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**BEFORE THE PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA**

**COLUMBIA, SOUTH CAROLINA**

**#19-11793 AUGUST 14, 2019 10:00 A.M.**

# ALLOWABLE EX PARTE COMMUNICATION BRIEFING BY DUKE ENERGY CAROLINAS, LLC, and DUKE ENERGY PROGRESS, LLC:

## *KEY COMPONENTS OF ACT 62*

**Docket No. 2019-169-E:**

**DUKE ENERGY PROGRESS, LLC –** Establishment of Net Energy Metering Tariff in Compliance with H. 3659

**Docket No. 2019-170-E:**

**DUKE ENERGY CAROLINAS, LLC –** Establishment of Net Energy Metering Tariff in Compliance with H. 3659

**Docket No. 2019-182-E**

**SOUTH CAROLINA ENERGY FREEDOM ACT (H.3659) PROCEEDING INITIATED PURSUANT TO S.C. CODE ANN. SECTION 58-40-20(C) –** Generic Docket to (1) Investigate and Determine the Costs and Benefits of the Current Net Energy Metering Program and (2) Establish a Methodology for Calculating the Value of the Energy Produced by Customer-Generators

**Docket No. 2019-185-E**

**DUKE ENERGY CAROLINAS, LLC –** South Carolina Energy Freedom Act (H.3659) Proceeding to Establish Duke Energy Carolinas, LLC's Standard Offer, Avoided Cost Methodologies, Form Contract Power Purchase Agreements, Commitment to Sell Forms, and Any Other Terms or Conditions Necessary (Includes Small Power Producers as Defined in 16 United States Code 796, as Amended) Pursuant to S.C. Code Ann. Section 58-41-20(A)

**Docket No. 2019-186-E:**

**DUKE ENERGY PROGRESS, LLC –** South Carolina Energy Freedom Act (H.3659) Proceeding to Establish Duke Energy Progress, LLC's Standard Offer, Avoided Cost Methodologies, Form Contract Power Purchase Agreements, Commitment to Sell Forms, and Any Other Terms or Conditions Necessary (Includes Small Power Producers as Defined in 16 United States Code 796, as Amended) Pursuant to S.C. Code Ann. Section 58-41-20(A)

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**Docket No. 2019-195-E:**

**DUKE ENERGY CAROLINAS, LLC** – South Carolina Energy Freedom Act (House Bill 3659) Proceeding Related to Duke Energy Carolinas, LLC for the Commission to Establish Reasonable Guidelines to Ensure Reasonable Interconnection Timelines, Including Time Requirements to Deliver a Final System Impact Study to All Interconnection Customers that Execute a System Impact Study Agreement, Pursuant to S.C. Code Ann. Section 58-27-460(D)

**Docket No. 2019-196-E:**

**DUKE ENERGY PROGRESS, LLC –** South Carolina Energy Freedom Act (House Bill 3659) Proceeding Related to Duke Energy Progress, LLC for the Commission to Establish Reasonable Guidelines to Ensure Reasonable Interconnection Timelines, Including Time Requirements to Deliver a Final System Impact Study to All Interconnection Customers that Execute a System Impact Study Agreement, Pursuant to S.C. Code Ann. Section 58-27-460(D)

**Docket No. 2019-207-E:**

**DUKE ENERGY CAROLINAS, LLC –** South Carolina Energy Freedom Act (House Bill 3659) Proceeding Related to Duke Energy Carolinas, LLC, and S.C. Code Ann. Section 58-41-30 Related to Electrical Utilities and Their Current Voluntary Renewable Energy Program, and Such Other Proceedings Required By the Commission

**Docket No. 2019-208-E:**

**DUKE ENERGY PROGRESS, LLC –** South Carolina Energy Freedom Act (House Bill 3659) Proceeding Related to Duke Energy Progress, LLC, and S.C. Code Ann. Section 58-41-30 Related to Electrical Utilities and Their Current Voluntary Renewable Energy Program, and Such Other Proceedings Required By the Commission

**Docket No. 2019-210-E:**

**DUKE ENERGY CAROLINAS, LLC –** South Carolina Energy Freedom Act (House Bill 3659) Proceeding Related to Duke Energy Carolinas, LLC for the Commission to Review the Community Solar Programs Established Pursuant to Act 236 of 2014 and to Solicit Status Information on Existing Programs from the Electrical Utility [S.C. Code Ann. Section 58-41-40 (B)(1)]

**Docket No. 2019-211-E:**

**DUKE ENERGY PROGRESS, LLC –** South Carolina Energy Freedom Act (House Bill 3659) Proceeding Related to Duke Energy Progress, LLC for the Commission to Review the Community Solar Programs Established Pursuant to Act 236 of 2014 and to Solicit Status Information on Existing Programs from the Electrical Utility [S.C. Code Ann. Section 58-41-40 (B)(1)]

**Docket No. 2019-224-E:**

**DUKE ENERGY CAROLINAS, LLC** – South Carolina Energy Freedom Act (House Bill 3659) Proceeding Related to S.C. Code Ann. Section 58-37-40 and Integrated Resource Plans for Duke Energy Carolinas, LLC

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**Docket No. 2019-225-E:**
**DUKE ENERGY PROGRESS, LLC –** South Carolina Energy Freedom Act (House Bill 3659) Proceeding Related to S.C. Code Ann. Section 58-37-40 and Integrated Resource Plans for Duke Energy Progress, LLC

# ALLOWABLE EX PARTE BRIEFING

**COMMISSION MEMBERS PRESENT**: Comer H. 'Randy' RANDALL, *Chairman*; Justin T. WILLIAMS, *Vice Chairman* *[VIA TELEPHONE]*; and COMMISSIONERS John E. 'Butch' HOWARD, Florence P. BELSER, Thomas J. 'Tom' ERVIN, and Swain E. WHITFIELD

ADVISOR TO COMMISSION: Joseph Melchers
GENERAL COUNSEL

**STAFF:** B. Randall Dong, Esq., and Davis W. Stark, III, Esq., Legal Advisory Staff; William O. Richardson, Technical Advisory Staff; Jackie Thomas, Information Technology Staff; Melissa Purvis, Livestream Technician; and Jo Elizabeth M. Wheat, CVR-CM/M-GNSC, Court Reporter

**APPEARANCES:**

***FRANK R. ELLERBE, III, ESQUIRE,*** representing **DUKE ENERGY CAROLINAS AND DUKE ENERGY PROGRESS**, together with ***GEORGE BROWN*** *[General Manager, Distributed Energy Technology Strategy, Policy, and Strategic Investment / Duke Energy]* and ***HEATHER SHIRLEY SMITH*** *[Deputy General Counsel / Duke Energy],* Presenters

***JEFFREY M. NELSON, ESQUIRE***, Designee of the Executive Director of **THE SOUTH CAROLINA OFFICE OF REGULATORY STAFF**

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P R O C E E D I N G S

**CHAIRMAN RANDALL**: Good morning. Welcome, everyone, for this allowable ex parte. I'm going to ask Mr. Melchers to read the docket.

**MR. MELCHERS**: Thank you, Mr. Chairman.

Commissioners, we're here pursuant to a Notice of Request for Allowable Ex Parte Communication Briefing requested by Duke Energy Carolinas, LLC, and Duke Energy Progress, LLC, scheduled for today here in the Commission hearing room, August 14th, at 10 a.m.

The subject matter to be discussed at today's briefing is: Key components of Act 62.

And the Commission docket numbers that are associated with this presentation are the following — all of these are 2019 filings — -169-E, -170-E, -182-E, -185-E, -186-E, -195-E, -196-E, -207-E, -208-E, -210-E, -211-E, -224-E, and -225-E.

Thank you, Mr. Chairman.

**CHAIRMAN RANDALL**: Thank you.

Mr. Nelson, are you doing the ORS thing?

