BEFORE THE PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA

COLUMBIA, SOUTH CAROLINA

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ALLOWABLE EX PARTE BRIEFING
REQUESTED BY DUKE ENERGY CAROLINAS [2015-10-E] AND DUKE ENERGY PROGRESS [2015-8-E] – 2015 Integrated Resource Plans

TRANSCRIPT OF ALLOWABLE *EX PARTE* BRIEFING

COMMISSIONERS PRESENT: Nikiya 'Nikki' HALL, *CHAIRMAN,* Swain E. WHITFIELD, *VICE CHAIRMAN*; and COMMISSIONERS John E. 'Butch' HOWARD, Elizabeth B. "Lib" FLEMING, . Elliott F. ELAM, Cromer H. 'Randy' RANDALL, and G. O'Neal HAMILTON
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APPEARANCES:

C. ALEX CASTLE, ESQUIRE, along with GLEN SNIDER [Director/Carolinas' IRP & Analytics], EMILY O. FELT [Director/Renewable Strategy & Policy for South Carolina], and PHILLIP STILLMAN [Director/Carolinas' Load Forecast & Fundamentals], presenters, representing **DUKE ENERGY CAROLINAS AND DUKE ENERGY PROGRESS**

JEFFREY M. NELSON, ESQUIRE, representing the **SOUTH CAROLINA OFFICE OF REGULATORY STAFF**

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Please note the following inclusions/attachments to the record:

- PowerPoint presentation (PDF)
- Integrated Resource plans of Duke Energy Carolinas [Docket No. 2015-10-E] and Duke Energy Progress [Docket No. 2015-8-E]

1 P R O C E E D I N G S
2 **CHAIRMAN HALL**: Thank you. Be seated. Good
3 morning, everyone. We'll call this hearing to
4 order and ask Mr. Melchers to read the docket,
5 please.
6 **MR. MELCHERS**: Thank you, Madam Chairman,
7 Commissioners. We are here pursuant to a Notice of
8 Request for Allowable Ex Parte Communication
9 Briefing, requested by Duke Energy Carolinas, LLC,
10 and Duke Energy Progress, LLC, scheduled for today,
11 March 23rd, at 10:30, here in the Commission
12 hearing room, and the subject matter to be
13 discussed at the briefing is: The 2015 Integrated
14 Resource Plans.
15 Thank you, Madam Chairman.
16 **CHAIRMAN HALL**: All right. And who appears in
17 for the company?
18 **MR. CASTLE**: Good morning, Madam Chairman,
19 members of the Commission. Alex Castle, here on
20 behalf of Duke Energy Carolinas and Duke Energy
21 Progress.
22 **CHAIRMAN HALL**: Okay. Thank you.
23 And who appears representing ORS?
24 **MR. NELSON**: Good morning, Madam Chairman.
25 I'm Jeff Nelson. I'm the ORS representative. And

if I could do my little opening speech for you, I'd appreciate it.

Good morning, everybody. My name is Jeff Nelson; I'm Chief Counsel for the Office of Regulatory Staff. I'm here today as the designee for the Executive Director of the Office of Regulatory Staff and representative at this allowable ex parte.

Just a few — I want to go over a few ground rules, as we usually do before we start these things. As the ORS representative, it's my duty to certify the record of this proceeding to the Chief Clerk of the Public Service Commission within 72 hours of this briefing being conducted today, in compliance with the provisions of South Carolina Code Annotated Section 58-3-260. The requirements of that statute are, in part, that the allowable ex parte be confined to the subject matter which has been noticed. In this case, the issue noticed is Duke Energy Carolinas' and Duke Energy Progress's Integrated Resource Plans. I therefore ask that everyone here please refrain from discussing any matters not related to Duke Progress' or to Duke Carolinas' Integrated Resource Plans.

Additionally, the statute prohibits any

1 participants, Commissioners, or Commission staff
2 from requesting or giving any commitment,
3 predetermination, or prediction regarding any
4 action by the Commission as to any ultimate or
5 penultimate issue which either is or is likely to
6 come before the Commission.
7 Finally, I would ask that the participants,
8 Commissioners, and staff refrain from referencing
9 any reports, statutes, articles, or documents of
10 any kind that are not included in today's
11 presentation, to prevent the need for myself or the
12 Duke attorneys from having to try and locate and
13 track down these documents, as we are under the 72-
14 hour requirement to certify the record.
15 As a final note, I'd ask that everyone here
16 today in attendance please make sure to read, sign,
17 and return the forms that you should've picked up
18 out front today. Everyone here should've signed in
19 and obtained one of those forms before you came in
20 today, so please look that over, read it, and make
21 sure that you turn it in before you leave today.
22 That's all I have, Madam Chair. Thank you.
23 **CHAIRMAN HALL**: All right. Thank you, Mr.
24 Nelson.
25 Mr. Castle, whenever you're ready, you may

1 call your panel and we can get started.
2 **MR. CASTLE**: So, if the panelists could come
3 up and take a seat?
4 Good morning again, members of the Commission.
5 We thank you very much for allowing us to come in
6 here and present to you on the 2015 Integrated
7 Resource Plans that were filed on behalf of Duke
8 Energy Carolinas and Duke Energy Progress in
9 September and November of last year. These are
10 very important planning documents that govern how
11 we are setting up our systems to meet the needs of
12 our customers over the planning horizon, and this
13 is obviously important information to be able to
14 speak to you today on behalf of both companies.
15 Presenting will be Glen Snider, who is our
16 Director of IRP & Analytics for the Carolinas,
17 meaning for both Duke Energy Progress and Duke
18 Energy Carolinas; Phil Stillman, who is the
19 Director of Load Forecasting & Fundamentals for
20 both companies, as well; and Emily Felt, who is our
21 Renewable Strategy Manager for South Carolina.
22 So, with that, we have a pretty substantively
23 heavy presentation today, so I'll turn it over to
24 Glen, who's going to kick us off. Thank you again.
25 **MR. GLEN A. SNIDER [DEC/DEP]**: Madam Chair,

1 Commissioners, thank you so much for the
2 opportunity to appear before you today.
3 [Reference: Presentation Slide 1]
4 As Alex said, we have a fairly lengthy slide
5 deck, so I'm not going to read each and every word
6 off the slides, but I do think there's a lot of
7 very good information contained in there, and,
8 certainly, if you have any questions that arise
9 from that, we'll be happy to address it.
10 [Reference: Presentation Slide 2]
11 As we work through our presentation here, we'd
12 really like to go over just a quick process
13 overview, looking at how we address IRP from a
14 process point of view, talk about some of the key
15 updates that we saw in 2015. Phil is here to talk
16 about our load forecast and what we're seeing with
17 the load forecast, looking at our energy efficiency
18 and demand-side management programs. Our renewable
19 energy is becoming a bigger and bigger part of our
20 portfolio. Emily is going to go into some detail
21 on our South Carolina programs that we're offering
22 under the new South Carolina legislation, talk
23 about some resource adequacy evaluations that we're
24 doing, and then see how that all resulted in our
25 2015 IRP, and then end with a discussion of some of

1 the pending industry issues that will be impacting
2 our 2016 IRP.
3 From a procedural perspective, one of the
4 things we did do in 2015 is we actually are filing
5 separate documents in North and South Carolina that
6 are substantially the same, in terms of all the
7 facts and figures, but as we see issues start to
8 evolve in the two states that are separate — for
9 example, the South Carolina Distributed Energy
10 Resource Program is distinct for South Carolina —
11 we wanted to have separate documents so that we
12 could go into more depth in that, in our South
13 Carolina filing, so that's a little bit different
14 than past years where we essentially filed the
15 exact same documents. It also envisions future
16 differences that might occur, like in the Clean
17 Power Plan. If South Carolina addresses that
18 different than North Carolina, it affords the
19 ability to have the documents talk substantially
20 more about South Carolina's specific issues. So
21 starting in 2015, we did have separate actual
22 filings that we did in North and South Carolina
23 where the documents are slightly different to
24 address that.
25 [Reference: Presentation Slide 5]

1 So if we want to jump all the way to Slide 5,
2 again, I think it's important to realize, in
3 integrated resource planning, that you're really
4 balancing three primary objectives. First and
5 foremost, a resource plan has to ensure long-run
6 reliable electric service in the grid. You know,
7 we have a need to balance supply and demand. We
8 have groups in the company that are looking at
9 balancing that tomorrow, a week from now, a month
10 from now. In resource planning, we're making sure
11 we balance at 10, 15, and 20 years from now. So,
12 ensuring that we have adequate supply to meet
13 growing demand is a core, underlying function of
14 resource planning.
15 When we do that, we want to do it in a way
16 that is affordable and reasonably priced, so we're
17 really looking at the economics of the various
18 alternatives in that red box, and then we balance
19 that all with an improving environmental footprint,
20 so we're always striving to provide power in an
21 ever increasingly clean manner. That manifests
22 itself through several new state and federal laws
23 that mandate emission quality. And you can see
24 over the last — you know, the trend over the last
25 10 years of new regulation coming out on SO_x or NO_x

1 or carbon. And so, we're complying with all
2 federal, state, and local regulations. Those are
3 increasingly more stringent, and the resource plan
4 reflects plans that meet all those regulations.
5 [Reference: Presentation Slide 6]
6 So, in its very simplest form, you know, what
7 drives the need for new generation, we start from
8 the top down. So, you know, we start with a load
9 forecast that looks at what is happening to both
10 energy and capacity. Since those grow across time,
11 we have to accommodate that growth. We do net out
12 efficiency measures, so the utility has a very
13 aggressive — we're going to talk about that later
14 in the presentation — a very aggressive suite of
15 programs to address energy efficiency that helps to
16 reduce both demand and energy on the system, but
17 not just growth; we also have an aging resource
18 fleet. And so, throughout the planning horizon,
19 there are projected retirements of older assets.
20 Those assets need to be replaced. So that also
21 creates a bit of a gap that needs to be filled.
22 In addition to retirements, you have contracts
23 that expire. DEP and DEC purchase third-party
24 power from time to time. Sometimes longer-term
25 contracts, those need to be — when they expire —

either renewed or built for to replace. So between growth and retirements, you create this gap that you then have the resource gap, and that can be filled through nonconventional resources, DSM, solar, wind, biomass. We'll talk about our renewable portfolio in a bit. But that remaining gap then is filled through the planning process and optimally looking for the best fossil/hydro/nuclear resources to meet that gap.

