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3	FLORIDA	PUBLIC SERVICE COMMISSION	
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5		DOCKET NO. UNDOCKETED	
6	In the Matter of	STANVIGE CO	
7	RENEWABLE PORTFOLIC	D STANDARDS.	
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14	Pages 119 through 237		
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16	PROCEEDINGS:	STAFF WORKSHOP	
17	ΝΑΤΕ .	Thursday August 23 2007	
18		Indisday, Adgust 23, 2007	
19	TIME:	Commenced at 9:30 a.m.	
20		concruded ac 5.25 p.m.	
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22		4075 Esplanade Way	
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1	PROCEEDINGS
2	(Transcript follows in sequence from
3	Volume 1.)
4	MR. FUTRELL: Okay. We're going to get
5	started. Before we get back into the agenda, Mr. Trapp
6	has a question.
7	MR. TRAPP: Thank you. I appreciate your
8	indulgence, but I would like to go back, if I might, to
9	part of the discussion that we had before lunch and
10	maybe elaborate a little bit on what was talked about.
11	And for this, I would like to beg the indulgence of the
12	eminent Commissioner Clark.
13	Susan, we were talking about the boxes that
14	we're finding ourselves or putting ourselves in in this
15	workshop, and maybe thinking outside of that box. And I
16	take you back to all the many, many projects we've
17	worked on together in the area of incentive regulation.
18	And the subject matter, of course, is the topic of
19	utility ownership or utility partnership or cooperation
20	in the development of renewables.
21	And, you know, it occurs to me that over the
22	years, we've developed I mean, I started out with the
23	oil backout cost recovery plan, where we incented
24	certain coal unit conversions and transmission line
25	constructions to get rid of or back out of the expensive

1 oil, and we came up with some fairly creative 2 mechanisms, accelerated depreciation for transmission 3 lines and that type of thing, in order to accomplish that, and we've done GPIFs and all kinds of other 4 cost-based and cost-effective incentive mechanisms. 5 6 I guess what I wanted to do is challenge, on the IOU side of things at least, challenge your segment 7 8 of the industry to come up with something again. 9 MS. CLARK: You mean come up with ideas for 10 incentives? 11 MR. TRAPP: Yes, utility ownership, utility 12 partnership, utility facilitation of projects that can 13 be both encompassed within what is known as the 14 conventional revenue neutral box of ratemaking, which, 15 you know, employs basically capitalization, return on 16 equity rewards, penalties on equity, partnerships, 17 co-ops, whatever, and then also going into the Moline 18 box, the Barry box, within the concept of rate cap, what 19 segment of rate cap could be used to promote utility 20 sponsored -- and I'm thinking more -- you know, 21 reward/penalty is so harsh to me. Sometimes 22 reward/reward is good, where there are savings and all 23 winners. Go back to the RIM test, the all-winners test, 24 everybody wins. 25 For our next get-together, as we discuss how

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to develop a rule or a plan, again, I would like to challenge the investor-owned utility side of the equation to think in and out of Barry's box, but think of what you can do as an industry to change regulation, promote, you know, good programs that will benefit ratepayers, consumers, the environment, the public, and the globe as a whole.

8 MS. CLARK: Well, I take your question to be 9 you can answer now and later.

MR. TRAPP: It's a challenge at this point, but I would appreciate any reaction you have to it.

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MS. CLARK: No. We recommend incentives. I personally think they work. I've seen them work. You know, when you mentioned penalties, it seems to me that really the thing you want to make this work is incentives, penalties maybe if they don't, disincentives, I suppose, like you do with GPIF.

18 But some of the things we just thought about 19 were rewards for meeting the goals early. I don't know 20 what they might be, higher returns for investments in clean energy, you know, incentives for research and 21 22 development in projects that target those things you're 23 concerned with, like solar and wind. Other things we've thought of is incentives for investments in companies 24 25 developing clean energy technologies and incentives for

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development of enhanced energy efficiency programs. 1 2 So I guess in answer to your question, yes, we 3 think incentives should be part of this. More specifics 4 on the incentives we don't have at this point, but we'll 5 think about it. 6 MR. TRAPP: Thank you. 7 MR. FUTRELL: Okay. I think we left off with 8 there were a couple of gentlemen that wanted to speak, and we cut them off for the lunch break. Go ahead. 9 10 MR. KORNAHRENS: Okay. My name is Rob 11 Kornahrens. I own Advanced Roofing, a state-certified 12 roofing contractor for 25 years, as well as a general 13 contractor. 14 And since we left off with incentives a minute 15 ago, I just want to mention that we're one of the 16 largest FP&L installers of insulation for the rebate 17 incentive program, as well as the coating, and their 18 incentives do work. Our customers generally will go for 19 an upgrade in insulation or a white coating, and that's 20 where we would like to see it go as well to help us. 21 We're a photovoltaic as well as photothermal. 22 Obviously, we're pro going forward, and maybe even a 23 carve-out with that. 24 But we actually answered an RFP that FP&L put 25 out for renewable energy with the solar, and we've been

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having several conference calls, and they are very proactive in getting ahead of the curve before they're mandated, and I just want to compliment their people. You know, they are getting in front of it from what we can see.

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6 I just want to bring a couple of things. You 7 mentioned testing earlier. I think the testing of the 8 actual panel should stay with FSEC, but I want to 9 address the structural part of this. Back in the '70s 10 when things were booming, they allowed air conditioning 11 units to be set right on the roof on 4-by-4s. And the 12 Florida Roofing and Sheet Metal Association had that 13 changed to put them up on stands so we can maintain the 14 roof underneath it, and we need to make sure that this 15 is followed through. We've got on the Internet a couple 16 of people bragging about their solar panels, and I know 17 they're trying to do the right thing, but they're 18 putting it right on the roof, a shingle home, just 19 brackets and roofing cement. It's going to be a 20 headache for leaks.

But my bigger concern is the wind uplift. We want to propose that Dade County be the standard. They build to 146 miles an hour. They're the toughest in the state and toughest in the country, and that you look at that, because we don't want to try to solve the

renewable problem and create another one if you get a Hurricane Dean coming through here and we've got a billion dollars worth of solar products on roofs. So I just want to make sure we don't lose sight of doing it right and protecting the assets, because it's going to be a big problem if we don't address it up front, because different municipalities, it's obvious, will interpret it the way they want, so I would like to see it written in that it's done to the Dade County.

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10 We have a 55-kW photovoltaic we just installed 11 last month, and I can tell you that it's a great, great 12 tool for conservation. We have a monitoring system in 13 our lobby. We track how much we've produced, and it 14 gives you offsets as far as trees replaced and carbon 15 dioxide pounds. And I think with monitoring the data 16 with photovoltaic and solar things gets everybody in the 17 conservation mind.

18 We announced at our office meeting -- we have 19 a large company, 400 employees. We had a staff meeting 20 of 40. We announced no more styrofoam cups. You know, 21 we just go and wash your cup out. And I asked at the 22 end of the meeting how many people were in favor of it, 23 because we didn't take a vote first. You know, we were 24 just implementing this. And everyone in the room raised 25 their hand. Our company is getting much more conscious,

1 turning off computers at night. So there's another 2 effect that happens once we start putting more solar 3 products out there, so I wanted to mention that. 4 Publix Super Markets, you know, they've 5 ordered two systems, but they're only going up to the 25 6 kW, because that's what the \$4 a watt state credit 7 maximizes the return at. 8 So again, I'm just promoting that we get more 9 incentives so our customers will say -- you know, they look at it as a business, return on investment, so if we 10 11 can get some more incentives, we'll get as much PV out 12 as you want. 13 MR. TRAPP: I get a reward, and I get a 14 penalty (indicating). I broke even, I guess. Penalty. 15 You raised the issue of metering, which I 16 think I would like to ask you a question on. What 17 coordination do you anticipate there needs to be in this 18 program between the metering? I mean, electric 19 utilities now have an electric meter, and we're moving 20 now toward smart meters at the houses. But in terms of 21 the installations on the customer's side, particularly 22 like solar thermal where you're taking a thermal 23 reading, I'm given to understand there are meters now 24 that will do the automatic conversion to kilowatt-hours. 25 Is that data available enough to share with utilities so

1 that we can actually have a good handle on what we're 2 getting in terms of these systems? 3 MR. KORNAHRENS: Yes. The data monitoring is 4 there to do it. And to really get -- you have to have 5 it certified if you're going to be doing something with 6 the RECs down the road. So the technology is there. 7 MR. TRAPP: Do you think it should be the 8 responsibility of the utility to provide that metering, 9 or is it something that's, you know, again a control 10 issue, who should control the meter? 11 MR. KORNAHRENS: I'm not sure. You know, I'll 12 kind of have to leave that up to them. 13 MS. HARLOW: Just a quick point on metering. 14 Mr. Reedy and I had a discussion earlier, and he has an 15 idea on metering for new houses. Would you like to 16 share that? 17 MR. REEDY: Steer me if I head to the wrong 18 question, but one thing I was particularly keen on was 19 the point that a square foot of a roof is a terrible 20 thing to waste, and if you're building a house and you 21 want to have PV, and you have a nice house and you have 22 that infrastructure and you have the switch gear, in 23 other words, you have the step-up transformers and the 24 generation control and protection equipment, that it's a 25 shame that some entity, the utility there or some other

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entity not jointly partner up and make the maximum installation and share in the cost advantages of the larger economies of scale. So that's another out of the box kind of thing that could fit well with the previous challenge.

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The metering for that would be all available, and whoever -- it's very simple to submeter and to meter exactly who owns what and what the results are and transmit that to a central location.

10Is that the particular discussion? We've had11so many.

MS. HARLOW: Yes.

MR. REEDY: Someone like Dell Jones would need to comment on how that meter is certified. Since he's in the REC business, he might be appropriate to answer that one.

17 MR. JONES: With regard to the certification 18 of the meter, it's not typically the certification of 19 metering. There's usually a definition -- if you're 20 going to be trading the RECs, there's a definition of a 21 REC, and that may include a certain accuracy of the 22 meter or even a deemed production based on engineering 23 studies. And there has been quite a bit of discussion within our national group of folks on metered versus 24 25 unmetered and engineering estimates and ways to do that.

1 So it's really not so much of a technical 2 issue. It's really a policy issue. And I think in the 3 rulemaking, what is a REC and how that REC is measured 4 and verified is probably going to come into discussion, 5 because you can have, for instance, RECs that are only 6 RECs if they're produced in the State of Florida, or you 7 can have RECs that are only RECs if they come from these 8 particular technologies, or only if they're in this 9 vintage period of time. So there's a lot of rules 10 associated with RECs and the metering protocols, 11 standards, accuracy, maximum permissible error rates, 12 et cetera.

13 And thermal meters are oftentimes less 14 inherently accurate than electric meters just because of 15 the energy that you're measuring. It's more difficult 16 with a higher degree of accuracy to measure thermal 17 energy. But there's means of protecting the public 18 safety and expectations of what they're actually paying 19 for, and that gets back to maximum permissible error 20 rates and certifications of meters. But it's not a 21 technical issue; it's a policy issue.

22 MR. TRAPP: I guess my question was more 23 toward, whether you use a system of tradeable credits, 24 whether you use a contract path type methodology, the 25 utility is ultimately going to have to count some things

that are going on on the customer side of the meter in order to get a credit for their 20 percent goal, or whatever the goal is. And I guess my point was more to how do we ensure integration of what's going on in the customer's premise versus what's going on at the electrical meter to ensure that the utility can get the information and that it can be verified and that it can be accurate so that it can be counted.

