How much data is available to the Company at this point on multi -- the impact related with multi-family -- charging at multi-family locations?

MR. REYNOLDS: Directly we have -- you know,

I think we'd probably have to get back to you on that. We're aware of multi-family installations being done. We don't have any direct access to that data right now.

CHAIR MITCHELL: Okay. In North Carolina?

MR. REYNOLDS: Right. Yes.

CHAIR MITCHELL: Okay.

MR. REYNOLDS: Yes.

CHAIR MITCHELL: Okay. Questions from Commissioners? Commissioner Clodfelter.

COMMISSIONER CLODFELTER: Good morning. I want to commend you for bringing the pilot forward. I'm glad to see the effort and I hope this is just a start of where we go. I say that in part because I do have some concerns about whether it's ready for prime time in this particular pilot right now so I want to follow on some of the questions that you've been asked and have a couple of others of my own.

I'll tell you I'm not a fan of rebates generally. I know we've got some but those predate me. They're not easily scalable and they're very expensive. And I -- I'm always on the lookout for other ways of accomplishing the same goal without using a rebate program.

So I want to ask you this question. We've got an existing base of registrations in North Carolina, if I do the arithmetic correctly, of about 14,000 all electric or plug-in hybrid vehicles already registered in the state. I suspect, I don't know, but I suspect that probably the bulk of them are already Duke Energy customers and that they're currently charging their vehicles from the Duke Energy grid or the Progress grid. And so I'm really curious why you chose not to go down the road of trying to enroll your existing 14,000 customers in an experiment to see what kind of customer behavior you would -- you could derive -- what kind of data you could derive from how they charge and when they charge and what they're doing, what affect it's having on the grid now, and what you could do to induce them to change their behavior with different rate designs. Why not enroll your 14,000 existing customers rather than rebate to another 800?

MR. REYNOLDS: The pilot is designed to accomplish multiple goals simultaneously so we're not only trying to gather data. If we were just trying to gather data we could do something like you have illustrated with existing customers. But we're also,

as part of our goals that we put in the application, this program is designed to encourage new EV adoption throughout our service territory. So based on the cost benefit analysis that we provided we see great benefit to the long term -- to the system over the long term here in North Carolina and to all of our customers. And, in addition, in support of Executive Order 80, which we don't see getting there right now based on the current trajectory, we need incremental adoption to reach that goal by 2025 so the rebate is an incentive to encourage incremental adoption in addition to gathering data under the program as designed.

COMMISSIONER CLODFELTER: Thank you for the data point. And you've confirmed sort of what my own instinct would be is as we could enroll those customers and get a lot of data from the existing 14,000 customers. With respect to though the other goals you outlined, I mean 800, it's capped at 500 in DEC and 300 in DEP, 800 additional customers is less than one year's normal growth. It's not going to get us to the goals of EO80 and we can't rebate our way to 80,000 vehicles. It's just the level of subsidization and cross subsidization just would be intolerable to

ratepayers. So I don't really see the rebate as an essential tool to achieving the goals of EO80. So help me understand again why a rebate structure rather than what a couple of the commenters proposed that I thought was truly scalable is some form of tariff funded on-billings financing incentives much like the Company used to do way, way back in the old days with electric water heaters and things like that. I mean, why not offer a broader program to induce folks to make the financial choice to get an EV?

MR. REYNOLDS: I guess in terms of the size of the program, I mean, we would be happy to increase the size of the program above the 800. But there's a good body of research showing that financial incentives do drive customer behavior and we think that it's probably one of the best tools. We looked at a lot of utility programs in designing our programs and we're trying to take best practices that we see from around the country and rebates is one of those that we see having an impact on EV adoption.

COMMISSIONER CLODFELTER: Well, they do. I mean, yeah, you're right, getting a rebate check is an incentive. That's why manufacturers give rebates on the vehicles, gasoline powered vehicles now. I

understand. But again, if what we're really trying to do, if the objective here is to really make a significant step forward toward our ultimate goal, why not choose a tool that's a little more flexible and a little more scalable as several of the commenters have suggested?

MR. REYNOLDS: The -- I believe the tariffed on-bill financing comments were around the buses specifically.

COMMISSIONER CLODFELTER: They were. They were. But we could generalize that technique to residential purchases as well.

MS. BATEMAN: I'll just jump in. In general, the utilities have tried to stay away from the on-bill financing because there are other lenders and other sources of financings and -- so the utility has typically tried to stay out of that. There may be limited situations where it makes sense for the utility to work is a lender or a financier but we've typically tried to stay out of that space, because there are other financing options available if customers want to go to a bank and try to get a loan and then pay it off, you know, as they save.

COMMISSIONER CLODFELTER: But of course with

the rebate program we've only got 800.

MR. REYNOLDS: It's limited at 800 but we believe that the effect of having the rebate program in the market, and going back to our education and outreach around making people aware of the program, we feel that it will have a broader impact beyond just those 800 customers that participate in the program.

COMMISSIONER CLODFELTER: Well, let me ask you about that conceptually. I mean, we've had a rebate program for rooftop solar and it's been very popular and fully subscribed. Has the Company done any study to sort of try to determine whether that has stimulated additional residential solar installations that aren't supported by rebate? Has that built the market generally? What do we know about that?

MR. REYNOLDS: I don't think I'm --

MS. BATEMAN: -- Yeah.

MR. REYNOLDS: -- the best person to answer that question.

MS. BATEMAN: I don't know that we have the --

COMMISSIONER CLODFELTER: Okay. Well, I just put the question out there to the -- because I think it's part of the point you're making is that if

you get 800 on rebate then a lot of us who won't get the rebate will go out and start buying EVs, too, and I'm wondering if we have any experience on that from what we've tried to do with rebates on solar?

MS. BATEMAN: Yeah, and I don't even know that that's what we're saying. If you look at the residential rebate program, that's approximately two million of the 76 million pilots that we're proposing. I think the portions of the pilot that are more aimed at encouraging EV adoption, or would encourage EV adoption beyond the 800 in the residential program are largely the public charging stations in the network of charging stations. And so we think if customers have more comfort that they can travel across the state and be able to charge their vehicle in different locations then that would encourage EV adoption.

COMMISSIONER CLODFELTER: Okay. That's an important point. So from the Companies' standpoint the real payoff is going to be in the fleet portions of the program.

MS. BATEMAN: I think it's both. So there's some public charging networks --

COMMISSIONER CLODFELTER: Yeah.

MS. BATEMAN: -- public charging stations that would encourage EV adoption. But then there's also, even the residential rebate, I think there's learning to be learned from that. And I know you said we can learn it from the existing customers and we probably could but we're trying to accomplish two goals at once with this program. So there's learning about different customer segments. There's the encouragement of adoption. And then there's also the school bus battery which is a significant portion of the program. That's about $16.6 million of the $76 million. And that's just like any battery installation on our grid, we're trying so see how we might be able to use that battery from the electric school bus in order to provide other benefits to our grid that other batteries might be able to provide, and if there's opportunities there.

COMMISSIONER CLODFELTER: Let me take that point because I do have question about that. I'm sorry, we may jump around a little bit. But since that's the point and I've got a question about that. Let me ask that.

If you're looking to use the school bus batteries as a back-up source for supporting --

supporting grid when you've got an outage or you've got another event that you need to recover from, how is this really going to teach you anything if you've got one bus here and two buses in that district and a third bus down across the state in another district. How do you learn really about what that does for your resiliency when you've got one bus battery in one school district in one county? Don't you need a concentration? Don't you need like a number of buses in a single school district and then you can really sort of understand how you can call upon that as a resource for resiliency purposes?

MR. REYNOLDS: Yeah, we do. And that's why this is a pilot and why conceptually that's the idea is to determine if we can do this in the future. So we're not saying that, you know, through the pilot and the - I think it's 105 school buses we've sketched out in the pilot - we're not saying that we will definitely use those 105 school buses for back-up power at a certain location. This technology is very new. Right now we have zero electric school buses on the roads in North Carolina. And so we need to understand basically whether they can provide these kinds of services or not and, if they can, then how

that works in practice.

So we would first test them at a location that is something like our Mount Holly microgrid that's --

COMMISSIONER CLODFELTER: Okay.