**MR. NELSON**: I am, Mr. Chairman.

**CHAIRMAN RANDALL**: Thank you.

**MR. NELSON**: Good morning, Commissioners, Mr. Chairman, and everybody else who's here. For those

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1 of you who don't know me, I'm Jeff Nelson; I'm
2 Chief Counsel for the Office of Regulatory Staff,
3 and I'm here today as the designee of the Executive
4 Director of ORS for this allowable ex parte
5 briefing presented by Duke Energy Carolinas and
6 Duke Energy Progress.
7 As the ORS representative, it's my duty to
8 certify the record of this proceeding to the Chief
9 Clerk of the PSC within 72 hours after this
10 briefing, under South Carolina Code Annotated
11 Section 58-3-260(C).
12 The requirements of that statute, in part, are
13 that the allowable ex parte be confined to the
14 subject matter which has been noticed. In this
15 case, as Mr. Melchers has just indicated, the
16 noticed issue here is "Key components of Act 62."
17 Therefore, I ask that everyone here please refrain
18 from discussing any matters not related to that
19 subject.
20 Secondly, the statute prohibits any
21 participants, Commissioners, Commission Staff from
22 requesting or giving any commitments,
23 predetermination, or prediction regarding any
24 action by any Commissioner as to any ultimate or
25 penultimate issue which either is or is likely to

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1 come before the Commission.
2 Third, I would like to ask the participants,
3 Commissioners, and Staff to attempt to refrain from
4 referencing any reports, articles, or statutes
5 which are not included as part of the presentation
6 that Duke's giving this morning. That just saves
7 us the time of trying to track those down within
8 the short time period that we have.
9 As a final note for everybody in the audience,
10 please make sure that you signed in, that you
11 picked up a form, and that you sign and return that
12 form before you leave today. Again, that has to be
13 part of the record that we certify in this
14 proceeding.
15 That's all I have, Mr. Chairman. Thank you.
16 **CHAIRMAN RANDALL:** Thank you.
17 Before we begin, I just want to recognize the
18 fact that Commissioner Williams is attending by
19 phone, I think.
20 **VICE CHAIRMAN WILLIAMS**[via phone]: Yes, Mr.
21 Chairman, Commissioner Williams is here.
22 **CHAIRMAN RANDALL:** Great. Glad to have you
23 here.
24 **VICE CHAIRMAN WILLIAMS**[via phone]: Thank you, sir.
25 **CHAIRMAN RANDALL:** Mr. Ellerbe, I think I'm

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1 calling on you.
2 **MR. ELLERBE**: Thank you, Mr. Chairman, members
3 of the Commission. My name is Frank Ellerbe,
4 representing the company with respect to this ex
5 parte briefing this morning.
6 We have presentation slides that will be
7 discussed with you by two presenters — and I'm
8 going to introduce them, and sit down and be quiet.
9 Heather Shirley Smith, Deputy General Counsel of
10 the company, will be presenting, as will George
11 Brown. Mr. Brown is general manager of Distributed
12 Energy Technology, Policy, and Strategic
13 Investment. And their presentation was described
14 by Mr. Melchers when he read the docket.
15 One thing I did want to make clear is we are
16 aware that there are oral arguments scheduled for
17 next week in these dockets and others, and it is
18 our intention to not talk about and to stay away
19 from any of the issues that are going to be argued
20 before the Commission next week, which are, as we
21 understand it, procedural scheduling issues. So
22 that is our intent. And if that issue arises, just
23 understand that that is what our presenters are
24 trying to do.
25 So, thank you very much.

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1 **CHAIRMAN RANDALL:** Thank you.
2 Okay, Ms. Smith and Mr. Brown. We'll turn it
3 over to you. Thank you for being here.
4 **MR. GEORGE BROWN [Duke Energy]**: Thank you.
5 Good morning, everybody. I appreciate your time
6 today.
7 [Reference: Presentation Slide 1]
8 I'm George Brown, and I'm going to begin our
9 comments today, and Heather will join in on certain
10 topics as we walk through the slide deck.
11 I'm going to start by introducing, a little
12 bit, Duke Energy. I think you're probably
13 familiar, but there may be things in my
14 introductory slides that you may not be aware of.
15 And then we'll go straight into the Act and the
16 relevant parts of the Act that we wanted to try to
17 address today.
18 We're also going to talk about Duke Energy's
19 support for the Act. We are supportive of the Act.
20 We were supportive in the legislative process, as
21 part of the compromise solutions that were reached
22 in the Act, and we look forward to working on the
23 implementation of the Act.
24 So, starting with Slide 2 —
25 [Reference: Presentation Slide 2]

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— this is a summary slide for the scope of Duke Energy in South Carolina. We have two utilities, one of which covers the Upstate, the other of which covers the Pee Dee region. We have 760,000-plus customers across the service territory. Six operating nuclear plants. We pay quite a bit in annual property taxes to the State and are a large employer in the State.

This is the electric service area. It does not include Piedmont Natural Gas at all, and I'm not going to be talking about Piedmont Natural Gas in this presentation today.

[Reference: Presentation Slide 3]

The next slide, I want to speak to sort of the unique situation that Duke Energy is in. And the situation is that we have two individual utilities that span two states, but each utility is one power system. So when we do our planning for each utility, we consider the entirety of the system, both — what's happening in both states, both in terms of what's happening to our load and what's happening to our generation resources.

So, I think when one talks about how much renewable energy we have, we have to think about it across the two states rather than just in

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individual states. And that's what this point is designed to point out, is that we have a total of 3327 megawatts of installed solar across the two utility service areas — balancing areas — across the two states. Most of this, the vast majority of this, is in North Carolina. And most of it results from PURPA implementation that North Carolina had undertaken over the years. And one of the things I want to cover today is, we think there are some useful insights for the Commission, based on our experience in North Carolina, as the Commission looks to implement Act 62 here in South Carolina.

We expect more than 7000-8000 megawatts of solar, again across the two utilities, across both states, over the next five to eight years. So, the solar is not done. In addition to what we've got going on in North Carolina, we will have development in South Carolina. We already have a lot of development in South Carolina. And we continue that trend — or, expect that trend to continue.

**MS. HEATHER SHIRLEY SMITH [Duke Energy]**: I think just before we leave that slide —

**MR. GEORGE BROWN [Duke Energy]**: Sure.

**MS. HEATHER SHIRLEY SMITH [Duke Energy]**: — a

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1 couple of other things to be mindful of, and when
2 we look at the two systems — the light green and
3 the light blue — you know, how does this translate
4 into proceedings before this Commission and in
5 North Carolina? And so, you know, the balancing
6 authorities for each utility are housed within
7 those colors, but, you know, Duke Energy Carolinas,
8 of course, is one single legal entity, one system,
9 in the green. Duke Energy Progress is one single
10 legal entity, one system, in the blue. And so, we
11 will see this system information in filings before
12 this Commission and companion filings in North
13 Carolina.
14 So, for some — sometimes we get questions
15 about our IRPs, for example: "Why do you have all
16 of this North Carolina discussion in your South
17 Carolina IRP?" That's a pretty common question that
18 we get. And that's because everything that happens
19 in North Carolina is for the system; things that
20 happen in South Carolina are for the system. And
21 so the system, of course, does not recognize that
22 there's a state line in between.
23 So when we file our IRPs, you will see a lot
24 of North Carolina information about generation
25 sited in North Carolina, North Carolina programs,

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1 and vice versa. It happens in both states. So
2 it's a single plan that happens to be filed in two
3 states for both companies.
4 The other thing to keep in mind is we're still
5 required to keep those separate. We have merger
6 conditions that require us to operate each company
7 uniquely. And so, we're still doing two of
8 everything because it's two legal entities.
9 The other thing to keep in mind is that, when
10 we look at some of the things that are relevant to
11 this proceeding, George will be talking about
12 balancing areas — which we just mentioned is housed
13 within those colors — but we'll also be talking
14 about avoided costs. And, so, avoided costs aren't
15 really any different in terms of how the system
16 views them. So, for example, as you look to green,
17 take DEC, for example, a generated resource serves
18 both states. The fuel burned in that generating
19 resource serves both states. That's allocated in
20 fuel proceedings. And also in fuel proceedings,
21 that's where we recover avoided costs, by statute,
22 in South Carolina. And those are allocated. North
23 Carolina has avoided costs and South Carolina has
24 avoided costs, as determined, respectively, by the
25 Commissions. But the costs from those avoided

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costs are also allocated and recovered through fuel.

So it's just a little complication from Duke. We understand that the Commission is familiar with that, but just wanted to sort of put a placeholder for some of those concepts, because they will come up in other sections of the Act that George will address.

**CHAIRMAN RANDALL**: Thank you. Commission Belser, you got a question?

**COMMISSIONER BELSER**: Mr. Brown, would you repeat the amount of solar that you indicated y'all expect to come on in the next number of years, and give the number of years, as well?

**MR. GEORGE BROWN [Duke Energy]**: Yes. And these are approximate numbers, because we will be publishing more formal numbers when we file our IRPs for the two respective utilities, but I think our current estimates are somewhere between 7000 and 8000 megawatts of solar, between the two utilities. So I'm combining the utilities just for this purpose. And it would be over the next seven, maybe eight years.