When we look at that in that plan, we did it from two perspectives in 2015. We looked at how the plan would look under both a base-case assumption — which included carbon — and a no-CO_2 case where we looked at what happened if we did not have future carbon regulation.

[Reference: Presentation Slide 7]

With that, I'll come back in a minute, but I want to turn it over to Phil, to go through some of the load forecast details.

MR. PHILLIP O. STILLMAN [DEC/DEP]: Thank you, Madam Chairman and Commissioners. I appreciate the chance to speak to you all today.

[Reference: Presentation Slide 8]

And as Glen mentioned, I'd like to step through the next couple of slides with the load

1 forecast, talk about what process do we go through
2 in developing the forecast, what we are seeing in
3 the 2015 IRP that was filed, and then some current
4 events, some things that will influence what we'll
5 see with future forecasts as they get rolled out.
6 The slide that is up now, the spoke-and-wheel
7 slide, really talks about a lot of the external
8 factors that we pull into the forecast that help us
9 determine how is customer growth going to occur, or
10 what kind of customer growth we're expecting to
11 see, what is the load the company is expecting to
12 see.
13 And starting at 12 o'clock, you see the first
14 item up there is the efficiencies that Glen had
15 mentioned. What we try to make sure we incorporate
16 into our forecast are the increasing codes and
17 standards that are occurring. So, as building
18 codes continue to increase in terms of efficiencies
19 and as motor efficiencies continue to increase, we
20 try to take those trends and incorporate those into
21 our sales forecast and our load forecast going
22 forward.
23 The second, kind of at the 1:30 area — and
24 we'll just work around the wheel — there's another
25 efficiency measure that we have to pull into the

1 forecast, and those are the efficiency programs
2 that the utility sponsors. So I know Glen is going
3 to speak to a lot of those programs in a minute,
4 but there's many programs that get rolled out that
5 are trying to advance how quickly efficiencies will
6 occur, how much more quickly people will adopt the
7 efficiencies in terms of lowering their usage. So
8 we bring in both of those measures to reduce our
9 forecasted sales, as we see going out.
10 Technology changes: The two that I've
11 mentioned on this slide are solar and electric
12 vehicles. Obviously, solar right now — the solar
13 that I look at mostly is the solar that's being
14 adopted behind the meter, so it's items like
15 rooftop solar. As you go out in time, it's not an
16 insignificant drop in the load forecast that we're
17 seeing, as people put rooftop solar on their
18 houses. With electric vehicles, we're actually
19 seeing that adoption rate decline quite a bit.
20 Right now, with gas prices where they are, the
21 electric vehicle adoption rate has really slowed
22 quite a bit. Whereas in the 2015 forecast we had
23 some level of adoption over the 20 years, we're
24 actually starting to see that slow a little bit.
25 Weather is a big component of the forecast.

1 Everything that we produce is on a weather-normal
2 basis. Every year, we update what we assume normal
3 weather looks like. And, obviously, as we've been
4 through the last couple of winters — 2015
5 notwithstanding, because it was very warm, but the
6 winters previous to that were very cold, so we've
7 actually seen a lot of growth in the winter season,
8 and we'll continue to roll that into the forecast
9 also.
10 Energy prices and how customers react to the
11 changing energy prices: Wholesale obligations are
12 obviously a big factor in our load forecast, also,
13 and on the next slide I'll point out to you where
14 we show what load growth is expected to do over
15 time. We see some wholesale obligations rolling
16 off, and it's visible in our growth trend.
17 Then, the population had, obviously, economic
18 activity: And I've got two slides to talk about
19 economic activity, so we'll dive a little deeper
20 into those in the next slides.
21 [Reference: Presentation Slide 9]
22 From the 2015 forecast, this is the graphical
23 representation here is what we were expecting peaks
24 to do over time both with and without the energy
25 efficiency measures that we spoke about, the

1 utility sponsored energy efficiency measures. So
2 if you look at the blue lines, you'll notice that
3 it takes at least .1 to .2 percent of the growth
4 away when rolling out the programs that we're
5 rolling out.
6 I mentioned the wholesale obligations, and
7 some wholesale obligations that are rolling off in
8 the DEC territory, you can see from the chart
9 around the 2018-2019 timeframe how it flat-lines in
10 that one particular year, and then growth is
11 expected to begin again at that point, as those
12 wholesale customers roll off.
13 I'll really talk — on the bullets, if you look
14 at the industrial sector, in the DEC territory, the
15 industrials have been growing over the past few
16 years very strongly. A lot of it is related to the
17 auto industry and those companies that are
18 supporting the auto industry. I will say that
19 we're expecting a little bit of a pause in that
20 growth rate going forward. There's been one
21 company — it's a zinc producer, and their name is
22 Horsehead — and they have actually filed for
23 bankruptcy in February, so we'll actually see the
24 industrial growth rate in DEC take a little bit of
25 a pause as we work through that one industrial

1 customer, for example, dialing back its operations.
2 In DEP, the industrial sales have not seen —
3 from the recession to now — quite the same level of
4 growth that DEC has seen. DEP is not growing as
5 quickly. A lot of it has been, really, two very
6 large customers, again, that went out of business
7 in the 2013-2014 timeframe, or at least they shut
8 down some operations; the companies, in total, did
9 not go out. And they're listed up there as being
10 DAK and Invista. So that was in the 2013-2014
11 timeframe.
12 [Reference: Presentation Slide 10]
13 If I look at the current economy, "Tailwinds"
14 here are those items that are happening in the
15 economy that are really pushing sales forward, and
16 there's a lot of good news that's coming out
17 recently. Really, the first two bullets on this, I
18 think, are the growth that we're expected to see
19 going forward. It's really — the country is
20 creating a lot of jobs. And if I look at North
21 Carolina and South Carolina in particular, there is
22 a great amount of job growth that are happening in
23 the two states. The fact is, they're well
24 surpassing what's happening nationwide.
25 At the same point, we've been waiting ever

1 since the recession for the housing industry to
2 come back, and I actually just saw another article
3 today where housing is continuing to strengthen —
4 ever so slowly, but it is strengthening — and,
5 actually, what's happened over just the last year
6 or so is that all of those loans that were bad-
7 credit loans at the time of the recession, that
8 credit history is beginning to roll off and it's
9 freeing up credit for people to buy houses again.
10 So, again, that's a very good story for people
11 being able to buy houses, and it will help with the
12 residential forecast going forward.
13 On the flipside of that, the first bullet that
14 I'll mention, that I show, you know, median incomes
15 is something that we watch very closely. While I
16 just said a second ago that job growth is occurring
17 and job growth in North and South Carolina have
18 been very strong, the median incomes still have not
19 really recovered from the 2008 level. So we're
20 hoping, with the continued job filling that is
21 happening, that those median incomes — we're hoping
22 they recover over the next year.
23 Then I think the last thing I'll mention, at
24 least on this page — because there are a lot of
25 words on this — the fourth bullet down under the

1 "Headwinds," so another obstacle, if you will, as
2 to growth, is really around the financial burdens
3 right now. So we've seen a lot — you know, student
4 loan debt has increased very quickly. And while I
5 just said that housing is a very positive story,
6 price escalation in housing is not. So it's making
7 it more and more difficult for people to buy first-
8 time houses. So we're kind of watching that
9 balancing act, also, as we go forward.
10 [Reference: Presentation Slide 11]
11 And then the last thing I think I wanted to
12 point out are some specific stories to North and
13 South Carolina. There's really, lately, been a lot
14 better good news than bad news. Michelin, BMW,
15 Unifi, they are all coming out in their earnings
16 statements and through news stories about how
17 they're adding lines, they're increasing their
18 work. I mentioned Horsehead; it is one of the
19 negative stories. Another negative story that came
20 out around the December/January timeframe was some
21 Walmart closings. There are 15 Walmarts in North
22 Carolina/South Carolina territory that are closing,
23 but they're not the Super Walmarts; they're really
24 very small footprints. So, while closings are
25 never a good story, the good story here is that

they're the smaller footprints of what Walmart has.

And then in the blue box at the top is really the company's efforts behind economic development. And you can see how successful 2015 has been in terms of adding new jobs and new investment in both North and South Carolina.

With that, I'll turn it back over to Glen.

MR. GLEN A. SNIDER [DEC/DEP]: Thanks, Phil.

[Reference: Presentation Slide 12]

So what we'd like to move to next is a discussion around energy efficiency and DSM. You know, what we spoke about was, you know, the load forecast on a gross level then gets reduced by both naturally occurring, but also, as Phil pointed out, utility sponsored energy efficiency and demand-side management.

[Reference: Presentation Slide 13]

And for 2015, the way we look at that within the resource plan is we start by taking a bottom-up approach. So we have an extensive group working on demand-side management and energy efficiency, and the program managers for each of these programs have a good line of sight — especially for, let's say, the front five years, what's coming at them right now. What can they accomplish in terms of

1 number of participants, megawatt-hour savings, or
2 what have they seen historically and what do they
3 project to be able to accomplish as they move
4 forward. So that bottom-up approach, in the short
5 run for that first five years, is what's being
6 employed to forecast our cumulative efforts that we
7 think we're going to be able to accomplish in DSM
8 and EE.
9 One of the other things we continue to work
10 post-merger on is aligning best practices between
11 the two companies. So, DEC and DEP came into the
12 merger with an extensive list of programs, measure
13 offerings, marketing techniques, et cetera. And
14 the two companies continue to work on aligning
15 their programs and their portfolio offerings so
16 that they have the broadest possible measures and
17 programs available to our commercial, industrial,
18 and residential customers.
19 This concept of “measure life” is new for
20 2015, which is a past IRP, so what we're talking
21 about there is really just the recognition that,
22 just like anything else, if you put in a high-
23 efficiency lightbulb, you know, we're now looking,
24 in resource planning, over a 30-year time horizon.
25 We report for 15 years, but the analysis really

1 takes an economic look even further beyond the
2 reporting period. It's the recognition that these
3 measures will expire, roll off, and in a lot of
4 cases they'll end up being captured under Phil's
5 load forecast. So, for example, as new lighting
6 standards come out, you know, the utility sponsored
7 programs encourage participants to participate
8 early in those programs and get those savings
9 early, but you can't just take those savings and
10 assume they're going to be there for 30 years
11 because it's going to end up being part of a
12 standard that Phil will capture in the load
13 forecast. So what we do is we say, okay, these
14 measures have a certain life; we're going to show
15 those savings over the life of that measure, and
16 then as those roll off, we would expect the
17 reduction in use to be captured in Phil's load
18 forecast. So it's just an effort to make sure
19 we're not double-counting any efficiency savings.
20 When we say the five year — that's what I was
21 speaking about earlier — you know, really that
22 bottom-up approach applies to the first five years.
23 I'm going to talk a little bit later — you know,
24 here in the next bullet, as we go beyond five
25 years, we hold that amount of incremental EE