MR. REYNOLDS: -- capable and islanding from the grid. This is just internally how we've been conceptualizing. The testing would be first at a location that can island from the grid to determine that the vehicles can perform that bidirectional power flow in the way that it's being advertised to us right now by the manufacturers.

So it's very early for this technology to be out there and we need to understand how it works before we deploy at a broader scale.

COMMISSIONER CLODFELTER: So this is really technology learning rather than learning about how you actually manage it as part of a grid operation?

MR. REYNOLDS: It's not necessarily -- it's not an R&D project because -- so this -- this capability has been demonstrated. The manufacturers are capable manufacturers of this technology, in terms of the hardware from the charging stations and also vehicle systems themselves. So it's not an R&D

project in that sense.

COMMISSIONER CLODFELTER: Is the school district, where the Mount Holly microgrid is located, are they going to participate?

MR. REYNOLDS: We have not discussed with them yet.

COMMISSIONER CLODFELTER: Again, we're jumping around a little bit but I'm trying to fill in gaps from some of the questions the Chair asked. Some of the commenters were critical of the idea that this would be offered to customers on a first-come, first-serve basis and how to square that with the objectives of getting adequate geographic coverage, adequate coverage of type of customer, type of use, and adequate coverage among different income levels and types of users. How do you respond?

MR. REYNOLDS: Sorry. Are you talking about the residential program specifically for that one or --

COMMISSIONER CLODFELTER: All of the programs. Take them in whatever order you want to take them.

MR. REYNOLDS: Sure. So I think we have to balance sort of the expediency of the -- you know, a

three-year program is actually not really that much time if you think about how long it takes to get customers into the program and actually executing the program. So we're trying to balance that expediency with getting the data that we need with those concerns around geographic, quality, and things like that.

But we understand there are -- you know, there's a broad cross section of EV customers right now. We have data from across the state and we have customers in a lot of different areas. They do tend to be clustered - residentially speaking, they are clustered in our larger metropolitan areas, but we do have real customers as well. So we expect there will be some amount of balance just from a natural first-come, first-serve process.

COMMISSIONER CLODFELTER: Some of the commenters suggested that you have set-asides for populations that might be difficult otherwise to enroll in the program. Might be difficult to reach from a marketing standpoint. They might be dispersed in rural settings or they might not have access to some of the marketing materials that you're going to offer. How do you respond to those comments?

MR. REYNOLDS: I think it would be difficult

to subscribe the program fully if we have really specific carve-outs. So say 800 residential customers, if we're trying to slice and dice that into a lot of different subsegments I think we'll have a hard time reaching the overall goals in terms of numbers. So we would probably want to increase the overall size if we are going to add some kind of subsets that we were trying to hit.

COMMISSIONER CLODFELTER: Well, that's important. If that were a consideration that the Commission had or was concerned about, your response would be we need to grow the program in order to be able to get valid data across the various subsets of customers?

MR. REYNOLDS: I think that would be reasonable.

COMMISSIONER CLODFELTER: That's --

MS. BATEMAN: And I think we've --

COMMISSIONER CLODFELTER: Yeah --

MS. BATEMAN: -- proposed stakeholder processes at the end of the program, too, and certainly open to suggestions, but I think right now in order to get the programs subscribed, as Mr. Reynolds said, that first-come, first-serve is

what we think makes the most sense.

COMMISSIONER CLODFELTER: Well, if you've got -- if you've got -- certainly if you've got 300 customers in Charlotte, out of the 800 you'd be able to learn an awful lot about the grid impacts of electric vehicle load. You would learn a lot more about that than you would if you had 10 customers from Charlotte and 10 somewhere else and 10 over yonder and on a different substation and transmission lines. So I suppose there are some benefits to concentration in terms of what you would learn about affect on the grid.

Is that part of the consideration, too, about why you structured the enrollment process the way you have it? If you're going to get most of your customers in large urban areas, that will enable you to learn a little bit more about impacts on the grid, will it not?

MR. REYNOLDS: I don't think -- I mean, the geographic concentration of the customers that participate, I think we're relatively indifferent to that in terms of the grid impacts.

COMMISSIONER CLODFELTER: Okay. Is the -- are any of the Companies proposing anything in the --

I confess to you by the question that I'm not fully through all of the materials that have been filed in your general rate cases. Is the Company proposing anything in terms of rate design for -- that will support the program here; anything different being proposed in the two general rate cases currently pending?

MS. BATEMAN: We have no specific electric vehicle rates in the rate cases.

COMMISSIONER CLODFELTER: Was there any consideration given to doing that?

MS. BATEMAN: Proposing electric vehicles rates in the rate case?

COMMISSIONER CLODFELTER: Yeah.

MR. REYNOLDS: No. We concentrated the electric vehicle programs in this pilot.

COMMISSIONER CLODFELTER: I mean, I'm thinking as an individual customer here and, you know, a rebate check is nice but I'll go spend that and it's gone. The real important price signal for me might be what I pay every month to charge my vehicle. You're selling fuel just like gasoline and I really pay attention to the price of gasoline at the pump and it affects my decisions about what kind of car I buy,

where I drive, how I drive it, and so forth. And it seems to me that's the most important feature of all in terms of growing the market to meet the goals of Executive Order 80 is the price signal, cent on the fuel. And I'm just curious about why the Company decided not to make that a component of this.

MR. REYNOLDS: Mostly because -- so electricity is already less than half the cost of gasoline. So based on our residential rates it's around $0.90 a gallon equivalent on a per-mile basis. So electricity is already providing customers substantial savings over gasoline, and if you look at time-of-use rates or EV specific TOU elsewhere, you know that's really just -- it's providing savings to those participants.

But, number one, we need more data in our service territory to understand what's going to be effective and prudent. And, also, we want to make sure that based on that cost benefit analysis that we've provided, EV adoption is benefiting all of our customers. And so with time-of-use you have the potential to basically give away all of the net revenue to the participating customers, the EV customers instead of spreading that benefit across the

rate base.

MS. BATEMAN: And I will add that both Duke Energy Carolinas and Duke Energy Progress currently have existing time-of-use rate schedules that do sent a price signal to encourage off-peak charging. That's pretty -- well, it sends a price signal for the off-peak to encourage that off-peak charging. So we do have that in place to send that appropriate price signal.

COMMISSIONER CLODFELTER: You don't know off the top of your head or maybe you do - Ms. Bateman, you might know - what's the enrollment currently in those time-of-use rates?

MS. BATEMAN: I don't know exactly. I believe it's heavier on the DEP.

COMMISSIONER CLODFELTER: Heavier on the DEP territory?

MS. BATEMAN: Yeah.

COMMISSIONER CLODFELTER: You don't need to worry about that. We can go dig that out of the information we've got here at the Commission.

I want to ask you a question that hasn't been touched on and it's just one that a couple of the commenters raised. If the Commission is concerned

about interoperability of infrastructure, is that a consideration that you have addressed somehow in the pilot? Is it a concern? Should we be concerned about it or not?

MR. REYNOLDS: It's something that we have addressed in the filing by including requirements for some of the infrastructure, particularly in the residential program, so we think interoperability is important. Interoperability, it means different things in different parts of the market, and there's interoperability of networks with hardware and then there's interoperability of hardware with cars. So there's a couple of different levels of it. But we have addressed it by requiring in the residential segment with smart charging, OCPP compliance which is a standard that basically ensures that the charger can talk to multiple types of networks. Yes, we think it's important that -- sorry.

COMMISSIONER CLODFELTER: No, no, go ahead.

MR. REYNOLDS: Just that if we're investing in this infrastructure, it's still an emerging market and so vendors could go bankrupt. We want to make sure the hardware that's out there can maintain or can continue to operate regardless of what happens in the

market and we can solve those problems if they come up in the future.

COMMISSIONER CLODFELTER: Thank you for that. And that's helpful. I would like to ask and you may not have an opinion on what I'm about to ask you but if you do I'd love to hear it, is this a topic that the Commission needs to be sort of exploring? Do we need to be involved in any sort of standard setting in order to avoid the problems of incompatibility? Is that an issue or concern that we should have? Should we be focused on that?

MR. REYNOLDS: Well, I would say on the vehicle side, the actual physical charging plugs and things like that, I think that the industry is doing a pretty good job of working on that with the SAE and some of the other standards.