**COMMISSIONER BELSER**: Thank you.

**VICE CHAIRMAN WILLIAMS**[via phone]: Mr. Chairman?

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1 **CHAIRMAN RANDALL**: Yes, sir.
2 **VICE CHAIRMAN WILLIAMS**[via phone]: Are we giving
3 questions to the panelists now, or are we waiting
4 until the end? It doesn't matter to me. But if we
5 are, I did have a question that I wrote down, but I
6 can wait until the end.
7 **CHAIRMAN RANDALL**: I think we were just
8 getting a clarification on that. Why don't we wait
9 with questions, so we can keep their presentation
10 moving, Commissioner Williams.
11 **VICE CHAIRMAN WILLIAMS**[via phone]: Got it.
12 **CHAIRMAN RANDALL**: Thank you. Thank you.
13 **VICE CHAIRMAN WILLIAMS**[via phone]: Yes, sir, thank
14 you.
15 **CHAIRMAN RANDALL**: Okay.
16 **MR. GEORGE BROWN [Duke Energy]**: Okay, very
17 good.
18 [Reference: Presentation Slide 4]
19 This slide, I think, explains the trend in our
20 generation fleet in the Carolinas. This is, again,
21 a combined slide for the two utilities, for both
22 states. So, again, it's the entire fleet we have.
23 And you can see that we have a dramatic reduction
24 in the amount of coal that we will be burning to
25 produce energy. We've already had a dramatic

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1 reduction, and we expect that trend to continue.
2 You see a dramatic increase in the amount of
3 renewable energy that we will be using for our
4 needs, for our customers' needs, between 2005 and
5 2033. That 14 percent kind of explains, you know,
6 that 8000 megawatt number is a big part of that
7 14 percent of energy that we would see that will be
8 actually produced and used by our customers.
9 Highlighting South Carolina for a moment, we
10 have a very low-carbon-intensity generation mix in
11 South Carolina. We have a highly efficient,
12 essentially brand-new combined-cycle in Anderson
13 County, and then we had our substantial nuclear
14 operations in South Carolina where we have six
15 units that you see there, 5200-plus megawatt-hours.
16 Right now, in South Carolina, there is not a
17 great deal of solar that is actually connected.
18 There is a lot more under construction. I think
19 some of that has been just the industry getting
20 started. I think the other thing is, is there will
21 be some South Carolina projects that came out of
22 the North Carolina competitive procurement program
23 that we just announced the winners of. So there
24 will be additional solar added to the mix from that
25 program in our service territory here in South

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1 Carolina.
2 And we have a very large interconnection
3 queue. And just to make sure everyone is on the
4 same page, the interconnection queue is sort of the
5 sum of all the projects that are looking to
6 eventually interconnect into our system, and most
7 of them will end up selling their energy to us.
8 They don't necessarily have to sell their energy to
9 us but, in this case, most of them will end up
10 selling their energy to us. And that
11 interconnection process is a complicated one that I
12 think many utilities across the country are
13 struggling with the size of the queues. We have
14 among the largest queues in the country. And I
15 think that's something that we are working hard to
16 improve, but it is something that we think needs to
17 be done through some form of stakeholder process
18 rather than, generally, some sort of unilateral
19 process. That's what our preferred path would be,
20 to get reform for the queues so that the queue
21 itself will become more efficient, and the good
22 projects will continue on and the less good
23 projects will move out of the queue.
24 Also, in South Carolina, we have a good deal
25 of pumped hydro and traditional hydro.

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[Reference: Presentation Slide 5]

So, now, I'm going to turn a little bit to the Act itself. We think that the key – one of the key themes in the Act is the balance that we're trying to achieve, collectively, and that the Commission will be ultimately deciding on: the cost of the renewable energy for customers compared to the benefits of the renewable energy that the customers receive. And this was a key reason that we supported the Act. We think that, if done correctly, renewables are a very important part of the mix, of the future generation mix of the utility.

This Act provides good guardrails for close examination of the impact to customers, including both reliability and cost. And I think, you know, this one bullet down below says that "fair" and "reasonable" are mentioned numerous times over the course of the Act, and in almost every section of the Act there is some citation about making sure that the impact to customers is reasonable, as we go to implement the Act and build on the success that already exists in South Carolina for solar.

[Reference: Presentation Slide 6]

So why else did we support Act 62? Well,

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1 firstly, we promote policy — we support policy that
2 promotes efficient and low-cost renewable energy,
3 and we think this policy can do that.
4 Second, we support policy that balances the
5 interests of renewable investors and utility
6 customers. I think it is important that we don't
7 burden customers with unnecessary costs. We have
8 seen situations where that has happened, and we
9 want to work hard to avoid that.
10 Third, Duke Energy hears from many of its
11 customers that those customers want more renewable
12 energy options, themselves, and this Act provides
13 for those sorts of options for customers who want
14 to adopt more renewable energy. There are large
15 programs and small programs in this Act, and I'm
16 going to describe a little more, later, what they
17 are.
18 And then, finally, we have a lot of experience
19 in connecting utility-scale solar. We've probably
20 been connecting more solar, on average, over the
21 last five years than almost — certainly, any
22 utilities east of the Mississippi, and maybe
23 California has had more but there aren't too many.
24 So we know how to do it, and we know that it's an
25 important piece of the generation mix going

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1 forward. And we believe in solar as a useful
2 resource.
3 [Reference: Presentation Slide 7]
4 I'd like to spend some time, a little bit,
5 talking about PURPA. One of the key elements of
6 Act 62 is for the Commission to address the
7 implementation of PURPA in the State of South
8 Carolina.
9 So, to do that, I think it's important to have
10 some context about PURPA. PURPA is a law that was
11 passed in 1978. I remember 1978, and I remember
12 that we had a very different energy environment
13 than we have today. We were very dependent on
14 foreign oil. We had just had some energy crises.
15 And Congress took upon itself to try to make sure
16 that as many domestic sources of energy could be
17 produced as possible, and I think this was one of
18 those attempts to do that. And in the Act, it says
19 the utilities must purchase from qualified
20 renewable resources — and there's definitions of
21 what those are in the Act — energy made available
22 to them, up to the avoided cost or incremental cost
23 of the utility. So it was a mandate. It was a
24 requirement.
25 If you look at PURPA through the years, most

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of the PURPA that was done was not actually solar or wind, for many years, because those technologies were much too expensive to be able to meet the avoided-cost test. We had PURPA contracts with hydro producers, we had PURPA contracts with waste-heat producers — municipal landfills — that would sell us the energy. That was most of it. But beginning around 2009-2010, with the cost of solar falling and wind falling, that's when wind and solar started to be the most prevalent form of PURPA, and that's where we are today.

So how does PURPA work? Well, first of all, it creates a must-take purchase obligation on the utilities. We must purchase, based on whatever the rates the Commission sets.

Second, there's no limit on the total megawatts that we have to purchase. We have to purchase whatever the market can make work at those administratively set rates.

Third, the utility must purchase the output, even if we don't actually need that capacity for our customers. PURPA is silent to that. Now, that doesn't mean that we are required to pay for capacity that we don't need, as part of the rate. That's up to the Commission as to what the rate is.

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1 And PURPA is very clear that that's going to be up
2 to the state commissions on the rates.
3 And then fourth, all utility customers pay for
4 PURPA. This is a pass-through to us. We execute
5 the purchased-power agreements and then we flow
6 them through, in South Carolina, through our fuel
7 proceedings. And we also do that through our
8 wholesale contracts and also through our North
9 Carolina fuel proceedings. So it is just a pass-
10 through to the utility.
11 So, what does a PURPA not include? It does
12 not require a competitive process to source the
13 lowest-cost energy. That was not the intent of
14 Congress at the time; it was more, we need to do
15 things to support alternative energy. It wasn't a
16 situation where alternative energy necessarily was
17 going to be low-cost.
18 Two, it does not allow the utility to reduce
19 purchases for economic reasons. So if we have —
20 what that means is, if we have a PURPA contract
21 that was signed several years ago, and it was
22 signed when the avoided-cost rate was higher than
23 it is today, we still have to purchase that energy
24 and take that energy, except under certain very
25 limited situations where we are allowed to curtail

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1 the solar, in the event that we have a problem
2 managing the grid. So there has to be a clear
3 operational problem where there's nowhere for the
4 energy to go, for example, or we have a line
5 failure and we can't take the energy away. That's
6 an example of when we're allowed to curtail under
7 PURPA.
8 And then, finally, PURPA does not really
9 provide for much flexibility for the PURPA solar in
10 our planning process. When we plan our systems —
11 the IRP plan, for example — we have to take into
12 account the anticipated amount of PURPA solar, and
13 we have to let that energy flow, regardless of
14 whether we actually need it at that point in time
15 or not, and we have to design the system around the
16 PURPA, in order to be able to manage the system and
17 balance the load against the generation.
18 So, in terms of implementation, PURPA is
19 jointly administered. We have FERC, which sets
20 broad rules to the states around what the terms of
21 the PURPA implementation have to be, what — perhaps
22 things like a concept that's popular to be
23 discussed, called "legally enforceable obligation,"
24 which is when is it that the utility actually has
25 an obligation to purchase that energy from a

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1 qualified facility. But most of the — most
2 important, in our opinion, implementation, based on
3 our experience, is actually determined at the state
4 level. The state is going to determine what the
5 avoided-cost rate is. The state, generally, will
6 determine what the length of the contracts are.
7 And those are two key elements when we think about
8 PURPA and we think about balancing the risk to
9 customers from the implementation of PURPA, against
10 the risk to the developers.
11 [Reference: Presentation Slide 8]
12 So, turning to the next slide, I wanted to
13 just point out some of the key sections of the Act
14 that hit on PURPA implementation. And I think,
15 without reading — I'm not going to read you
16 these, but I think the big take-away is the
17 following: What we have found in our experience is
18 the key risk that we want to avoid is having a
19 large number of executed PURPA contracts that we
20 cannot get out of, that are above the current
21 avoided cost. And there are several ways that that
22 can be accomplished. One thing is, of course, to
23 get the rate as accurate as you can at the time.
24 You don't want to, you know, overinflate the rate
25 for any reason — and I'm not suggesting we would do