1 constant and we really ramp it up to try and target
2 what we call our achievable potential. The EE
3 group runs a potential study every few years to
4 look at what is out there, what types of measures,
5 what types of efficiencies are out in the
6 marketplace. And then they break that into what
7 they call "technical potential," which would say,
8 irrespective of economics or adoption, if
9 everything was just at its technical max —
10 everybody had the most efficient air conditioner,
11 everybody had the most efficient light bulbs — how
12 much savings would there be. They then show a
13 separate level called "economic potential" that
14 said, well, now if we account for what's economic,
15 what would we be able to achieve if all the
16 economic measures were 100 percent adopted? And
17 then, finally, they scaled that back a little
18 further to say and recognize that every person
19 doesn't do every single thing that's economic in
20 their household. They're making budgeting
21 decisions; they have limited capital. And so a lot
22 of times they may just not want the more efficient.
23 They may like incandescent lights, irrespective of
24 the economics. So it takes that economic potential
25 and moves it to what is believed to be an

1 achievable potential, where if you took a
2 reasonable estimate of market participation. And I
3 think in our case we express it as about 60 percent
4 of the economic potential as being achievable. So
5 what we do in the long run is we then extrapolate
6 our energy efficiency out, and try to achieve that
7 achievable potential. So the EE group is looking
8 at that and they continue to update that from time
9 to time, and to set that long-run target of how
10 much energy efficiency/demand-side management they
11 believe they can achieve.
12 [Reference: Presentation Slide 14]
13 We show that — well, before we get to the
14 graphs that show that, we try to get to that
15 potential using a host of different programs, so
16 there's a variety of programs that the two
17 companies offer, and I'm not going to read through
18 each and every program. But just a couple of
19 points I'd like to make on this slide is that, you
20 know, we offer programs across our residential,
21 commercial, and industrial sectors. Those programs
22 are not to be confused with what we call
23 "measures." So, many of these programs address
24 dozens of measures. So think of a measure as like
25 weather-stripping or an air conditioner or a high-

1 efficiency refrigerator. We bundle those measures
2 into programs, and then have program offerings.
3 Another point I'll make — so, these were just
4 differences in the legacy programs as they were
5 developed — we have specific programs in Duke
6 Energy Carolinas for the commercial and industrials
7 that are really around the end use. So you'll see,
8 like, heating, ventilation, air conditioning,
9 lighting, et cetera. These are all bundled, for
10 Duke Energy Progress's purposes, into a single
11 program — you know, Energy Efficiency for Business,
12 for example, EEB; or Small Business Energy Share.
13 And so these programs really do encompass — so EEB,
14 for example, for Duke Energy Progress, encompasses
15 everything on the Duke Energy Carolinas side, from
16 Custom Assessments all the way down to Pumps and
17 Motors. So all of those individual programs in DEC
18 are rolled up into a single program in DEP, and
19 it's just a matter of how the programs were
20 developed and offered prior to the merger, you
21 know, where one company took sort of a very
22 granular approach and the other one took a more
23 broad, holistic approach. But by and large, all
24 the same measures and efficiencies are covered in
25 those. So a broad group of those programs are

1 offered in both utilities.
2 [Reference: Presentation Slide 15]
3 These graphs are illustrating the point I made
4 earlier of — the blue on the bottom are
5 accomplishments from 2012 to date, through like
6 2015, whereas the green is the incremental growth
7 that we see happening in those programs as we move
8 up towards that achievable potential. Now you'll
9 notice the red line is the economic potential
10 identified in the study, in terms of annual
11 megawatt-hour savings, and then the achievable
12 potential is the blue line. So this is the
13 trajectory towards that achievable potential that
14 Duke Energy Carolinas sees in its EE forecast,
15 which then reduces our gross load forecast.
16 [Reference: Presentation Slide 16]
17 Then we show the same graph for Duke Energy
18 Progress. Again, a smaller utility, not quite as
19 many megawatt-hours, but still aggressive growth in
20 the amount of EE that we expect to achieve over
21 time.
22 [Reference: Presentation Slide 17]
23 So to summarize with energy efficiency and
24 demand-side management, it is a very comprehensive
25 list, and, you know, we're always looking, through

1 stakeholder outreach and as the market continues to
2 evolve, to add to that list. But right now, these
3 programs represent over 250 individual measures
4 that are potentially out there to employ at a
5 higher energy efficiency than the standard
6 efficiency, and, you know, those comprehensive
7 measures are noticeable in our resource plans. So,
8 if you look over the planning horizon, we show the
9 two companies collectively deferring or avoiding
10 960 MW. So, to put that in perspective, that's
11 larger than a standard combined-cycle, or a whole
12 power plant, really, being avoided by utility
13 sponsored DSM and energy efficiency. The
14 cumulative versus incremental is just to make clear
15 that there have been accomplishments to date. And
16 so, the incremental is the 750 that we'll
17 incrementally accomplish over the planning horizon,
18 or target. The difference between that and the 960
19 shows up there as the 210 that have already been
20 accomplished.
21 We then show the same statistics for energy.
22 A lot of times in energy efficiency space, most
23 stakeholders are looking more at the energy. As a
24 resource planner, I like to look at demand and see
25 how much peak am I avoiding so I do or don't need

1 generation for that. But in terms of the amount of
2 fuel you're saving and the amount of emissions
3 output, et cetera, often stakeholders like to look
4 at the energy savings. So there's, again, a
5 substantial amount of energy that is being saved
6 across time. And, finally, again, just targeting
7 that achievable potential.
8 [Reference: Presentation Slide 18]
9 So, another new development that we're putting
10 into the IRP but along the same lines is the
11 technology of combined heat and power. And for the
12 first time we're explicitly putting in incremental
13 combined heat and power into the IRP, albeit in
14 small chunks to start with, but I'd like to just
15 walk through — oops, let me get out of that. I'm
16 going to jump ahead and come back. I'm sorry.
17 We're out of order a little bit.
18 But we have the combined heat and power and
19 our renewables. Combined heat and power is one
20 that we have not spoken a lot about before the
21 Commission, but we also have our total renewable
22 forecast. So let me start with the renewables, and
23 then we'll go into the combined heat and power.
24 [Reference: Presentation Slide 19]
25 So the renewable forecast really comes to us —

1 and Emily is going to talk in detail about some of
2 the specific activities in South Carolina. But, in
3 total, renewables are driven both from South
4 Carolina renewable energy standards, North Carolina
5 renewable energy standards, naturally occurring
6 renewables — Phil spoke about the rooftop
7 renewables — as well as renewables that come to us
8 under PURPA. So we call them "qualifying
9 facilities" under PURPA that say, "We want you to
10 buy our energy and capacity," and we may not be
11 buying their renewable energy credit, or their REC
12 for compliance; they may save that for their own
13 purposes or to sell to a C&I customer who has a
14 sustainability goal. But under PURPA, we take
15 their energy and capacity onto our grid, and so
16 that's a growth in renewables that we are now
17 starting to see, and especially with the federal
18 tax incentive. As many of you know, it was
19 extended. It was scheduled to expire at the end of
20 this year, and it's been extended through the end
21 of the decade and then tapers off early in the
22 '20s. So that provides an incentive to these PURPA
23 qualifying facilities that will impact the amount
24 we expect to see here in the Carolinas.
25 And so what we're showing here is, really,

1 without getting into each and every little box, is
2 that we do a lot of activity for compliance; we
3 have activity that we expect for our commercial,
4 industrial, and residential customers around a
5 green tariff, as that interest grows. But then we
6 also have these PURPA customers that are just going
7 to come into the State and say, "We would like to
8 provide solar power to the utility under PURPA."
9 And what this shows is our trajectory in 2015 for
10 all of those, combined, going forward. And you'll
11 notice that DEC has a different profile than DEP.
12 And this is an interesting phenomenon that we're
13 seeing, that Duke Energy Progress has been
14 preferred by a lot of our QFs in terms of — some of
15 the factors, as I discuss it with our group, are
16 lower land prices, better topography, the land is
17 not as hilly, not as shaded, not as forested. So
18 if you think of the Eastern Carolinas versus the
19 Western Carolinas, you start getting into the
20 foothills, you start getting into more forested
21 land. Solar, in particular, you know, is more
22 suited to large tracts of flat, non-forested land.
23 So we, historically, have had more activity in DEP,
24 which has allowed us to bank credits and be really
25 ahead of our compliance goals, where DEC has not

1 seen, proportionally, the same amount of
2 development, so it doesn't have as big of a bank as
3 DEP, so it's going to require more incremental
4 renewables going forward to meet its compliance
5 obligations, and so that creates that upward-
6 sloping trajectory you see on the left, whereas you
7 have a much flatter trajectory in DEP. And that is
8 some of the differences that we are seeing there,
9 and we'll talk a little bit more at the end of the
10 presentation on some of the trends and what's going
11 to be impacting us going into 2016.
12 [Reference: Presentation Slide 20]
13 One of the things I also wanted to illustrate
14 when we talk about renewables is, renewables can be
15 very confusing in terms of — you hear a lot of
16 terms of how many megawatts of renewable are we
17 seeing, and often a lot of stakeholders will, first
18 of all, express megawatts in DC as opposed to AC.
19 Solar produces in direct current. You then need to
20 put in inverters to convert that to alternating
21 current, to AC. There's a reduction in the amount
22 of AC that you get, relative to DC. So we, here at
23 the utility, always present things in AC current.
24 But just something — you know, more of an
25 educational: Whenever you hear different

1 stakeholders talking about it, you know, one of my
2 first questions is, "Are you talking DC or AC?"
3 And so everything we're showing here is in AC. But
4 then we also talk about "nameplate" versus "utility
5 equivalent," or what does it help me, as a planner,
6 reduce my peak? And because solar is not 100
7 percent coincident and available at my summer peak
8 or my winter peak, I'll usually express solar three
9 different ways. I'll say, "Here's how much
10 nameplate capacity we're seeing," and that's the
11 tall line on top. But then I'll also say, "How
12 much of that am I counting toward my summer peak
13 reduction?" And, you know, right now, we take
14 about 45 percent — they vary a little bit between
15 DEC and DEP, and that's in the notes at the bottom,
16 but about 45 percent of the solar is available at
17 the time of my summer peak. And that just reflects
18 the point that, as I'm peaking in the afternoon, 4,
19 5, or 6 o'clock — it varies by year — the sun is
20 already starting to decline. Furthermore, it's not
21 going to be sunny at every single solar facility
22 across the entire State, so you get a degradation
23 in what's available. And so, right now, we count
24 about 45 percent of nameplate capacity as utility
25 equivalent summer capacity. And then it's a much