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9 MR. JONES: Well, most of the meters that are 10 out there now, at least on the -- certainly on the 11 electric side, and even on the thermal side, have what 12 they call pulse outputs. These pulse outputs can get 13 sent somewhere. And some of the issues I think that are 14 going to become important for us to understand is the 15 small distributed systems, for instance, a single 16 individual water heater.

I mean, one of the biggest problems as a REC aggregator that I had in my previous company was that it would be very difficult for me to go to market with your two megawatt-hours a year that you might produce. And, you know, the metering could be 10 percent of the cost of the capital project on your individual home.

23 So then it gets, well, couldn't we just use 24 engineering estimates. And I have my own opinions on 25 that, that maybe we have a deemed performance standard

and then you depreciate that over time until somebody comes out and validates that, yes, it's still there, yes, it's still working. You know, you might take, say, a 20 percent reduction in total RECs that would be anticipated each year until someone hits the reset button, metaphorically, and says, "Okay. You're good." Again, that makes it easy for me as an aggregator to not have to go out to your house and read a meter or put in a \$300, \$400-meter just to get the two RECs a year from you.

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So in small distributed generation systems, it becomes more problematic. On bigger systems, it's just a -- it's such a small cost of the total project, and it's not a technical or a financial issue. It's how do you get these RECs out of somebody's back yard cost-effectively.

17 MR. TRAPP: Well, again, it occurs to me that 18 as our investor-owned utilities, at least the large 19 companies in Florida, move more and more toward these 20 electronic meters where they're actually eliminating meter reading programs, the street traffic associated 21 22 with them, and they do a drive-by in a van and get a 23 signal, to the extent that you could integrate what's 24 going on in the thermal system or other system inside 25 the house with that reading, you already have a system

of collection set up. So to me, integration becomes a central issue.

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3 These are just -- again, I MR. JONES: Yes. don't think it's really a technical issue. It's just 4 5 really coming up with whatever the standard is. The 6 meters, again, some of the thermal meters used in the 7 Lakeland program and some others have the capability of 8 sending pulse outputs, or they're IP addressable. Thev 9 can be connected with phones. There are several 10 modalities that these things can push the data.

MR. TRAPP: Thank you. Go ahead.

MR. O'BRIEN: My name is Chris O'Brien. I'm a vice president with Sharp Electronics Solar Systems Group and also the service chairman of the Solar Energy Industry Association in Washington, D.C. I apologize for missing this morning's portion of the meeting due to a flight that was canceled.

18 I wanted to just say first of all, I'm very 19 excited about participating in the workshop. I think 20 that to a large extent, I want to make sure we don't 21 lose sight of the fact that the success of the RPS in 22 the state will be dictated or determined to a large extent by the extent to which private investors are 23 24 induced to participate and invest in not only the end 25 system, but also in the business infrastructure to

deliver renewable energy projects in Florida. So to that extent, I think it's important to look at the policies in terms of how successfully or not they will induce people to make investments, and the policies will reduce risks and induce investments.

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6 And that's not just -- you know, in the case 7 of solar systems, it's not just the end customers who 8 are making a decision about whether to invest in solar 9 to put on their roof or on their commercial building or 10 on their home. It also includes companies like Sharp 11 investing in training and programs to train installers 12 in the state and create those jobs, and it includes 13 investing in distributors and investing in manufacturing 14 companies, and in the case of larger project development 15 companies, investing resources to develop those 16 projects.

To the extent that there is uncertainty about what the outlook for the program is going to be going forward, that will limit significantly the amount of investment and thereby almost predetermine that the program will not succeed in achieving the renewable energy goals.

23 So I would like to touch on some of the issues 24 that came up earlier, the alternative compliance payment 25 being one example. I think one of the lessons learned

1 in other state markets is that this regime of allowing 2 renewable energy credits to serve as a proxy for the 3 compliance with the renewable portfolio standard allows 4 a great deal of flexibility, and it also allows 5 developers and project investors to have some stream of 6 revenue that they can count on that serves as a financial incentive for them to make their investment. 7 If there is no alternative compliance payment, if there 8 9 is no binding, hard requirement as to how many renewable 10 credits the energy suppliers need to purchase in order 11 to comply for a given year or will purchase in a given 12 year, then that creates a high degree of uncertainty for 13 making investments, and the investments simply won't 14 happen.

15 What you're seeing in other states is a move 16 to try to mitigate that risk, so you're seeing -- for 17 example, in New Jersey, they now not only have -- which 18 is, by the way, the second largest solar market in the 19 country, largely on the back of well structured policies. What you're seeing there is that they're 20 21 coming out now with an alternative compliance payment 22 schedule not only for the current year, but they're 23 looking to extend it up to an eight-year alternative 24 compliance payment schedule that will decrease over 25 time, achieve the policy goal of reducing the cost of

this energy over time, but for developers, it will provide some certainty. They'll know in year 6, I know that I have a rough idea of what I might be able to sell my REC for in year 6 or in year 7, and thereby I can go out and get a six- or seven-year loan. You know, it's easy to get financing for the project.

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That kind of -- just bearing in mind the importance of reducing the risk premium for the folks that are actually investing in the projects is going to be critical to determining the success of the program.

I'll be happy to answer further questions 11 about that, but I think another key point is that I 12 13 think that due to the disparate nature of technologies, 14 due to the disparate costs of renewable technologies, I think what has been proven in a lot of other -- the 15 16 approach that seems most effective in other states to 17 inducing investments in distributed technologies and solar technologies is an explicit carve-out or an 18 19 explicit target within the broader renewable portfolio 20 standard that then creates a -- you know, with that established, there is then a great deal of flexibility 21 22 in similar, you know, solar renewable energy credits that are traded for compliance, and you develop a very 23 competitive market based on the trading of those solar 24 25 renewable energy credits. And the same arguments as I

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1 made earlier about long-term investments apply. 2 I think it's important to bear in mind, you 3 know, within the industry, we've had a lot of discussion 4 about what would be a reasonable target for Florida, and 5 what we think would be reasonable would be a 2 percent 6 target, of the 20 percent, 2 percent for solar PV, 7 2 percent for solar thermal, with both limited by a --8 you know, I think the cost concern is very legitimate. Our suggestion would be that the costs be limited to a 9 10 1 percent cost impact for both solar -- you know, for the combined solar share. 11

12 I think with regard to the cost containment 13 provisions, I think it's important to have some sort of 14 a cap. It's politically important. It's economically 15 important. I think the other key provision for cost 16 containment is to make sure that any -- that the 17 policies are set up in a way that the incentive levels or the value of the solar RECs over time diminish and 18 19 are directed to diminish, because I think what that does 20 is to create the -- send the right signals to the folks 21 that are making the investment, including companies like 22 Sharp, that, you know, you've got to get your act 23 together and gain efficiencies and drive down the costs 24 between the factory gate and the rooftop to make sure 25 that the installed cost of solar, in our case, is just

1 driven down over time. We've seen that approach adopted 2 and successful in many other markets, both here in the 3 U.S. and abroad. 4 So I think having that -- sending a clear 5 signal to the renewable energy suppliers that the 6 incentives will decrease over time, even as the 7 compliance requirements increase over the time, I think 8 sends the appropriate signals. 9 Let me end there. 10 MR. TRAPP: Could you clarify what you said 11 about the caps? Did I understand you were recommending 12 a 2 percent set-aside for solar PV? 13 MR. O'BRIEN: Correct. 14 MR. TRAPP: A 2 percent set-aside for solar 15 thermal? 16 MR. O'BRIEN: Correct. 17 MR. TRAPP: And then a 1 percent revenue 18 requirement cap for each? 19 MR. O'BRIEN: No. No, 1 percent for the 20 combined, for both. 21 MR. TRAPP: So the remaining 16 percent of the 22 goal would carry some other kind of cap? 23 MR. O'BRIEN: Yes. And I don't pretend to be 24 expert enough in the balance of the other technologies 25 and their costs to suggest a cap for the remaining 16

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percent.

MS. HARLOW: Could I ask you what you base the 2 percent for each on?

MR. O'BRIEN: A ramp-up of what we think the 4 5 achievable growth rate would be in the state. Solar 6 thermal has quite a significant lead, a head start. Up to this point, the vast majority of solar businesses in 7 Florida today are selling and distributing, in some 8 9 cases manufacturing, solar water heating systems for home applications, some commercial applications, pool 10 11 heating applications. Solar PV systems represent a 12 higher level of investment, both by the end customer and 13 along the value chain, so we expect that it would be 14 starting slower.

But we're basing the 2 percent on a trajectory that we've seen -- on a growth trajectory that we've seen in other markets, other state markets. New Jersey has a similar target. Roughly 10 percent, I believe, of its RPS target is for solar PV.

20 MR. TRAPP: To the extent that we entertain 21 interim goals, because of what you just said, would you 22 perhaps set an interim goal for thermal a little higher 23 to begin with, ramping the two, and then for solar PV, 24 maybe a little lower, and then ramping the two? 25 MR. O'BRIEN: I think it's very important to

1	have a gradual ramp-up in both cases. And I think
2	yes, to your point, I think it's reasonable to start
3	solar thermal at a higher starting point because it has
4	more attraction at the moment. But I'm not advocating
5	out of the box 2 percent. I think it's I'm saying as
6	part of the 20 percent goal which is established by some
7	end date, that 2 percent of that end goal be targeted as
8	solar PV and 2 percent of that be targeted as solar
9	thermal.
10	MS. HARLOW: And are you basing that 2 percent
11	on energy or on capacity?
12	MR. O'BRIEN: That's based on energy.
13	MS. HARLOW: Energy?
14	MR. O'BRIEN: Yes.
15	MS. HARLOW: And since in some cases a solar
16	system creates less energy for the level of capacity
17	than, say, a biomass plant that runs 24 hours a day, do
18	you feel like there's some other type of add-on or an
19	incentive or something else that should be part of the
20	RPS in addition to the carve-out so that we meet the
21	goal on solar?
22	MR. O'BRIEN: Sure. Well, I think that one
23	additional we're getting into the weeds, but one of
24	the concerns, within a solar carve-out, you know,
25	there's a disparity in the cost between the larger scale

systems and the smaller scale systems. And at the same time, I think it is often important for the economic growth in the -- you know, for economic investment and jobs growth and so forth to support a full spectrum of -- to support a state solar industry that includes both folks that go and install solars on residential homes as well as larger project developers.

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8 An approach that's being tried in some other 9 states -- the challenge is that under a free market 10 model where you're relying on the solar RECs as the 11 vehicle to provide economic incentive to investors, 12 there is one market price. So what has been proposed in 13 some other cases is that for smaller scale systems, in 14 some cases they either get all of the -- a payment for 15 15 years worth of RECs up front as an inducement to 16 support that part of the market, or in some cases, there 17 would be a rebate on top of the value of the solar RECs that they could trade in the market. So there would be 18 19 some consideration given to the residential part of the market to enable it to -- to level the playing field 20 21 with the larger commercial solar systems.

22 MR. KORNAHRENS: Or you can do like a three 23 for one building integrated for the REC value. That's 24 another option.

MR. FUTRELL: I need to make an announcement.