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1 that, but I'm just saying, generally speaking,
2 that's the first thing.
3 The second thing is the contract term. We
4 definitely understand the need for a certain length
5 of contract for the solar developer, because they
6 need a certain amount of certainty and to reduce
7 their risk to a certain level, in order for them to
8 feel confident with their investment. But on the
9 other hand, the customer is taking the other side
10 of that equation. And in the event that you end up
11 with very long-term contracts that are set based on
12 very old rates, you can be substantially out of the
13 money, compared to the current avoided cost. And
14 in fact, that is the situation that we find
15 ourselves in in North Carolina; there were 15-year
16 contracts that were mandated by the Commission for
17 5 megawatt standard-offer contracts, and those
18 contracts now are substantially out of the money.
19 And we've been very — we've been very open about
20 that fact.
21 So, the other thing that we like about 62 is
22 we — Act 62 — we believe the right way to source
23 solar, since it is going to be part of the mix, is
24 through a competitive process. We don't have as
25 much difficulty supporting a long-term contract if

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it's competitively sourced. And the simple reason for that is, at least in that situation, we can create — we'll have a defined number of megawatts that we're looking to source. We might have a price cap and say, "We're not going to pay more than X for any of this solar." We can factor in the interconnection costs of the solar, or we can have the developer pay for those, which would raise the price but we'd still have our price cap. It's a much more controllable situation, and you can do it periodically and you can take advantage of a falling technology market by sort of layering in volumes over time. And this Act does provide the Commission with the authorization to approve programs like that.

**MS. HEATHER SHIRLEY SMITH [Duke Energy]**: The other thing I would add to this section is — George has done a good job of describing sort of the give-and-take and the tensions that exist on both sides of that equation, and you see that within the Act. And there'll be a lot more discussion about that in future proceedings before this Commission. But, of course, the idea of term and the concept of term has already been answered by the Legislature, for now, meaning we do have a 10-year term that is

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1 within Act 62, and so that question, again, has
2 been answered, for now. But not without limit.
3 That term applies up until the section articulated
4 in (F)(2) that 10-year term applies until nameplate
5 capacity equals 20 percent of the five-year average
6 of retail peak load, for South Carolina. After
7 that time, the Commission is directed to re-address
8 the concept of term in another docket. So while
9 the question of term at 10 years has been answered,
10 for now, there will be another docket in the future
11 where what that term will be, whether it's more or
12 less — and the Commission has been directed in Act
13 62 to consider that, to consider longer terms, but
14 whether it will be more or less than 10 years will
15 be a subject for a future docket, when that
16 threshold is reached.
17 [Reference: Presentation Slide 9]
18 Also — I just take this next slide, George.
19 **MR. GEORGE BROWN [Duke Energy]**: Sure.
20 **MS. HEATHER SHIRLEY SMITH [Duke Energy]**: — one
21 of the other pieces of Act 62 that the company
22 certainly enthusiastically supported was the concept
23 of a qualified, independent third party to serve as
24 a resource for what is essentially a highly
25 technical and often hotly debated area. There are a

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1 lot of nuances, a lot of technical, very
2 sophisticated concepts embedded within these types
3 of proceedings. So we were very supportive of this
4 concept of a qualified, independent third party, and
5 understanding that's been, certainly, on the top of
6 the minds of a lot of folks in this arena of late.
7 One of the things that we liked about this
8 section and that we think is important in this
9 section is the transparency that we believe this
10 section contains. That includes applying the
11 ex parte prohibitions to the qualified, independent
12 third party, and we think that that will be fair
13 and just for all parties, so that no party is
14 surprised, so that the evidence contained in the
15 report or sought by the qualified, independent
16 third party is part of the record, is available for
17 everyone, subject to the limits of confidentiality.
18 And so we don't presume to, of course, provide
19 any insight as to how the Commission may work
20 through those issues. We know that they're top-of-
21 mind for you, from, certainly, the conversations on
22 Monday. But we wanted to point out that that was
23 one of the things that gave us confidence in this
24 new resource, in this new role, and that the
25 company's ability to respond — and every party's

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1 ability to respond — to the conclusions contained
2 in that report would be retained as afforded by the
3 Administrative Procedures Act, and Article 1,
4 Section 22 of the South Carolina Constitution,
5 which allows and affords due process in
6 administrative proceedings.
7 So we look forward to being a part of working
8 through that process in a transparent way, and
9 seeing when that report might be available,
10 hopefully in time for a hearing and for parties to
11 respond.
12 [Reference: Presentation Slide 10]
13 **MR. GEORGE BROWN [Duke Energy]**: The next
14 slide actually summarizes some of the key customer
15 program features of the Act that we support very
16 much. The first one is the voluntary renewable
17 energy program, which is very similar to our filed
18 Green Source Advantage program. And this is a
19 large-customer program; I think it's 1 megawatt
20 load, minimum requirement in aggregate, for a
21 customer to participate into this program. And in
22 the program, the customer will actually be able to
23 negotiate with the solar provider the all-in price
24 that the solar provider will pay. And the way that
25 that will actually work is the solar provider will

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1 build the facility, will produce the energy. Duke
2 will actually purchase the energy and take that
3 energy and use it for all customers, just like it
4 does every other PPA that we have. And it will
5 charge customers for the avoided capacity and
6 energy portion of that contract, because they are
7 getting the avoided — they are getting the energy
8 and capacity value of the contract. But the single
9 customer will pay any difference needed between
10 that credit and what the solar provider wants or
11 needs for its economic purposes. And I think that
12 kind of program, which is very similar to our North
13 Carolina program, will be attractive to customers.
14 I believe it is very fair for nonparticipants. It
15 ensures that they are paying the value of the
16 energy and not a premium for the energy in any way,
17 shape, or form. So we were very supportive of this
18 provision.
19 The other program that is mentioned is
20 community solar. It's not as specific — that
21 section of the Act is not as specific as the
22 voluntary renewable energy program portion. But,
23 generally speaking, it provides a broad framework
24 for us to build upon the success of our Shared
25 Solar program that we've had as part of our Act 236

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1 DER programs.
2 A key component there is that the
3 nonparticipating customers are not going to be
4 asked to pay any subsidy or any value above what
5 they would actually receive from the program —
6 which is, I think, a good feature, and which is, I
7 think, the right direction for the State to move,
8 to make sure that the people who are paying — who
9 want the renewables are paying for the renewables.
10 **COMMISSIONER BELSER**: Mr. Brown?
11 **MR. GEORGE BROWN [Duke Energy]**: Yes.
12 **COMMISSIONER BELSER**: Would you look at the
13 first code section cited on that slide and tell me
14 if that's a typo in that? 58-31-? Should that be
15 -41-30?
16 **MR. GEORGE BROWN [Duke Energy]**: Oh, you are
17 right. I'm very sorry. Yes. I think that's
18 right. Let me see [indicating].
19 **COMMISSIONER BELSER**: If we could note that
20 correction?
21 **MS. HEATHER SHIRLEY SMITH [Duke Energy]**: Yes.
22 **COMMISSIONER BELSER**: Thank you.
23 **MR. GEORGE BROWN [Duke Energy]**: Thank you.
24 Sorry about that.
25 [Reference: Presentation Slide 11]

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Okay. The next slide is — I want to talk a little bit about net metering. Act 236 really kicked off net metering for the State, and I think it's been very successful in jumpstarting the rooftop solar business for the State. And I believe that Act 62 builds upon the success of 236 and provides a glide path from the current state to the future state.

So, essentially what is going to go on is we're going to continue to keep the programs the way they are now, until May of 2021, at which case we will transfer over to a new tariff, which is called the Solar Choice Metering Tariff, which has been — will be decided by the Commission, but will be designed to remove any subsidization by nonparticipating customers.

And just so we're clear, when I talk about net metering, I mean this would be a situation where a customer actually has solar on the premises and is using that solar both for its own needs and any excess solar it has, it actually feeds back to the grid, and gets a bill credit for that solar that is consumed and the solar that is fed back to the grid. That's what we mean by net metering, which is different than a PPA situation.

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The other thing that Act 62 did is it removed the solar leasing and net metering caps. I'm sure you recall that Duke Energy Carolinas actually hit the 2 percent net metering cap, and we did reopen net metering for limited periods of time, but now that issue is over.

Finally, I think the important — the other important thing, which is important to the market, is that there is grandfathering guaranteed for customers who will be on the current net metering tariffs through 2029. So they will know what their compensation is through 2029, and will be able to factor that into their decision as to whether they want to make the investment in net metering, or not.