1 sharper reduction in the winter, because we peak at
2 7 in the morning in the winter, and the sun is just
3 starting to rise, so solar in the winter, assuming
4 it's sunny, you know, we give about a 5 percent
5 credit to our winter peak reduction.
6 So it does become very confusing, and that's
7 why I like to, every time I present this, explain
8 there's three different numbers we talk about, and
9 often I see people miscommunicating on this. So we
10 always talk on AC, we show nameplate capacity, and
11 then we show summer and winter equivalents.
12 And I guess my final note on that is, as you
13 add more and more and more solar, those numbers can
14 change. So as we add — if we start adding
15 substantially more than this as we move forward in
16 time, that incremental solar may be worth even
17 less, because net of the solar, our peak may move
18 further out in the afternoon. So, as the sun
19 continues to set, I'm still having to serve my 6
20 o'clock at night load. Even though I peak at 4 or
21 5 right now, that 6 o'clock load is still very
22 high. So as the solar comes on and starts to make
23 my new peak, net of solar, later in the day, the
24 incremental contribution from, let's say, when I
25 get 5000 MW, that may only be 15 or 20 percent

because what is needed now is resources to meet that 6 o'clock peak. We're not there yet, so we're not showing that, but it's an important concept to realize, is, because it's not dispatchable or storable, that there's a limit to how much the system can take before the capacity value starts to degradate, and that's because you need to have that capacity at different hours when that solar's just not quite as valuable. But for this purpose and for this IRP, we haven't reached that level yet, so we're showing 45 percent for all solar coming onto the grid.

[Reference: Presentation Slide 21]

And this is where we reordered. Back to combined heat and power. So combined heat and power is basically the same thing as a combined-cycle to a natural gas turbine that takes that heat and has a heat-recovery steam generator, but it's on a much smaller scale at the end of the grid, so it's out on, you know, not central generation, but near a customer location. Typically, it's customers that have a steam need. So, think of hospitals and universities are our key customers that generally have a big steam need. Traditionally, they have their own boilers on-site,

1 but they're suffering the same thing our industry
2 is suffering: Those boilers are getting
3 obsolescent. The way in which they produce that
4 steam was not necessarily environmentally friendly.
5 And so they're facing a lot of new environmental
6 regulations, just like our industry is, and there's
7 a lot of turnover in how they're going to create
8 that steam.
9 Well, combined heat and power is a great
10 opportunity for us to help meet a customer need
11 where we can produce electricity with a smaller
12 turbine, take that waste heat and run it through a
13 heat-recovery steam generator — that's what "HRSG"
14 stands for — and take that steam that comes off of
15 there and feed it to the customer. The customer
16 will then pay you for the steam. And that will
17 help reduce the cost of the total project, because
18 the balance of the project produces electricity
19 that can be used by the grid. So it produces both
20 demand and energy, capacity and energy, but also
21 steam. And the steam goes to the specific customer
22 but the capacity and energy is available to the
23 grid. And, in total, it's a very efficient way to
24 produce both electricity and to produce steam, and
25 we are seeing some evidence that some customers are

1 really starting to engage the utility in wanting to
2 do this. And so we wanted to signal in the IRP
3 that we're far enough down the path now with some
4 small projects, we believe we'll at least
5 incrementally be able to prove this technology out.
6 So we're putting about 80 MW of projected CHP – you
7 know, small on our overall system, but a very
8 innovative product that we think is going to have a
9 lot of benefits –
10 [Reference: Presentation Slide 22]
11 – and I talk on some of those here on Slide
12 22, about, you know, as we said, because of those
13 issues, I spoke about a lot of customer interest in
14 this. When you encapsulate the fact that you're
15 getting steam sales to help offset the cost of that
16 generation, it makes the generation cost-
17 competitive. Normally, smaller generators are not
18 very cost-competitive. You get the economies of
19 scale of a larger generator, but you get to offset
20 that with your steam sales, so that really helps
21 the economics for our customers.
22 A significant reduction in CO_2 and NO_x
23 emissions: Again, compared to how that steam is
24 generally being produced, this is a much more
25 efficient way to produce this steam.

Because it's at the end of the grid, it's a nice, reliable asset. They have the same reliability characteristics of your central-scale generation, and they're close to the customer load.

Short development cycles: Smaller, quicker, easier to build than your larger-scale projects.

The T&D losses: If you're near the customer load, you reduce the losses in transmission.

And then customer retention and economic development, I'll lump those two together. It's solving a need for customers that can make it more competitive for them to stay where they're at or to locate. It's a way to package an innovative energy and steam need together that makes our offering attractive to those industrial customers and, perhaps, there's other places they are looking that do not have those unique offerings, so we think this is — you know, as it proves out over time, we'll have retention and economic development benefits, as well.

[Reference: Presentation Slide 23]

So, with that, I'm going to let Emily talk a little bit about some of the specific things we're doing under South Carolina DERS.

MS. EMILY O. FELT [DEC/DEP SC]: Thanks, Glen.

1 Good morning, Madam Chairman, Commissioners.
2 Today, I'm presenting just a brief overview of the
3 South Carolina DER Program.
4 [Reference: Presentation Slide 24]
5 As you all know, the DER Program is a direct
6 result of the passage of Act 236 in South Carolina,
7 in 2014.
8 What I've done on this slide, Slide 24, is to
9 summarize the implied capacities that the statute
10 laid out, as far as our distributed energy resource
11 goals in South Carolina. Act 236 calls out, in the
12 DER section of the Act, of the statute, several
13 different types of renewable facilities, as well as
14 a — as well as goals that are based on a percent of
15 the retail peak of each utility.
16 So Duke Energy Carolinas, on the left here,
17 1 percent of our rolling average five-year retail
18 peak is approximately 40 megawatts, or 400 — I'm
19 sorry — 40,000 kilowatts here. When we talk about
20 solar, we often talk about kilowatts, not
21 megawatts, so I'll draw your attention to the fact
22 that all these zeros refer to kilowatts. So,
23 1 percent of DEC is roughly equivalent to 40,000 kW
24 — I'm sorry. One percent of Duke Energy Carolinas'
25 retail peak is 40,000 kilowatts. One percent of

Duke Energy Progress' is 13,000 kilowatts.

For reference, Act 236 also specifies certain types of renewable facilities. And by that, those types are really about scale. There are four types of renewable generation that are called out in the Act. The first is what we refer to as "utility scale." And for simplification and also to be opportunistic, given the market, Duke is implementing our DER programs based on solar facilities, so when we talk about renewable generation to meet the goals of Act 236 we are really talking about solar capacity.

So the first type is utility scale solar capacity. The law requires that the utility procure or invest in 1 percent equivalent, straight out of the gate, and that is the one to ten megawatt size facilities. The second and third categories of solar are really in that second bullet, on both sides on this table: Incent 40,000 kilowatts of customer-sited capacity from facilities less than 1000 kilowatts, including approximately 10,000 kilowatts from solar facilities less than 20 kilowatts in size. So the second and third types of facilities are what we refer to as commercial-scale rooftop solar, or

1 rooftop small-scale — sometimes referred to as
2 residential rooftop solar. And then, lastly, the
3 fourth type of capacity that is called out in the
4 statute is really that last bullet: Upon completion
5 of the above, the company has the option to invest
6 in an additional 40,000 kilowatts of solar power
7 from facilities 1000 to 10,000 kilowatts in size.
8 The 1000 kilowatts is a megawatt. And just this
9 reference, 1000 kilowatts would require
10 approximately five acres of property to build, so
11 10,000 kilowatts would be 50 acres of property.
12 If I may move on to our next graphic here —
13 [Reference: Presentation Slide 25]
14 — to meet that first goal that is laid out in
15 the statute, and that's the utility invest in or
16 procure 40,000 kilowatts, or 13,000 kilowatts in
17 Duke Energy Progress, we ran a request for
18 proposals, so an explicit solicitation of solar
19 power in South Carolina, in the fall of last year.
20 The RFP closed in October, and we received a strong
21 response. We were very happy with the response we
22 received.
23 Our intent is to execute PPAs for
24 approximately 40,000 kilowatts and 13,000 kilowatts
25 by year-end of this year, if not sooner. Right

now, all of the facilities that have bid into the RFP, or I would say a large majority of them, are undergoing an interconnection study; that is, we are trying to determine what kind of facilities or system upgrades, and the costs of those upgrades, would be required to safely interconnect that capacity, and that is an engineering study. It takes about a week to do one for a large facility.

We hope to have all of these facilities energized, at the very latest, by the end of 2017. We had previously stated, in our DER applications, that we had hoped to have them all energized by the end of this year, and the driving factor there was the expiration of the federal investment tax credit. Congress solved that problem by extending the investment tax credit, as Glen said, through the end of this decade, so we're no longer under the time pressure, nor are the solar developers under the time pressure to energize all of their facilities by the end of this year. That's actually a good thing for us, because there was, for a while, a bit of panel shortage going on, and we were seeing prices spike in panel costs, and now we're not so much — we're not takers, so to speak, nor are the solar developers, in panel pricing

1 right now, because we have a little bit more time.
2 As we stated in our DER applications, these
3 will be 15-year power-purchase agreements with
4 these solar developers.
5 If I may move on to a different type of
6 renewable capacity that Glen touched on earlier —
7 [Reference: Presentation Slide 26]
8 — and this really is a depiction of solar
9 capacity and other renewable capacity that has —
10 these facilities are not yet built, but this is a
11 depiction of the activity that is happening in
12 North and South Carolina with regard to what are
13 called PURPA qualifying facilities, or QFs. So
14 this is activity that is — I would say some of it
15 is speculation. These are solar developers,
16 primarily — the dark blue line refers to solar PV
17 capacity — who are seeking or seeking to
18 interconnect to either Duke Energy Carolinas or
19 Duke Energy Progress using federal statute PURPA.
20 This is coming to us outside of the North Carolina
21 RPS and outside of the SCDER program.
22 The IRP takes into account the significant
23 solar PURPA qualifying facility activity in North
24 and South Carolina. These figures refer to the
25 actual capacity in the interconnection queue as of

