

BEFORE THE PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA
COLUMBIA, SOUTH CAROLINA

HEARING #10-11162

DECEMBER 15, 2010

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ALLOWABLE EX PARTE BRIEFING

REQUESTED BY PROGRESS ENERGY CAROLINAS, LLC - Issues Related to
Renewable Energy Sources

**TRANSCRIPT OF
PROCEEDINGS**

COMMISSIONERS PRESENT: John E. 'Butch' HOWARD, *CHAIRMAN*,
David A. WRIGHT, *VICE CHAIRMAN*; and COMMISSIONERS Elizabeth B.
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APPEARANCES:

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 PowerPoint presentations (PDF)

P R O C E E D I N G S

1
2 **CHAIRMAN HOWARD:** Please be seated. Good
3 morning. We'll call this hearing to order. I'll
4 ask Attorney Melchers to read the docket.

5 **MR. MELCHERS:** Thank you. Mr. Chairman and
6 Commissioners, we're here today for an allowable ex
7 parte briefing requested by Progress Energy
8 Carolinas, Inc. The date and time of the proposed
9 briefing is today, December 15th, at 10:30, here in
10 the Commission hearing room. The subject matter to
11 be discussed at the briefing: issues related to
12 renewable energy resources.

13 Thank you, Mr. Chairman.

14 **CHAIRMAN HOWARD:** Mr. Anthony?

15 **MR. ANTHONY:** Good morning, Chairman Howard
16 and members of the Commission. Carrying on from
17 yesterday's candid conversations --

18 [Laughter]

19 -- we have two presenters today that are as
20 candid as myself, if not more, so we're going to
21 get straight to the point on some myth busters.
22 This is a myth-busting presentation, first dealing
23 with offshore wind. My beloved North Myrtle Beach
24 just had a conference a week or so ago, discussing
25 the alleged opportunities and benefits of offshore

1 wind. Harold James -- who is our director of
2 Retail Strategy, as well as Term Wholesale
3 Marketing, as well as our renewable portfolio
4 strategy compliance obligations -- is going to
5 discuss what we have seen and what the facts really
6 are, with regard to offshore wind.

7 Then Mitch Williams, our manager of Regulatory
8 Affairs, will address interconnection standards'
9 requirements and procedures for renewable
10 generators larger than 100 kW. We thought that's
11 an important subject matter, because we understand,
12 at the Energy Policy Advisory Council, some
13 allegations have been made with regard to the
14 utilities' of this State either unwillingness or
15 inability to interconnect renewable generators
16 larger than 100 kW, and that's just wrong. So,
17 Mitch is going to describe for you how those
18 procedures are applied and how we interconnect
19 generators larger than 100 kW.

20 So with that, Mr. James is in the batter's
21 box.

22 [Reference: PowerPoint *Off-shore Wind*
23 *Update*, Slide 1]

24 **MR. JAMES:** Thanks, Len. My prepared
25 discussion is around offshore wind but if you've

1 got any other questions about any other renewables,
2 I'll be glad to try to address those. But I'm
3 really going to focus mainly about what we're
4 seeing in the marketplace around offshore wind
5 activities. There's been a lot in North Carolina;
6 we have the renewables standard there. We've had
7 some developers in talking to us. So, these are
8 some observations from the market and some
9 observations from our technology people about what
10 drives some of this, so we'll run through this, and
11 I'll be glad to answer any questions. Just
12 interrupt me, whatever.

13 MR. MELCHERS: Would you move the mike closer?
14 Thank you.

15 MR. JAMES: That better? Okay.

16 [Reference: PowerPoint *Off-shore Wind*
17 *Update, Slide 2]*

18 Status in the US. There's been a lot of news
19 around about some projects in the Northeast.
20 Primarily what we've seen are products around
21 Delaware, New Jersey, and Massachusetts. There's
22 been a lot of press about the one in Massachusetts.
23 This goes back years. Delaware and New Jersey have
24 recently had contracts executed with developers to
25 put projects off the coasts of those areas.

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As of today, nothing is actually operational under construction. There's a permitting process. But the contracts have been signed.

The prices that we've seen in these contracts are north of \$.20. The contracts specifically we've looked at are \$.23 to \$.25 a kilowatt-hour. Very, very expensive power. The prices do not include system transmission upgrades on the shore. That price gets it to the beach, if you will, then you've got to get it to the homes. And these prices do not include what that cost may be to get the power from the beach, if you will, from the shore, to the actual customer inland.

This compares to what we've seen in the market for onshore wind of \$.07 to \$.08. So, as a general rule, offshore wind is three to four times -- roughly three times the expense of what we've seen onshore. Offshore is three times as much. The market today, driven primarily by gas prices being at low levels, is \$.04 to \$.05. So what you're looking at is a product that costs anywhere from \$.23 to \$.25 a kilowatt-hour to produce, that's selling into a market that's at \$.04 or \$.05. That's just where we are today. Now, over the long term where that ends up, we'll have to see. And it

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compares -- onshore wind compares much more favorable to the market, but still significantly higher than the market.

[Reference: PowerPoint *Off-shore Wind Update*, Slide 3]

So what is the industry saying? There's a lot of developers that are out talking about the potential offshore, and I think most people agree that there is wind there. If you go offshore North and South Carolina, there is sufficient wind to drive lots of turbines and generate lots of power. The question is, how much will it cost and what will be the long-term benefit and long-term cost of pushing these?

So what the industry is out saying is that, if you build this, the jobs will come. It will create jobs. It will drive creation of infrastructure jobs. The jobs along the coast associated with the ships that have to be built, the port facilities and so forth that are required to support these facilities, will come if you make a commitment. They've quoted it as having a high jobs-per-kilowatt ratio compared to traditional generation. So if you build a combined-cycle, the amount of jobs created for each kilowatt is significantly

1 lower than the jobs created for a kilowatt of wind.

2 Now what they've been saying, and they've said
3 this primarily in North Carolina and I think it's
4 generally been expressed in other forums, is that
5 someone needs to make a large commitment -- 4-5,000
6 megawatts -- to drive the infrastructure. You're
7 not going to see the investment in infrastructure
8 come if you only build a couple hundred megawatts.
9 It's just not sustainable. If you want to drive
10 this major increase in jobs, in growth along the
11 coast, you've got to make a major commitment.