In terms of the actual EVSE hardware and the networks, you know, we, as is included in the filing here, we think it's important that if hardware is out there it can be operated on different networks. And that's kind of the practical consideration at the end of the day. We want to make sure that customers can switch the network if they want to. And that's -- some of the providers don't offer that ability right

now.

COMMISSIONER CLODFELTER: Thank you for that. Let me move to a different topic altogether. For the infrastructure piece of the pilot, was there any consideration given to whether it would be more appropriate to offer that through an unregulated subsidiary of the company rather than through the regulated utility?

MR. REYNOLDS: Well, looking at -- so again, with the different segments that we have, just speaking to the DC fast charge portion specifically, I mean we think this is actually one of the arguments for making this investment on the regulated side of the business. It's well-documented that the kinds of DC fast charging that we hoped to invest in, this sort of corridor DC fast charging to support highway travel of EVs across the state, it's pretty well-documented that that's not profitable on a stand-alone basis. But just because it -- you know, looking at it on a stand-alone basis we want to look at it on a broader basis as part of our larger system and so that's why we proposed it on the regulated side in this case.

MS. BATEMAN: And I would just add --

COMMISSIONER CLODFELTER: Go ahead.

MS. BATEMAN: -- right now it has to do with the usage or the traffic on those stations. So right now the usage is not enough to make it economical or profitable for an unregulated competitive provider to invest in. And that's we haven't seen the addition of any new charging stations and so that's where we think the utility has a unique opportunity to play a role in making that investment.

COMMISSIONER CLODFELTER: What I'm -- I'm not sure the question would apply to any of the other components of the program but it would -- is the same true for the other components of the proposed pilot? It's just not economic to offer through --

MR. REYNOLDS: No. There are other -- well, I would say there are adjacent opportunities that could be more compelling, yeah. And I would add that there our, you know, our unregulated business is evaluating investment opportunities on an ongoing basis. And if we were to enter the market we're subject to the same restrictions that our other unregulated businesses are and would follow the Code of Conduct and all of those affiliate regulations.

COMMISSIONER CLODFELTER: It's sort of a related question. A couple of the commenters

suggested that we should be concerned about the fact that the regulated companies of course have privileged knowledge of the grid and of locational opportunities for new infrastructure on the grid as compared to their unregulated competitors, and that that was an issue we should be concerned about from the standpoint of a level playing field for all competitors who want to offer infrastructure. Is that -- how do you respond to those comments?

MS. BATEMAN: So I think when -- just back to before when I said it's not profitable right now --

COMMISSIONER CLODFELTER: Right.

MS. BATEMAN: -- due to the usage, I think as -- you know, we hope this pilot will encourage EV adoption throughout the state, there'll be more and more usage, that at some point in the future it will become profitable. And so I think we've talked about our foundational level of infrastructure jump starting the market. And so once we reach that point then it's going to make more sense for the unregulated competitive market to take over that space. But right now we think it's a unique opportunity for the utility to be involved. Once the market is competitive and we see investment, then the utility does not need to be

involved. So we don't see ourselves as competing against unregulated or -- yeah, unregulated providers.

COMMISSIONER CLODFELTER: Okay. I'm going to leave you alone for now. I may think of something else to come back to later but for right now I'm going to pass and let somebody else talk to you. Thank you.

CHAIR MITCHELL: Commissioner Brown-Bland.

COMMISSIONER BROWN-BLAND: Good morning. I have a few questions. So the benefits of EV adoption are not unique to Duke customers; is that something you would agree with? There isn't any unique benefit to your customers from EV adoption?

MS. BATEMAN: Versus other states?

COMMISSIONER BROWN-BLAND: Versus those who are not your customers or versus non-electric customers for that matter?

MS. BATEMAN: Oh! So I think there are some utility benefits. So obviously there are -- you know, public benefits, environmental benefits, all of that. But I think there are unique utility benefits, especially if we are able to encourage off-peak charging where customers are using electricity during times that are off-peak and, therefore, not increasing the fixed costs or demand costs on the system. So if

we can add more kilowatt hours to the system without increasing the fixed demand costs then we have more kilowatt hours to spread those fixed demand costs over, which lead to lower cost per kWh usage for all customers on that utility system. So I think that benefit would be unique to Duke customers to the extent that we see increased off-peak charging within the Duke service territory.

COMMISSIONER BROWN-BLAND: And in terms of the Executive Order 80 and what's trying to be accomplished with that, is there -- is there something about that that makes -- that puts the utility in a unique position to assist?

MR. REYNOLDS: So EO80 or the ZEV plan that was published by the Department of Transportation does call out utility programs as an important component to reaching that goal. So there are a lot of components within the ZEV, the Zero Emission Vehicle plan that was published, but there is, yes, a specific attention around utility programs.

COMMISSIONER BROWN-BLAND: And in terms of -- but there are general benefits and I guess -- I don't want to get into comparing the amount of the benefit, but a great deal of the benefit is societal

and community and has to do with environmental improvement. So in that regard what have the utilities or anybody else that you're aware of done to find other funding or financing for these types of infrastructure. Have there been attempts to get funding in the state budget or the federal budget or pursue other grants to help jump start this infrastructure?

MR. REYNOLDS: There are some grant funding opportunities available for infrastructure. So right now with the VW settlement, the State DEQ is providing I think it's about $3 million of infrastructure funding for DC fast charging. But if you look at the need, and we've sketched this out on the slides, we see the need for about -- you know, a little under 500 DC fast chargers by 2025 to meet that EO80 goal, and that -- you know, the $3 million from DEQ is certainly not enough to meet that. And the other grant opportunities, among which there's some federal grants, again they're usually smaller dollar amounts and not, really not at the level needed to meet those goals.

COMMISSIONER BROWN-BLAND: And your statement on the fast chargers, so did I understand

from your discussion with Commissioner Clodfelter, or are there other reasons as well, that the main -- when you -- you said a number of times you thought the Company was uniquely positioned to be in that market and to assist, are there other reasons? What's the uniqueness? Is it just due to the cost?

MS. BATEMAN: Yeah, in terms of I think we're uniquely positioned right now in this limited three-year pilot to install this limited amount of infrastructure, base infrastructure because competitive providers, it's not profitable. They're not making the investments. So I think it makes sense for the utility to make those investments. And there's two reasons - the societal benefits that you talked about, but I do think there will be benefits for all utility customers.

And I'm just looking at the cost benefit analysis that the Company attached to its application. Now, obviously this is not specific to our pilot, this was looking at all of North Carolina and the potential impact of electric vehicles. But on Page 9 there's a figure that talks about, you know, if we have a high adoption scenario of electric vehicles and if we're able to manage the charging of those vehicles, that

the benefits could be very significant. And so I'm looking at -- it could be over $200 million by 2030, so that's fairly near term and fairly significant benefits to the utility customers that would go to all customers.

And so -- there's a lot of if's in there and it's all of North Carolina, not just Duke Energy service territories. But we do think that there would a be benefit to utility customers of encouraging that EV adoption and so we think it makes sense for the utility to make that initial base line investment in order to jump start the competitive market. And then like I said -- you know, then if the competitive market can handle that space there would be no need for the utility to make further investments.

COMMISSIONER BROWN-BLAND: So just in a general sense we're looking for ways to lessen the impacts from emissions from fossil fuels but all of this has sort of influx nascent and people are coming up with new ideas all the time. Incorporated into your look at this in your studies, have we thought about other methods that may or may not come on board there; their efforts to develop hydrogen source of fuel and those kinds of things?

My question is if these things take off, what do we expect the impact to be for electric and have we looked ahead at if we make a substantial investment upfront what happens if these -- if something else kind of comes in relatively soon and wipes that off the map so-to-speak? Has that all been taken into account in your making this proposal?

MR. REYNOLDS: Well, there are other alternate fuels on the market right now. There is CNG; for example, it's a popular fuel source in trucking. As you mentioned there are some hydrogen vehicles. There aren't -- to my knowledge, we don't have any on the roads here in North Carolina. There are also a million EVs that have been sold nationally in the U.S. so we see the market being quite a bit ahead of other alternative fuels, at least on the light-duty passenger side right now, and we're hearing from a lot of larger manufacturers. You know, for instance, Daimler is a good example of a Class 8 trucking company that has made a big commitment and a big investment in electrification. So we see a lot of electrification in the plans from the OEMs from the large automakers. And so based on what we're seeing right now in the market over the next five years and

after that, there's a very strong commitment to electrification in the market.