1 I've got a note handed to me. There's a Toyota Prius 2 parked in a state spot. The tag number is SOLAR. So if 3 it's not -- you need to move it, because they'll tow it. 4 MR. JONES: I thought when I put that system 5 in years ago, I got a free parking, but I guess not. 6 MR. FUTRELL: Go ahead, Chris. 7 MR. TRAPP: I want to know how Dell got that 8 tag. 9 MR. FUTRELL: Okay. Anyone else want to make 10 any comments, follow up with any comments? 11 MR. REEDY: I would just like to quickly tie 12 on to those comments and say that we, in an entirely 13 different approach, came up with the 2 percent and 14 2 percent numbers, and that was based on what we -- not 15 so much what the infrastructure and development could 16 support, but rather what is available, without really 17 stretching very hard, with new construction that's 18 projected, and that was by 2020. The 2 percent solar 19 thermal and the 2 percent of net energy load PV is quite 20 attainable, and so we suggest and endorse those same 21 numbers. 22 Excuse me. I'm Bob Reedy from FSEC. 23 And then the comment regarding the value, the 24 capacity issues, we always point out that the matching 25 of the electric system's peak load is very well matched

with the PV output, and so there's another perspective to support some type of multiplier or weighting process. So there's a rationale for it. It comes straight from the value to the electric system at that time of the day.

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And, of course, finally, the extreme reliability in aggregate of these systems is in the high nines, very, very, very reliable. If you take the entire output of the PV plant in Florida as an aggregate, there's just almost nothing to break down.

11 MR. FUTRELL: Okay. I think we want to move 12 on in our agenda and go into, unless someone has any 13 other comments, in Section C and see how many of these 14 questions we can plow through for the rest of the 15 afternoon. And I would like to let Casey Hinton restate 16 his question from earlier in morning and see if we can 17 get some dialogue going on Casey's guestion. Go ahead, 18 Casey.

MR. HINTON: This is Casey Hinton with the Commission staff. And a number of people answered the question further down the table after it was asked, and I just wanted to redirect the question toward the utilities. Ms. Clark may have already addressed it in her opening statement, and I may have just been distracted by one of the other compelling points that

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she had made.

But I wanted to ask what your views are with regards to the effect of the Governor's executive order, whether that order is controlling or whether we're here under business under the statutes.

MS. CLARK: I agree with the notion that the 6 Commission is a creature of the Legislature, and you get 7 8 whatever authority you have from the Legislature. But I 9 don't think that means that there isn't -- that you 10 shouldn't take note of what the Governor has suggested 11 as far as the goals for the RPS and the notion of 12 addressing greenhouse gases. And I do note in the 13 legislative authority, it does speak about environmental 14 impacts. So I don't think -- you know, your authority 15 comes from the statute, but I don't think that means what is in the Governor's charge and concerns cannot be 16 17 taken into consideration in setting those goals.

MR. HINTON: So if he has, for example, ruled out nuclear energy, but there has been some discussion that some people wanted to include it, where would you think the Commission would be wise to come down on that if he has suggested nuclear energy should not be included?

24 MS. CLARK: To me, it does boil down to what 25 are the goals you're trying to achieve, and how do you

1 cost-effectively get there, what is the level of the 2 goal, what is the time frame for getting there. All 3 those factor in, I think, to what you would include in 4 the goals and include as an eligible resource to include 5 in the goal. 6 Now, nuclear has been talked about. I think 7 it is a clean resource in the sense of non-emitting. 8 How you would go about including that and factoring it 9 into the goals, I think those are things we need to talk 10 about. 11 MR. HINTON: Thank you. 12 MR. FUTRELL: Bob. Sorry. 13 MR. GRANIERE: How would you respond to this 14 question, and anyone else who has an interest in this? 15 And this is a follow-on on Casey's question. With the 16 executive order saying an emphasis on wind and solar, 17 would that not take into account and meet the 18 requirement of the greenhouse gas portion of that 19 executive -- you know, of taking care of greenhouse 20 gases in the RPS? 21 MS. CLARK: No. I mean, he has set forth 22 goals as far as reducing the emissions, and I don't see 23 how you get there with wind and solar. 24 MR. GRANIERE: Well, that presumes -- isn't it true that that presumes that the only objective of a 25

renewable portfolio standard is to reduce greenhouse gases?

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3 MS. CLARK: Well, you asked that -- I don't 4 know that it's the only objective, but it's certainly an 5 emphasis that has been highlighted by the Governor, 6 because in the executive order, he talks about clean 7 resources as well. And the reference to a 20 percent 8 RPS is within the same executive order where he 9 references as the goal being the reduction of the 10 greenhouse gases.

11 MR. GRANIERE: Would it be fair to say that if 12 there was a 4 percent solar carve-out and a 2 percent 13 wind carve-out with a 20 percent goal, which amounts to 14 almost 33 percent of the goal, wouldn't that be 15 sufficient attention being paid to the part of the 16 executive order that says part of the renewable 17 portfolio standard is a reduction in greenhouse gases? 18 Basically, with those two carve-outs, one-third of the 19 renewable portfolio standard would be directly targeted 20 toward the reduction in greenhouse gases.

MS. CLARK: I think it goes towards addressing that. Does it meet the goal? I don't think so.

23 MR. GRANIERE: When you say it doesn't meet 24 the goal, does that mean that the only objective in the 25 renewable portfolio standard is the reduction in

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greenhouse gases?

2	MS. CLARK: No, I wouldn't say under the
3	statute there are other objectives to meeting it as
4	well. One thing that might be worth pointing out at
5	this point is the levels of set-asides suggested for the
6	solar. I just got some numbers on that. For FP&L, by
7	2020, it would mean 3,800 megawatts of solar to meet
8	that goal.
9	MR. TRAPP: How many water heaters does Power
10	& Light service?
11	MS. CLARK: I don't know that.
12	MR. TRAPP: There's a lot of room for solar
13	water heating. Just a comment on my part.
14	MS. CLARK: I think it's important, though, to
15	keep in mind the magnitude of those numbers. When we
16	throw around percentages that don't seem like a lot, you
17	need to translate it into what it means in terms of
18	megawatt-hours or megawatts.
19	MR. TRAPP: According to my calculations, It's
20	approximately three and a half Hiroshima bombs.
21	MR. FUTRELL: Barry.
22	MR. MOLINE: I would just like to comment on
23	that too, Bob. You know, if the goal take your
24	question as an example of what is, you know, a proposal
25	for a carve-out. You can set the goal wherever you

want, and there has to be a balance of what the cost is 1 2 going to be for consumers, and there has to be a balance 3 of what is doable. I mean, Susan just said -- what was 4 the number? 3,800 megawatts, 3,500 megawatts? 5 MS. CLARK: 3,800 megawatts. 6 MR. MOLINE: Of PV. You know, at what cost? 7 So we can set the goal wherever we want and set the cost 8 limit at -- you know, hopefully set it somewhere. And 9 if it's get 3,800 megawatts at any cost, there are some 10 folks that might have some heartburn with that. 11 And again, I hate to sound like a naysayer, 12 because we actually want to promote renewables. So it's 13 not unreasonable to have some emphasis on solar or solar 14 and wind. The point is that we would prefer to see, 15 when we talk about setting X percent of KWH or -- well, 16 really, we're talking actual output, so KWH, balanced in 17 the same sentence with what's that going to cost us. 18 And I don't mean us. I mean cost Florida, not only cost 19 the utilities, but cost Florida, because I know it --20 MR. TRAPP: What is 100,000 gigawatt-hours of 21 growth through 2020 going to cost Florida? I keep 22 coming back to the discussion we had earlier. Can we 23 continue this breakneck pace of energy consumption in Florida? Something's got to give. So I think we need 24 to set realistic goals to try to moderate that, and to 25

1 the extent we do have to supply it, to supply it wisely 2 and affordably, thus the discussion of rate cap 3 versus --4 MR. MOLINE: Well, Chris's suggestion there,

that was 1 percent for the solar component there. That was a 1 percent cost impact to Florida, essentially? That's what you were suggesting there?

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MR. O'BRIEN: Right.

9 MR. MOLINE: And if nothing else, there you 10 have a goal that, whether it's -- you know, based on 11 that analysis, the 3,800 megawatts is achievable or not, 12 and over the long run it may be. There you have at 13 least the cost impact, so we have a feel for what the 14 goal is and what the cost impact is. And if everyone 15 can accept that cost impact, then that's the goal.

16 MR. TRAPP: But that was for 4 percent of a 17 20 percent goal. My question to him was, what's the 18 other 16 percent going to cost us? And again, remember 19 what cost means. That's additions to the rates that 20 would otherwise be collected. So if you've got, you 21 know, 1 percent for 4 percent, what's it going to take 22 to get the other 16 percent with all the other 23 technologies that are left on the table?

24 MR. MOLINE: Well, the only comment I would 25 make on that is I think that -- you know, Bob may

1	bristle, but to some degree and Chris may bristle,
2	but to some degree, I think that solar is one of the
3	higher cost renewable energy technologies today that
4	we're seeing. And I'm talking really about rooftop
5	solar, because there's large scale solar that is more
6	reasonable in cost, and it may be more feasible too in
7	large scale projects. But when we're talking about
8	these things, we tend to think that solar and wind may
9	be more costly, and therefore we're talking about
10	different kinds of carve-outs or multipliers and so on.
11	So
12	MR. TRAPP: Maybe another 1 percent will get
13	us the other 16 percent?
14	MR. MOLINE: Possibly.
15	MR. TRAPP: I mean, has anyone explored
16	MR. MOLINE: We don't know.
17	MR. TRAPP: what solar has done to
18	determine what their particular favorite technologies
19	should be, you know, costed out?
20	MR. REEDY: I'm going to make and then I'm
21	going to defer to Dell, but I'm going to make a comment.
22	Bob Reedy. One of the reasons we're not concerned and
23	we kind of in fact can support a cost cap is that the
24	projection, by many different ways to measure and
25	predict, from different types of studies, from

manufacturers, from analogies to other products like flat screen TVs and computers, is that these costs are coming down exponentially. They do reach an asymptotic point where they -- you're talking about some basic raw material limits and things.

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6 But in the time frame between now and 2015, 7 everyone expects to be below parity with electric rates, 8 and we won't be having this conversation, because you 9 won't build a house, you won't build a supermarket without covering that roof with PV. So we're talking 10 11 about providing the kind of certainty and expectations 12 to allow that investment to start now and to give a plan 13 for getting there. But the things that are being 14 discussed today, like a cost cap, I would say from our 15 perspective it's not a problem.

16 MR. JONES: Dell Jones. I just wanted to 17 throw out some numbers just in terms of capacity, 18 although a solar water heating system and a photovoltaic 19 system, the capacity factor of that type of system is 20 around 20 or so. But just to give some orders of 21 magnitude, 500 solar water heaters are roughly a 22 megawatt of capacity, so this 3,800 megawatts, you know, 23 of a requirement is really not such a stretch goal. 24

When I worked for Florida Power & Light earlier in my career, in the Watt Saver incentive

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program, just my part of the western division -- or actually, I should say systemwide, there were 2,000 solar water heating incentives being written every month. So this notion that, you know, that's such a stretch goal to get there, I just don't really see that. And when you look at certainly outside the U.S., you know, the per capita penetration of solar water heating is huge compared to the U.S. In some countries -- in fact, kind of the alarming one is that

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the world's total production of solar water heating collectors by square meter, 78 percent is used in China. And I hate to say it, but the United States as an entirety is not even 1 percent of the world's market.