12 To do that, you need a legislative mandate to
13 create a market. It's not least-cost. If you're
14 doing it against the least-cost test, it's not
15 going to be your least-cost option. Not even
16 close. Which, you know, I can explain a little bit
17 more, further. So it's going to have to be
18 mandated that the states -- and that's what's
19 happened in New Jersey and Delaware, the states
20 have mandated to utilities that you buy a certain
21 percentage of your resources from offshore wind.

22 They're also saying that the first state to
23 the party is going to get the jobs. So, the state
24 that makes the first commitment, that's where the
25 infrastructure is going to go. Don't know that's

1 necessarily true, but that's what's being said.

2 They're saying also that the operational
3 issues can be resolved. When you're dealing with a
4 resource that's very intermittent in its output, it
5 creates operational concerns around your system.
6 If you're only talking a couple hundred megawatts,
7 not so much, but if you're on a 12,000-megawatt
8 system like Progress, you've got 2-3,000 megawatts
9 of wind out there as part of that resource mix, you
10 have to be able to manage the system as that wind
11 output goes up and down, because it goes up and
12 down in a very unpredictable manner. So you have
13 to have resources in place to fill in the voids
14 when the wind doesn't blow, so there are
15 operational issues; it will increase the amount of
16 spinning reserve you have to have on-line to keep
17 the system stable, because the output will go up
18 and down.

19 And they also are saying that the cost
20 differential will improve with development. As
21 more is built, the price will come down.

22 So that's generally what the industry is
23 saying: If you make the commitment, you'll get the
24 jobs. It needs a legislative commitment to do
25 that. And the first state to do it will get the

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majority of the jobs.

[Reference: PowerPoint *Off-shore Wind Update* Slide 4]

So what drives this cost differential? As I said earlier, offshore is roughly three times the cost of onshore. And it's a couple of things. Construction cost is obvious. Foundations, turbines, the offshore transmission is very expensive. Insurance is very expensive. We have a lot of hurricanes that come through the Atlantic. The cost of insurance to insure these facilities is a significant cost differentiator between this and onshore wind -- or any other resource, for that matter. And operation-and-maintenance cost; it costs a lot to build, it costs a lot to operate, and it costs a lot to maintain.

Bottom line, it's in the middle of the ocean. So, if you build any building, project, whatever, in the ocean, it's going to cost a lot more to build it, maintain it, and operate it, than if you do it on land. So the primary driver between the difference between onshore wind and offshore wind is the fact that it's 18 miles off the coast, and that cost is going to be substantially -- be substantial.

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[Reference: PowerPoint *Off-shore Wind Update* Slide 5]

So the question becomes, will this cost come down, over time, as the developers are saying. The cost differential, as I mentioned earlier, is not driven by technology; it's driven by location. The turbines that they're using offshore are the same turbines they're using onshore but for the fact that you've got to build protection around, the fact that there's saltwater in the vicinity, the construction costs. The location is what's driving the difference, not the technology.

Large infrastructure fixed cost means that the first price will be very expensive. You have to make a pretty substantial infrastructure investment to build these projects and maintain these projects. So over time, if you make a commitment to a large number of these, then you're going to spread this fixed infrastructure cost to more units, so the units should come down in price.

The question is, who pays the penalty and who gets the benefit. Whoever signs the contract for the first ones is going to pay a lot. Whoever signs the contract for the last one, not so much. So who gets the penalty, who gets the benefit, and

1 how that's shared is an issue. So the point is
2 that the first megawatt is very, very expensive;
3 the 4,000th megawatt, who knows what that one is
4 going to cost. The assumption is -- and I think
5 it's a reasonable assumption -- that one will be
6 cheaper than the first, but how much cheaper is the
7 question. And as I mentioned earlier, because it's
8 driven by location and not technology, it's
9 concrete, wires, infrastructure, that technology
10 driver that you usually see in emerging
11 technologies is not what's going to drop the cost
12 down; it's going to be the fact of the
13 infrastructure issue.

14 And the transmission and operational cost is
15 somewhat unknown. It'll be locationally specific
16 and it's really uncertain as to what those will
17 turn out to be.

18 So I guess, in summary, there is an
19 expectation that over time the costs will come down
20 from the \$.23 to \$.25 we're seeing today. Where
21 does it come down to, that's the unknown. And
22 you've got to make a pretty substantial investment
23 to drive that cost down. So those are questions
24 that need to be resolved.

25 [Reference: PowerPoint *Off-shore Wind*

Update Slide 6]

1
2 So, summary of the obstacles. It's extremely
3 high-cost. I think everybody would agree that \$.23
4 to \$.25 per kilowatt is a very high cost. Any
5 potential cost reduction is going to require a
6 major commitment by some state or the Federal
7 Government that's going to have to say, "We're
8 committed to this. We're going to do 20,000
9 megawatts along the coast, to actually drive the
10 cost down." You can't make a small bet. You can't
11 say, "Well, let's do 200 megawatts, see how it
12 goes," because that's not going to drive the cost
13 down. Unless you make this big bet and drive these
14 fixed costs off a lot of units, you're not going to
15 see the price come down.

16 The cost will not be cut substantially by
17 technology advances, because, if you're looking at
18 the differential between wind and solar, the
19 technology advances will be around the turbine and
20 the blades. That differential that shows up
21 onshore will also show up offshore, so that
22 differential is not going to shrink, necessarily,
23 because of the location issue.

24 The infrastructure jobs are likely to be
25 concentrated in one or two states. You're not

1 going to see major infrastructure investment in
2 every state along the coast. They're going to pick
3 -- as this evolves and there's a substantial amount
4 of generation built along the coast, the central
5 location with the best infrastructure already in
6 place is where it's probably going to end up.
7 You're not going to see infrastructure built in
8 Florida, Georgia, South Carolina, North Carolina,
9 Virginia, Maryland -- it's going to be in one or
10 two places. So there's no guarantee that any state
11 that steps into this in a big way is going to be
12 that state.