1 November 1, 2015. Now, they are in a queue and not
2 yet built because we are studying the
3 interconnectability of the facilities, and the cost
4 — primarily the cost. The cost to interconnect a
5 large solar facility can vary, and vary specific to
6 the distribution or the transmission line to which
7 it is connected, and the loads interconnected to
8 that.
9 On the right, I've tried to depict the South-
10 Carolina-only capacity, so on the last two bullets
11 on the right, I've shown that 20,000 kilowatts and
12 605,000 kilowatts was pending in the
13 interconnection queue in South Carolina as of
14 November 1st. That number has grown to about 900
15 megawatts today, or 900,000 kilowatts today.
16 But I can't emphasize enough, this
17 interconnection queue represents, really, options
18 that entities that are financing solar facilities
19 are developing. These are not actually operating
20 facilities; these are options. They're going to
21 then take their interconnection agreements and then
22 seek financing, and we expect that some portion of
23 this capacity will get built, but not all of it.
24 [Reference: Presentation Slide 27]
25 Lastly, I'd like to share with you our

1 progress towards bringing on-line the customer-
2 sited solar capacity in South Carolina.
3 As I shared on that first slide, Act 236 was
4 very prescriptive. It said, "Y'all need to prepare
5 1 percent equivalent from customer-sited solar
6 facilities less than a megawatt, less than 1000
7 kilowatts, and fully .25 percent of that should be
8 from less than 20 KW facilities. We have sought to
9 do that by offering a rebate program, an up-front
10 incentive, so to speak, for solar — for customers
11 desiring solar in South Carolina.
12 This is a chart that we publish — actually,
13 not the whole chart. We publish the capacity-
14 reserved numbers, which are the third and fifth
15 columns here, on a monthly basis on our website for
16 all to see, and this is our progress towards
17 meeting the goals of Act 236. So, in Duke Energy
18 Carolinas — reading from left to right — the
19 capacity reserved for small solar facilities — this
20 is really residential scale, less than 20 kW
21 facilities — we have received 1.5 MW, or 1535 kW,
22 so far. We're about 15 percent into our goal. I'm
23 relatively satisfied with that result so far, as a
24 program manager.
25 Then going over to the rebate for facilities

1 20 kilowatts to 1000 kilowatts, we've received an
2 even stronger response. Roughly 40 percent of the
3 30,000 kilowatts that we have designated for this
4 type of solar has been reserved for customers.
5 Now, just the mechanics of a reservation are
6 this: a customer fills out an interconnection
7 application — they may be Big Box Retailer ABC —
8 and they state in that interconnection application
9 they're going to put 500 kilowatts of solar on the
10 rooftop of their big-box retail store; then they
11 fill out a rebate application. And they send that
12 to us. Once we deem that complete, we check our
13 reservations and we say, "Do we have available
14 capacity?" If yes, they receive a letter from us
15 saying, "We have reserved capacity for you. Please
16 go forth and build your facility." And we do not
17 start the clock ticking on the 180 days they have
18 to build that facility until they have received an
19 interconnection agreement, and then they have 180
20 days. If they fail to build the facility within
21 180 days, we will give them two 90-day extensions.
22 That adds up to about a year for them to build
23 their facility, from the time they receive an
24 interconnection agreement. We think that's
25 reasonable.

1 So we don't have 11,654 kilowatts producing
2 today. These are intentions from customers that
3 they will build, and it represents a reservation by
4 Duke to pay a dollar a watt once the facilities are
5 energized.
6 The picture for Duke Energy Progress is
7 starkly different when it comes to the less than 20
8 kW set-aside in Act 236. We've received
9 applications for 62 kilowatts of solar capacity in
10 Duke Energy Progress. As far as progress to goal,
11 that's about 2 percent. That's in stark contrast
12 to the Duke Energy Carolinas activity that's at 15
13 percent. Sixty-two kilowatts would fill up this
14 room. It's about 62 kilowatts' worth of solar.
15 On the larger-scale facilities, the incentive
16 for facilities less than a megawatt in size, less
17 than 1000 kilowatts in size, we have seen quite a
18 bit of activity in the Duke Energy Progress area.
19 I'm satisfied with that progress towards goal.
20 We're about 34 percent in terms of progress towards
21 goal.
22 And as I stated before, this information is
23 updated every month on our websites, so that
24 customers can see is there any available capacity,
25 or a solar installer may check to see if he can

1 market the rebate to his customers.
2 This concludes my remarks.
3 **MR. GLEN A. SNIDER [DEC/DEP]:** Thank you,
4 Emily.
5 [Reference: Presentation Slide 28]
6 Okay. So, another big — I don't want to say
7 change for 2015, but something new for 2015 in the
8 IRP was our Resource Adequacy Evaluation.
9 [Reference: Presentation Slide 29]
10 Really, what we're looking at here is what's
11 our appropriate reserve margin, how much extra
12 reserves do we need to carry? And we update that
13 evaluation every few years, and so we had a few
14 factors that said this was time at least to begin
15 that study. We've not finalized it for '15, but we
16 got far enough down the road that we wanted to
17 signal some early results we were seeing. We
18 expect to finalize it — that evaluation — in 2016,
19 and more fully discuss it in our '16 IRP.
20 But, in essence, what we've done is we've
21 said, in 2012 when we last undertook the study, we
22 suggested carrying 14½ percent reserve margins.
23 And, again, reserve margins is really just how much
24 excess generation do you have above your peak
25 demand forecast, and you need to carry those excess

1 reserves for, really, three big factors. One is
2 you have volatility in weather, and you can have
3 extreme loads due to weather. Two, your resources
4 are not 100 percent available, so all mechanical
5 equipment will have some failure rate in it, so you
6 can't count on 100 percent of every generator being
7 on-line. And then, three, if you have load
8 forecast uncertainty, so if the economy were to
9 recover really quick and we didn't forecast that,
10 you still need enough generation to be able to meet
11 any uncertainty you might have in your load
12 forecast. So you put all those factors together
13 and you say, "What's the adequate, what's the
14 appropriate amount of reserves we should carry?"
15 And we've decided it was time to relook at that
16 evaluation for a few factors. One is, we've been
17 adding a lot of resources, what I call our summer-
18 only or summer-oriented capacity. So if you look
19 at — we talked a lot about solar today. Solar has
20 a much bigger benefit for us in the summer than it
21 does the winter, due to the fact that we peak in
22 the afternoon versus the morning. And then the
23 second is, as Phil spoke about, we've had a couple
24 of extreme weather years, where it wasn't just the
25 extreme temperatures but really was how much load

1 responded to those temperatures, so just how high
2 we peaked. I believe you'll all remember the
3 ability to serve load became pretty touch and go
4 during the two polar vortex events. All the
5 utilities in the region had adequate summer
6 reserves, but the winter became the issue. So, you
7 know, a couple of things we wanted to look at were,
8 how does our — since our portfolio is changing —
9 and it's not just solar; if you think about some of
10 our DSM programs, air-conditioning load control,
11 great to reduce summer peak but I'm not getting a
12 lot of air-conditioning load control when it's 8
13 degrees out in the winter. So a lot of our
14 resources are summer-oriented. We said, "Now that
15 that portfolio is changing, we get these different
16 weather patterns coming in, let's undertake a new
17 study to see, do we have adequate reserves in the
18 long run to serve our long-run needs?"
19 [Reference: Presentation Slide 30]
20 We presented, as I said, interim results in
21 2015. We're going to finalize that and bring that
22 back in our 2016 IRP in much more detail, but we
23 thought it was a big enough issue that we wanted to
24 at least show those interim results in 2015. Right
25 now, what we're seeing is we expect we're going to

need to increase our reserve margins from 14½ to in the neighborhood of 17, again, to be finalized in 2016, and that we're going to need to really pay attention to our winter peaks. And that may mean, from a resource planner, carrying a dual reserve margin, where we are insuring that when we look at our assets and our forecast, that we're not just focusing on the summer peak. We may very well want to make sure that we carry adequate reserve margins to meet both winter and summer peak demands.

And so those are some of the preliminary results coming out of our Resource Adequacy Evaluation. You know, we use a lot of fancy terms like LOLE — loss of load expectation — et cetera, but it's basically a statistical study to look at making sure you're having adequate reserves in the long run.

[Reference: Presentation Slide 31]

Another change we had in 2015 that was a quickly developing event was our Western Region or Western Carolinas Modernization Project.

[Reference: Presentation Slide 32]

In 2015, in a lot of words, you know, we had envisioned in 2015 retiring our Asheville coal units, in order to replace them with a large

1 combined-cycle. We had an opportunity to
2 participate with PSNC in a gas pipeline project
3 that would enable gas-fired generation in that
4 region, you know, if we moved quickly, and it would
5 still well allow us to avoid significant
6 environmental investment in the coal plants, which
7 we, back in '14, thought we were going to be
8 making. And it also helped us take advantage of
9 lower gas prices, which, you know, have continued
10 to decline, making the switch from coal to gas in
11 this particular instance even more attractive.
12 When we undertook that, we had originally
13 envisioned a two-by-one combined-cycle of a
14 standard size, large combined-cycle, that was going
15 to require incremental transmission into the
16 region, to be able to support having a large
17 combined-cycle in that region. After extensive
18 feedback from the public, we came up with a Plan B,
19 altered our plans to move forward in a way that
20 would avoid the need for incremental transmission,
21 but by doing that, we're going to move — in the
22 current scope, in the lower right — away from one
23 large combined-cycle to two smaller combined-cycles
24 that will be able to operate independently and also
25 avoid the need for incremental transmission into

1 the region, So we'll see the current scope in our
2 2016 IRP, but I'm just pointing this out because in
3 the '15 IRP we had the larger two-by-one combined-
4 cycle, but that has changed.
5 [Reference: Presentation Slide 33]
6 **CHAIRMAN HALL**: Before you start that, we're
7 going to take a brief break, five minutes, and then
8 we'll proceed.
9 **MR. GLEN A. SNIDER [DEC/DEP]**: Thank you.
10 [WHEREUPON, a recess was taken from 11:50
11 a.m. to 12:00 p.m.]
12 **CHAIRMAN HALL**: Thank you. Be seated.
13 All right, Mr. Snider. I hope everyone
14 enjoyed our newly remodeled restrooms.
15 [Laughter]
16 **MR. GLEN A. SNIDER [DEC/DEP]**: Thank you,
17 Madam Chair.
18 [Reference: Presentation Slide 33]
19 We're almost to the end, here, so we're on
20 results, and we're going to get through these
21 results rather expeditiously.
22 [Reference: Presentation Slide 34]
23 So, just real quickly, all we're depicting on
24 this slide is, as we spoke about earlier, what
25 drives the gap. If you look at the slope of the