So I don't think there's really a whole lot to -- you know, like Bob said, I don't think it's really that scary for us to sort of, you know, get to that level of capacity for installation and to be able to come through with that.

MS. HARLOW: Dell, I recall a conversation you and I had a while back, and I hope this was you. I hope I'm not having a senior -- well, a middle-aged moment. But you told me that in other countries, and in particular, I think it was Germany, that the cost of those systems was so much lower than in the U.S. And another thought I had that was similar to

1 this is, we had workshops in April on interconnection 2 and net metering, and several representatives of the 3 solar industry were there. And as I recall, one 4 representative said that similar systems on residences were so much more expensive in Florida because the solar 5 6 industry is stretched in its capacity to produce right 7 now, and so they are concentrating their efforts in 8 those states that have the biggest markets, such as New 9 Jersey.

10 So I'm wondering, to tie that into our 11 workshop here today, do you think that the RPS with the 12 carve-outs will be enough of an incentive for this 13 industry so that our consumers can have those reduced 14 costs of systems compared to even some other states that 15 have lower costs today?

16 MR. JONES: I think it's the case, and a lot 17 of it is -- to some degree, it's be careful of what you 18 ask for. You have to have sort of a ramping up in the 19 ability to deliver on that. When the first incentive 20 programs here for photovoltaics and solar water heating 21 came out last year, the 2.5 million, the build-up or the 22 draw-down of those funds were very slow, because a lot 23 of the guys kind of looked at it with a jaundiced eye, 24 is this for real, I mean, are we really going to do 25 this. And folks like Chris and his distributors, they

just didn't really have a lot of pipeline of dealers and installers.

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3 And, you know, we do have a lot of things 4 going for the industry. Myself, I'm chairman of a 5 national committee called NABCEP, and I'm on the board 6 of directors, which is basically the certification of 7 solar installers. Now, granted, we have a great professional licensing infrastructure here in Florida, 8 9 but that's for the guy typically that's -- you know, the 10 license holder that's in the shop. We really need to 11 make sure that we have the boots on the ground, the 12 wrenches guys that have the ability to deliver good 13 quality products onto the roof.

14 So when we do this, I think what we as an 15 industry want to do is understand what the goals are, 16 and with some certainty in the long run that the 17 business will be there not only next year, but the 18 following years after. You're not going to find a lot 19 of businesses that are going to go out and build up 20 infrastructure, trucks and delivery capacity for this 21 stuff unless there's some market certainty.

And that's why a lot of these -- you know, the price certainty and predictability of RECs going forward, if that's going to be the mechanism for compliance with the goals, then those are the things

that really help businesses grow and build the infrastructure and the capacity for delivering good quality products.

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You know, having been in the business a long 4 5 time, I really don't want to see this day that we 6 realized in 1986 when the solar industry lights went 7 out. The federal incentives went away precipitously. 8 Literally overnight, the industry just dried up, and what we had going for us, these 2,000, 3,000 solar 9 10 systems a month just vanished, and frankly, a lot of the 11 industry went elsewhere. Like I said earlier, I jump on 12 a plane on Monday and ply my trade out of state, because 13 there's not a lot of business here in Florida.

14 And part of it is, just as another thing -- I 15 just want to be sure to mention this. This notion that 16 photovoltaics on distributed generation, it gets to be 17 problematic, because myself, I can't go to a big box store and sell electrons under a PPA model, power 18 19 purchase agreement model, because, again, the local utility could potentially -- and I think there are some 20 21 laws that set some uncertainty, that a lot of businesses 22 don't want to come here and ply their photovoltaic trade 23 for fear that the local utility could shut them down on 24 traunching on their eminent domain of selling electrons. 25 And that is one of the things, at least on the

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photovoltaic side, that becomes problematic. On the thermal side, it's clearly an unregulated product to sell thermal energy. But electrons as distributed generation, that's problematic for me as a renewable energy developer. I don't feel real comfortable doing that unless I have the explicit invitation of a local utility that lets me do that.

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MR. FUTRELL: Okay. Let's move into Section C of the agenda and see --

10 MR. GRANIERE: Okay. I'm just trying to set a 11 couple of boundaries, because the cost issue was raised 12 again, and I think that's in there.

13 Could anyone from the utilities answer or 14 anybody answer the following question? The idea was 15 that the affordability cap would be 1 percent above the 16 avoided cost. Assuming, which I think is a solid 17 assumption, that the demand for electricity is growing 18 and will continue to grow over the next 15 years, and let's assume also that there's zero renewables now, just 19 20 for the sake of argument. Of course, it's only about 21 2 percent right now, so let's just assume they're zero. 22 That would say all of the growth would be picked up by 23 renewables, and -- 20 percent of all of the new growth 24 would be picked up by renewables. But if 20 percent of 25 the new growth was picked up by renewables, that would

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1 mean 20 percent of the new construction would not have 2 to be constructed for fossil fuel or nuclear. 3 Let us assume that it's a nuclear plant that 4 would meet the entire -- nuclear plants would meet the 5 entire growth because it does greenhouse gas reductions. 6 Wouldn't it be true that the avoided costs that we're 7 taking about here would be 20 percent of the required 8 nuclear construction to meet the growth by 2000 and, 9 let's say, 20? 10 Anybody willing to take a shot at that one? 11 MS. CLARK: You know, you're talking to 12 someone who is generally math challenged, but I guess 13 the concern I would have with that is -- and it's a 14 concern we've always had with the standard offers in 15 getting energy and capacity to avoid a unit. Even if 16 you offered that as a pricing means, you probably 17 wouldn't avoid the need for the plant. 18 MR. GRANIERE: Well, wouldn't you avoid -- I 19 mean, in my example it's 20 percent of the new growth 20 that's being picked up by a facility other than a 21 nuclear or a fossil fuel facility, so it's a pure 22 displacement. It's not a deferral. 23 MS. CLARK: And your question is? 24 MR. GRANIERE: Isn't it true then that the 25 avoided cost, what would otherwise be spent, would be

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1 20 percent of that expenditure? This is not a deferral. 2 That is a displacement. 3 MS. CLARK: I don't feel comfortable answering 4 that. It seems simple, but I would want to think about 5 it. 6 MR. GRANIERE: How long do you think you might 7 take to get that answer? 8 MS. CLARK: Well, not sitting here, I can tell 9 you that. But I will certainly think about it and get 10 back to you, Bob. 11 MR. FUTRELL: Does anybody else want to take a 12 shot at that one? 13 MR. WRIGHT: I will, and this kind of loops 14 back to what Bob and I -- Trapp, that is, and I were 15 discussing this morning. It depends on what the "what 16 would have happened anyway" scenario is. I think the answer to Bob Graniere's question is that if the "what 17 18 would have happened anyway" scenario is zero new fossil 19 construction, and the presumption is that you would 20 otherwise meet everything with nuclear, then I think 21 nuclear is the avoided cost for all purposes. 22 MR. TRAPP: And what we're talking about today 23 I thought was 1 percent above that. 24 MR. WRIGHT: Well, that's Barry's proposal, or 25 it's the FMEA proposal. And again, I'll say right now I

think that if realistic nuclear costs are put on the 1 2 table, I think you will see a lot more renewable energy 3 made available to Florida than people have thought. 4 MR. TRAPP: You will forgo fuel? 5 MR. WRIGHT: Excuse me? 6 MR. TRAPP: You will forgo fuel? Nuclear fuel 7 costs very, very low; capital costs very, very high. 8 But again, if we're going to get into a 9 discussion of what it would cost, pricing principles and 10 everything, let's get down to it. It doesn't really 11 make a difference over a 30-year life-of-plant analysis. 12 Coal, gas, nuclear, if they are the lowest cost 13 resource, they're all going to be within 1 or 2 percent 14 of each other. It's all a matter of when the money 15 flows, capital versus fuel. And we have a system in 16 place, standard offers being proposed, that basically 17 capture all of that. 18 What we're talking about today is not that 19 avoided cost pricing scenario. If you want to talk 20 about that, we could go fight that docket over again. 21 What we're talking about today is a renewable portfolio 22 standard. 23 The proposal that has been put on the table by 24 the municipalities, as I understand it, basically takes

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the current Commission's conservation and cogeneration

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revenue neutral approaches to avoided cost pricing as a base. We're not taking anything off the table. It's there. We can argue how to price avoided cost in another forum. Avoided cost is there. It's there. What Barry is talking about is putting 1 percent total revenue requirements on the table in addition to avoided cost. That's what we're here to talk about with regard to his proposal.

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9 I'm not quite sure yet what the IOUs have in 10 mind. Maybe it's just soft goals with no revenue 11 impacts. But I think the RPS standard starts from the 12 premise that current revenue neutral systems of valuing 13 alternative power are still on the table and there. 14 Avoided cost is there. Anything else is extra. And I 15 think that's why we're here.

MR. WRIGHT: I'll just say what I said this morning. I think that the RPS has to be viewed as existing within the overarching goals of meeting the greenhouse gas goal and promoting Florida's energy self-sufficiency. And 20 percent of 340,000 GWH is 68,000 GWH, and that's not enough to meet the greenhouse gas goal as I've done the calculations.

23 MR. TRAPP: I understand. And you understand 24 also I challenged the IOUs earlier to come up with a 25 fossil fuel backout clause for the 20 percent goal, and

1 I hope that Susan will come back with something along 2 that line. We want to see some new proposals. 3 MR. WRIGHT: I understand. And my clients and 4 I are thinking about incentive proposals as well, and we 5 accept the challenge as well, and expect to hear back 6 from us. 7 MR. TRAPP: Great. 8 MR. FUTRELL: All right. Let's try to quickly 9 move through some of these topics about -- first let's 10 see about does the statute, meaning 366.92, require all 11 the utilities to meet the goal. Do we have any thoughts 12 on that? 13 MS. CLARK: Sure. I was going to answer three 14 of those questions and see --15 MR. FUTRELL: Go right ahead. 16 MS. CLARK: Right off the bat. I'm sorry to 17 jump the gun. I was not going to answer the question 18 about does the statute require all utilities to meet the 19 goal. I was going to rather suggest to you that all 20 utilities should be included in the goal and meeting the 21 goals. It should apply to all the utilities. Everybody 22 should bear the burden of or the privilege of working 23 towards this RPS goal. Likewise, we think the 24 Commission should set uniform goals for each utility 25 based on megawatt-hour sales of electricity.

1 Now, you ask the question, "How should a 2 statewide goal be allocated across the utilities?" I 3 think you can get to the same place if you do a bottom 4 up or a top down. The concern we would have with a 5 statewide goal is, you set it at some percentage or 6 megawatt-hours, or however you set it, and then some 7 utilities are exempted out, so it winds up that the utilities left are getting a higher percentage or having 8 9 to meet a greater megawatt-hour. We're just suggesting 10 it should be uniform, and it should include all 11 utilities, munis and co-ops.

12 MR. TRAPP: I have a question about using NEL 13 as the measure for that, because it seems to me -- and I 14 don't know how to resolve this, so I put it on the 15 table. If every utility is held to a 20 percent NEL 16 type of goal, does mean that we need to require 17 investor-owned utilities that are providing wholesale 18 power to municipalities to make 20 percent of that 19 wholesale power renewable?

MS. GREALY: Bob, just to clarify, and we may have misspoken earlier, but it's a percent of retail sales from electricity, so not net energy for load, but retail sales.

24 MR. TRAPP: Okay. Retail sales. Well, my 25 question still holds. Is Florida Power & Light going to

ensure that 20 percent of the wholesale power it provides to non-generating utilities that resell it, is 20 percent of your wholesale power going to be renewable?