[Reference: Presentation Slide 12]

There are two other provisions that I wanted to talk about, in terms of efficiency. One, I'm actually going to go in reverse order here and talk about the refinement of the interconnection procedures. I mentioned that we have 5500 megawatts in the queue, and we have an awful lot of projects that are working through the process. The process is complicated. We have to study each project to make sure that the distribution system —

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if it's distribution-tied — can handle it, the transmission system can handle it, and that we've got, you know, we're ready to go in the event that they decide to pursue the project. And that all takes time. We think this section is providing us good direction that we should work on improving the interconnection process, making sure that it's fair and reasonable for all. And I think our goal is to do just that, at Duke Energy, and try to reach consensus on how we would do queue reform.

The other key new piece of legislation in 62 is a system integration study. It's not uncommon for utilities to study their systems, to see what it can do under different scenarios in terms of solar penetration, or wind, or what have you, different sort of climate regimes. But this actually gives the Commission the authority to commission a study, and it would be a study for the State of South Carolina, which means that it would actually encompass all of the utilities in South Carolina.

[Reference: Presentation Slide 13]

And on the next slide, I was able to find what I would call an illustrative map, on the right, which kind of lays out what that actually means.

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1 Because the Act says that the study will be by
2 balancing area. That term "balancing area" comes
3 back.
4 And before I go on, on the left over there I
5 have NERC. You know, NERC is the primary entity
6 responsible for the safe operation of the bulk
7 power transmission system. And in the Carolinas,
8 each balancing area has a balancing area authority.
9 The balancing area authority for Duke Carolinas is
10 Duke Carolinas, and the balancing area authority
11 for Duke Energy Progress is Duke Energy Progress.
12 The balancing area authority for Dominion is
13 Dominion South Carolina, for example. And we are
14 tasked with overseeing the transmission and bulk
15 system, to make sure that it will operate within
16 NERC standards.
17 And the map on the right is a third party's
18 attempt — I can't — I do not necessarily think this
19 map is 100 percent accurate, in terms of exactly
20 the size of those balancing areas. But I think it
21 does explain, again, that we have balancing areas
22 that cross the two states, whereas Santee Cooper
23 and Dominion — which are the other two balancing
24 areas inside South Carolina — do not cross state
25 lines. But any study that would, you know,

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1 actually inform what we could do collectively in
2 the State would require you to do it by balancing
3 area, because that's how NERC requires us to
4 actually manage our power system.
5 [Reference: Presentation Slide 14]
6 **MS. HEATHER SHIRLEY SMITH [Duke Energy]**: In
7 looking at the next slide, and we're not going to
8 spend a lot of time on these concepts, but just
9 wanted to touch on some other key provisions in Act
10 62, as it relates to resource planning.
11 The IRP section, 58-37-40, has been greatly
12 expanded. By our count, it's been expanded by
13 about approximately 1000 words. We were very
14 supportive of this IRP broadening of statutory
15 direction and authority, and we've been talking
16 about this a long time. So, you may recall the
17 energy plan process. South Carolina went through a
18 robust process to develop an energy plan, and there
19 were a lot of subcommittees that worked through
20 that plan, and Duke's subject-matter experts were
21 part of the IRP Subcommittee, and a lot of the work
22 that came out of that subcommittee, we believe, has
23 worked its way into the Act. So from our view,
24 this was one of the — from Duke's view, this was
25 one of the least controversial sections of the Act.

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In many ways, the statute mirrors a lot of things that we already do, or puts upon us things that we are happy to do and willing to do. And so, we were supportive of this process, and that was an easy thing to see happen, given the long history of discussion around expanding the IRP processes.

The other notable change in resource planning is the Siting Act was amended — 58-33-110 was amended — and, of course, the Siting Act applies to generating facilities to be built in South Carolina. And so, now, for example, if Duke wanted to build a new generating plant in South Carolina, the Act calls upon us to demonstrate that the facility has been compared to other generation options in terms of cost, reliability, et cetera. And all of those concepts are consistent with least-cost planning, and that was another thing that the company supported within the parameters of the Act.

The Act also gives additional discretionary measures to the Commission, should the company bring forth — or any other company bring forth — a proposal to site a new generating facility that meets the criteria of the Act. That would — you know, could include such things as having an

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1 independent evaluator to evaluate any bids, et
2 cetera. But, again, that's discretionary. But
3 given our long history of discussion, particularly
4 on the IRP, we were very supportive of these
5 provisions.
6 [Reference: Presentation Slide 15]
7 And just to wrap up, toward the end of the
8 Act — it's noted as Section 16. Thank you. You
9 know, George has spent a lot of time about all of
10 the — discussing all of the balancing language in
11 the Act, the consideration of customers, the
12 consideration of public interest, and the balancing
13 that the Act, you know, requires of the Commission,
14 in our view, in making decisions. And we think a
15 lot of that comes home to roost in Section 16,
16 which requires an affirmative finding, supported by
17 the preponderance of the evidence, and that
18 description to be included in Commission orders.
19 So, for the cost that customers will bear,
20 coming out of Act 62 — and some of those costs are
21 complete pass-throughs; they go, you know, straight
22 through — for example, avoided cost, through our
23 fuel rate — we believe that this section, you know,
24 asks the Commission to make those findings and make
25 those determinations in its orders, to really round

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1 out the balancing and the guidance that's included
2 throughout the Act.
3 Now, that brings us to the end of our
4 presentation. We pointed out a lot of the key
5 provisions from Duke Energy's perspective. We
6 could be up here another 30-40 minutes, which I
7 don't think anyone wants us to be. There's a lot
8 of other good stuff in the Act. There's a lot of
9 other provisions in the Act that we supported, but
10 these were the ones that we wanted to highlight
11 before the Commission today. And I think that
12 brings us to a close, and we — or, rather, George —
13 would be happy to answer any questions.
14 **CHAIRMAN RANDALL:** Thank you.
15 Well, I'll go to Commissioner Williams first,
16 since he asked first.
17 **VICE CHAIRMAN WILLIAMS**[via phone]: Thank you, Mr.
18 Chairman.
19 Mr. Brown, during the initial portion of your
20 presentation, you referenced the system method that
21 Duke uses in South Carolina and North Carolina, as
22 opposed to just South Carolina. I was wondering
23 whether or not you could make an alternative
24 argument as to why it would be better just to use
25 South Carolina, as opposed to North Carolina and

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1 South Carolina.
2 **MR. GEORGE BROWN [Duke Energy]**: I don't —
3 because of the way that the system has been built
4 through the decades of the utility's operation,
5 purely from an operating standpoint, we really
6 cannot plan just based on one state, because the
7 power flows occur across the states and we have
8 built transmission lines, for example, to path the
9 power between the states. So from an operating
10 standpoint, it would actually require modification
11 of the system, in order to do it differently. I
12 mean, you would — I'm not actually sure how one
13 would do it. I mean, if you wanted to separate the
14 assets into two entities, one a North Carolina
15 entity and one a South Carolina entity, it would
16 actually be a rather large process. And the other
17 thing, unfortunately, is that, for example, if you
18 think about nuclear for a moment, our system
19 planners have planned the system such that the
20 energy that comes from our nuclear plants in South
21 Carolina, which has a certain profile, you know, is
22 manageable because it comes in big blocks of
23 energy; it doesn't do a lot of variation. We don't
24 have the ability to vary the output. So we have
25 other resources in North Carolina that allow us to

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1 vary the system. And if you didn't have those in
2 North Carolina, the total system would have a
3 problem. And so you would almost be forced to
4 create new assets in each state to serve the load
5 in each state, which, again, from an operating
6 standpoint — and that's what I'm primarily focused
7 on here. Does that help?
8 **VICE CHAIRMAN WILLIAMS**[via phone]: It does. I
9 appreciate that, sir. My next question is in
10 reference to the energy that you stated PURPA would
11 require you to purchase even if you didn't need it.
12 What would the company do with energy that it
13 doesn't need?
14 **MR. GEORGE BROWN [Duke Energy]**: Well, if we
15 don't need it, one option is to try to sell it into
16 the market. We do have interfaces, for example,
17 into PJM, and if we have available transmission, we
18 can take that energy and sell it into PJM. The
19 other option we have is to back down other
20 generation. So, for example, we would back down a
21 natural gas plant that was operating. And, in
22 fact, that's usually what happens, because, if you
23 imagine in the morning there is no solar, as the
24 solar starts to produce, we actually — if the load,
25 our demand, is not increasing along with the solar,

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1 we actually have to back down the other generation
2 to make way for the solar to come on, so that we
3 don't get out of balance and have, you know, an
4 operating event, which is what you would have if
5 you had too much energy on the grid. So that —
6 **VICE CHAIRMAN WILLIAMS**[via phone]: I understand.
7 Thank you —
8 **MR. GEORGE BROWN [Duke Energy]**: Sure.
9 **VICE CHAIRMAN WILLIAMS**[via phone]: — for answering
10 that for me, sir. Just to clarify a little bit, if
11 you have an excess of solar energy — essentially,
12 energy that you don't need — if you back down
13 generation for a gas plant, for instance, would
14 doing so reduce carbon emissions?
15 **MR. GEORGE BROWN [Duke Energy]**: Most likely,
16 yes. There would be a reduction — if you're
17 backing down a gas plant, there would be a
18 reduction in carbon emissions, yes. If we're in a
19 situation where the load is so low already that
20 none of our gas units are operating, we really
21 can't back down nuclear. Nuclear is the cheapest
22 energy we have, and it is not flexible but it is
23 cheap. And so if we're in a situation, let's say
24 in April, where in the middle of the day we've got
25 a very sunny day but it's not super warm, and a lot

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of solar is producing, we may be in a situation where we're forced to actually sell the energy or something else, but there is no generation to be able to back down and it wouldn't reduce our carbon intensity at that point, because we don't really have any carbon-intense resources that are operating.