1 top line, you have an increasing need, and the
2 green and blue bars are existing resources —
3 traditional resources, as well as nontraditional
4 renewable resources. Notice the scale doesn't
5 start at zero. So not only is load growing, but
6 you'll see the bottom bars get smaller. As we
7 retire resources, as contracts roll off, what we
8 have available to serve load in the future declines
9 and load grows. And all this graph depicts is that
10 light blue line with the numbers in it shows the
11 gap that is created over time as your load grows
12 and your existing resources diminish. And so the
13 results of the IRP are how are we going to fill
14 that gap.
15 [Reference: Presentation Slide 35]
16 And I'm not going to read through each and
17 every one of these, but we have identical slides
18 for DEC and DEP that show what are — we spoke a lot
19 about the nontraditional resources in EE and DSM,
20 but once we're done with all of that, what do we
21 still have to build or enhance the rating on to
22 meet that gap, and what is our preferred base-case
23 plan?
24 And so for Duke Energy Carolinas you can see
25 we have a series of some small uprates in our

1 nuclear plant, but we also have predominantly new
2 combined-cycles coming in, Lee Nuclear in the
3 mid-'20s coming in, and then you're seeing
4 additional combined-cycles following that. This
5 all envisions — part of the drive for that much
6 generation in the '20s is we're assuming in our
7 base case that we do not relicense our Oconee
8 Nuclear Plant. That very well could get
9 relicensed. You know, that's just a planning
10 assumption for now. We'll talk about that as one
11 of the issues facing us as we move forward in time.
12 But that's a lot of generation in the '20s,
13 but it's not just meeting the gap that we're seeing
14 in the '20s; it's also envisioning an early-'30s
15 retirement of our nuclear. And so you have a lot
16 of generation coming in in the '20s for DEC.
17 [Reference: Presentation Slide 36]
18 DEP has a similar chart that shows the amount
19 of new combined-cycles that are being needed in
20 DEP. I will point out, or just one thing I'll show
21 is the new CTs, where we're building both combined-
22 cycles and turbines in 2021. DEP currently
23 contracts for about 800 megawatts of simple-cycle
24 turbine capacity from the Broad River Energy
25 Facility. Again, we have not renewed that

1 contract. We don't know how that may transpire,
2 going forward, but for planning purposes, we don't
3 have a legal right to that after 2020, so we show
4 that expiring and then we build that CT capacity in
5 its place. We'll continue to monitor that as we
6 move forward, but that's what's driving the need
7 for so much generation in that one year, in 2021,
8 is we not only have load growth but we have a
9 significant amount. In addition to that contract
10 rolling off, we have certain turbines at our
11 Darlington Facility scheduled to retire.
12 So we have a lot of retirements, contracts
13 rolling off, and load growth calling for quite a
14 bit of need in the early '20s. As we move forward
15 in '16 and '17, we'll be updating those
16 assumptions, as appropriate.
17 [Reference: Presentation Slide 37]
18 So, I like this slide; it's very simple. But
19 what it looks at is, what are we adding, total,
20 from the beginning of the plan to the end. So a
21 lot of times we'll get stakeholders that point to
22 what percent your portfolio is renewable or gas or
23 nuclear. But, really, the only — with 40,000
24 megawatts between the two utilities, there's really
25 — you're not replacing it all in one fell swoop;

1 you're really dealing with just that resource gap
2 we spoke about earlier. And this shows how that
3 resource gap is getting filled from a big-picture
4 perspective, in terms of what's the incremental
5 capacity that's being added.
6 And so, incrementally, what we're adding for
7 the Carolinas is a lot of natural gas,
8 incrementally, but also nuclear, renewables, DSM
9 and EE play significant roles in our resource
10 capacity additions. So, a little more than half of
11 our capacity is coming from natural gas. I will
12 point out it's adding that to a portfolio that
13 doesn't have a lot of gas right now.
14 A lot of people worry about becoming overly
15 gas dependent, but our portfolio is not very gas
16 heavy, compared to other portfolios in the country,
17 and so it's in need of incremental gas to balance
18 out the portfolio, and we'll look at that in a
19 second. But we're not 100 percent gas; we're also
20 relying on nuclear, as well as nontraditional
21 resources, including DSM and EE.
22 [Reference: Presentation Slide 38]
23 When you look at the energy — and this is
24 where I was alluding to, just a moment ago — if you
25 look at the energy graph at the beginning of the

1 plan, so how do we set up for 2016, and compare
2 that to 15 years from now, how might our energy be
3 provided between DEC and DEP, what you'll notice is
4 about half of the electricity that we get from both
5 utilities comes from nuclear, and a lot of what
6 we're talking about over the next 15 years,
7 assuming all of our nuclear fleet continues to
8 operate for the next 15 years, is what is happening
9 to the residual part of that portfolio.
10 And so there's a couple of notable facts that
11 are taking place. One is the dependence on coal is
12 shrinking; in terms of actual energy produced, it's
13 shrinking from 30 percent to 13 percent. Some of
14 that is retirements and some of that is just
15 running the coal plants less. As you have more gas
16 — I showed where we're bringing on new natural gas
17 combined-cycles over the next 15 years — that
18 allows us to displace coal operations and maybe
19 make those maybe lower-capacity-factor
20 intermediate, as opposed to higher capacity factor.
21 Right now we don't have enough gas on the system to
22 take advantage of these low gas prices in terms of
23 combined-cycle. As we add those combined-cycles,
24 coal will run less, our combined-cycles will run
25 more, and we're doubling the amount of renewable

1 DSM EE on the system.
2 So you're seeing this shift, but it's still —
3 probably a very important point here is it's still
4 a great balance. We're not 100 percent gas, we're
5 not 100 percent nuclear or 100 percent coal. We're
6 growing renewables and EE. So it really does
7 position us well for consumers to have the
8 flexible, diverse fuel mix that can respond to
9 different prices in fuel. So if gas spikes for a
10 year or two, as it has done in the past because
11 capital does not go into drills and drilling wells,
12 as prices are depressed and you get this very
13 volatile gas market, then you can run your other
14 resources at higher capacity factors and back off
15 on the gas. If you have gluts of gas and gas is
16 cheap, you will run those hard and run your other
17 resources less.
18 So this flexibility in the ability to switch
19 between fuel types is a big benefit for consumers,
20 and I think we're well-positioned both today and
21 going into the future to maintain a diverse fuel
22 mix.
23 [Reference: Presentation Slide 39]
24 So what were some of those issues, finally,
25 we'll end with, that are impacting the upcoming

1 IRP?
2 [Reference: Presentation Slide 40]
3 A lot of discussion around the Clean Power
4 Plan. Obviously, we've all been watching as that
5 plan was unrolled, and now it's been stayed. From
6 a resource planner perspective, the way I've been
7 thinking about it the last couple of years is to
8 run scenarios and sensitivities around it. And
9 understand that the Clean Power Plan eventually,
10 however it ends up unfolding, will likely result in
11 tradable carbon prices. We've heard briefings on
12 this and I know you're all familiar with that, but
13 if you end up with a traded carbon price, what we
14 can do in resource planning is just run
15 sensitivities on how expensive are those carbon
16 allowances. Depending on how the courts rule and
17 how that rule gets unfolded, it really will result
18 in either lower or higher carbon pricing, and we
19 can look at that under different scenarios within
20 the resource planning process. So as we explained
21 in 2015, we did a with and without carbon pricing;
22 we'll likely do even more scenarios in 2016 as we
23 continue to monitor the Clean Power Plan.
24 Phil spoke a lot about the load forecast and
25 headwinds and tailwinds. Very important to monitor

1 what's happening with that as we go into 2016.
2 Emily spoke about our penetration rates in
3 solar. How much of that queue are we going to
4 convert? How much of that is speculative versus
5 how much actually gets built? What happened — you
6 know, at the time we did the 2015 IRP, we did not
7 have the extension of the tax credit. That will
8 have an impact on our forecast of renewables. So I
9 would expect we will put a higher forecast of
10 renewables as a result of the tax credit extension.
11 The Resource Adequacy Study we spoke about, we
12 will finalize that and have recommendations on
13 that, going into 2016.
14 We spoke about the change in the scope of the
15 Western Carolinas Modernization Project. We will
16 reflect that, going into the 2016 IRP.
17 And then there's sundry other market forces.
18 Of course, you know, what happens to gas prices,
19 what happens to other environmental regulations, et
20 cetera, will all be updated as we go into 2016.
21 So a lot of very interesting issues facing the
22 industry right now. We try to reflect them to the
23 best of our abilities in our resource plans. These
24 are some of the big ones that will be impacting us
25 for 2016.

1 [Reference: Presentation Slide 41]
2 So, with that, I'll turn it back over to you
3 for questions. Thank you again for the
4 opportunity.
5 **CHAIRMAN HALL**: Thank you.
6 Commissioners, questions. Commissioner
7 Randall.
8 **COMMISSIONER RANDALL**: Thank you, ma'am.
9 I just wanted to thank y'all for that
10 presentation. It's a great review on Act 236, and
11 we are looking a lot about that. I had just one
12 quick question. On 7-C, Table 7-C, on page 62,
13 just talking about nuclear uprates, do you have to
14 be — do those have to be approved by NRC when you
15 do an uprate, or how does that work?
16 **MR. GLEN A. SNIDER [DEC/DEP]**: Commissioner
17 Randall, I'm not — I think it's depending on the
18 type of uprate and what you're doing. I am not the
19 expert in that field, so I cannot say whether those
20 specific uprates, if we had to seek NRC approval,
21 or not. I know it's part of — as we do the
22 modernization and replace parts and components, you
23 have an opportunity to replace those with either
24 larger, and in some cases it's actually even just —
25 as I've asked about this with our group — better

monitoring equipment. So you have to be able to monitor and prove that your facility can put out these higher capacities; and just by improving the monitoring equipment, you can claim greater capacities on it. And I know we're getting some just through that.

So, again, I think it's specific, depending on the type of uprate, and I do not know, specifically, for these, whether we did or not.

COMMISSIONER RANDALL: Okay. Thank you. I was just curious about that.

CHAIRMAN HALL: Commissioner Elam.

COMMISSIONER ELAM: Good afternoon. I had — what role does storage play in any of this? Is it somehow part of your renewable numbers, whether you're looking at utility grade storage or customer storage, you know, from the big ol' boxes on the wall?