13 It's going to take many, many years to see the
14 real benefits. We can't do this overnight. So if
15 the policymakers in the states along the East Coast
16 and Federal Government decide to make a major
17 commitment to this, it's going to take a long time
18 to see whether it was really a good idea or not.

19 The other thing that's a major obstacle is low
20 natural gas prices. Natural gas prices are very
21 low, predicted to stay low for a number of years.
22 And that sets the market price to some extent --
23 not some, to a great extent. And most people agree
24 that CO₂ legislation has been kicked down the road a
25 little ways. Those are the two things that are

1 working against, you know, the comparison to
2 traditional generation. Without CO₂ and low natural
3 gas prices, there's going to always be a huge
4 premium for this type of resource versus
5 traditional. That's just the fact of the matter.
6 And it also has limited capacity value. The
7 wind doesn't blow all the time. In Texas this past
8 summer -- which, ERCOT has 10,000 megawatts of wind
9 connected to their grid -- in their peak hour this
10 past summer, that 10,000 megawatts was producing
11 less than 600 megawatts. Typically, when it's
12 really, really hot, the wind's not blowing. When
13 it's really, really cold, the wind's not blowing.
14 So there is very limited capacity value. You know,
15 our control center folks this morning, when we hit
16 a peak -- or were anticipating a peak of over
17 13,000 megawatts -- aren't going to feel
18 comfortable hoping that the wind is blowing this
19 morning when the temperature's that low, so you
20 have to build capacity. There's no way around it.
21 This has limited capacity value, so if you put a
22 lot of wind on your system, you're still going to
23 have to build the capacity side of it, and that's
24 what they're doing in Texas. They're putting fast-
25 start CTs in these wind fields, so that when the

1 wind stops blowing on a peak day, they can very
2 quickly crank those units up and maintain the
3 system support they need.

4 [Reference: PowerPoint *Off-shore Wind*
5 *Update* Slide 7]

6 The other thing is the impact on customers. I
7 did a very simple calculation here, but I think
8 it's very easy to understand. Assumptions are if
9 you look at our current 15-year avoided-cost rate,
10 not including capacity, it's \$.048 a kilowatt-hour
11 levelized over that term. So essentially what
12 we're seeing, based upon today's assumptions, is
13 over the next 15 years our marginal cost to produce
14 power is going to be about \$.05, roughly. Okay?
15 That's driven a lot by gas prices.

16 If you assume, as the developers say, that you
17 need to make this commitment of the 4,000 megawatts
18 of this to make it work, and typically they're
19 looking at a 40 percent capacity factor for these
20 units, if you take those two assumptions and
21 compare it to a \$.25, a \$.20 and a \$.15 per
22 kilowatt-hour cost, the premium that you're asking
23 customers to pay, over and above what it would cost
24 to produce this power by traditional means, at
25 \$.25, is \$2.8 billion a year. Not once. Every

1 year. Now, over time, maybe project at \$.25 starts
2 to comes down. So if it gets down to \$.15 at some
3 point, you're still looking at a \$1.7 billion
4 premium that you're asking customers to pay.
5 Whether or not that's prudent -- I think it's
6 probably not, at this point, to make that type of a
7 bet. But if you're saying that the developers are
8 right, to create the jobs you've got to commit to a
9 large investment, 3-4,000 megawatts, you're asking
10 the utility ratepayers to pay a huge premium over
11 what the power is really worth in the market,
12 bottom line.

13 [Reference: PowerPoint *Off-shore Wind*
14 *Update* Slide 8]

15 So key take-aways from the discussion:
16 Offshore wind, as it sits today, is not
17 commercially viable. It's technically viable; you
18 can do it. You can build these units. They will
19 run. They will produce electricity. You can
20 deliver it to homes. But you -- if it was truly
21 based on its commercial competitiveness, it's not
22 commercially viable today.

23 To develop the market will require the states
24 mandate that customers pay a major premium. If
25 you're going to get this built in a semi-short

1 period of time -- ten years, whatever you choose --
2 to the levels that are going to be required to
3 drive the costs down, it's going to require utility
4 customers to pay a large premium over what the
5 power is actually worth in the marketplace. To
6 achieve this critical mass, states are going to
7 have to make a huge bet on the backs of utility
8 customers. There's just no way around that.

9 The future cost reductions are not
10 quantifiable. It's a build-it-and-it-will-happen
11 assumption. But, you know, we can't say today
12 whether that \$.25 is going to go to \$.10, whether
13 it's going to go to \$.12, whether it's going to
14 stay \$.25. There's no way to know.

15 Low natural gas and lack of CO₂ is going to
16 keep the market price low. And, again, there's no
17 guarantee your state is going to get the jobs. So
18 South Carolina could make a commitment to 3,000
19 megawatts, and it gets built, and Norfolk gets the
20 jobs. Or Jacksonville gets the jobs. There's no
21 guarantees you're going to get those jobs in the
22 State.

23 [Reference: PowerPoint *Off-shore Wind*
24 *Update* Slide 9]

25 So that's sort of the prepared discussion I

1 had around onshore wind -- excuse me -- offshore
2 wind. I'd be glad to answer any questions about
3 that or any other renewable activities that you
4 have on your mind.

5 **CHAIRMAN HOWARD:** Thank you, Mr. James.
6 Commissioners, any questions of Mr. James?

7 **VICE CHAIRMAN WRIGHT:** I've got a quick
8 question for Mr. James.

9 **CHAIRMAN HOWARD:** Commissioner Wright.

10 **VICE CHAIRMAN WRIGHT:** Good morning. That
11 next-to-last slide where you were talking about the
12 annual customer premium that could be paid or
13 whatever, translate that into what an average
14 customer bill might increase on a monthly basis.
15 Any idea? Or a yearly basis?

16 **MR. JAMES:** If there are -- I don't know how
17 many electric utility customers there are, total,
18 in South Carolina, but say there's two million --
19 is that a number that's probably close? If there's
20 two million, it would be 2,800 bucks a month -- a
21 year.

22 **VICE CHAIRMAN WRIGHT:** That's pretty
23 significant. Thank you.

24 **MR. JAMES:** It would be -- excuse me -- 1,400
25 bucks a year. \$100 a month, roughly.