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MS. GREALY: I guess eventually it's picked up as someone's -- within Florida, which is what we're talking about, someone's retail sales, so that's what we would be capturing.

9 MR. TRAPP: Well, the Governor's order says 10 production, as I recall. Production to me is 11 generation. My question is, should we drive the goals 12 off of people that are generating or people that are 13 selling? I'm trying to work through the mechanics of 14 it.

15 MR. BRYANT: Might I respond, at least to some 16 of the issues in this topic? I would respectfully 17 suggest that staff consider creating a separate docket 18 and a separate rule for the investor-owned utilities and 19 a separate docket proceeding and rulemaking proceeding 20 for the municipals, and the cooperatives too, if they so 21 choose, much as we did in the storm hardening and wood 22 pole attachment dockets, for several reasons.

One, we avoided jurisdictional arguments. Secondly, if you'll just happen to recall, Ms. Clark, the municipal rule on storm hardening is in force and

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effect, and the IOU rule is still ongoing. So I don't think that she wants to be on behalf of her clients messing around in our docket, and we sure want to stay out of her docket.

5 But if you don't have the wisdom that you had 6 in the storm hardening docket of bifurcating and 7 separating the municipal and co-ops' rulemaking from the 8 investor-owned, then you get caught up in the quagmire 9 of certain people pounding on the desk and yelling 10 jurisdiction and lack of jurisdiction. And if you 11 recall, Mr. Trapp, we pretty much avoided that.

At the same time, I'm constantly amused by the big gorillas, the investor-owned utilities, having so much concern about us poor little municipals not participating, while at the same time, we're the ones that came forward with a proposal, and we've yet to hear from the gorillas about their proposal.

So I would like to see staff say, "Well, let's create a separate docket for the municipals, because we have something we can work with with the municipals," and Ms. Clark can direct her arguments and her theories of what the law is and law isn't as to her clients and stay out of my tent. So I have that as a suggestion as to procedurally how it should work.

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The other thing I think the investor-owned

1 utilities need to be worried about is, for ten municipal 2 electric utilities, they have an all-requirements 3 contract. And I happened to be reviewing one of those 4 contracts for a Progress Energy municipal utility right 5 this week, and the language in there is absolutely 6 standard in all these contracts that says the company 7 shall sell, Progress Energy Florida and Power & Light 8 shall sell all the requirements to the municipal 9 utility, and the utility shall buy all the requirements 10 from the company.

11 So now we've got ten of those contracts that 12 they have in existence that they're now arguing and 13 saying, "Well, no, the municipal utilities that buy from 14 us wholesale shall be required to buy these renewables 15 in violation of our contract," which, by the way, is a 16 FERC-regulated contract, must go to FERC, is approved by 17 FERC, has been approved by FERC. Okay?

18 At the same time, Florida Municipal Power 19 Agency has for 15 of its cities an all-requirements 20 contract. And not being the sharpest knife in the 21 drawer, when I drafted that contract, I went to the 22 investor-owned utilities' contract and captured that 23 same language, because I thought it was pretty good 24 language, and our 15 cities must buy all their load 25 requirements from the Florida Municipal Power Agency.

So how are those cities going to violate their contract with FMPA? How is Williston, Bartow, Mount Dora, and others going to violate their contract with Progress Energy and Florida Power & Light?

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5 If you listen to the IOUs say, "Oh, all the 6 utilities have to participate under the rule that the 7 PSC adopts," that's why I think you need two rulemaking 8 proceedings. You have to under your jurisdiction. You 9 know under your jurisdiction it's different with the municipals. You have to work within that jurisdiction. 10 11 You have to work by what the statutes say. The 12 Administrative Procedure Act and each of your rules cite 13 to law implemented and authority, and you have to have a 14 law on the books giving you authority, and you have to 15 work within that authority, and it's different as to us.

So I would respectfully disagree with my good friend Susan that it applies the law. 366.92, which I think she's referring to, applies to all electric utilities. If she'll look at 366.11, I think she'll come up to me afterwards and say, "No, .92 does not apply to municipal electric utilities, but the specific language of .11."

23 So that's the reason I asked earlier what 24 statutes are we talking about, because we must be 25 careful when we implement the Commission's authority.

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The Commission has got other authority for municipals, and they need to be careful. And that's why I think you might want to consider separate rulemaking for us and keep us from pounding on the table.

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5 MS. CLARK: Mark, can I -- I didn't want to 6 suggest that I was reading the statute as applying to 7 them. What I was suggesting is the notion of how should 8 this be applied. And my point is simply that -- I think 9 you've heard Mr. Katofsky say that the RPS is a method 10 to support technologies that cost more than regular 11 generation technologies or methods that you use. And if 12 that is the case, and I think it is the case, then I 13 think it's something that is to be pursued by the State 14 of Florida, and it should be something that's 15 participated in by all the electric customers in the 16 State of Florida. That's my only point. If there needs 17 to be a separate rulemaking to accommodate what they are 18 concerned about, that's fine.

19 MR. BRYANT: And you need to abdicate that to 20 the Legislature, Susan, because that's not what the law 21 says.

22 MR. TRAPP: I think we can take this under 23 advisement with regard to the procedural aspects of how 24 we go from here. You know, personally, I read the 25 Governor's executive order, and it says all utilities

1 should be held to a 20 percent standard, and that's the 2 recommendation that has been put before us. And I don't 3 particularly have a problem with that. I think we can all be held to a 20 percent standard. There may be a 4 5 different way or a different approach of holding one to that standard, depending on the flexibilities we put in 6 7 the program and the uniqueness of the systems involved. So I'm not really up here advocating a one size fits 8 9 all. I think the purpose of the question was to do 10 exactly what it has accomplished, to ferret out the differences. 11

12 So I want to go back to my question. My 13 question was, if you hold everybody -- if you measure 14 the system on the basis of retail sales, how do you take 15 into consideration wholesale contracts. That's my 16 question. And I would like for you to address those 17 today, if you like, or in your post-workshop comments, 18 if you would.

And then I would like to turn behind Fred Bryant and say, Michelle, you've been quiet long enough. Could you please come forward and give us the co-op position?

23 MS. HERSCHEL: I have to evaluate things 24 before I say that I agree with Fred Bryant. I have to 25 evaluate everything he said. But I do agree with what

Fred said about the implementing law, that you need to look at 366.92 together with 366.11, which lays out which sections of Chapter 366 apply to munis and co-ops. And that's really all I want to say about the jurisdictional question right now.

MR. TRAPP: There was also a gentlemen here, and I'm sorry, I missed your name, from Alabama Electric Cooperative. Did you want to speak to this? Okay.

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9 MR. FUTRELL: Let me ask Ryan if you can chime 10 in on this. Have most states exempted munis and co-ops, 11 or how have the treated different utilities as far as 12 the RPSs?

13 MR. KATOFSKY: I would say generally speaking, 14 the RPS rules apply to the regulated utilities, so they 15 generally are not applied to the munis and co-ops, 16 because they're not subject to the regulation of the 17 Public Service Commission.

18 Now, it's not that case in every state. In 19 Colorado, for example, it applies to all utilities above 20 a certain size. What they did in that case is, they 21 gave the municipal utilities the option to opt out and 22 essentially what they call self-certify. So you can 23 create your own program that was substantially similar 24 to the RPS, but you wouldn't have to abide by all the 25 rules of the RPS. So, for example, if the RPS in

Colorado has a solar carve-out, a municipal utility if they self-certified could have a different version of that, or perhaps not have a solar carve-out if they didn't want to do that. As long as it was substantially similar to the RPS, then they could opt out.

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So it for the most part applies to the IOUs, but not in every case.

MR. FUTRELL: And do you have any insight into Bob's question about the NEL goals? How have states handled the wholesale sales?

11 MR. KATOFSKY: Right. Generally, the 12 requirements are based on the load-serving entities 13 where the accounting takes place, so it's the retail 14 sales to the customers. So it would not -- so if there 15 was a utility that also sold power to, let's say, a 16 municipal utility, that would not be subject to the RPS. 17 It would only be that load-serving entity that was the 18 obligated party that would be measuring its percentage 19 of sales. So if it was a 4 percent RPS, it would be the 20 load-serving entity's -- 4 percent of their retail 21 sales. It would not include their wholesale sales to a 22 non-obligated party.

23 MR. TRAPP: I'm still confused by the math, 24 though. Maybe it's just my confusion. In Florida we 25 have like 55 utilities, and a dozen of them generate and

provide wholesale power, all requirements or partial requirements, to the remaining smaller municipalities. So all of their retail sales are made up from contractual arrangements through wholesale contracts with generating utilities.

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6 If we put a 20 percent retail sale renewable 7 requirement on them, at a minimum, it seems like we need 8 to negate the existing wholesale contracts, because 9 they've been obligated to buy 100 percent of their 10 resale from another utility, who may or may not decide to provide that as 20 percent renewable in order for 11 them to meet their obligations. I'm having a disconnect 12 13 there. It may be a Florida unique problem.

14 MR. KATOFSKY: If I understand correctly, it 15 depends on where you want to measure the percentage. If 16 you want to measure the percentage as a percentage of 17 retail sales, then you look at the obligated parties and 18 see what their retail sales are. There are provisions 19 in existing RPS programs where if you're under an 20 all-requirements contract that would constrain you from 21 meeting the RPS, then you're essentially exempted from 2.2 it until that all-requirements contract expires. There 23 are provisions --

24 MR. TRAPP: That's what I was looking for. 25 Somebody has already done that somewhere.

MR. KATOFSKY: Yes. I think if you look at the Colorado language again as an example specifically, they deal with that question.

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MR. MOLINE: I just wanted to say a few things without any prejudice to one idea or another, just to put them on the table, because in our proposal, I don't want to recommend our proposal in certain areas and back away in other areas. We did say in our proposal we used the PURPA standard, 500,000 megawatt-hours and above in terms of sales, in terms of who would be included.

Clearly, from the perspective of FEECA, we're looking at just -- from municipals, just Jacksonville and Orlando that would be included. That's existing law.

Our proposal -- when we developed this, we were thinking this would run through the Legislature, so we didn't imagine this as a rulemaking, and that's why we made the proposal at that level, at the PURPA standard level. That includes 98 percent of all electric sales in Florida.

And the reason why we excluded the 2 percent small municipals and co-ops is because there's a lot of administrative issues in terms of implementing programs. Even though they might at some point want to develop programs, we didn't want to overburden them with that

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1 administrative issue and the implementation component. 2 And again, 98 percent of all sales would be covered. 3 The idea that Bob is talking about of having 4 the rule, or whatever this turns out to be, legislation, 5 rule, apply to all sellers of electricity has an 6 interesting component, in that because of the 7 contractual issue, you could have Progress Energy as a 8 wholesale power supplier to the City of Chattahoochee. 9 If the City of Chattahoochee wants to engage in 10 renewable energy programs, or if energy efficiency is 11 included in such programs, it could implement those 12 programs and coordinate its credits with Progress 13 Energy. 14 But it would have to be an arrangement between 15 those two, of course, until -- as the gentleman said, 16 until, you know, the contract expired. But the point is 17 that there is a way to include the contractually 18 burdened utilities by having them work with their 19 wholesale power supplier over such period of time until, 20 you know, a new contract is written. 21 MR. FUTRELL: Barry, are there any 22 non-generating utilities that would exceed that 23 threshold that you've looked at? 24 MR. MOLINE: Non-generating utilities that 25 exceed the threshold, the PURPA threshold?