MR. GLEN A. SNIDER [DEC/DEP]: Right.

COMMISSIONER ELAM: Where is storage in this mix?

MR. GLEN A. SNIDER [DEC/DEP]: Storage, right now, is really an emerging technology that we don't see, in the near term, being at the commercial scale. So we do not have a large amount of

1 storage. Now I want to delineate pumped storage
2 from battery storage.
3 So we continue to monitor battery storage as
4 the prices decline. Right now, we think our pumped
5 storage is the economic option to deal with some of
6 the intermittency issues we have on the grid, and
7 we don't see a huge need for incremental storage
8 unless we get to much higher levels of renewable
9 penetration. But with that said, I think storage —
10 you know, a couple of quick things on storage is,
11 storage plays a role for our T&D organization where
12 it can solve distribution-related problems in niche
13 applications that may not be installed for the
14 purpose of central generation, but adds
15 distribution benefits. And so we are certainly
16 piloting various storage projects to look at how
17 they can help solve T&D issues, as well as keeping
18 an eye on whether or not we think the prices and
19 the characteristics and the performance of storage
20 can get to a level where we see it as being a part
21 of our generation portfolio. But right now, it's a
22 little bit too expensive to become a major player
23 in the generation portion.
24 **COMMISSIONER ELAM**: Thank you.
25 **CHAIRMAN HALL**: Commissioner Howard.

1 **COMMISSIONER HOWARD**: I'll be brief. Last
2 year, I guess for lack of a better word, you were
3 called to task by North Carolina WARN. Ended up in
4 FERC. Was that case based on your 14 percent
5 reserve margin or the 17 percent reserve margin?
6 **MR. GLEN A. SNIDER [DEC/DEP]**: Commissioner
7 Howard, I believe that was based on our 14½ percent
8 reserve margin.
9 **COMMISSIONER HOWARD**: Well, did FERC or WARN
10 indicate what would be a fair reserve margin?
11 **MR. GLEN A. SNIDER [DEC/DEP]**: No, to my
12 knowledge, the FERC dismissed NC WARN's claim, and
13 NC WARN never proposed any math or method to come
14 up with an appropriate reserve margin.
15 **COMMISSIONER HOWARD**: Thank you.
16 **CHAIRMAN HALL**: Commissioner Whitfield.
17 **COMMISSIONER WHITFIELD**: Thank you, Madam
18 Chairman.
19 Thank you to all three of you. That was a
20 very informative presentation, and we appreciate
21 you being here to do so. I just have one question
22 for you, Mr. Snider. On, I think it's probably
23 about page 37, you are talking about the Carolinas,
24 both for DEC and DEP, the incremental capacity, and
25 you note a large number going up — of course, we're

1 talking about incremental capacity — in natural
2 gas, up to 64 percent. But when you go on over to
3 the next page, which has the joint system energy
4 resource type by 2030, and you pointed out very
5 clearly in your presentation the big decrease in
6 coal and the big increase in combined-cycle,
7 basically doubling in that 14-year period. My
8 question is, how does that coincide with the new
9 Atlantic Coast Pipeline that's going to be built,
10 and what is the timing of — in other words, are you
11 getting to — is that increase seen towards the
12 latter years, closer to 2030, or is it middle of
13 the way, or sooner?
14 **MR. GLEN A. SNIDER [DEC/DEP]:** Yes, sir, it's
15 actually throughout the period, and as I indicated
16 on some of the slides that were showing exactly
17 when those assets come in, a lot does take place in
18 the early '20s in terms of projection need for new
19 combined-cycles.
20 The Atlantic Coast Pipeline is expected to be
21 in service at the end of 2018, so it will be in
22 time to support these new combined-cycles, so it is
23 helping to diversify our access to both shale gas,
24 as well as having Transco bringing in gas from the
25 Gulf. So the timing flanges up rather well with a

1 projected need for the new generation, but then,
2 also having the interstate pipeline capabilities to
3 be able to support that and have the competition
4 between the two pipelines, I think that's going to
5 be a good thing.
6 And I think I'll just real quickly — because I
7 was going through that pretty quickly on that Slide
8 37. That 64 percent, what that graph depicts is
9 just, of all the additions that we're making over
10 that 15-year period, how do I break those additions
11 up into a pie chart. So it's not 64 percent of our
12 total portfolio.
13 **VICE CHAIRMAN WHITFIELD**: Right.
14 **MR. GLEN A. SNIDER [DEC/DEP]**: It's 64 percent
15 of those incremental megawatts that we're adding.
16 So we still have far less than that in gas in
17 total, but — did that answer your question?
18 **VICE CHAIRMAN WHITFIELD**: I think it — and you
19 were very clear, about that being incremental, the
20 64 percent. I just was looking at the timing of
21 when you get to that total 30 percent number by
22 2030, and I appreciate your answer. Thank you.
23 Thank you, Madam Chair.
24 **CHAIRMAN HALL**: Thank you.
25 Commissioner Hamilton.

1 **COMMISSIONER HAMILTON**: Thank you, Madam
2 Chair.
3 Mr. Snider and the group, I appreciate your
4 being here today. It has been helpful, and very
5 interesting for each of us. You mentioned the
6 Atlantic Coast Pipeline. In your study of moving
7 forward with your IRP, are you moving this pipeline
8 into the Pee Dee area of South Carolina?
9 **MR. GLEN A. SNIDER [DEC/DEP]**: To my
10 knowledge, Commissioner Hamilton, that has not been
11 part of the plans for the current Phase 1 of the
12 Atlantic Coast Pipeline. What's planned beyond
13 that is not my department, but right now, to my
14 knowledge, it is not.
15 **COMMISSIONER HAMILTON**: Well, with the
16 combined-cycle that you're going to need in the Pee
17 Dee, how are you going to handle the gas supply?
18 **MR. GLEN A. SNIDER [DEC/DEP]**: Well, we do
19 have the two pipelines, Transco and ACP, and the
20 way I think about it is these are your big
21 arteries, if you will, but then you have a lot of
22 veins coming off those from your local distribution
23 companies. And so I think there's two questions to
24 ask: One is, you know, what do you have or need for
25 interstate arteries, these big Transco/ACP type

1 projects; and then, how much can you depend on
2 interconnecting to those through your local
3 distribution companies, your LDCs. And it's
4 balancing, you know, do I need to increase the size
5 of those arteries, or am I sufficient just tapping
6 into them with my local distribution companies.
7 And that gets to about the edge of my limits on
8 that before I start having to go back to my gas
9 team and the gas development folks.
10 **COMMISSIONER HAMILTON**: It would seem this
11 group would be a good group to send a message back
12 on that —
13 **MR. GLEN A. SNIDER [DEC/DEP]**: Yes, it would.
14 **COMMISSIONER HAMILTON**: — that the need will
15 exist. Some fear that, with residential use of
16 natural gas plus industrial generation use, that
17 there are some problems that might occur for the
18 need for the additional supplies of gas. And I
19 know Duke has been very active since the merger in
20 industrial development efforts in this area, and
21 I'm sure that that group will tell you that this
22 would be a great thing. Thank you very much for
23 being here.
24 Thank you, Madam Chair.
25 **CHAIRMAN HALL**: Thank you.

1 Commissioner Fleming.
2 **COMMISSIONER FLEMING**: Yes. Good morning — or
3 afternoon, actually, to you all. I really
4 appreciate the very thorough presentation that you
5 gave today. It was very interesting and very
6 educational. I wanted to ask about the nuclear
7 projection capacity of about a little over 1100
8 megawatts of new nuclear capacity in 2024 and 2026.
9 Could you talk a little bit about how that's going
10 with the NRC application, and also, given the
11 delays with V.C. Summer and Vogtle, is that being a
12 little ambitious, those particular dates?
13 **MR. GLEN A. SNIDER [DEC/DEP]**: Thank you,
14 Commissioner. Yes, let me start with the NRC COL
15 application for the combined construction and
16 operating license. It's my understanding that that
17 is moving forward. There have been delays to date
18 due to sort of emerging NRC requirements and
19 reviews that have been done that were not
20 envisioned initially. But I actually asked our
21 nuclear development folks just recently if they
22 thought that those had been resolved, and they
23 said, you know, hopefully, within the next one to
24 two months, the major hurdles will be cleared, and
25 that they expect to obtain the license either the

end of this year or beginning of next, at the very latest. So they're well on their way to obtaining the COL for the facility, for the Lee Facility.

It's a little aggressive right now — '24 and '26. You know, we had it there, thinking, with potential retirements of Oconee — depending on what happens with relicensing, with the Clean Power Plan — that, you know, that that would be the earliest we could have it. We're continuing to monitor, as we move into our next IRP cycles, whether or not that would make more sense a year or two later. But for right now in 2015, we said, "Well, let's put in as early as it could be put in," until we get clarity around some of these other variables, and with the thought that potentially down the road we may need to adjust that timing.

COMMISSIONER FLEMING: Okay. So you are continuing to move forward; you're just being very aggressive in your forecast of when it will be completed.

MR. GLEN A. SNIDER [DEC/DEP]: Yes. And if we were to move that back too far, that, then, sets us back in starting — or a little bit backwards with our COL, so there's a question of obtaining the COL and continuing to revisit that, versus moving it

1 back and not getting the COL and then going back
2 for it. So there's a little interplay between the
3 two that we're working through.
4 **COMMISSIONER FLEMING**: Okay, great. I wanted
5 to ask also about your energy efficiency
6 predictions. And I noticed it looked like, for the
7 Progress one, relative to what you're predicting
8 for DEC, is lower, and I was just wondering if you
9 could talk a little bit about your energy
10 efficiency — what you're planning for energy
11 efficiency in the Duke/Progress area.
12 **MR. GLEN A. SNIDER [DEC/DEP]**: Certainly. Yet
13 — they are lower, but I think there's a couple of
14 reasons for that. One is, first and foremost, DEP
15 is a much smaller utility, so about —
16 **COMMISSIONER FLEMING**: Right.
17 **MR. GLEN A. SNIDER [DEC/DEP]**: — 50 percent
18 smaller of a utility. It has a slightly different
19 mix of customers, in terms of its residential-to-
20 commercial/industrial mix, so there are some
21 natural differences in addition to size, in terms
22 of customer makeup. And I think what came out of
23 the potential studies were also informative, that
24 really took a look at the two different service
25 territories, their customer mix, their size, and

said — you know, this was done by a third party — "What do we think is an achievable potential that's out there for the two utilities?"