COMMISSIONER BROWN-BLAND: And what about even in the charging technology? We see the technology changes at a steady, heavy pace here so there's no guarantee that something installed today would be what you would be using four years from now or five years from now?

MR. REYNOLDS: So there's always technology risks, but we've included some ways to manage that risk by making our installations of DC fast chargers; trying to future-proof those as much as possible by offering higher levels of power. And that's the main question when it comes to looking at advances, because as things have progressed in the market, the vehicles are taking a higher charge rate from DC fast chargers, and that's the main -- that's the main way they might be obsolete in the future. But if we look at kind of this three to five year time horizon, we have this installed, sort of base of vehicles that can use the infrastructure if we put it out there today, and it's going to take at least a couple of years for new vehicles to come into the market at those higher power levels. So I think we've included some good

safeguards against those risks.

COMMISSIONER BROWN-BLAND: And the program essentially is asking that that risk will be borne by the ratepayers if the program is approved. Is that a fair statement?

MS. BATEMAN: Yeah. I would say yes. We are looking to depreciate those charging stations over a seven-year period. And so I think we have some degree of confidence that they'll be used and useful for that seven-year period but we can't guarantee it would -- that there wouldn't be new technology that would come up within that seven-year period. But we do think given the seven-year period that we're assuming for the useful life that that's reasonable given the advancement in technology.

COMMISSIONER BROWN-BLAND: All right. And going to the amount of the rebates or incentives which are a significant part of the cost of the program, how can the Commission -- how were those exact amounts determined? How can the Commission have assurance that those are the right numbers; that we haven't gone too far that we couldn't get participation for less? And so I'm just asking how did you develop them and what study did you do to land on those exact numbers?

MR. REYNOLDS: Yeah. In terms of the rebates, those are sized to offset the cost of the infrastructure and so we referred to our previous study and also other industry studies that are available to size that rebate to basically correspond to that installation cost for a residential charger.

In the case of the fleet rebates which is the other rebate in the program, that's been sized to offset about half of the cost of the EVSE, the EV charger installation. And, you know, we felt that for commercial and industrial customers they could probably bear more of the cost so that they would have a 50 percent cost share on those installations.

In terms of what it will take to make sure that we get a reasonable level of subscription, I think that's -- you know, it's an open question with the pilot. That's part of the reason why this is a pilot and why it's a limited investment, a limited timeframe and a limited scope of customers. So I think we, if we're not getting the subscription that we think we need, we can always revisit those in the future.

COMMISSIONER BROWN-BLAND: Now, you mentioned CNG a minute ago. Now, in our Docket Number

G-9, Sub 631, I think that was Piedmont. Piedmont filed a limited cost of service schedule for CNG rates. Is that something Duke could provide a similar study or an analysis for the EV pilot?

MR. REYNOLDS: I'm afraid I'm not familiar with that docket.

MS. FENTRESS: Commissioner Brown-Bland, I do have that Order but I don't know if it describes the cost study that Piedmont did. We could take a look at that.

COMMISSIONER BROWN-BLAND: All right. I'm just interested in knowing and if you'd let us know. And do you think the EV pilot is comparable? How is it comparable to the gas, the CNG pilot programs?

MR. REYNOLDS: Well, CNG, just generally speaking, it's concentrated on a pretty small market niche around long-haul trucking and some transit buses as well. So it's a bit more established in terms of the technology has been around for longer, the vehicles are -- there's less of a premium for the vehicles over a standard diesel vehicle. And so I think it's a different -- it's a different approach because the market is more mature.

Q Does the Company intend to book any of the costs

or revenues in the EV program to non-utility?

MS. BATEMAN: No. There are, to the extent that there's any margin above the standard tariffs, we would book that to miscellaneous revenue, regulated miscellaneous revenue, and provide it as a credit to all ratepayers -- of North Carolina retail ratepayers.

COMMISSIONER BROWN-BLAND: All right. Has the Company looked at recouping its investments in EV through an additional charge to EV owners either through tariff or a fixed charge?

MR. REYNOLDS: No. We haven't analyzed that.

COMMISSIONER BROWN-BLAND: Okay. You haven't looked at that. All right. Some of the other comments were along the lines of -- sort of got into economic theory of monopoly versus free market/competitive market. If we allow and if the Company gets involved through its regulated business in this infrastructure provision, how do we protect against the anticompetitive impacts?

I heard Ms. Bateman say when the program gets on its feet we may back out, but by that time price levels will have been established, expectations will have been established. What can we do at the

front end if we were to go down this road that would be protective of competitive markets?

MR. REYNOLDS: I think we've included a lot of safeguards in this proposal. So it's a limited program. It's a -- you know, based on the need that we project around the 80,000 goal from Executive Order 80. It's about a third of the fast charging, in terms of the fast chargers. And the timeline of being a three-year program, we'll be providing an annual update on the program and also what we're seeing in the market. And at the end of the program we have committed to a full open and transparent process around how we proceed after that.

So, in addition, Laura mentioned the pricing or the potential for incremental revenue from the fast charging network. But we've also proposed a fast charge fee that would be set at the level of the statewide average of pricing including third parties. So we're not going to be charging just the commercial electricity rate. Obviously, that's much lower than third parties could charge their customers so instead we proposed a fast charge fee that would be set at that statewide average level and we hope that that would -- you know, resolve these concerns around

anticompetitive issues.

COMMISSIONER BROWN-BLAND: We often hear in terms of new technologies, new areas, internet is a great example, information services, that kind of thing that -- cell phones - at the front end rather than getting involved and getting it tied up in a regulatory regime, stay hands off, allow for innovation. So in that context why would the Commission want to weigh in now and possibly choose a winner and loser in this situation?

MR. REYNOLDS: Well, I wouldn't say that you're choosing a winner or a loser right now. I mean, we have this goal for the state that we're trying to respond to and we think the risk is to the down side right now. If you look at the market, the market is not developing at the speed that it is in other areas. So if you look at the market share of EVs in North Carolina we're behind right now compared to say certain areas of the country that have other goals. But we're not -- it's not a blank check in anyway. We have the safeguards in place and we think that it will provide that stimulus to the market that is necessary to reach the goals that are in front of us.

COMMISSIONER BROWN-BLAND: And to the extent that the program is designed to obtain data, specific data to North Carolina and to your customers, is that a benefit of getting that data outweigh the cost of the -- the cost that will be incurred by this program as opposed to using existing data and perhaps making adjustments along the way?

MR. REYNOLDS: So I think in the earlier conversation we were talking about the existing body of EV drivers. And I would go back to the goals of the pilot being multiple and not just the data. And so if we were just looking for data, it's true that there are -- you know, less robust programs we could do to get this data. But we feel that we need to do these multiple things at the same time in order to meet the goals that we have and in really make progress in the market.

COMMISSIONER BROWN-BLAND: And Ms. Bateman, you got into a discussion about the -- how the benefit would be shared or attributed to certain customers and could you just expound upon that a little more as to how the Company would go about doing that?

MS. BATEMAN: Yeah. So the cost of the program are -- of all of the programs are split

between O&M and capital. And we propose to recover those in base rate proceedings like we do other O&M and capital, and those costs would be spread to all customers is what we're proposing.

And then there would be benefits. There would be benefits through, like I mentioned if there's any in the public charging stations, if there's any amount over the standard tariff rate, that we would book that in a separate miscellaneous revenue account and spread that benefit to all customers. And then there's also the increased kilowatt hours that would go on the system and that benefit would go to where ever those kilowatt hours are realized to lower the cost for all customers.

COMMISSIONER BROWN-BLAND: So it would be -- if I'm hearing you correctly, that's to spread it out and give it to all customers in a similar manner so it's not a distinction. It wouldn't be -- I thought I read -- heard it into what --

MS. BATEMAN: Yes.

COMMISSIONER BROWN-BLAND: -- what you responded to Commissioner Clodfelter, but there was some distinction, some benefits would flow to certain specific customers versus --

MS. BATEMAN: Yeah. So I was talking specifically about when you design, if you design specific EV rates. How you design those rates can be influenced on how you want to share the benefits of the net revenue. So if you look at the cost benefit study that we attached with the application, it talks about net revenues that would be received by the utility through the adoption of electric vehicles. And who gets the benefit of those net revenues and what position you want to take on that would influence how you design EV specific rates. So if you wanted those benefits to flow primarily to the EV drivers, you could design EV rates that do that. And if you wanted to spread them to all customers you might choose a different EV rate design.