1	MR. FUTRELL: Right.
2	MR. MOLINE: Yes. There's, just off the top
3	my head, City of Leesburg, City of Ocala. Both are
4	wholesale customers. Keys Electric Co-op not co-op,
5	Keys Energy Services, and Jacksonville Beach.
6	MR. FUTRELL: Have you thought about how that
7	would be handled? Since they're dependent upon other
8	sources, have you thought through that?
9	MR. MOLINE: They receive their power from
10	MR. BRYANT: They're a total requirements
11	customer of FMPA, and we're trying to figure that out
12	right now, because the added complexity with our
13	contracts with those cities who own FMPA, who are the
14	wholesale purchasing all-requirements customers of FMPA,
15	is that those contracts have been pledged to our
16	bondholders, because that's the only source of revenue.
17	So the bondholders actually own our contracts. They
18	hold them, because that's the source of revenue.
19	So you cannot get a rule of the Commission,
20	nor under the statutes of Florida, a law in between
21	those contractors and the bondholder, because those have
22	been pledged, validated, and they own the contracts now.
23	So that's the problem that we've been trying to express,
24	is that there are huge differences in what the
25	investor-owned utilities are going to have to do and the

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1 municipals. And that's why the proposal that Barry and 2 the board of directors of FMEA have proposed piggybacks 3 onto how we have to run our systems. 4 MR. MOLINE: It doesn't mean it can't be done. 5 It just means we just have to be a little creative and 6 think differently. 7 MR. BRYANT: Certainly. 8 MR. MOLINE: And we just haven't figured all 9 that out yet. 10 MR. BRYANT: FMPA has an RFP for renewables 11 out on the market right now. FMPA is right now doing a 12 study on solar and locating solar units that are FMPA 13 owned, and thus on the FMPA meter, in various cities 14 that we serve. Thus, our contract is not breached. 15 Thus, the bondholder who has the security for that 16 contract is not concerned. So we have to work within 17 what's the world that we live in today. 18 MS. HERSCHEL: Mark, also, I just wanted to be 19 clear also that the co-ops are not just sitting on their 20 hands doing nothing either. In fact, Seminole just this 21 month signed contracts with two landfill gas-to-energy 22 renewable resources. I think about 3 percent of their 23 total portfolio is renewable energy. 24 MR. FUTRELL: Does anyone have any other 25 comments on the Section C questions, particularly about

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using existing resources or should it just be incremental resources?

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3 MS. CLARK: I would just point out, I think it depends on what your purposes are. If it's to focus on 4 5 new renewables, then obviously you wouldn't include 6 existing. But you have to be very concerned about the level of the goal and the time frame for meeting the 7 qoal.

A very aggressive goal, such as the one that 9 10 has been suggested for the Governor, I think argues for 11 the inclusion of some existing resources. And I note 12 the wording of the executive order seems to suggest that 13 it be included, because it says require utilities to produce at least 20 percent of their electricity from 14 15 renewable resources. So, you know, it depends on what you're trying to achieve by the goal, how aggressively 16 17 you set it, and the time period.

MR. FUTRELL: Okay. Any other questions on 18 19 that section, or responses?

20 Okay. Let's move on to D on resource 21 eligibility. And we've talked about that off and on today, and it's probably a good time to talk about the 22 23 spreadsheet we handed out. Again, this was data the 24 staff pulled together from existing resources, 10-year 25 site plan information, responses to data requests, as

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1	well as information in the load and resource plan from
2	the FRCC. We tried to break it down by existing and
3	potential resources.
4	Karen, would you like to give us just a little
5	quick walk-through on what all you did to pull this
6	together?
7	MS. WEBB: Sure. Karen Webb, Commission
8	staff.
9	Those of you that have it, and if we need more
10	copies, we can handle that, you can see at the very
11	bottom left the explanation of the asterisks. The
12	capacity and energy figures that are quoted there for
13	utility owned generation, supply side, and demand side,
14	those figures are taken directly from a survey that the
15	Public Service Commission sent out to utilities in June.
16	Someone pointed out during the break that 941
17	megawatts is less than the renewable megawatt count that
18	was indicated in the 2003 renewable report, and we
19	attribute that discrepancy to perhaps a lack of priority
20	with answering the survey or an incomplete survey return
21	to us. We just wanted to point that out and maybe
22	underscore that it's very important that we get accurate
23	reporting requirements. If there's something here that
24	is not accurate, please bring it to our attention.
25	But the other figures for self-generation,

conservation, and the figures for net energy load were 1 2 lifted directly from the Regional Load and Resource 3 Plan. We held renewables constant in doing the projections for what percentage they would consist of 4 5 net energy load for the shown years at the top. 6 Are there any questions as to the accuracy of 7 the document? As I said, I believe we got it returned 8 from most everybody. MR. FUTRELL: This is our shot to take a look 9 10 at what's out there now, where we have data, what's out 11 there now, and take a look at how we measure up. 12 MS. CLARK: Can you tell me who you had --13 obviously, the IOUs answered the data request, but who 14 else answered the data request? 15 MS. WEBB: We got a response from Orlando, Seminole, Gainesville, City of Tallahassee, JEA. We did 16 17 not get a response from a few of the others that I don't 18 know if I should go through and name, but I don't have a complete listing of everyone we did not receive a 19 20 response from. MS. CLARK: But it was utilities, whether 21 22 they're munis, co-ops, or IOUs? 23 MR. TRAPP: Commissioner Clark, this was my 24 fault, my judgment call. We have a sheaf of backup data 25 that lists like every unit, every project, every source,

I think, and maybe it would be helpful for us to provide everybody here a copy of what went into this summary table. We wanted to put this out for effect and then ask you to follow up with any corrections you may have to it.

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I think the point of this is to show -- we were trying to get a feel for where we're starting out at now. And as you can see, as energy grows, that 100,000 gigawatt-hours that Schef was talking about earlier today, if we just hold the status quo, we've got a seriously declining percent of renewables, even if you count conservation.

So our first goal here was to try to get an inventory count, if you would, of what we had now in the ground and what we had prospects for, kind of -- and as Barry was suggesting earlier, trying to get a forward-looking resource inventory looking into the future. So that's what this is.

MS. CLARK: I guess my question is, there weren't any potential independent producers of renewable resources that might have given you data?

MR. TRAPP: I think there were.

MS. CLARK: Oh, okay.

24 MR. TRAPP: And that's why I would offer you 25 the backup material, so that we can all look through it

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and make sure that we haven't forgotten somebody, lost

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somebody, or that we've got your numbers correct. MR. ZAMBO: Could I make a comment on these

numbers? I was just noticing under waste heat, I did submit information on behalf of the Florida industrials. I'm not sure what happened to it, but their existing is somewhere in the neighborhood of 450 megawatts, with the potential of another 125 to 150. What may have happened there is that most of that is used internally to displace load, but it is a little misleading. I mean, there's a pretty big chunk of that power out there.

12 MR. FUTRELL: That may be captured in the 13 self-generation section, because that came from the FRCC 14 Load and Resource Plan. Some of what you're talking 15 about may be captured there. We may need to look 16 further behind where that number came from. I talked to 17 the FRCC about better understanding their 18 self-generation number, and some of that may be coming 19 -- may be what you're talking about.

20 MR. ZAMBO: But we did file separate. We 21 filed an existing and a potential with all the --

22 MR. TRAPP: We had difficulty, quite frankly, 23 reconciling some of the data submissions, because they 24 are counted for by different people in different 25 organizations. We again relied on -- a lot of this

information was from 10-year site plans of the utilities that reported, and they report that in two places. One is the actual contractual amounts that they have, and then they do do a guesstimate, but it is a guesstimate of what is on the meter side of things, and I think that's where you might be able to help us out with some more accurate information.

8 MR. ZAMBO: I'll be happy to. I'll get with 9 Karen on that.

10 MS. WEBB: I would like to clarify -- sorry. I would like to clarify also that there were two 11 12 separate surveys sent out. One was sent out by Tom 13 Ballinger's group, and that was largely to utilities. 14 And there was separate one that was entitled "Renewable 15 Technology Energy Assessment, " something of that nature, and that was sent to a lot of the renewable generators. 16 17 And we attempted to reduce any duplications attributable 18 to purchased power agreements or self-generation that 19 was taken from the Load and Resource Plan, and 20 eventually we came to the conclusion that we should set 21 aside the renewable energy assessment survey and take it 22 from Tom Ballinger's survey for the purposes of this 23 spreadsheet, and the other survey that was distributed we will hold for future purposes. 24

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MR. ZAMBO: My only comment, if I may, is that

what it does is sort of -- it's a little misleading, 1 2 because you don't get the characterization of the 3 different types of renewables. If you lump them all 4 into self-generation, you don't know how much of that is 5 landfill gas or biomass. So I would suggest you break 6 that out so that you get a little better picture of what 7 we've got here, because I think what you want to do is 8 find out what are the resources that you've got, and 9 then take steps to encourage those. 10 MS. CLARK: The purpose is to know what you've 11 got and what the potential is over the near term. Okay. 12 MR. O'BRIEN: I guess to that end, I guess I 13 would take -- this is a survey of what the forecast 14 would be absent an RPS policy? Is that fair? 15 Presumably the question asked was what the forecast 16 would be, and the survey was distributed prior to the 17 RPS being announced and so forth. 18 In other words, I see a forecast of zero 19 percent for solar and wind, for example, and that will 20 change dramatically depending on the structure of the 21 policies that are put in place as part of the RPS. So 22 in terms of a resource forecast, it seems that it would 23 be prudent to have something like this that seems to be 24 a base case forecast for --25 MR. TRAPP: Let me clarify that the numbers --

1 the numbers past 2007 are meaningless, because it's not 2 an attempt to forecast anything. We probably should 3 have left those columns out, to tell you the truth. All 4 it simply shows is what we think we have now, what we 5 have being talked about now under current the situation. 6 And just for effect, I asked staff to do the percentages 7 out through 2020 to show that if we just stay status 8 quo, we're going to have such a reducing amount of 9 renewables that we're not going to meet any target. 10 MR. O'BRIEN: Thanks for that clarification. 11 MR. TRAPP: You're right. We do need to add 12 to this what we can forecast getting with different 13 scenarios of incentives or what have you, but this was 14 just the first step of where are we now and what happens 15 if we stay here. 16 MR. O'BRIEN: Great. Thanks for the 17 clarification. 18 MR. TRESHLER: My name is Joe Treshler. I'm with Covanta Energy. We are also a renewable energy 19 20 company that operates waste energy facilities. 21 And with regards to the survey, there's a 22 couple of comments. It appears that the total there it 23 shows is low by over 100 megawatts, so I will get with 24 IWSA, and we will see -- which is our trade group, and 25 see if we can reconfirm the number we have without the

addition, which you do show, of the Lee County and Hillsborough County expansions. That 368 should be 505 or 506 right now without the addition of those two planned units that will be coming online.

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5 The other thing is, I would suggest it might 6 be worthwhile to have two columns on these megawatts, 7 ones that are actually generating and ones that may be 8 on the books, but may not have even broken ground, 9 because that may be a false reality. It's one thing to 10 have a project on the books, but until the turbines 11 start and it's generating electricity, it's not doing 12 anything for the State of Florida.