So, it kind of depends on what's —

**VICE CHAIRMAN WILLIAMS**[via phone]: I understand —

**MR. GEORGE BROWN [Duke Energy]**: — on the —

**VICE CHAIRMAN WILLIAMS**[via phone]: — that.

**MR. GEORGE BROWN [Duke Energy]**: — margin at the time. Okay.

**VICE CHAIRMAN WILLIAMS**[via phone]: Right. So would I be wrong to think — or not necessarily me, but is it improper or unfounded to think that, with the possibility of excess solar available, that a utility should consider downsizing its generation in anticipation for excess solar?

**MR. GEORGE BROWN [Duke Energy]**: There are times — there will be times when we will not have to build as much new generation because more solar is coming on. However, there are also many times when the need to build the generation — like, why do we need new generation? It's happening during a

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1 period of time of the day when solar isn't
2 operating. So, for example, in the winter at
3 7 a.m., we've set system peaks, and there is no
4 solar generation. And that winter peak is actually
5 forecasted to continue to grow based on our current
6 estimates. So we know that we're going to need to
7 build generation to meet that peak need, but solar
8 won't be able to displace what we've got to build.
9 **MS. HEATHER SHIRLEY SMITH [Duke Energy]**: And
10 not to mention — I know you can also expand on
11 this. You know, notwithstanding meeting load at a
12 certain time, we also have reserve requirements.
13 And those reserve requirements are independent of
14 what solar is producing at any given time. And,
15 you know, our subject-matter experts for that
16 topic, you know, are IRP and other resource-
17 planning folks. But that's important to keep in
18 mind, is that even aside from this discussion, we
19 have reserves that we are required to meet.
20 **VICE CHAIRMAN WILLIAMS**[via phone]: Understood.
21 This is my final question. Who bears the most risk
22 in bringing new solar energy to the market, excess
23 solar, through the South Carolina Energy Freedom
24 Act? I'm concerned that there may be some
25 unforeseen consequences or potholes that maybe

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1 we're not thinking about. So let me be a little
2 more specific. What risk to the ratepayer do you
3 see out there?
4 **MR. GEORGE BROWN [Duke Energy]**: I think the
5 risk — the primary risk to the ratepayer is going
6 to be if we end up with a policy that creates a
7 market demand for solar — if we end up with rates
8 and contract terms that are overly generous, we're
9 going to end up with too much solar. And, you
10 know, exactly what the right mix is, I think — you
11 know, I think we will try to make our case known
12 through this process. If we end up in that
13 situation, then you end up with surplus energy and
14 you end up with unnecessary cost.
15 So I do think you are right to focus on that.
16 It's hard for me at this moment to know exactly —
17 without getting into very specific topics — exactly
18 what to be concerned about, what you should be
19 concerned about. I will say this: What you don't
20 want, generally is you don't want very stale rates.
21 I think Heather mentioned that the Commission[sic] has
22 said, "Okay, we're going to do 10-year contracts
23 for a certain amount of solar," so that issue,
24 let's just say, is settled for the moment. I meant
25 the Legislature; I don't know if I said

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1 "Commission"; I meant "Legislature." But what you
2 don't want is you don't want a rate that is set so
3 far in advance and that the developer can lock in
4 without really taking much risk, that they end up
5 being out of the money or different from the
6 current market by the time the solar actually comes
7 on-board. So, for example, if someone can set a
8 rate and hold onto it sort of for free, without any
9 liquidated damages or without any penalties in the
10 event that they decide to cancel the project,
11 that's a free option that you want to avoid giving
12 those, unnecessarily, to the market, because the
13 customer is essentially going to take the other
14 side of that. And if the price doesn't work out
15 for the developer, he'll cancel the project. But
16 if the price does work out for the developer, well,
17 then, maybe the customer is paying too much.
18 **MS. HEATHER SHIRLEY SMITH [Duke Energy]**: And
19 so I think George has done a good job about
20 expressing our concerns when it comes to financial
21 risk. I think one of the other things that's been
22 top-of-mind for the company in terms of effects to
23 customers and risks to customers is also
24 reliability risk. So the other side of this
25 equation in terms of attracting solar, you know,

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one might also point to our queue. Our queue, interconnection queue, is a source of frustration. But those interconnection policies serve to protect the assets that customers have paid for and are paying for, that keep the lights on and keep manufacturing plants running, et cetera. So we're also concerned with policy that removes or takes less of a strident look at our reliability obligations. And that's one of the reasons we were supportive of opening up the interconnection docket and looking at those procedures again, so that we can get to a manageable place and protect the assets and reliability that customers have already paid for and are continuing to pay for.

**VICE CHAIRMAN WILLIAMS**[via phone]: I appreciate both of you answering my question, and I just want to make it plain: What I heard is that there's some financial risk to the ratepayer because, potentially, they will pay too much for solar energy, due to contract terms that are not fluid and flexible. Is that correct?

**MR. GEORGE BROWN [Duke Energy]**: Yes, that is correct. That can happen, yes,

**VICE CHAIRMAN WILLIAMS**[via phone]: And then, also, Attorney Smith brought up that reliability could be

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1 an issue. So let's just say, hypothetically, solar
2 is pouring onto the market; Duke decides to back
3 down generation. There's some weather event or
4 something happens, solar's not available and maybe
5 it takes some time for the other generation to come
6 on-line. There may be some blackouts, some lights
7 flickering, and now we've got a bunch of upset
8 people —
9 **MS. HEATHER SHIRLEY SMITH [Duke Energy]**: I
10 think that's —
11 **VICE CHAIRMAN WILLIAMS**[via phone]: — because the
12 end — I'm sorry?
13 **MS. HEATHER SHIRLEY SMITH [Duke Energy]**: I'm
14 sorry, I didn't mean to interrupt you,
15 Commissioner. I heard a pause, and I didn't mean
16 to interrupt you.
17 **VICE CHAIRMAN WILLIAMS**[via phone]: That's fine.
18 Go ahead. That's what an aggressive litigator
19 does. I'll give you the opportunity.
20 **MS. HEATHER SHIRLEY SMITH [Duke Energy]**: No,
21 I was just going to tell you you're right, so
22 hopefully that's a good reason to interrupt you.
23 But that's certainly — that's certainly a concern.
24 I would also say, you know, that's one of the
25 reasons why reserves are important. So, whether we

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1 actually get there is another question, because we
2 do have these reserve obligations and it would be
3 remiss for us, you know, not to point to that
4 failsafe that we're obligated to keep up. And,
5 again, our resource-planning experts are the real
6 experts there.
7 But what I was also referring to, in terms of
8 reliability, is the Commission will soon and
9 parties will soon be looking at ways to improve the
10 interconnection process and to address the
11 interconnection queue. And one of our concerns as,
12 if there becomes a desire to minimize studies or to
13 not look at the system and the impacts of
14 interconnection in the most fulsome way, then we
15 could have reliability concerns. So we do want to
16 make sure that those interconnection procedures are
17 correct and that they meet good engineering
18 standards. And we don't want to back away from
19 protecting the systems that customers have paid
20 for, in a rush to perhaps hook up stuff before it's
21 ready.
22 **VICE CHAIRMAN WILLIAMS**[via phone]: All right.
23 Thank you, very much. I appreciate it.
24 Mr. Chairman, those are all the questions I
25 have.

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**CHAIRMAN RANDALL**: Thank you. Thank you, Commissioner Williams.

We'll go to other Commissioners. And let me just remind all you aggressive litigators that Ms. Wheat can only say one thing at a time, so you're not going to make it if you overlap each other.

Commissioner Ervin.

**COMMISSIONER ERVIN**: Thank you, Mr. Chairman.

Mr. Brown, you mentioned that if there's excess generation from additional solar, there are two ways to deal with it: One is to sell it to other providers, and, secondly, to cut generation in another area, like natural gas or coal. There's a third possibility, which is storage. And how far along are we with the technology for battery storage so that the — that gives us more flexibility for the system, as a whole?