And so -- like I mentioned, we have time-of-use rates and then we have residential standard rates and so I looked a little bit at this, and for DEC our residential standard rate is about 9.3 cents. And then if you're on a time-of-use and it's off-peak it's about 5.7 cents a kilowatt hour. And then if you compare that to our avoided cost rates, our marginal energy cost for the off-peak period are around three cents, and so you've got a margin.

You've got a net revenue between the marginal cost of energy under those avoided cost tariffs and then kind of your standard residential rates. And so right now that margin flows to all other residential customers. That difference kind of benefits the entire class. And so to the extent you wanted to target that benefit to different segments within the class you can do that through different rate designs.

COMMISSIONER BROWN-BLAND: All right. Thank you.

CHAIR MITCHELL: Commissioner Duffley.

COMMISSIONER DUFFLEY: Okay. I have a few questions. I was going to sit back, I thought at this hearing, but my curiosity got the best me. If you could turn to Page 6 of your Initial Comments?

MS. BATEMAN: The Reply Comments.

COMMISSIONER DUFFLEY: No, your Initial Comments.

MS. BATEMAN: Okay.

COMMISSIONER DUFFLEY: Your Application. So you mentioned Florida, Georgia, New York, Maryland, Michigan all have EV programs or pilot programs. If you could file a late-filed exhibit on those just that spells out maybe in a chart what the cost and size of

each of those programs is. Thank you.

Besides these states, are there other regulated entities that have EV programs?

MR. REYNOLDS: Yes.

COMMISSIONER DUFFLEY: And what states are those?

MR. REYNOLDS: There are quite a few.

COMMISSIONER DUFFLEY: Or regulated entities?

MR. REYNOLDS: There are quite a few states with regulated entities with EV programs. We can provide a list of those.

COMMISSIONER DUFFLEY: Okay. Thank you.

MS. FENTRESS: Can you name some? I'm sorry. I'm sorry.

COMMISSIONER DUFFLEY: So in response to one of Commissioner Clodfelter's statements regarding rate design you stated that you needed more data to see what is effective and prudent. Can you expand on what you mean by that statement? Provide more specifics please?

MR. REYNOLDS: Sure. So the cost benefit analysis that we submitted with the application shows that there is a net benefit of EV charging, just that

base line, without any management by the utility on the order of about -- I think about $500 if I remember correctly of lifetime NPV net benefit per electric vehicle.

So under that analysis if we manage the charging the benefit increases to about $800 per EV over the lifetime of the EV so there's a $300 potential increase in the net benefit. And so the question is, you know, what is the cost of getting that incremental benefit. And so right now, like I mentioned, we don't have an updated kind of average load curve from our residential EV customers so we don't know what the current charging looks like and we need to get more data to understand the current base line scenario. And then we've also seen from other studies around the country, you know, different types of load management have different effects and our customers have different levels of kind of interest and appetite in participating in those programs.

COMMISSIONER DUFFLEY: Thank you. And then you also -- and I apologize, I'll become more organized as I have more experience up here, I'm going to be jumping around a lot. You -- what areas of the country are we behind? You stated in response to a

question that we're behind other states? Which states would those be?

MR. REYNOLDS: Well, the market leader is California. They have I think about 5 percent market share of new vehicles and other states on the west coast also have higher market share as well as states in the northeast. So I don't have the table of annual sales in front of me right now, but off the top of my head those are some of the areas. Colorado also has a pretty advanced market.

COMMISSIONER DUFFLEY: And if we could move to the fast chargers, how do you respond to concerns that Duke would be flooding the market?

MR. REYNOLDS: Well, as we've shown in the GAAP analysis that we provided, so based on the 2025 goal of 80,000 EVs, we use the EVI-Pro Light Tool to calculate approximately 455 chargers will be needed by that time. So over the next -- you know, we're basically into 2020 now, over the next five years we need to see an incremental say 350 chargers to get there and our 120 chargers is about a third of that incremental GAAP. So we don't think 30 percent of the market is flooding the market.

COMMISSIONER DUFFLEY: And what's your

response to the fact that you did not include Teslas in this -- in your computation of the results?

MR. REYNOLDS: Right. So Tesla chargers only work with Tesla cars and so the fact that they don't serve the mass market -- you know, if we're going to get to 80,000 EVs by 2025, we have to have mass market participation from other auto makers and those cars will not be going to Tesla chargers. So, you know, what percentage Tesla will make up in the market is kind of an unknown, but we think that in the long run this has to be a mass market, you know, mass market has to be successful for EVs. So we excluded them because they don't serve the mass market.

COMMISSIONER DUFFLEY: And I'll turn your attention to Page 4 of NCSEA's comments. I believe I heard testimony earlier today that there have not been any fast chargers installed in the state since the application was filed. And I might be reading this incorrectly but it seems that NCSEA is stating that since -- when the application was filed there were 86 plugs and as of July 2nd there are 144 plugs. How do you respond to that?

MR. REYNOLDS: So the point around incremental installations was commercially operated.

So, in other words, installation that is made in order to go after a commercial business model. And so the installations that have occurred since the time of filing are all to meet a settlement obligation. It's not from a third party that is in the business of trying to sell electricity to EV drivers.

COMMISSIONER DUFFLEY: What settlement obligation?

MR. REYNOLDS: The VW settlement.

COMMISSIONER DUFFLEY: The VW settlement. Thank you.

And how do you respond to concerns surrounding demand charges in your time-of-use rates?

MS. BATEMAN: So I can speak to that. I think in order to get the most benefit out of electric vehicles in terms of a utility system perspective, we want to encourage off-peak charging. And so if you look at time-of-use, the ones where we require the customers to be on a time-of-use demand rate, if you look at the differential between the on-peak and off-peak demand rates, to the extent there are any demand rates off-peak, they're very, very low. And so that the concept is that if the customer -- we don't want the customer to be charging on-peak if at all

possible. And so the way that those rates are structured really encourages the off-peak charging. So I think that was the SGS time-of-use for DEP and the OPTV, optional time-of-use pricing for DEC.

COMMISSIONER DUFFLEY: Okay, thank you. And going to one of Commissioner Clodfelter's questions regarding the school bus program, you indicated that four school districts were interested. How many buses do you believe each district is interested in purchasing?

MR. REYNOLDS: So they applied for one each I believe to the VW settlement application from DEQ. I think it was one each. But that doesn't -- I don't think that their appetite -- well, we would need more information on this but I don't think that the appetite would be limited to what they applied under the VW settlement.

COMMISSIONER DUFFLEY: Okay. And then, this might be my last question, no. What's your response to the make-ready concept set forth in initial comments?

MR. REYNOLDS: Uh-huh. So we didn't really see enough information from that comment to come up with a robust analysis on that because make-ready is

simply a description of part of the EV charger installation. It's the service upgrade, the transformer, the service drop, the meter and then the conduit in the panel on the customer side of the meter. And then the customer would have to install the EV charger at the stub-out point.

So some programs, some other utility programs have make-ready components to them. They're and structured differently in different areas so there's a few different ways to do that. But generally speaking, by definition, because it's a smaller portion of the installation, it's going to cost less than doing the whole thing.

COMMISSIONER DUFFLEY: And in normal interconnection circumstance who would pay those charges, the make-ready charges?

MR. REYNOLDS: So the -- it depends on the projected revenue from the customer and that just falls in line with our standard line extension in revenue credit policies. We actually went back and looked at this. So a lot of the DC fast chargers that have been installed on our system over the past couple of years, the customer paid very little in terms of contribution in aid of construction and so it appears

that we're already paying or the utility is already socializing the majority of the cost on the utility side of the meter. For the conduit and everything that's on the customer's side of the meter that's all the customer's responsibility.

And I would just add in terms of the DC fast charge program, the reason why we've proposed to own and operate is that we feel it's important to ensure that the stations are well-maintained and operable for the full life of the asset. With a make-ready program, the utility just puts in the make-ready and we have no recourse after that to make sure that the station is useful or in good shape and we've seen a lot over the past couple of years. We've seen a lot of examples where those stations are not maintained and that's not something we want to see happen with this program.