13 MR. FUTRELL: And most of the -- especially on 14 the megawatts, it was contracted, and so there may be 15 some additional there that's further uses or 16 self-service. So if you give us some data, make sure --17 if you could break it out between actual capacity and 18 what may be contracted out, it would be helpful, and 19 actual energy produced as opposed to capability. If you 20 have data on actual energy production and could submit 21 that to us, that would help fill this out with more 22 accurate, real data.

23 MR. TRESHLER: I think the distinction I was 24 trying to make was -- you know, for example, I think on 25 the biomass, the number is high, but a lot of that is

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1 planned, and those facilities haven't even broken 2 ground, and may never break ground. Not that I'm trying 3 to be negative, but some projects never do go forward. So we need not to kid ourselves. We need to be looking 4 5 at what actually is being generated. 6 MR. FUTRELL: Okay. 7 MR. TRAPP: Mark, have we worked out the 8 logistics on how to get this information to them and how 9 to get it back? 10 MR. FUTRELL: We can -- I'm not sure. Do the 11 sign-up sheets have e-mail addresses? Okay. What we 12 can do is, if you want the file, if you'll make sure 13 you're on the sign-up sheet and we've got your e-mail 14 address, then we'll send the files as an attachment, as 15 an Excel file, and send to everybody that's on the 16 sign-up sheet. We can get that out -- as soon as we can 17 compile the list, we'll get that out to everybody. 18 MR. TRAPP: And mark it up and send it back. 19 MR. FUTRELL: Okay. We had a good discussion 20 on a lot of these questions in D. Does anyone have any 21 other follow-up to -- we touched on a lot of these 22 questions earlier. Does anybody else have any other 23 comments on Section D? 24 MS. CLARK: You know, what we sort of did was

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describe what would be in the RPS. And then if you were

1 looking at a clean portfolio standard, there are other 2 things you would likewise include, and let me just run 3 through them. Energy efficiency, demand side and direct load measures. We had in there nuclear energy. 4 5 Anything post 2006, that would include upgrades. You 6 would also include fossil fuel technology, providing for 7 carbon capture and sequestration, fuel efficiency 8 improvements. Grid improvements, that would go along 9 with the notion of improving efficiency not necessarily 10 on the customer side, but in the grid. Renewable energy 11 credits. And then we also had the notion of global 12 greenhouse gas offsets if you're looking at clean 13 energy.

MS. HARLOW: I would like to ask Ryan -earlier we touched on customer-owned renewable generation. How do the other states with RPSs include customer-owned? Do they do it through renewable energy credits, or do they include it at all?

MR. KATOFSKY: Most RPS programs use credits, whether exclusively or in addition to what we call bundled renewable energy purchases. Some states do not include customer side generation in their RPS. If there are renewable energy certificates used and if a customer can generate a REC, then they should be able to sell that to the obligated parties if the RPS is set up to do

that.

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2 In New York, they actually explicitly carved 3 out what they call a customer sited tier within their 4 RPS, but it's fairly small. But they actually said, 5 "Okay, we're going to have a wholesale tier, and we're 6 going to administer that in one particular way, and 7 we're going to have a customer sited tire, and we're 8 going to administer that in a separate way." 9 So there's a range of options, but the notion 10 of RECs, which I guess we'll hopefully get to, does 11 facilitate how you can get customer side generation into 12 the mix. 13 MS. HARLOW: I know it had occurred to me that 14 in our rush to discuss incentives for the utilities to 15 do things, you don't want to lose the incentives you 16 currently have for customers to do things for 17 themselves, and so I thought that should be something 18 we're aware of when we're working on this. 19 MR. KATOFSKY: Correct. Frankly, at the state 20 level, the main focus for customer side generation is on 21 financial incentives as opposed to using the RPS as a 22 big tool for customer side generation. It's more about 23 rebates. In New Jersey, you have the solar RECs, which 24 is a whole different sort of category within their RPS.

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But generally speaking, it is more about financial

1 incentives than it is about RPS when it comes to 2 particularly small customer sited systems. MS. HARLOW: I also noticed, I believe it was 3 in New Jersey, that in their RPS, in order for a 4 5 customer owned photovoltaic system to count or a small 6 renewable generator to count, it had to be eligible for 7 net metering. Do some states do that, require --8 MR. KATOFSKY: I'm not sure. I'm not sure. 9 The other general requirement, of course, is that if you're using a REC-based system, you have to register 10 with the REC registry, which may not be necessarily 11 12 practical for -- if I have a one or two kilowatt system 13 and I'm going to generate one or two RECs a year, that 14 may present some challenges as well.

MR. O'BRIEN: Just for clarification on that, the current New Jersey law does require that the net metered customers -- customers that register to sell solar RECs need to be net metered. The Commission is currently considering whether to modify that to allow for larger solar projects that might be free-standing to also sell RECs and participate in the market.

22 MR. FUTRELL: Okay. We want to take a short 23 break. Before we do, as time goes on, folks may have to 24 leave to catch planes. I do want to let everyone know 25 that we're going to ask -- give you an opportunity to

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file written comments.

2	The transcript from this workshop will be
3	available on September 4th, and we're going to request
4	that if you would like to submit comments, and we would
5	request that you would, that they be submitted by
6	September 12th. If you want to submit them earlier,
7	that's fine. We would really like for you to provide
8	use this as an opportunity to give us some concepts, how
9	you see RPSs, react to some of the discussion today and
10	give us some good feedback we can use so we can move
11	forward.
12	Let's take a break and come back a little
13	after 4:00.
14	(Short recess.)
15	MR. FUTRELL: Okay. Let's get started. Let's
16	go back on and continue our discussion on the agenda. I
17	would like to make a comment before more folks have to
18	leave. We talked about comments. One of the things on
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	future workshops for some folks that may have to leave
20	future workshops for some folks that may have to leave today is that we're looking at an additional staff
20 21	future workshops for some folks that may have to leave today is that we're looking at an additional staff workshop at the end of September. We haven't finalized
20 21 22	future workshops for some folks that may have to leave today is that we're looking at an additional staff workshop at the end of September. We haven't finalized the date yet, but the end of September is kind of the
20 21 22 23	future workshops for some folks that may have to leave today is that we're looking at an additional staff workshop at the end of September. We haven't finalized the date yet, but the end of September is kind of the period we're looking at for a follow-up staff workshop
20 21 22 23 24	future workshops for some folks that may have to leave today is that we're looking at an additional staff workshop at the end of September. We haven't finalized the date yet, but the end of September is kind of the period we're looking at for a follow-up staff workshop to continue our discussion and to get into some other
finish up topics that we may not get to today as well. So we'll get the notice out and let everybody know that well in advance.

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Okay. Let's move on to F, the structure of an RPS. And we've talked a lot about the FMEA proposal, and we've talked a lot about phase-ins and carve-outs and multipliers. Is there anything else anyone would like to make a formal comment on in this section?

9 MS. CLARK: Let me just -- maybe a quick way 10 to do this, I was just going to identify two things that 11 perhaps we wanted to mention today, and then we'll 12 address the remaining issues that you have in your 13 agenda in written comments. But just getting back to 14 what you might do in terms of a short term, we certainly 15 think that starting with that 2003 study is one method 16 of doing that, looking at where that may take you.

The other thing we would want to touch on right now is the notion of a carve-out and tiers, and I'm going to ask Bob McGee from Gulf Power to speak on that briefly.

MR. McGEE: I am Bob McGee with Gulf Power Company, and I just want to talk briefly about the carve-out, set-aside, multiplier issue a little bit.

Let me start with -- back to Mr. Trapp's comment about what incentives could the utilities come

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up with that would help us in complying with a renewable portfolio standard. And, of course, let me point out the obvious here. It is the utilities that are being required to comply with the standard. It's not the customers. It's not any other entity than the utilities that will be required to comply.

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7 So one incentive that is very useful to us in 8 complying with the RPS would be flexibility. One 9 element of that flexibility would be the ability to 10 determine what is the least cost method of complying 11 with a particular RPS. So I think one way to reach two 12 goals, one is incenting the utilities by giving them 13 flexibility, and secondly, emphasizing solar and wind, 14 for instance, and possibly other types of generating 15 technologies or sources, would be to use the multiplier 16 methodology rather than a set-aside, as a substitute for 17 a set-aside or a tier methodology.

18 Let me give you a example. If a solar 19 kilowatt-hour costs -- let's just use for an example 40 20 cents a kilowatt-hour, and we had a multiplier for that 21 particular type of methodology of five for the REC that 22 came out of that, you're then, in essence, causing that 23 solar kilowatt-hour to cost for the utility's compliance 24 purposes 8 cents a kilowatt-hour. You've reduced the 25 cost of compliance for the utility by a factor of five

1 for that particular technology, which incents the 2 utility then to -- if we're looking at competing 3 technologies, whether it's conservation or biomass or 4 PV, the PV then becomes much more cost-effective in 5 meeting whatever the RPS ultimate requirement is. So --6 MR. TRAPP: What is the five applied to? 7 MR. McGEE: The number of RECs -- and we're 8 going to get into a discussion about RECs, I think, 9 eventually. If you took -- let's use kilowatt-hours for 10 an example, and sometimes a REC is determined based on a 11 megawatt-hour. If a solar generator produces a 12 kilowatt-hour of electricity and a multiplier then is 13 applied to that -- many states have these, most of them 14 around 2, 2-1/2, 3 for solar, for instance. 15 Actually, let me go back. At one workshop, I think it was maybe Gwen Rose that made the comment that 16 17 multipliers haven't been terribly effective across the 18 United States. And I would submit that they're not not 19 effective because it's not a good idea. It may be that 20 they're not effective because the number is not large 21 enough. 22 And when you think about the price of solar PV

compared to other competing options, a multiplier of two or three probably isn't effective. But if we set it at, say, five, then a kilowatt-hour generated by a solar PV

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1 array would then be worth five kilowatt-hours in 2 complying with the renewable portfolio standard. Does 3 that make sense?

MR. TRAPP: Don't I have to increase the standard then to like 100 percent? I mean, 20 percent is 20 percent.

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7 MR. McGEE: Well, it is done in other states. 8 And it's all a matter of mathematics one way or the 9 other, whether the requirement is 20 percent and it's 10 firm and you've got to get that number of kilowatt-hours 11 regardless of what the cost is, or is it 20 percent and 12 solar starts out with a multiplier of five?

And as Mr. Reedy I think accurately pointed out, over time, the cost of solar is expected to actually meet the avoided generation cost. You could phase that multiplier out, decrease it over time, so that in the future don't have a multiplier anymore and you're actually generating the kilowatt-hours that you're retiring --

20 MR. TRAPP: But isn't that tied to the revenue 21 cap too?

MR. McGEE: I'm sorry?

23 MR. TRAPP: Isn't that tied to the revenue cap 24 too? You get five times more out of the revenue cap for 25 that technology, count give kilowatt-hours to one on the

1 energy goal side, but then you've got this -- we were 2 talking about this revenue cap over here that's going to 3 allocate dollars to incent these people. So they would 4 get five to one ratio in the revenue cap too? 5 MR. McGEE: No, sir. I would submit that you 6 wouldn't need to put a multiplier on the revenue cap. 7 You simply do it on the kilowatt-hours. And the 8 utilities, in attempting to comply with the RPS, look 9 for the lowest cost generation type. 10 If that happens to be PV for some portion of 11 it, they're spending enough money on that to do a 12 cost-effective generation compliance, and then they may 13 buy some biomass over here. All that gets together in 14 the mix, and whatever that revenue amount is would be 15 the revenue cap. You wouldn't have to do a multiplier 16 for that as well. 17 The multiplier applying to the kilowatt-hours, 18 in effect, decreases the cost of complying in allowing 19 that megawatt-hour or kilowatt-hour for solar to be not 20 40 cents, but 8 cents a kilowatt-hour effectively for 21 the utility. It does produce in the end fewer 22 kilowatt-hours when you've got the multiplier high like

24 order for PV to compete.