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VICE CHAIRMAN WRIGHT: That's still significant.

COMMISSIONER FLEMING: Mr. Chairman.

CHAIRMAN HOWARD: Commissioner Fleming.

COMMISSIONER FLEMING: I just wanted clarification on a couple of things. The \$.23 to \$.25 per kilowatt-hour, does that include government incentives?

MR. JAMES: Yes, that's after the production tax credits, which are about \$.02, so that would offset --

COMMISSIONER FLEMING: So you would add \$.02 onto --

MR. JAMES: So it would be --

COMMISSIONER FLEMING: -- that to --

MR. JAMES: -- a little bit more --

COMMISSIONER FLEMING: -- make the --

MR. JAMES: -- than that, yeah.

COMMISSIONER FLEMING: -- true value?

MR. JAMES: And there may be some other incentives that the states have that I'm not really aware of, but, yeah, that would be the price the utility's paying, so it would be after incentives.

COMMISSIONER FLEMING: Okay. And like off the coast of -- you said it would take a 4-5,000

1 megawatt commitment to really make it worthwhile.
2 What is the number of megawatts for these wind
3 fields, I guess you would call them, that they're
4 talking about now?

5 **MR. JAMES:** The ones up in the Northeast that
6 actually have contracts? They're generally 150 to
7 200 megawatts. You know, they aren't --

8 **COMMISSIONER FLEMING:** They're not even close
9 to that.

10 **MR. JAMES:** No, they're not making the
11 commitment. And what's going to happen is, those
12 facilities will be built, but the permanent
13 infrastructure necessary will probably just not be
14 built. You know, there's some of this stuff is
15 overseas. They'll bring the ships. There are
16 special ships that you have to have to build this
17 stuff. They have them in Europe; they'll probably
18 bring those ships here, use them to do the
19 construction, and they'll just sort of limp through
20 it, if you will. But what they're saying -- the
21 developers have said -- is, to build that large,
22 permanent infrastructure where you get permanent
23 jobs, you have to make a much bigger commitment
24 than a few hundred megawatts.

25 **COMMISSIONER FLEMING:** And when you said it

1 hasn't been worked out who pays the penalty and who
2 gets the benefit, how is that being discussed right
3 now?

4 **MR. JAMES:** Well, it's not really.

5 **COMMISSIONER FLEMING:** Oh, okay. So, it
6 hasn't even --

7 **MR. JAMES:** No, I think -- the states --

8 **COMMISSIONER FLEMING:** I didn't know whether
9 they were talking about socializing it or what.

10 **MR. JAMES:** The states that are moving forward
11 with this are assuming they're going to get some
12 benefit, eventually.

13 Now, the other thing that's different in the
14 Northeast, they generally have much higher electric
15 rates than we have. So, the comparison doesn't
16 look as bad.

17 **COMMISSIONER FLEMING:** Right. And could you
18 tell me again the limited capacity value, the
19 figures for ERCOT, the wind?

20 **MR. JAMES:** Typically, the rule of thumb is
21 about 5 percent. So if you put in 1,000 megawatts,
22 you're going to get about 50 megawatts' worth of
23 capacity value. Now in ERCOT, last summer, where
24 they have about 10,000 megawatts of wind attached
25 to their grid, at the peak they were getting about

1 600 megawatts out of that, so that's about 6
2 percent.

3 **COMMISSIONER FLEMING:** Okay.

4 **MR. JAMES:** Actually, the summer before that,
5 they had a grid stability problem where the wind
6 stopped at the peak, and the grid almost collapsed
7 because they instantly had 10,000 megawatts of
8 generation just disappear and they didn't have
9 enough spinning reserve to keep the system stable,
10 and they almost lost the grid as a result. That's
11 when they started putting these fast-start CTs out
12 in the wind fields so, when they see the wind die
13 off, they crank those units up.

14 **COMMISSIONER FLEMING:** Okay. Thank you.
15 Appreciate that. And on renewables, what do you
16 see as probably the best -- I know we're very
17 limited in renewables in the Southeast, especially
18 North and South Carolina. What do you see as the
19 best --

20 **MR. JAMES:** Recently, and I wouldn't have told
21 you this --

22 **COMMISSIONER FLEMING:** -- resource for this?

23 **MR. JAMES:** -- I wouldn't have told you this a
24 year ago, we've had some onshore projects,
25 developers come to us with some proposals that look

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very promising.

COMMISSIONER FLEMING: In what area?

MR. JAMES: In eastern North Carolina.

COMMISSIONER FLEMING: But I meant what type of renewable.

MR. JAMES: Of wind.

COMMISSIONER FLEMING: Oh, of wind?

MR. JAMES: Onshore wind.

COMMISSIONER FLEMING: So you're saying that wind is the best renewable resource, you think?

MR. JAMES: Onshore wind is, where you've got the wind to support it. The problem we have in North and South Carolina, it's very small pockets. It's not like Kansas where the wind blows over the whole state so you can go pretty much anywhere and pop one up. There's certain areas within North and South Carolina that might support a wind farm. So the proposals we've seen are very, very cost-competitive, compared to other renewables, in the \$.07 to \$.08 per kilowatt range.

COMMISSIONER FLEMING: Oh, wow. Is it up in the mountains more? Or --

MR. JAMES: No, these are on the coast.

COMMISSIONER FLEMING: On the coast, but on land. Okay. Well, thank you. That's interesting.

1 **MR. JAMES:** Yeah, and the other thing that's
2 very promising is landfill methane projects. Now
3 the issue with that is there's just not many of
4 them. I mean, you're going to mine that out pretty
5 quickly. Right now we have about 20 megawatts of
6 landfill methane under contract, and we're pretty
7 much signing every contract we can get. But you're
8 not going to see 500 megawatts of landfill methane
9 gas; there's just not that much landfill out there.
10 But it is -- it's very cost-effective.

11 New green-field biomass is pretty expensive,
12 in the \$.13 to \$.14 a kilowatt-hour range, what
13 we're seeing for new green-field biomass. We've
14 seen some projects where they've taken older
15 facilities that were coal facilities and converted
16 those to wood, where you get, you know, less of a
17 price, but it's a limit to those.