And when you take into account the differences in size and customer mix, the achievable potential for Duke Energy Progress was lower than that for Duke Energy Carolinas, although for both of them it's an aggressive target to go chase, in terms of the ramp-up you would need in efficiency to accommodate those.

But I would say, in answer to your question, some of those factors translated through the potential study just resulted in a lower achievable potential being forecasted for DEP relative to DEC, with that being sort of your long-term bogie for what you're trying to achieve.

COMMISSIONER FLEMING: And you're saying that they're aggressive targets for both of them. Are you going to ramp up what you try to do to promote that, in those two areas?

MR. GLEN A. SNIDER [DEC/DEP]: Yeah — you know, in talking to our EE and DSM group, when they give us these inputs, they do have several activities in place, in terms of — you know, it's really twofold: How do you continue to learn, and

1 market to, and try to obtain higher penetration
2 rates for your existing programs, as well as stay
3 on top of innovations that are happening in the
4 marketplace, looking for new programs, newer
5 offerings.
6 You know, one of the things that often gets
7 lost in the mix is that EE penetration sometimes,
8 by the very nature of the market, has to be a
9 little bit slower than some might like, because
10 it's driven by things like appliance turn-over.
11 So, in general, for example, like an HVAC unit,
12 people are not going to, generally, go to a higher
13 efficiency HVAC unit until their unit fails.
14 Rarely will someone just take a perfectly well
15 operating HVAC unit and say, "Boy, I really want
16 more energy efficiency, so I'm just going to go
17 ahead and early retire this unit, and come in and
18 put in a new HVAC." So if you think about only
19 maybe — and this number is not exact. But if an
20 air conditioner lasts 10 years, only 10 percent of
21 the market is available in each year, and so
22 they're saying each year, "How do I get more of
23 that 10 percent that's available, so that over time
24 I can accumulate more and more people going to
25 these higher efficiency air conditioners than

less," but they can only — they only have a target in each year of just that 10 percent, because the other 90 percent aren't replacing their air conditioners. So they're growing both existing programs and then growing the amount of people or the amount of efforts they've got through stakeholder outreach and other methods to get every possible new efficiency program that could be offered out there that is cost-effective.

COMMISSIONER FLEMING: Okay. So it sounds like you're doing — you're being very aggressive to doing as much as you can in that area, depending on the makeup of the two territories.

MR. GLEN A. SNIDER [DEC/DEP]: Yes, Commissioner.

COMMISSIONER FLEMING: Okay. And I wanted to ask, on 38, with what you're doing, forecasting out to 2030, with the look of that, I know the Clean Power Plan is on hold right now, but I think the utilities have to kind of proceed as if it's not, correct?

MR. GLEN A. SNIDER [DEC/DEP]: That's right. We're looking at it as though what would happen if we did have carbon.

COMMISSIONER FLEMING: Right. So are you

1 saying — do you think this particular forecast
2 would meet what is required for the clean power,
3 for South Carolina?
4 **MR. GLEN A. SNIDER [DEC/DEP]**: Well, we didn't
5 explicitly state that in the IRP.
6 **COMMISSIONER FLEMING**: Right. Well, or the
7 two —
8 **MR. GLEN A. SNIDER [DEC/DEP]**: I do think —
9 **COMMISSIONER FLEMING**: — Carolinas.
10 **MR. GLEN A. SNIDER [DEC/DEP]**: Yeah, for the
11 two Carolinas, I do think it is in line with Mass
12 Cap 1 of the Clean Power Plan. Again, we did it
13 more toward the generic price, but when you then
14 say, "What did that price result in," when you put
15 a price on carbon, you're going to dispatch gas in
16 front of coal, for example, because it has a lower
17 carbon output, you're going to advantage renewables
18 that have no carbon output. So when you put the
19 carbon price on, it results in a lot of the same
20 activities envisioned in the Clean Power Plan, so
21 even though we didn't explicitly model the Clean
22 Power Plan, as we went back and took a look at,
23 "Okay, now here's the results of this
24 transformation that's shown on Slide 38," it would
25 comply with mass cap 1 of the Clean Power Plan.

1 **COMMISSIONER FLEMING**: And as you're looking
2 forward, say, for the next five years, what do you
3 see as the three biggest challenges in both DEC and
4 Duke — I get —
5 **MR. GLEN A. SNIDER [DEC/DEP]**: DEC and DEP.
6 **COMMISSIONER FLEMING**: — DEC and DEP —
7 **MR. GLEN A. SNIDER [DEC/DEP]**: Yes. We still
8 get messed up internally, as well, so —
9 **COMMISSIONER FLEMING**: — and as far as
10 integrated resource planning goes?
11 **MR. GLEN A. SNIDER [DEC/DEP]**: You know, it's
12 interesting. I thought a few years back, when we
13 went through our first round of coal retirements,
14 you know, and some of the environmental regulations
15 that were so pressing at the time — CAIR and others
16 — that, "Boy, once we get through this, resource
17 planning will be sort of boring as a career,
18 because this is so challenging." Well, you eat
19 your words, because I think it's far more
20 challenging today than I ever envisioned. And if
21 you think about the uncertainty that faces us, in
22 terms of commodity prices, technology developments,
23 and the different views on how quickly we will have
24 adoptions of rooftop solar or commercial-scale
25 solar — or batteries that Commissioner Elam brought

1 up — you know, there's varying stakeholders in the
2 industry with all sorts of different views, and
3 you've got to work your way through that and
4 separate, you know, the science from some of the
5 opinions. Very challenging.
6 Phil spoke about the load forecast, and we,
7 you know, for a number of years, have sort of been
8 struggling with the recession and how quickly are
9 we going to recover. And, you know, we've
10 continued to have changes in our load forecast that
11 make resource planning challenging. And then
12 finally on the carbon front, maybe as the third
13 one, you know, I think there's a general belief
14 that the country is moving towards carbon
15 regulation, but for every step forward we make,
16 we'll take one or two back. So how quickly carbon
17 comes in and at what price level can dictate, you
18 know, changes to the resource plan that are needed
19 — or at least how quickly they're needed.
20 So those are three big market-driven ones, and
21 then, you know, internally, keeping a very close
22 eye on the NRC process with relicensing and
23 relicensing nuclear — as the slide you just
24 referenced pointed out, we get half our electricity
25 from nuclear. More than 20 percent of all energy

1 consumed at DEC comes from Oconee alone. Oconee is
2 scheduled to have its license expire in the early
3 '30s. And so the ability to relicense or not is
4 pivotal, from an internal perspective. So,
5 internally, that's probably one of my bigger ones,
6 in addition to the market factors I've just listed.
7 **COMMISSIONER FLEMING**: Do cybersecurity issues
8 play into this at all?
9 **MR. GLEN A. SNIDER [DEC/DEP]**: Certainly,
10 cybersecurity is at the forefront, as a company,
11 in —
12 **COMMISSIONER FLEMING**: Right.
13 **MR. GLEN A. SNIDER [DEC/DEP]**: — terms of —
14 **COMMISSIONER FLEMING**: But for your plan —
15 **MR. GLEN A. SNIDER [DEC/DEP]**: But as a
16 resource planner, we don't have that explicitly
17 impact our resource plan until — unless concrete
18 rules came out that, let's say, changed the cost of
19 a technology to incorporate additional
20 cybersecurity. We would certainly then roll that
21 in. So it's more of a secondary. Once the rules
22 are written, if it changes either the operating
23 characteristic or costs of these various
24 technologies, then that would factor into our
25 resource plan, as we incorporated those costs and

1 operating characteristics into our comparative
2 economics.
3 **COMMISSIONER FLEMING**: And I would be remiss
4 if I didn't thank you for taking off that Foothills
5 line, and I assume it will be deleted next year in
6 the resource plan?
7 **MR. GLEN A. SNIDER [DEC/DEP]**: There will be
8 no mention of the Foothills plan in the 2016
9 resource plan.
10 **COMMISSIONER FLEMING**: I very much appreciate
11 those two units in Asheville.
12 **MR. GLEN A. SNIDER [DEC/DEP]**: Thank you,
13 Commissioner. We learned a lot during the process,
14 and we are happy with our current plan.
15 **COMMISSIONER FLEMING**: So am I. Thank you.
16 **CHAIRMAN HALL**: Thank you.
17 I just have one quick question. Back to Slide
18 15, tell me, how do you determine — because there's
19 a big difference between the economic potential and
20 your achievable potential. But what factors go
21 into determining what makes it achievable?
22 **MR. GLEN A. SNIDER [DEC/DEP]**: So "economic"
23 and "achievable" start with that "technical" I
24 said. You know, in economics, if everything that
25 was economic — so, in other words, if everyone

1 acted in an economically rational way and did
2 everything that was economic in a home — saying,
3 "Oh, gee, the light bulb pays for itself in four
4 years. I'm going to put in a new light bulb
5 because it's got a four-year payback and that makes
6 economic sense" — that would be your economic
7 potential.
8 I think, when you get down to achievable, as I
9 talked to that group and tried to understand that
10 very question, the way it's been explained to me is
11 the achievable recognizes the fact that the
12 consumer marketplace, whether it's residential,
13 commercial, or industrial, does not install
14 everything that is economic. There are some people
15 that simply might prefer, for example, the light
16 that comes off of an incandescent bulb, and even
17 though it's economic to put in a CFL, they don't
18 want the curlicue. Or the LEDs, you know, weren't
19 dimmable for a while, and they wanted dimmable. So
20 it was more a customer preference and the
21 recognition that, based on past history, it's
22 impossible to get 100 percent participation, just
23 because it's economic. And so you say, "How much
24 do I have to reduce that?" Right now, we think
25 it's about 60 percent of that economic that is

1 actually achievable, just out of customer
2 preference.
3 **CHAIRMAN HALL**: Okay. Thank you. That makes
4 sense.
5 Now, we have a meeting at 2 o'clock, so I've
6 got to let my staff get ready for that. So, thank
7 you so much, gentlemen and Ms. Felt. We are
8 adjourned.
9 **MR. GLEN A. SNIDER [DEC/DEP]**: Thank you,
10 Commissioners, and Madam Chair.
11 [WHEREUPON, at 12:37 p.m., the
12 proceedings in the above-entitled matter
13 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, 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 in an allowable ex parte briefing held in the above-captioned matter before the Public Service Commission of South Carolina.

Given under my hand, this the 25th day of March, 2016.

Jo Elizabeth M. Wheat

Jo Elizabeth M. Wheat,CVR-CM/M-GNSC
Court Reporter
Public Service Commission of South Carolina