**MR. GEORGE BROWN [Duke Energy]**: Yes, you're exactly right: There's storage. And, in fact, one of the reasons that we expanded our pumped hydro is that is another form of storage, and we are actually using the pumped hydro to — or, plan to use it, to store surplus solar energy and use it in the periods when the solar is not producing.

But, batteries — specifically to your question

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about batteries — yes, there is promise there. There still is a lot of work to do, I think, to generally bring the cost of batteries down to a point at which it makes sense to use them for that — solely for that. There are other things batteries can do in the system planning world, that they can manage small frequency derivations that we have to do today using conventional generation. But I don't think at this point, economically, they're there yet.

But definitely something we're looking at, and something that, you know, I think we're planning eventually — we plan to see batteries, the lithium type battery or similar type battery, on our system for purposes like that.

**COMMISSIONER ERVIN**: So it's still — you're still managing the technological developments, and I'm sure you — have you kind of developed a plan as to how you might integrate that new technology, once it's available?

**MR. GEORGE BROWN [Duke Energy]**: We actually — yes, and we actually have got some limited deployment that we've done for some special targeted situations

**COMMISSIONER ERVIN**: In the Carolinas?

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1 **MR. GEORGE BROWN [Duke Energy]**: In the
2 Carolinas, and we have some that are planned in the
3 Carolinas. Specifically, there are periods of
4 time — I'm thinking, primarily, in North Carolina
5 in our western DEP territory where, near Asheville,
6 there's a winter peak, and that peak lasts for a
7 very short period of time. And so we actually are
8 going to be deploying some small batteries to use
9 the energy from the battery to meet that peak, at
10 least in part. It will not meet the total peak; it
11 will be able to meet, in part, the peak on certain
12 circuits. Some of those circuits also have a
13 capacity — they don't have a lot of capacity left.
14 And what I mean by that is, when a circuit — a
15 circuit has a certain amount of energy that can
16 flow through, the distribution circuit. And if
17 people keep attaching to the distribution circuit,
18 then we need to build the distribution circuit out,
19 to cover the new load. Well, in the meantime,
20 batteries may be able to bridge that gap until
21 we're able to actually build the capacity, or they
22 may be able to eliminate the capacity. So that's
23 an example of what we're doing.
24 **MS. HEATHER SHIRLEY SMITH [Duke Energy]**: I
25 would also note that we have a project in Anderson,

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a battery project in Anderson, and it's a really interesting project and we have plans to come address that project in the coming weeks with the Commission.

**COMMISSIONER ERVIN**: Great. One other thing that I wanted to ask about: On your chart, in terms of how the resource portfolio breaks out currently and in the future, you still are listing coal as being 8 percent of the total portfolio by 2033. And I know that we don't have any coal-fired plants in South Carolina —

**MR. GEORGE BROWN [Duke Energy]**: Yes.

**COMMISSIONER ERVIN**: — for Duke. Santee Cooper has several, I believe. You have, what, four or five in North Carolina?

**MR. GEORGE BROWN [Duke Energy]**: Yes, we actually have at least five, that I can recall off the top of my head. And I'm not the expert, but, yes.

**COMMISSIONER ERVIN**: Right. I'm just wondering if you've tried to give more thought to perhaps phasing coal out sooner, because it seems that — you know, I know you want a diversified portfolio, but with the increasing solar and the decreasing cost of natural gas, and hopefully the

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1 relicensing of nuclear — if that happens at some
2 point — wouldn't it be preferable to try to phase
3 coal out because of the excess carbon footprint?
4 **MR. GEORGE BROWN [Duke Energy]**: The company
5 is continuously looking at this. I'm not directly
6 involved in it. But, I do know enough that the
7 company is continuously looking at what can it do
8 to further reduce its carbon dioxide emissions.
9 These numbers here, I think, are based on the
10 most recent IRPs. We'll be filing new IRPs that
11 will be different than this, coming up. I don't
12 know exactly what they're going to look like. I'm
13 not really in that group. But I'm generally aware
14 that there are people at the company who are
15 looking at the ability to accelerate or move away
16 from coal, yes.
17 **COMMISSIONER ERVIN**: I'm pleased to hear that,
18 because, you know, it's kind of the ugly outlier
19 that affects us in so many ways, in terms of trying
20 to protect the environment and the health impact
21 for asthmatics and those that have respiratory
22 problems, and on, and on, and on. Then you've got
23 the coal decommissioning and cleanup of coal ash
24 that, you know, we know is expensive. So I'm
25 hoping that, you know, that number will come way

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down sooner than later, to try to address some of those issues.

And the final thing I want to ask you about is I have heard that at least the auto industry is anticipating — and other futurists are predicting — that by 2030 many of us will be driving electric vehicles. And so I'm wondering, do you all have a plan in place for South Carolina to have an expansion of the network for rechargeable stations? That's something that, you know, the infrastructure has to be in place in advance of the sale and use of electric vehicles and buses. I know that Proterra, in Greenville, for example, has just sold Rock Hill a whole fleet of electric-powered buses. So, it's coming. And what plans do you have for South Carolina to have the infrastructure in place for that?

**MS. HEATHER SHIRLEY SMITH [Duke Energy]**: I think I'll attempt just to answer a technical question. I'll note that the company does have a pending electric transportation docket before the Commission right now, and a lot of the information that you're asking about is in that docket. And so, I will — since that wasn't part of the notice, I'll just save that but just mention that that

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1 docket exists, and a lot of the answers to your
2 questions are there —
3 **COMMISSIONER ERVIN**: Good.
4 **MS. HEATHER SHIRLEY SMITH [Duke Energy]**: — once
5 you get through the stack on your desk, to see it.
6 And then, we also have some broader vision — I don't
7 know if you want to speak to the broader vision.
8 **MR. GEORGE BROWN [Duke Energy]**: Sure. Yeah,
9 I think from a broader standpoint, included in our
10 IRP plans is forecasted vehicle adoption rate, and
11 we do see electric vehicles continuing to increase
12 substantially in percentage terms over the planning
13 cycle. I'm not in the area that directly works on
14 our infrastructure plans. I do know that we
15 support electric vehicles, and we believe that the
16 utilities can be part of the infrastructure
17 investment necessary to bring them forward. But
18 that's really all I know at this point, in terms of
19 detail.
20 **COMMISSIONER ERVIN**: I did hear that you've
21 made a proposal in North Carolina, which kind of
22 peaked my interest, because we don't want to be
23 left out of the equation. We'd like to be
24 considered, you know, at the appropriate time. But
25 I appreciate your responding to it, and we look

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1 forward to hearing more about that.
2 **CHAIRMAN RANDALL:** Mr. Nelson.
3 **MR. NELSON:** Commissioner Ervin's done, so...
4 I would like to say that, you know, we do need to —
5 and thank you, Heather; I appreciate you keeping us
6 on track, as best you could there — but that we
7 just talk about the subject which has been noticed,
8 which is Act 62.
9 **CHAIRMAN RANDALL:** Thank you. Okay.
10 Any other questions, Commissioners?
11 Commissioner Howard.
12 **COMMISSIONER HOWARD:** I guess I've got to give
13 you a little background, but I spent the weekend
14 talking about decarbonization, and, you know, so,
15 really, you're trying to think I've gotta get a
16 life. But does Duke have a zero-emission, zero
17 decarbonization goal? And if it is, what is that
18 goal?
19 **MR. GEORGE BROWN [Duke Energy]:** As of right
20 now, we do not have a formal zero-emissions goal as
21 a company. However, I mentioned earlier in one of
22 the earlier questions there is a team working on
23 just that question, is, should the company put out
24 a public zero-emissions goal, and, if so, what
25 would it look like, and how would we get there.

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So, that's the extent of what I know around it, so I — but it is definitely top-of-mind; it's definitely something that the executive team and the company is focused on providing more direction to everybody in terms of what we're trying to achieve in our generation mix, yes.

**COMMISSIONER HOWARD**: Well, my next question is a two-part question. And the first part is, in the conversation presented over the weekend, it was stated quite emphatically by most of the parties that it's going to be virtually impossible to reach any kind of zero goal of decarbonization without nuclear in the mix. Do you agree with that statement, number one? And number two, what role do you see as nuclear in the mix? And I'll give you one more statement. When I say "nuclear" I'm not talking about — well, I am in a certain extent, but also not traditional nuclear. There are innovations in the nuclear generation, you know, besides small reactors, but there's all kind of, apparently, research going on on nuclear generation to keep it in the mix. So would you comment on that? And one other thing I'll add: In your generation mix, you show nuclear decreasing. You have a decrease in nuclear.