18 And an issue we've seen around solar is we've
19 gotten some solar contracts in place, but many of
20 the developers are having a difficult time securing
21 financing for those projects. So we've gotten
22 contracts, but some of those contracts I'm not
23 certain they're going to actually be built, because
24 they're having trouble getting financing.

25 **COMMISSIONER FLEMING:** Okay. And the wind

1 onshore you said was \$.07 to \$.08?

2 **MR. JAMES:** Typically what we've seen is \$.07
3 to \$.08, yes.

4 **COMMISSIONER FLEMING:** Okay. Thank you.

5 **COMMISSIONER MITCHELL:** I have a question.

6 **CHAIRMAN HOWARD:** Commissioner Mitchell.

7 **COMMISSIONER MITCHELL:** Yes. You mentioned
8 there might be some exploration in South Carolina.
9 Could you name those places are available now, or
10 these are just planned spots that might be
11 available?

12 **MR. JAMES:** For onshore wind?

13 **COMMISSIONER MITCHELL:** Onshore wind.

14 **MR. JAMES:** Yeah, I'm not sure of any specific
15 sites, what's in South Carolina.

16 **COMMISSIONER MITCHELL:** Well, I was just made
17 aware that there might be some people within the
18 State contacting some farmers in certain areas
19 about the possibility of some very flat land that
20 might be available. I was just wondering if you
21 had any information concerning that.

22 **MR. JAMES:** Not specific to South Carolina,
23 but typically what we're seeing is that the areas
24 that work well are large, thousands-of-acre farms
25 where you don't have any people to deal with, and

1 the farmers can get a pretty nice payment each
2 month to let these -- you know, like getting the
3 cell phone towers on their property.

4 **COMMISSIONER MITCHELL:** Well, that's purely
5 where I heard some possibilities there.

6 **MR. JAMES:** The other thing that needs to be
7 done to make it happen is you need some
8 meteorological data. You need some good data. You
9 can put a met. tower up on land for fairly
10 inexpensive, so you need a good -- you know,
11 eventually, what -- if a developer is serious about
12 a tract of land, they'll need to put a tower up,
13 and the banks -- as a rule of thumb, you need a
14 year's worth of data to convince the bank there's
15 enough wind to support your project. So that's
16 typically what you see. They identify a piece of
17 land, put a tower up, gather data for a year,
18 determine whether there's actually enough wind to
19 support the project, and that's sort of the go/no-
20 go issue.

21 **COMMISSIONER MITCHELL:** Right. So you're not
22 aware of any companies that might be proceeding
23 with that as just exploring the possibility in
24 South Carolina?

25 **MR. JAMES:** Not specific to South Carolina,

1 but I'm sure there probably are some.

2 **COMMISSIONER MITCHELL:** Well, I was just made
3 aware, I think there are. But it pretty much fits
4 exactly what you've described -- huge land, flat
5 land, clear land, that possibility. Thank you.
6 Thank you, Mr. Chairman.

7 **CHAIRMAN HOWARD:** Commissioner Wright.

8 **VICE CHAIRMAN WRIGHT:** I've got a follow-up
9 with your conversation with Commissioner Fleming.
10 From I guess a cost-competitive standpoint, you
11 were saying \$.08 for the onshore wind.

12 **MR. JAMES:** Yeah.

13 **VICE CHAIRMAN WRIGHT:** How many megawatts are
14 we looking at or how big of a wind opportunity is
15 there? I mean, I know -- I understand the cost
16 part of it, but, you know, I guess the volume is
17 what I'm looking at.

18 **MR. JAMES:** I think in North and South
19 Carolina -- this is purely -- well, slightly better
20 than speculation. Probably in the hundreds of
21 megawatts, not the thousands. Because it's really
22 a very specific -- like I said, in Kansas you can
23 probably go anywhere and have wind all the time,
24 but it's going to be on large, single-owner tracts
25 of land that don't have any residences, that's

1 flat, got a transmission line close by, would be
2 helpful. But I think it's in the hundreds of
3 megawatts, not thousands.

4 **VICE CHAIRMAN WRIGHT:** And that \$.08 number is
5 taken to market? Or do you still have the
6 distribution issues?

7 **MR. JAMES:** Typically, the distribution is not
8 as big of an issue. If you're going to put, you
9 know, 1,000 megawatts out in the middle of nowhere
10 where nobody lives, then that's going to be an
11 issue, but if you do it 150, 200 megawatts a pop,
12 the infrastructure improvements are not -- may not
13 be an obstacle you can't overcome.

14 **VICE CHAIRMAN WRIGHT:** Okay.

15 **CHAIRMAN HOWARD:** Commissioner Hamilton.

16 **COMMISSIONER HAMILTON:** Thank you, Mr.
17 Chairman. Mr. James, listening to what you've had
18 to tell us this morning, I don't think it's a shock
19 to most of us, but it's really an awakening as we
20 go down this path of renewable energy. It gets
21 kind of frightful at the cost and the burden that
22 we're seeing that will have to be placed on the
23 ratepayers if we go forward in the Southeast on
24 those, especially. I know we've had a lot of
25 thought about nuclear energy. Senator Graham now,

1 with clean energy, I think, these are some things
2 that we need to work for and think about as a
3 possibility. But this, the wind thing, doesn't
4 appear to even be a feasible economic development
5 project, because it's going to be awfully expensive
6 to build these jobs and to expect someday to reach
7 a point where there's a breakeven on it. What
8 would shale gas and the expectations that we have
9 now for it being a permanent thing, hopefully --
10 I've heard things up to 50, 100 years, that the
11 supply is there -- do you think it's time to kind
12 of step back on renewable energy and take a real
13 strong look at the path that we need to follow?
14 And one thing we have to always do as a
15 Commissioner is to consider the viability of the
16 company and the ability of the ratepayer to pay.
17 And have you got any thoughts on that?

18 **MR. JAMES:** I don't think we should walk away
19 from renewable energy. I think it's something
20 that's going to be in our future, needs to be in
21 our future. We just can't go into it blindly and
22 just ignore the impact on customers. I think there
23 are viable renewable energy technologies that can
24 work, that have benefit. But we can't just say,
25 "All renewable is good," and, "All traditional is

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bad."