MS. BATEMAN: And I think we did a just a high level, back of the envelop, not site specific. But the program, if we were to do the make-ready instead of what we've proposed, the cost of the program would still be around, between anywhere from $41 to $64 million. I know that's a large range. But just to give you a sense that there would still be a

significant investment. And so if we're going to make this significant investment we want to make sure that the benefit is there.

COMMISSIONER DUFFLEY: Okay, thank you. And continuing with upgrades, you mentioned earlier in your testimony about how certain locations may have higher upgrade costs than other locations. Would you set parameters or a ceiling with respect to certain sites? And if they -- if the interconnection costs or upgrade costs were too high, would you look at another site?

MR. REYNOLDS: Well, I don't think we put anything specifically on that in the application. But in order to meet the budget that we've submitted we would have to do that.

COMMISSIONER DUFFLEY: Okay.

MR. REYNOLDS: Because, yeah, there's -- if a site needs three-phase power and doesn't have it, that's going to be a lot more expensive than other situations.

COMMISSIONER DUFFLEY: And do you know whether the Public Staff would agree to the pilot if Duke added experimental rate designs?

MS. BATEMAN: I don't know.

COMMISSIONER DUFFLEY: If you could go to Page 6 of NCCEBA's comments. So in the second full paragraph the last two sentences, I'll let you read that.

MS. BATEMAN: Starting with --

COMMISSIONER DUFFLEY: Under current --

MS. BATEMAN: -- you said second paragraph.

COMMISSIONER DUFFLEY: Under current market conditions.

MS. BATEMAN: Okay. Under current market conditions --

COMMISSIONER DUFFLEY: Oh, you don't have to read it out loud. If you could just read it. And what is your response to these concerns?

MR. REYNOLDS: So going back to the application and the fast charger fee structure that we proposed, we're -- basically we were addressing that concern upfront. So I think it appears they didn't read the application because we're saying that we're going to charge the statewide of pricing and we're not charge some kind of undercut pricing versus other operators.

COMMISSIONER DUFFLEY: Okay. On Page 10 of your Reply Comments you discuss certain dockets in the

telecommunications industry. If you could just provide which dockets those were at a later time?

MS. FENTRESS: We can do that.

COMMISSIONER DUFFLEY: That's all I have.

CHAIR MITCHELL: Commissioner Hughes.

COMMISSIONER HUGHES: Thank you. I have a few, just clarifications from earlier comments that you made.

At the beginning you said that the first year would be baseline data collection. And then I didn't know if I heard you that you said possibly in the second and third year under your proposal experimental rate design could occur or it would only occur after the completion of the entire three-year pilot. I just wasn't clear what you had said.

MR. REYNOLDS: The second and third years are experimental charging management.

COMMISSIONER HUGHES: Only.

MR. REYNOLDS: Yeah. Right.

COMMISSIONER HUGHES: Okay. And so I see kind of two approaches that you're using here. In some cases you're offering financial incentive rebates and in some cases you're owning and operating the actual equipment. I'm just curious in either case

whether you looked at the option, the other option. So in the case of -- in the case of the fast chargers I understand that some of the arguments for you owning it, but did you at least look at price having some type of incentives for private installers under that part of the pilot or even potentially having some kind of RFP to get private installers to come in?

MR. REYNOLDS: Well this kind of goes back to the make-ready question. So if we provide some incentive for a portion of the cost it, by definition, it's going to reduce the cost of the program. But the larger question is how do we accomplish the goals of expanding infrastructure in the state in order to support market growth. And we feel like the nature of the DC fast charge market and the fact that it is very expensive to install these stations and the economics are not quite there yet on the operating side of things.

So if we provide incentives, you know, there are other programs that have shown that they're having a lot of difficulty with getting these programs fully subscribed. So it's not enough to just put the incentives out there if you can't get the stations actually in the ground in the timeline that you're

targeting.

COMMISSIONER HUGHES: Thank you for that. Do you -- I think you had said, and I didn't write it down, that the difference between the make-ready approach and the approach you just outlined, I think you said $41 million or I wasn't sure what you had said, if you had quoted a number for that?

MS. BATEMAN: That was based on -- it was $41 to $64 million. And what that number comes from is that the make-ready can be anywhere from 25 to 75 percent of the total install cost that we've included in the application for the ones that we have proposed to own and install. And so if you take that 25 percent to 75 percent and multiply it by the total electric vehicle station equipment capital cost that we've included in the program, which is about $47 million. To kind of get the discount to that and then add back the other components of the program you get to $41 to $64 million.

COMMISSIONER HUGHES: Perfect. Thank you. There was a couple of comments I think from intervenors and you had a couple of responses about this question of flooding the market or not for your fast chargers. And I apologize, I'm new to the world

of electronic vehicles, electric vehicles, but is all the numbers of the potential charges that are going to be out there in three, five, six, seven years, I kept hearing the word "need" used which seemed like kind of just a formulaic multiplication of cars on the road. Has there been any projection of what the business conditions would naturally create for the projections based on kind of the market? Does that need include assuming this is going to become a positive financial enterprise and people are going to flood it and build these?

I just -- my concern is that those larger numbers for needs are we might need them right now but they're not getting built. So I just wonder in the future what assumptions were considered to say that you'll only have 20 percent of the market and there'll be a financial incentive for others to naturally follow market conditions and just build all those other ones. I know it's a long question but --

MR. REYNOLDS: Yeah, I guess in terms of how we develop that we used a tool called EVI-Pro Lite which is developed by the Department of Energy I believe. And so it's based on looking at populations of EVs and how many chargers are there to support

those EVs. So I think it's kind of -- if I'm understanding your question correctly, I think it addresses it from both sides I would say in a way. I don't know if I'm following.

COMMISSIONER HUGHES: That's fine. Again, I can look into the model itself. I was just concerned. I just heard -- I kept hearing we're going to need something and we always need something but it doesn't actually get built.

MR. REYNOLDS: Sure.

COMMISSIONER HUGHES: For the residential rebates, and this might have been in there, I apologize if it was, is that going to be limited to new EV owners? Or if given the cycle, we're seeing a lot of second generation and third generation purchases, first-come, first-serve, if I have an EV and I see this and this is the one that triggers me into buying my second EV, would I be able to apply?

MR. REYNOLDS: Yes. So it's -- the tariff language as we have it written right now requires the installation of a new EV charger. So it doesn't have to be a new EV, but it is a new EV charger. So a lot of -- it just depends. It's first-come, first serve, but a lot of current owners probably already have a

charger. Some of them might use the Level 1 charger that came with their car so they could be eligible for the program if they installed a Level 2 charger.

COMMISSIONER HUGHES: Okay. Just, last question. And I think you said you were going to capitalize a lot of the obviously physical installations. But again this is just kind of I'm new to this. How would you deal with the rebates? Would those be considered to be an operation and maintenance cost in your rate request or would that actually be capitalized? Then how would you depreciate that if it was going to be capitalized?

MS. BATEMAN: So we expect the rebates to be an operating and maintenance expense like you said. So to the extent that it was in rate case test year it would be included in that test year operating and maintenance expense.

COMMISSIONER HUGHES: Thank you.

CHAIR MITCHELL: Addition questions from the Commission? Okay. We'll take questions on the Commission's questions and we'll start on this side of the room. Ms. Downey.

MS. DOWNEY: I think it will be helpful to get further clarification -- am I on here? Can you

hear me okay? -- on the allocation of the cost. I know you say among all customers. Is there -- as I recall there was some specific allocations among customer classes. Can you clarify that with respect to capital?

MS. BATEMAN: Yeah. So -- and we can be flexible on this, but what I'm thinking right now for the O&M and -- for both the O&M and the capital, we would allocate those using what we call a net plant allocator among the North Carolina retail customer classes for these program costs.

MS. DOWNEY: And would you say that would mostly allocate these costs to residential customers? Or can you break that down for the Commission?

MS. BATEMAN: I would say so net plant is one of those very generic allocators. It's a combination of distribution plant, transmission plant, production plant, general and tangible plants. So it's kind of all of the utility functions. And so it kind of spreads the costs very generically across all of the customer classes. So I would say it doesn't really favor one class over another. It's kind of a very composite allocation factor.