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1 **MR. GEORGE BROWN [Duke Energy]**: Yes.
2 **COMMISSIONER HOWARD**: Okay.
3 **MR. GEORGE BROWN [Duke Energy]**: And the
4 reason why the nuclear is decreasing is because the
5 capacity remains very much unchanged in this
6 planning cycle. In other words, we're not building
7 new nuclear in this horizon. We may be adding a
8 little bit of capacity here or there from uprates,
9 but the load keeps growing. So as a percentage of
10 the total, it goes down.
11 So to answer your question, I believe the
12 company — and Heather, you can also chime in. But
13 I believe the company 100 percent agrees that
14 nuclear has to be part of the solution for a zero-
15 emissions framework. And I think the difficulty is
16 that I don't know that we necessarily have
17 consensus across the country that that is the case.
18 **COMMISSIONER HOWARD**: Well, I thought I was in
19 a unique position, because I'm in a meeting with
20 both international and, obviously, United States
21 utilities. And I'm thinking that our utilities —
22 you and Dominion — you represent a major marketing
23 force, so to speak, in the US energy market because
24 of both of your sizes. So, you know, y'all have
25 quite an influence, I would think, on, you know,

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1 setting energy policies, particularly for the
2 United States. Not necessarily global.
3 The other conflict I see, and I had some
4 conversation about this, but are you familiar with
5 the acronym ESG?
6 **MR. GEORGE BROWN [Duke Energy]**: ESG. No, I'm
7 not familiar. That doesn't come to mind.
8 **COMMISSIONER HOWARD**: Well, from what I
9 understand, you should get familiar with it. ESG
10 is an acronym for environmental, social, and
11 governance. You do know?
12 **MR. GEORGE BROWN [Duke Energy]**: Now the
13 lightbulb went off, yes.
14 **COMMISSIONER HOWARD**: You want to comment on
15 it? And the reason I say that is because, as I
16 understand it, one of the ESG goals, the
17 environmental part of it, is to have zero fossil
18 fuel. In the same token, your fossil fuel, being
19 natural gas, you're increasing it through the 2033
20 period. So would you comment on ESG?
21 **MR. GEORGE BROWN [Duke Energy]**: Yes. ESG,
22 now that you mentioned it and told me what it stood
23 for, I am familiar with it. There are many
24 investors — and we have many investors, shareholder
25 groups, who are very focused on what are the

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1 environmental goals of the companies in which they
2 invest, particularly utilities. And so, I know
3 that our executive team is questioned frequently
4 about that from these kinds of investors, and it
5 seems to be an increasing portion of the investing
6 world that has an ESG lens when they look at
7 companies, in terms of whether they want to take a
8 substantial investment in that company, or not. So
9 from that standpoint, I'm familiar with that. And
10 I do think it factors into — you know, we have to
11 balance the interests of our investors and the
12 interests of our customers and, obviously, the
13 policymakers that are in our states. But we are
14 looking for solutions, and we're going to propose
15 them as we can.
16 **COMMISSIONER HOWARD**: Well, the other two —
17 the other two components of ESG are social and
18 governance.
19 **MR. GEORGE BROWN [Duke Energy]**: Right.
20 **COMMISSIONER HOWARD**: And the social, you
21 know, low-income help, diversity, and all that.
22 And apparently you're right, Wall Street is looking
23 very, very strongly at this, and there's more and
24 more emphasis being placed on a company having an
25 ESG mandate or ESG goals. So I just — I thought

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you would probably have come across that.

Another term that I've heard tossed around in the marketplace lately is "green tariff." Is your Solar Choice Metering Tariff your answer to a green tariff? Or is there a difference between a green tariff and your plan?

**MR. GEORGE BROWN [Duke Energy]**: There is a difference, at least from our standpoint. A green tariff is not generally — and definitely for the programs we've filed — is not generally a case where the solar is actually on the premises of the customer. Usually, the solar — at least in our case, in this Green Source Advantage case — the solar is at a large facility off-site, connected to the same grid, connected to the same utility, but it isn't going to be used on the premises to actually supply the premises with that energy. Instead, the premises and the customer can say, "I'm responsible for the creation of that solar and so, therefore, I can count that as additive in my sustainability goals that I have as a corporation, because my contract enabled that solar to happen." That's how it works. So the solar goes to the grid; it's used for all customers — the energy is used for all customers — and it's just that this

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1 particular customer has to pay the difference
2 between the value of that energy and what the solar
3 developer actually wants, to build the solar off-
4 site.
5 The Solar Choice Metering Tariff is
6 specifically for people who have solar on their
7 premises, and they're going to put it on their roof
8 or put it in their backyard [indicating] — oh,
9 sorry — or put it wherever they can on their
10 premises, and they're going to feed the power into
11 the building, use the energy to the extent they can
12 use the energy in the building, and then any
13 surplus energy will be fed back to the grid.
14 So they're a little different, from that
15 standpoint. And in that case, the customer either
16 has to borrow money to make the investment, or they
17 have the money to make the investment, if they have
18 it, or they lease the solar facility that they put
19 on their premises. Those are the three financial
20 options, generally speaking, that customers have
21 for Solar Choice Metering, or net metering, today.
22 **COMMISSIONER HOWARD**: The other comments — one
23 of the other conversations we were in was a
24 digitized workforce. And my question is: A
25 digitized workforce, would it have any effect on

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calculation of avoided cost? Do you have any thoughts on that subject?

**MR. GEORGE BROWN [Duke Energy]**: I don't. I do not. I mean, my initial thought would be, ultimately, a digitized workforce should be more efficient over time than a non-digitized workforce, which will reduce the costs of the company compared to if you don't have it. But how directly that would affect avoided cost isn't directly clear to me today.

**MS. HEATHER SHIRLEY SMITH [Duke Energy]**: I do think our experts would be able to address that —

**MR. GEORGE BROWN [Duke Energy]**: Yeah.

**MS. HEATHER SHIRLEY SMITH [Duke Energy]**: — when we get to that in the case. They're just not us.

**COMMISSIONER HOWARD**: Do I have to worry about Mr. Nelson getting up and chastising me for violation of the ex parte on the subject?

**MS. HEATHER SHIRLEY SMITH [Duke Energy]**: Maybe a little bit.

**COMMISSIONER HOWARD**: Okay. I know you weighed into it, and so I will — I guess I'll yield to you a little bit, but an IRP, as I understand it — and I'm not familiar with the latest, you know, requirements in the IRP, but when I first

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1 came on the Commission, I think an IRP was a 15-
2 year forecast. What do you see — let's just cut it
3 down to just generation mix. In 15 years, what do
4 you see as Duke Energy's generation mix, in your
5 position?
6 **MR. GEORGE BROWN [Duke Energy]**: Well, I'm
7 going to have to speak again in general terms,
8 because I don't —
9 **COMMISSIONER HOWARD**: That's —
10 **MR. GEORGE BROWN [Duke Energy]**: Okay.
11 **COMMISSIONER HOWARD**: That's the only way to
12 speak to me is in general terms. If you get
13 technical, I'm lost.
14 **MR. GEORGE BROWN [Duke Energy]**: Yeah. I
15 think what you're going to see is — hopefully, what
16 you'll see, and what we're planning for is at least
17 a doubling of the solar capacity, maybe even more
18 than that over 15 years. It could be that we're
19 able to take the solar up even more. I think that
20 it would make sense for the company — and there are
21 challenges, but it would make sense for the company
22 to have wind in the mix. Wind is a renewable
23 resource that actually produces —
24 **COMMISSIONER HOWARD**: Offshore or onshore?
25 **MR. GEORGE BROWN [Duke Energy]**: Either.

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1 Either. I think it's going to come down to cost
2 and whether you can get the transmission built.
3 I think you're going to see as little coal as
4 possible. I don't know how little that will
5 actually be. You'll see gas and you'll see
6 nuclear. I mean, that would be — I think,
7 directionally, that's what you will see. I don't
8 know about the wind, because there are challenges
9 here in the Carolinas on the wind, just because the
10 really good onshore wind resources are in the
11 Midwest. That's a long way. You could still do
12 it, but it's a long way. And then the offshore
13 wind is still, I think, relatively expensive.
14 **COMMISSIONER HOWARD**: I appreciate your
15 answers. Just one last comment. You talked to
16 Commissioner Williams about reserve obligations. I
17 think that has a whole new definition for him than
18 it does us, sitting in this room, in his current
19 position right now, so... Thank you very much. I
20 really appreciate the exchange. Thank you.
21 **CHAIRMAN RANDALL:** Thank you.
22 Commissioners, any other questions?
23 [No response]
24 If not, we appreciate you being here today,
25 and we are adjourned.

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1 [WHEREUPON, at 11:25 a.m., the
2 proceedings in the above-entitled matter
3 were adjourned.]
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C E R T I F I C A T E

I, Jo Elizabeth M. Wheat, CVR-CM-GNSC, Staff Hearings Reporter for the Public Service Commission of South Carolina, do hereby certify that the foregoing is, to the best of my skill and ability, a true and correct transcript of all the proceedings had regarding a requested allowable ex parte briefing in the above-captioned matter, according to my verbatim record of same;

IN WITNESS WHEREOF, I have hereunto set my hand and seal, on this the 15th day of August, 2019.

Jo Elizabeth M. Wheat, CVR-CM/M-GNSC
Hearings Reporter, PSC/SC