COMMISSIONER HAMILTON: Yeah, okay.

MR. JAMES: It's got to be balanced. And so I think it has a role, but we just can't ignore the cost and the impact on customers.

COMMISSIONER HAMILTON: Okay. Well, I think you -- we've made the same point. Because we need now for you to tell us what's good.

MR. JAMES: Well, as I said, landfill methane is good; there's just not a lot of it. I think onshore wind, to the extent there are developable sites, makes some sense.

COMMISSIONER HAMILTON: That's going to be totally limited, isn't it, as to NIMBY and to the amount of land that we have that you can place. I know near North Myrtle Beach where Mr. Anthony and myself go sometime, there's some research off on an island there to try to see what's happening, from North Carolina, I think. But we don't have a lot of places that people want it, do we?

MR. JAMES: No, and the thing -- I read an article recently about energy density. Traditional resources like oil, on a per unit volume basis, have a lot more energy than sunlight and wind. So to produce the same amount of energy in a gallon of

1 oil or a cubic foot of natural gas takes a lot of
2 land if you're doing it with wind and solar. So as
3 you transition from this traditional form of energy
4 to a less traditional, it's going to take more
5 space. And that just opens up the whole NIMBY
6 thing.

7 So I wish I had the answer. I do think that
8 we need to continue to do research to continue to
9 look at new ways to generate electricity. But we
10 just can't --

11 **COMMISSIONER HAMILTON:** No, I did make the
12 point -- I said that we need to step back. And I
13 think research and development is the thing that we
14 need to be putting our emphasis on now, to get the
15 answer that we're going to have to have the answer
16 to, on what the right solution to this problem is.

17 **MR. JAMES:** Yeah, and this is just my opinion,
18 but I think what we've traditionally done is pour
19 money and subsidies into the traditional renewable
20 resources to try to make them less painful from a
21 cost perspective, but they never get any better.
22 You know, photo PVs are not that much better than
23 it was 20 years ago, because we've provided
24 subsidies that made it not cost-effective to make
25 it anything. So I think we need to take some of

1 that money and really look at what is the next
2 generation of resource that we really need to have
3 a breakthrough here. We can't keep subsidizing the
4 old stuff, even though it's renewable, and not
5 really look at what's the next generation of
6 energy.

7 **COMMISSIONER HAMILTON:** And well, these are
8 the things that disturb me, of the money that's
9 being spent now, and almost every conference that
10 we attend now, we'll have one or more speakers that
11 will bring out the point that when stimulus money
12 ends, a lot of these projects that we're seeing now
13 will be shoved aside and we'll never hear any more
14 about them for the next 20 years. So, I mean,
15 these are very disturbing. And I appreciate what
16 you said, that this was your opinion, and this
17 certainly is my opinion. I wouldn't ask this
18 Commission to take a vote on changing our mission
19 statement on the comments that I've just made.
20 Thank you, sir.

21 **CHAIRMAN HOWARD:** Commissioner Whitfield.

22 **COMMISSIONER WHITFIELD:** Thank you, Mr.
23 Chairman. Mr. James, following up on that a little
24 bit about the research. I think you've done a good
25 job pitting onshore versus offshore wind. Bring

1 him a little closer to the coast but still not in
2 our jurisdiction: I believe there was a facility
3 put on the Pamlico Sound between the Outer Banks
4 and the mainland of North Carolina. I haven't --
5 could you tell us how that project came out, what
6 they found, what kind of potential was there?

7 **MR. JAMES:** If that's the project that Duke
8 was working on --

9 **COMMISSIONER WHITFIELD:** I think it was the
10 University of North Carolina, and I don't
11 remember --

12 **MR. JAMES:** I don't know any specific wind
13 turbine -- Mitch, do you have any?

14 **MR. WILLIAMS:** I think that's Duke's project
15 he's talking about.

16 **MR. JAMES:** Yeah. Duke had agreed to put
17 three turbines near Buxton, I think it was, on
18 Pamlico Sound, as part of a research activity. And
19 they have since pulled the plug on that because of
20 cost. So that project didn't move forward. I
21 don't know of any generation resource that is
22 actually up and running. UNC has done a study, and
23 there's another phase to that study that the
24 utilities are helping to fund. But as of today,
25 there's not been anything that's actually been

1 constructed and operational. Duke has pulled the
2 plug on that particular project.

3 **COMMISSIONER WHITFIELD:** I know when I first
4 heard it, they talked about, as you said, there's
5 only certain pockets in these two states, and there
6 was a pocket right there where they experienced
7 pretty high wind velocities right there in the
8 sound, and I don't -- I want to say University of
9 North Carolina was involved, but I don't know.

10 **MR. JAMES:** They were involved. Duke was
11 going to do the project and UNC was involved, but I
12 haven't seen specifics, but my expectation is that
13 because it was in the sound, the cost became
14 prohibitive.

15 **COMMISSIONER WHITFIELD:** All right. Thank
16 you.

17 **CHAIRMAN HOWARD:** Mr. James, I have a couple
18 of questions. Who controls the lease of the
19 offshore wind? Who controls the leasing? How do
20 you go about getting a permit to put a tower -- and
21 I think you mentioned 18 miles, and that's
22 international waters. So how is that controlled
23 over who puts one tower where or --

24 **MR. JAMES:** The Federal Government controls
25 that. It used to be the Bureau of Mines, and they

1 changed their name. I forget what it's called now,

2 **MR. WILLIAMS:** Material Management Service?

3 **MR. JAMES:** Yeah, Materials Management
4 Service. But the Federal Government sells the
5 leasing rights, just like they do for oil and gas
6 exploration, to developers who want to put wind
7 turbines up in the waters.

8 **CHAIRMAN HOWARD:** Even though it's in
9 international waters?

10 **MR. JAMES:** That's correct, yes.

11 **CHAIRMAN HOWARD:** How large of a lease or how
12 many square miles or what constitutes a field, I
13 guess, I would call it?

14 **MR. JAMES:** I can't remember. These are large
15 lease blocks. I mean, they're multiple square
16 miles of blocks, and I'm not for sure what a
17 typical lease block size is, but it is a massive
18 area.