And so I looked at the accounts that we

think these costs would be booked to. The O&M we think would be booked to FERC accounts 912 and 913. That's demonstration and selling expenses. And the 913 is advertising expenses. And we would expect the capital to be booked to account 371 which is installation on customers premises. And if you look at the NARUC cost allocation manual for these accounts, the direction is very broad. But it's hard to determine one specific allocator for these types of costs and so a composite allocation is recommended.

MS. DOWNEY: A couple of the Commissioners asked you about rate design and EV specific rate design. In designing these types of rates wouldn't it be possible to design these rates so that all costs of EV use could be allocated to the customers that use EVs as opposed to spreading them out among all customers, some of whom don't use EVs or have EVs?

MS. BATEMAN: You would have to do both, the costs and the benefits.

MS. DOWNEY: But that's not one of the objectives of this particular pilot, correct?

MS. BATEMAN: The EV rate design?

MS. DOWNEY: Yes.

MS. BATEMAN: So we think it's beyond that

because, you know, when you're talking about designing EV rates there's multiple pieces to this pilot. And so part of it is laying that kind of DC fast charging infrastructure and that's very difficult. And like Mr. Reynolds explained we want to price that at the market rate so that we keep that competitive or don't undermine in anyway the development of competitive market. So if you're talking more about like just residential rates, it may be possible to do that. I haven't done any analysis on that.

MR. REYNOLDS: I think you would have to obligate EV customers to take a risk on that time, on that specific time-of-use rate. And we've seen in other states where that is required. It's not very successful. So I think we're probably --

MS. DOWNEY: Not successful in what way?

MR. REYNOLDS: So the example from Oregon where they had a mandatory EV time-of-use rate for residential customers that were installing the charging ports.

MS. DOWNEY: Well, how was it not successful? I guess I'm asking.

MR. REYNOLDS: Well, customers weren't willing to participate. It wasn't something they were

willing to sign up for.

MS. DOWNEY: Is that because the cost was too high?

MR. REYNOLDS: I assume the value that they were getting was not in proportion to the rate discount, I assume.

MS. DOWNEY: Now, you've proposed similar pilots in South Carolina; isn't that correct?

MR. REYNOLDS: Yes.

MS. DOWNEY: And Duke Energy Progress and Duke Energy Carolinas operates their system as a system, right? We don't differentiate between North and South Carolina in terms of operation and that sort of thing, correct? We just allocate costs based on a jurisdictional allocator?

MS. BATEMAN: So we do operate as a system in terms of the dispatch and then we allocate certain costs to each jurisdiction and so other costs are direct assigned.

MS. DOWNEY: Right. And the pilots in South Carolina that have been proposed, they're in the $14 million range; isn't that correct?

MR. REYNOLDS: It's -- we revised the program. I think the revised size was $15.6 million.

MS. DOWNEY: That's considerably less than $76 million; isn't that right?

MS. BATEMAN: I would just also add, and Mr. Reynolds might have a response to this, the South Carolina service territory for DEC and DEP is also much smaller than the North Carolina service territory. So I don't know how proportionally they correspond.

MR. REYNOLDS: Right. It's not significantly different on a proportionate basis.

MS. DOWNEY: And that -- and that amount actually it was -- you amended your ask after a stakeholder process; isn't that correct?

MR. REYNOLDS: Correct.

MS. DOWNEY: Excuse me. I'm trying to focus here. I was curious, it's not clear to me, if you're willing to reduce -- this is about the residential rebate that you were asked about and your willingness to reduce it to $500. Would that increase the number of rebates or decrease the amount of the program as you've proposed it?

MR. REYNOLDS: Well, we just proposed a decrease in the incentive level so it would remain at the same number of rebates as we have currently

proposed it.

MS. DOWNEY: Ms. Bateman, you asked -- you said something about at some point you would expect this, or I guess EV charging to be profitable for folks? I believe you said that, right?

MS. BATEMAN: I think that is our hope.

MS. DOWNEY: Have you done any analysis as to when you think that might be the case?

MS. BATEMAN: I have not.

MR. REYNOLDS: We've seen examples from other market areas where there are profitable operations.

MS. DOWNEY: But how long did that take? So in other areas it's already profitable?

MR. REYNOLDS: There are certain use cases -- so going back to the statement I made about EV charging being not a homogenous market, there's a lot of different use cases within EV charging. And it's likely that the future of EV charging looks different than gas vehicle fueling today. So there are a lot of variables at play.

In terms of timeline, it's pretty hard to say, but we have seen examples of fast charging being profitable around 20 percent utilization rate. So

that's -- on a utilization standpoint that's kind of the number that has been highlighted in other areas.

MS. DOWNEY: Would you anticipate that at the end of this three-year pilot that it might be profitable such that the Company would not need to install any further infrastructure?

MR. REYNOLDS: Our -- so our estimated forecast that we provided in some of the discovery requests, we don't anticipate that point being reached by year three but it's possible. We don't know what's going to happen. So if there is more market growth it could happen.

MS. DOWNEY: But you don't know?

MS. BATEMAN: And I'd just add that the utility would not make any further investments in electric vehicle charging stations without coming before this Commission. What we've proposed in this pilot is all that we're asking for approval for.

MS. DOWNEY: Regarding the programs on Page 6 of your application that Commissioner Duffley asked you about, do you think it would be helpful for the Commission to know the size of those, and how much investment is involved, and the docket numbers, and whether those were part of the settlement agreement?

MS. BATEMAN: You said Page 6 of the application?

MS. DOWNEY: Page 6. She asked you about those pilots.

MR. REYNOLDS: The other utility programs?

MS. DOWNEY: Yes. What --

MR. REYNOLDS: Yeah, we think --

MS. BATEMAN: I think the Commission could ask us to provide whatever it thinks would be helpful.

MS. FENTRESS: We can provide that. And I do note that two of the docket numbers are footnoted below in Footnote Number 12 and Footnote Number 13.

MS. DOWNEY: Well, let me ask you subject to check, would you agree that the Florida pilot arose out of a settlement agreement?

MS. FENTRESS: I'm sorry. Could you repeat that?

MS. DOWNEY: The Florida pilot arose out of a -- as part of a settlement agreement?

MR. REYNOLDS: It was a result of a negotiated rate case.

MS. DOWNEY: Would you also agree subject to check that it's a five-year $8 million operating expense pilot?

MR. REYNOLDS: It's a five-year $10 million program.

MS. DOWNEY: Well, that's a lot less than $76 million.

MR. REYNOLDS: Proportionately it's not significantly different considering the difference in size of our customer base and also the size of, you know, the vehicle traffic within the service territories that we serve.

MS. DOWNEY: Would you agree subject to check that the Michigan pilot also arose out of a settlement agreement?

MR. REYNOLDS: I was under the impression that they had a separate proceeding on the EV program in Michigan.

MS. DOWNEY: Would you agree subject to check that that's a $7.5 million pilot?

MS. FENTRESS: I don't believe that they have this information. And I appreciate being asked subject to check but I -- this isn't a legal proceeding and so I hate to have them speculate.

MS. DOWNEY: Perhaps they can provide that as part of the exhibit then.

CHAIR MITCHELL: Ms. Fentress, are you

willing to provide that information with a late-filed --

MS. FENTRESS: Yes. We are willing to provide that information.

CHAIR MITCHELL: Thank you.

MS. DOWNEY: All right. Regarding Commissioner Duffley's question about would the Public Staff agree to a pilot if it included experimental rate designs, would you agree that the Public Staff also expressed concern regarding the fact that the Company appeared to be asking for pre-approval of infrastructure?

MS. BATEMAN: Yes. So I did notice that in the Public Staff comments and I did want to address that. So I think this is -- I'll just start by saying this is not a typical utility investment. So this is not, you know, installing poles or lines or things that we would do in the normal course of business. And so I do think we think it's important to get direction from this Commission as to whether or not this is a proper investment for the utility to make this foundational level of infrastructure, and so we think it's important to get direction on that. We think there are benefits to it. We think there are

benefits to utility customers. But it may be that this is not what the Commission wants us to do and we'd rather know that upfront.

And I would say that this is not unlike when the Company files for a Certificate of Public Convenience and Necessity. I mean, there are other things where the Commission approves things. So when we filed -- when we build a new transmission line or a new generation plant, we file for a Certificate of Public Convenience and Necessity and this Commission doesn't guarantee cost recovery.