19 **CHAIRMAN HOWARD:** And they would control how
20 many turbines went in that particular block?

21 **MR. JAMES:** I don't know they specifically
22 control that. They control who can develop within
23 a block, and then I think you have to go through
24 the permitting process, which is outside of that
25 group, to determine how many turbines you can

1 actually put out there. But I don't know there's
2 any limits that they place on that.

3 **CHAIRMAN HOWARD:** Why 18 miles?

4 **MR. JAMES:** Well, I just threw that out,
5 because basically, it depends on where you are
6 along the coast, but what the UNC wind study said,
7 right along the Gulf Stream is where the winds are
8 the best. Now if you look at North Carolina -- and
9 I'm a North Carolina beach person so I know a
10 little bit more about North Carolina beaches --
11 obviously Hatteras is the closest to the Gulf
12 Stream. Go down to Wilmington and the Gulf Stream
13 is a long ways away. It gets a little closer to
14 the South Carolina shore. But the best place is
15 right along the edge of the Gulf Stream where the
16 winds are more consistent. And it's not
17 necessarily high winds; it's consistent. You want
18 the wind to blow on a consistent basis, not -- you
19 know, 30 mile per hour winds, you know, 5 percent
20 of the time, is not as good as 12 mile an hour
21 winds for 90 percent of the time.

22 **CHAIRMAN HOWARD:** Thank you. Any more
23 questions?

24 [No response]

25 Good presentation, Mr. James. Thank you, very

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much. Mr. Williams.

[Reference: PowerPoint *Interconnection of Small Generators*, Slide 1]

MR. WILLIAMS: Good morning, Chairman Howard and Commissioners.

I don't think Mr. Hempling is here today. You see, I've been spending yesterday trying to wash that target off my forehead.

[Laughter]

We thought we would give you a little bit of an update this morning on our small generator interconnection procedures and address the question that Len put on the table a few minutes ago. There have been allegations that because the utilities don't have -- or let's put it this way, because the current approved procedures cover the small generators, then there's no mechanism to connect larger generators, and that's just not true. I hope to share some information with you this morning that will explain that.

[Reference: PowerPoint *Interconnection of Small Generators*, Slide 2]

I'll start by reminding you of the current Small Generator Interconnection Procedures covering residential systems up to 20 kW and nonresidential

1 up to 100 kW, which was approved by this Commission
2 in December of 2006. And as I said, these were
3 streamlined procedures for these small generators,
4 to try to make it easy. These procedures are
5 consistent with the FERC Small Generator
6 Interconnection Procedures. FERC has adopted
7 procedures and they are in several levels, and they
8 have an expedited set of procedures for the small
9 ones, and this mimics that.

10 The application fee for the residential
11 customer is \$100, and for the nonresidential it's
12 \$250. And that covers the work that the utility
13 does to assure that the generator can be safely
14 interconnected and won't cause any problems, and
15 all the paperwork. Although we don't have a
16 formally adopted procedure in South Carolina for
17 the larger generators, the utilities -- at least
18 Progress Energy, and I think the others as well --
19 essentially follow the FERC guidelines for the
20 larger generators. Even though they may not be
21 jurisdictionally applicable, we, in essence, follow
22 them anyway.

23 [Reference: PowerPoint *Interconnection of*
24 *Small Generators*, Slide 3]

25 Let's talk a minute about the small generator

1 procedures that this Commission has approved. The
2 way it works is the customer submits an application
3 to Progress Energy to connect, with the applicable
4 fee. The application is one page. It's not
5 complicated. It's the front side of one page. It
6 provides basic information on the system, what type
7 it is, where it will be. It goes to our single
8 point of contact at the company, to evaluate and
9 for approval. The information regarding the
10 application form and the direct e-mail contact is
11 listed on our website and is pretty well known to
12 the renewable generator installers, so they know
13 how the process works, they know how to help the
14 customer submit the information.

15 [Reference: PowerPoint *Interconnection of*
16 *Small Generators*, Slide 4]

17 Once our representative receives the
18 information, they contact the customer to make the
19 arrangements, fill in any holes that may be missing
20 regarding information, evaluate the options the
21 customer may have regarding billing and metering,
22 help pin down the exact location of the point of
23 interconnection to facilitate the electrical
24 wiring, and then our person prepares an
25 interconnection agreement and any other documents

1 that are necessary, and sends them to the customer
2 for the customer's execution.

3 Once receiving those, the customer completes
4 them and returns them to the company, which means
5 from our perspective, then, we are ready to
6 interconnect --

7 [Reference: PowerPoint *Interconnection of*
8 *Small Generators*, Slide 5]

9 -- once the customer gets the facilities
10 installed and gets all local-required inspections.
11 Once that's done, we interconnect. It's over.

12 [Reference: PowerPoint *Interconnection of*
13 *Small Generators*, Slide 6]

14 On larger generators, the process is very
15 similar. The customer contacts -- and this is for
16 those that are above the size covered by the
17 streamlined procedures we just talked about. So we
18 don't have this in an explicitly approved form by
19 this Commission, but it's what we follow. In North
20 Carolina, due to interest from various parties, we
21 went back and revisited our interconnection
22 procedures up there, and we do have this as an
23 explicitly approved procedure, again, very closely
24 aligned with what FERC has established, and we, in
25 essence, follow that same procedure in South

1 Carolina, the difference being, because it's not
2 approved by this Commission, we can't collect the
3 application fees. But we follow the same process.
4 The customer contacts us through the website, we
5 follow up, contact the customer and provide the
6 application form, make sure he understands what is
7 involved, start collecting the information. And
8 that information is used to ensure that we know all
9 the details we need to know about the system in
10 order to evaluate that system at that location and
11 ensure that it's safe.

12 [Reference: PowerPoint *Interconnection of*
13 *Small Generators*, Slide 7]

14 Once that is done, same as we did in the
15 procedure for the smaller generators, we contact
16 the customer to address the billing and location
17 arrangements, including the metering opportunities,
18 what will be done there, the exact point of
19 interconnection, and evaluate whether or not we
20 need to install -- because these may be larger
21 generators -- whether or not we need to install any
22 additional facilities to enable the interconnection
23 to be done safely.