So if you think about our Asheville combined cycle, we received a CPCN and all that means is that the Commission thinks it's the right thing to go ahead and build this plant. But the prudence of those costs, the justness and; reasonableness of those costs and how we went about doing that is still subject to review in a general rate case when we seek cost recovery of those costs. And so I think this is similar to that.

Or another example would be DSM/EE programs. So I know the Company comes before this Commission to get approval of DSM/EE programs before the Company implements them. Again, it's not guaranteeing cost

recovery but it's signaling that the Commission thinks it's the right thing to do to move forward with those programs. And then the prudency of those costs is subject to review in the cost recovery proceeding.

And so I think this is similar, that this is not a typical infrastructure investment. It is something unique. We think it is unique -- a unique opportunity for the utility to make this type of investment but we are looking for direction from the Commission as to whether or not you agree that that's the role of the public utility in this space. We're not seeking guaranteed cost recovery. The prudency and justness and reasonableness of the cost would still be subject to review in a general rate case where we would seek cost recovery of those costs. But we do think it's important for the Commission to weigh in and give guidance as to whether or not the proposal as we've proposed it is the right direction for the utilities to take.

MS. DOWNEY: I don't have anything more.

CHAIR MITCHELL: Is that your final question?

MS. DOWNEY: (Nods head in agreement).

CHAIR MITCHELL: Okay.

MS. FENTRESS: Thank you. And I'll be mindful of the Commission's time.

CHAIR MITCHELL: Okay. Well, I'm mindful that my court reporter might need a break. So how many questions do you think that you have, Ms. Fentress?

MS. FENTRESS: I think I can do it very quickly, maybe four or five.

CHAIR MITCHELL: Okay. Please proceed.

MS. FENTRESS: Ms. Bateman, I'm going to direct this question to you. We've had some discussion about allocation of cost to ratepayers and the risk borne by ratepayers. Have you done any analysis of what the impact would be on ratepayers of these programs?

MS. BATEMAN: Yes. So a lot of it will depend on the timing of general -- (coughs) excuse me -- timing of general rate cases but, so I just did an analysis where I assumed we had a base rate case every year and sought cost recovery --

COMMISSIONER CLODFELTER: (Sighs).

(Laughter)

MS. BATEMAN: -- (laughs) -- just for analysis purposes, and if you assume that for the

first -- starting in 2021. So there would be no cost recovery in 2020, but starting in 2021 through 2025, the average cents per -- it would -- on average for residential customers it would be about $0.15 per 1000 kWh and the peak amount would be $0.22 in 2024 and then it would decline after that. So we're talking about on average about $0.15 for your typical 1000 kWh residential customer. And again, that assumes the net plant allocator that I spoke of earlier. And then I just kind of compared that to the Job Retention Rider which, you know, I said is a similar program.

There are benefits to the system. There are public benefits, job benefits, and so there's some cross subsidization there. And the current cost of job retention rider is anywhere from $0.40 to $0.50 per 1000 kWh depending on whether it's DEP or DEC. For the Job Retention Rider, Recovery Rider is between $0.40 and $0.50 per 1000 kWh and that depends whether it's DEP or DEC, and then the EV pilot that we're proposing on average during 2021-2025 would be $0.15 per 1000 kWh and then declining after that, and that assumes the annual rate cases.

MS. FENTRESS: So you would agree, relative

to the size of Duke Power, that's -- where would you place that in light of your comparisons?

MS. BATEMAN: So I guess I would say it's less than may some other programs that we've embarked on or tariffs that we've had that offer discounts to encourage things that are good for the system and good for the -- that provides societal benefits.

MS. FENTRESS: And, in fact, I think Ms. Downey asked you about the Florida EV infrastructure pilot and was indicating that that was less money than here. I just want to make sure we clarify, how many utilities do we have operating in Florida?

MR. REYNOLDS: Just one.

MS. FENTRESS: And in this case we're talking about two utilities, correct?

MR. REYNOLDS: (Nods head in agreement).

MS. FENTRESS: And the geographic area, what's the comparison to that of the one utility in Florida?

MR. REYNOLDS: Much larger.

MS. FENTRESS: So it's a -- it is a much larger pilot than the Florida one?

MR. REYNOLDS: Right.

MS. FENTRESS: I know you're not both attorneys but I'm going to ask you a little bit about an amendment to a Statute that happened this summer that, Mr. Reynolds, I'm sure you're aware of, and that is General, I'm sorry, it is Session Law 2019-132 and it amended the definition of a public utility. Are you aware of what I'm speaking of, that amendment?

MR. REYNOLDS: Yes.

MS. FENTRESS: Yes. And would you agree with me that that Statute cleared away an impediment perhaps for third parties, not the Company, but third parties to participate in the electric charging, vehicle electric charging market?

MR. REYNOLDS: Yes.

MS. FENTRESS: And would you also agree that it still retained the ability for the public utility to participate in that electric vehicle charging market?

MR. REYNOLDS: Yes.

MS. FENTRESS: And, in fact, the Statute itself allows for or it clarified potentially an obstacle of two public utilities participating in that it indicated that -- clarified that found revenues resulting from electric vehicle charging programs

would not count against the utility, that these revenues made would not be found revenues.

MR. REYNOLDS: Correct.

MS. FENTRESS: And so would you agree then that if you take that Statute -- I'm going to move then to Executive Order 80. In Executive Order 80, Governor Cooper set a goal of 80,000 zero emission vehicles on the roads in North Carolina by 2025, correct?

MR. REYNOLDS: Right.

MS. FENTRESS: And that's an ambitious goal?

MR. REYNOLDS: Yes.

MS. FENTRESS: If you couple the Governor's goal with sort of the level playing field that the Statute has established, do you think that our pilot is consistent with those goals?

MR. REYNOLDS: Yes.

MS. FENTRESS: And we've talked a lot about other states, South Carolina, some other states that have done EV infrastructure-type pilots. Do you think the Governor's goal evinces an idea or a thought that North Carolina would be a leader in this area?

MR. REYNOLDS: Yes.

MS. FENTRESS: And so we have filed our

pilot to be consistent with those goals; is that correct?

MR. REYNOLDS: Right.

MS. FENTRESS: And to be consistent with the General Statute?

MR. REYNOLDS: Correct.

MS. FENTRESS: And we also see a role for the Commission to play in this as well?

MR. REYNOLDS: Right.

MS. FENTRESS: We're going to collect the data. I believe that Chair Mitchell asked you about multi-family charging stations and was there a lot of data there or was there data that we reviewed there and your response was there wasn't. If we do this pilot would we collect such data?

MR. REYNOLDS: Yes.

MS. FENTRESS: And would we be able to then report it to the Commission?

MR. REYNOLDS: Yes.

MS. FENTRESS: And then would we be able to share it with the other parties?

MR. REYNOLDS: Correct.

MS. FENTRESS: And, in fact, we would be able to share it with other parties and we proposed a

stakeholder proceeding after the data is collected from this; is that correct?

MR. REYNOLDS: Correct.

MS. FENTRESS: And so I also wanted to ask you, and then I will finish up, you were also -- I think this would go to Ms. Bateman. You were also asked about if you have considered on-bill financing. Is one of the concerns we have potentially about on-bill financing the fact that it may subject us to regulations beyond utility regulations, lender regulations, financial regulations?

MS. BATEMAN: Yes. Excuse me, yes.

MS. FENTRESS: And then I will go back to the EM&V questions that Chair Mitchell asked. Mr. Reynolds, I believe in our Reply Comments we committed to a robust EM&V process; is that correct?

MR. REYNOLDS: Correct.

MS. FENTRESS: And I think we indicated in that filing that because this is a new area we were willing to engage with stakeholders, and I think we named SACE and the NC Justice Center, to develop this robust EM&V process; is that correct?

MR. REYNOLDS: Correct.

MS. FENTRESS: And would we also work with

the Public Staff if they were so inclined?

MR. REYNOLDS: Correct.

MS. FENTRESS: I think that's all. Thank you.

CHAIR MITCHELL: Okay. Thank you. And with that will be adjourned.

(The proceedings were adjourned)

C E R T I F I C A T E

I, KIM T. MITCHELL, DO HEREBY CERTIFY that the Proceedings in the above-captioned matter were taken before me, that I did report in stenographic shorthand the Proceedings set forth herein, and the foregoing pages are a true and correct transcription to the best of my ability.

Kim T. Mitchell

Kim T. Mitchell
Court Reporter