24 [Reference: PowerPoint *Interconnection of*
25 *Small Generators*, Slide 8]

1 After that, an interconnection agreement is
2 prepared and provided to the customer. Again, the
3 customer completes it and returns it to the
4 company. After appropriate electrical inspections
5 are received, then we will interconnect that
6 facility.

7 As a reference, since I did mention -- and to
8 keep Shealy happy -- the FERC's Small Generator
9 Interconnection Procedures, they are available at
10 the website at the bottom of the page.

11 [Reference: PowerPoint *Interconnection of*
12 *Small Generators*, Slide 9]

13 Currently Progress Energy in South Carolina
14 has eight customers connected in parallel; that is,
15 interconnected. Three of those are residential;
16 they are small solar PV systems. And then we have
17 five nonresidential, and three of those are large
18 industrial customers, one of them up to 75
19 megawatts. So that just illustrates, we do
20 interconnect these larger customers. And to say
21 that we don't is just wrong.

22 That is the point I was trying to make, and I
23 will welcome any questions.

24 **CHAIRMAN HOWARD:** Thank you.

25 [No response]

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Mr. Williams, you did a good job.

MR. WILLIAMS: Thank you. Thank you.

CHAIRMAN HOWARD: Wait a minute.

COMMISSIONER FLEMING: Oh, I had a question.

CHAIRMAN HOWARD: Oh, Commissioner Fleming,
I'm sorry.

COMMISSIONER FLEMING: You said we don't have
a procedure in place for the large customer. Is
there a need for that at this time? Is the demand
such that it would be appropriate to move forward
on that?

MR. WILLIAMS: Well, when a person, an entity
wishes to interconnect, they contact us and we work
with them. And we have an internal procedure; it's
just not explicitly approved by this Commission.

We are not seeing a huge demand right now. As
I said, we've got eight, and I think three of those
nonresidential have been in existence for years.
So the other three residential and two
nonresidential are mainly solar PV installations,
and maybe one of them might be a small wind
turbine, that have occurred over the last couple of
years. So there's not a huge demand to
interconnect. At the same time, having some more
explicit procedures approved and available might

1 alleviate some of the concerns that are expressed
2 from time to time. Nobody's asked me about this,
3 so I'll be an idiot and raise it.

4 [Laughter]

5 **COMMISSIONER FLEMING:** I thought that's what
6 you were kind of expressing, maybe not in a direct
7 way.

8 **MR. WILLIAMS:** The -- I can't remember the
9 name of the outfit now, but there's an outfit that
10 publishes a report called *Freeing the Grid*. They
11 do that annually, and they assign grades to various
12 states for their policies. And they are -- the
13 group -- understand, they are advocates for
14 renewable energy and energy efficiency, and so
15 understand, they are advocates. And I'm not -- by
16 my comments, I don't mean to give credibility to
17 their scorecards, but they are out there. This
18 last one came out just a few weeks ago -- a few
19 days ago, I think. And for interconnection
20 policies, South Carolina gets an F. North Carolina
21 gets a B. Well, Progress Energy does the same
22 thing in both states.

23 One of the reasons that North Carolina and
24 South Carolina wouldn't get the highest grade is
25 that the procedures apply to the regulated

1 utilities and don't include, necessarily, the
2 nonregulated -- the munies and the co-ops -- and
3 they see that as a deficiency. So it's not
4 statewide, so I don't know how we can address that.
5 But if it is a concern to this Commission or to
6 others, one way to maybe address some of that would
7 be for us to work together, as we did in developing
8 the small procedures, work with ORS and other
9 parties to propose to the Commission some standards
10 that would apply, other than just to these small;
11 in other words, to expand. There may be some
12 benefit in that.

13 **COMMISSIONER FLEMING:** Okay. And right now
14 you only have eight customers who are small
15 generators? Is that -- were those the numbers you
16 were giving?

17 **MR. WILLIAMS:** And three of those are
18 nonresidential, and they are, in size, greater than
19 the criteria embodied in the current Small
20 Generator Interconnection Procedures.

21 **COMMISSIONER FLEMING:** So they're more --

22 **MR. WILLIAMS:** They're larger.

23 **COMMISSIONER FLEMING:** -- the larger.

24 **MR. WILLIAMS:** Yes.

25 **COMMISSIONER FLEMING:** And large generators

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are primarily nonresidential.

MR. WILLIAMS: Yes, the larger ones.

COMMISSIONER FLEMING: Okay.

MR. WILLIAMS: And it gets even more tricky because, in some circumstances, depending upon the type generator and how they intend to market their output, they could be under FERC jurisdiction anyway. But what we're talking about here are those that intend to sell their output to the local utility and come under state jurisdiction as far as interconnection.

COMMISSIONER FLEMING: But North Carolina does have these agreements laid out for both small and large generators?

MR. WILLIAMS: Yes, ma'am.

COMMISSIONER FLEMING: Okay, thank you.

CHAIRMAN HOWARD: Any other questions?

[No response]

Again, Mr. Williams, you did a good job.

MR. WILLIAMS: Thank you.

CHAIRMAN HOWARD: Mr. Anthony?

MR. ANTHONY: Nothing further, thank you.

CHAIRMAN HOWARD: We want to thank you for your presentation, both of you. With that, this hearing is adjourned.

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[WHEREUPON, at 11:20 a.m., the
proceedings in the above-entitled matter
were adjourned.]

C E R T I F I C A T E

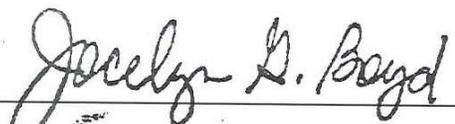
I, Jo Elizabeth M. Wheat, CVR-CM-GNSC, do hereby certify that the foregoing is, to the best of my skill and ability, a true and correct transcript of all the proceedings had in an allowable ex parte briefing held in the above-captioned matter before the Public Service Commission of South Carolina.

Given under my hand, this the 16th day of December, 2010.



Jo Elizabeth M. Wheat, CVR-CM-GNSC

ATTEST:



Jocelyn G. Boyd,
CHIEF CLERK/ADMINISTRATOR