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And actually, I would submit to the gentleman

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that, but I think it needs to be set high initially in

1 in the solar industry an interesting question. What 2 would the multiplier need to be if you didn't have a 3 set-aside or you didn't have a carve-out in order to reach a 2 percent level of PV participation in the RPS 4 5 long term? 6 MR. FUTRELL: Bob Graniere has got a question. 7 Go ahead. 8 MR. TRAPP: Before you ask your question, Bob, 9 could I ask you to put that example, that hypothetical 10 on a piece of paper and send it to us? 11 MR. McGEE: Yes, sir. MR. TRAPP: Thank you. 12 13 MR. GRANIERE: I have a hypothetical for you. 14 I'm Bob Graniere. I have a hypothetical. Let's assume 15 the multiplier is 5 percent and it's on the KWH. 16 Wouldn't it be true then that all we would need is 17 3,800 megawatts of solar, and we meet a 20 percent 18 renewable portfolio standard? 19 MR. McGEE: Well, I haven't done the math, but 20 you could conceivably --21 MR. GRANIERE: A 4 percent carve-out times 22 five is 20 percent. 23 MR. McGEE: Well, it all comes down to how do 24 you want to meet your compliance. Do you want to do it 25 with all solar? Is that really your least cost option,

or do you want to do it with a mix of different things? And I believe you meant five times, not 5 percent; is that correct?

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MR. GRANIERE: No, that was five times, and that was the REC, and the RPS is met by the REC, the REC count. So for every one megawatt of -- for every one megawatt of solar, with that multiplier, you get five RECs.

And so basically what happens in that thing is that now the Solar Center people said that they could do 4 percent by the end date in some manner, but the math is quite simple at that point. With that kind of multiplier, the actual amount of renewables that goes into the ground is 4 percent solar in that example.

15 MR. McGEE: I believe you're mixing the time 16 frames there as well, because the 4 percent stated by 17 Bob Reedy earlier was the long-term end goal.

MR. GRANIERE: Right.

MR. McGEE: And if you also include his suggestion, which I agree with, that you should phase out the multiplier, that wouldn't be the case.

22 MR. GRANIERE: So how long would the 23 multiplier be in effect?

24 MR. McGEE: I would submit a logical thing to 25 do would be to take the cost curves that Mr. Reedy and

others have provided the Commission in previous 1 2 workshops and phase it out according to the cost curves 3 that they submitted would be a reasonable approach. 4 MR. GRANIERE: So that says what? It's only 5 worth three after five years and two after eight years 6 or something like that? MR. McGEE: No, sir. 7 MR. GRANIERE: Okay. But in the end, you will 8 9 agree that it's less -- that the actual amount of 10 megawatts with a multiplier would be less than 11 20 percent? 12 MR. McGEE: Yes, I do. I do agree with that, 13 but I do also agree that it would improve the economic 14 efficiency of meeting the RPS requirement. 15 MR. TRAPP: Again, why wouldn't you just use 16 the five times multiplier on the money side instead of 17 the kilowatt-hour side, just allocate five times more 18 money for solar than you would any other less preferable 19 renewable? 20 Again, I'm troubled by the fact that you're 21 not really meeting a 20 percent goal under that 22 proposal. As Bob said, you're meeting a 4 percent goal. 23 That's not what we were challenged with. 24 MR. McGEE: It's not -- and maybe the 25 gentleman from Navigant can help us with this, but it's

not uncommon to use a positive multiplier to up to 3 percent, three times for solar PV in order to meet a RPS compliance.

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MR. KATOFSKY: I think that's right. I think when people refer to multipliers, they're saying it's worth this many kilowatt-hours towards the compliance.

7 And actually, there's an analogue on the renewable fuels standard in the Federal Energy Policy 8 9 Act where they apply a multiplier. They have a goal of 10 7-1/2 billion gallons of biofuels by 2012, and they 11 apply a multiplier to the cellulosic ethanol portion. 12 So if you had a lot of cellulosic ethanol, you would 13 actually produce less than 7-1/2 billion gallons, but 14 still meet the standard.

15 But I think you could structure it any way 16 that you wanted to do it. If you wanted to structure it 17 with the multiplier approach on the kilowatt-hours, you 18 could do that it way. You could choose to do it another 19 way. You know, in New Jersey, they've done it by 20 setting a higher alternative compliance payment for 21 solar RECs, which is I think more similar to what you're 22 suggesting. Just for reference purposes, there it's a 23 factor of six, 300 versus \$50 a megawatt-hour. So the 24 ratio there is six, so that's similar to your five. 25 It's just one approach of two or three different

approaches.

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2	MR. FUTRELL: Does New Jersey have a
3	phase-out, or how does do you know if they
4	MR. KATOFSKY: I don't know if they have a
5	phase-out on the alternative compliance payment itself,
6	but the way that market should work is that as the cost
7	of solar decreases, then the value of a solar REC in the
8	market should come down.
9	MR. O'BRIEN: I can speak to that. This is
10	Chris O'Brien. I think in New Jersey, one of the New
11	Jersey's current program provides both an up-front
12	rebate and then revenue from the sale of solar RECs at
13	the \$300 per subject to a cap of \$300.
14	Their intent is to phase out the rebates up
15	front and to shift to a program that is entirely
16	dependent on the SREC revenue. So actually, the
17	anticipation is that the price for solar RECs will in
18	the near term actually increase from current levels,
19	currently trading about \$200 or so, and then decrease
20	over time as the costs come down.
21	To the point of what's the right multiplier
22	level, I would just like to respond to that quickly,
23	because I think that depends to a large extent on the
24	we talked again about revenue certainty, investor
25	certainty. To the extent that you're certain about how

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1 long you're going to get that price and how long you're 2 going to get that multiplier, you come up with a 3 different answer. If there is no certainty about what 4 the RPS requirement is going to be or what the rules are 5 going to be two years out, then the SREC price or the 6 multiplier level would both need to be substantially 7 higher than if you knew that for 15 years you were going 8 to get a certain -- you knew what the rules were going 9 to be 15 years out. So that's a consideration for 10 either the multiplier or for the SREC-based approach. 11 One relative advantage of the SREC-based 12 approach is that with the multiplier, given the dynamism 13 of the change in solar installed costs, you would need 14 to -- one of the beauties of having a separate solar ACP

15 and solar REC trading system is that it will 16 automatically adjust for those reductions in cost over 17 time. So as costs get cheaper, the market price for 18 solar RECs will get cheaper, because customers won't 19 need as high a price to finance their projects.

If you are relying on a multiplier, then you would need the administrator to be smart enough to adjust that multiplier in response to those changes in market price. So you would be -- you know, the beauty of having the market setting the solar REC price is that it can be very responsive as the cost of the technology

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changes over time.

2 MS. HARLOW: Chris, so if you have that 3 separate solar REC, is that combined with a system where 4 you have a set-aside for solar?

5 MR. O'BRIEN: That's correct. That's 6 typically the -- the regime would be that at the end of 7 a year, depending on who bore the burden, the energy supplier of the energy would have a record of the number 8 9 of kilowatt-hours sold and would need to produce renewable energy credits for -- solar renewable energy 10 11 credits for the compliance, the solar share portion of 12 the obligation, and renewable energy credits for the 13 difference, and then to the extent that there was a shortfall, pay an ACP for the shortfall, regular RECs 14 15 and the solar ACP based on the solar compliance 16 shortfall. That's the way it works currently in New 17 Jersey.

MS. HARLOW: And did I understand you correctly that initially you would expect the price of that solar REC to increase? And if that's the case, why?

22 MR. O'BRIEN: I'm sorry. That was a little 23 confusing. I was referring specifically to the regime 24 in New Jersey, where currently new solar projects 25 receive -- if you were putting solar on your house, you

would receive a rebate that was funded by an assistance benefit charge. So you would receive a rebate up front, maybe \$3 a watt or so, and then you would also be eligible to sell your solar RECs into the market.

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5 So the price that you -- you would be 6 calculating -- you would pencil that out, and depending 7 on -- the price that you would need for those solar RECs 8 wouldn't be quite as high as it would be if you weren't 9 getting any rebate and the only incentive you were going 10 to get was the solar RECs. So as the state phases out 11 rebates, we expect that there will be a compensating 12 increase in the solar REC price, but then it will 13 decrease as the cost of the technology comes down.

MR. FUTRELL: Bob, did that conclude your remarks, or did you have anything else to follow up with?

17 MR. McGEE: I do have one additional comment 18 in that vein, and that is, I just wanted to point out 19 that renewable resources are very geographically 20 oriented, in the sense that in our service area, for 21 instance, we don't have a phosphate industry, but we do 22 have other industry. We've got the paper industry and 23 that sort of thing. So in your consideration of tiers 24 and of set-asides and that sort of thing, it would help 25 us tremendously to be as flexible as we can in meeting

1 the renewable portfolio standard, to allow us to choose 2 from our particular service area those things that are 3 most easily available and least cost for us as a 4 particular utility. 5 Thank you. 6 MR. TRAPP: As you address these proposals in 7 your post-hearing workshops, I really would appreciate 8 it if you would go to Section 3 of the Governor's 9 executive order and reconcile any of your proposals to 10 the statement or to the request from the Governor 11 requiring that utilities produce at least 20 percent of 12 their electricity from renewable sources, with strong 13 focus on solar and wind. And again, my struggle is, 14 your math gets me 4 percent, not 20 percent.

MR. McGEE: Yes, sir, I understand. And ultimately, if the phase-outs were to occur before -and this the way it would work ideally, before you got to the 20 percent requirement in whatever year that is, 2020, 2025, then you would be at a full 20 percent renewable energy generation.

21 MR. TRAPP: That's why I would like you to 22 give me a hypothetical on a piece of paper. Show me how 23 that works.

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MR. HINTON: Mark, if we're at a lull, I've got a question over here. I know we've talked about it.

A couple of times it has been mentioned, but I want to make sure that we talk a little bit about it in specifics. And if you all could address it in your written comments as well, that would be great.

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5 I notice that some states -- and I'm talking 6 about compliance. Some states have alternative compliance payments, where if a utility doesn't make a 7 benchmark, they would make this payment, and that 8 payment would go into some form of public benefits fund 9 10 earmarked for subsidizing renewable projects. What do 11 you think about some form of alternative compliance 12 payment that would be earmarked to go into, say, the 13 renewables grant program at the Energy Office over at 14 DEP, something along those lines associated with 15 Florida's RPS?

16 MS. CLARK: We have generally talked about the 17 fact that it should be available as a means of meeting 18 that goal, and it should be just that, an alternative 19 compliance payment, not a penalty. If you don't have it 20 for whatever reason, you can make that payment, and then 21 it can be used for pursuing the renewables. We do have 22 concerns about who, you know, administers it, what do 23 you use it for, and that sort of thing.

24 MR. HINTON: Do you have a problem if it went 25 to someplace like the Energy Office, who is already

dealing with providing grants for renewables and that type of thing, or would you prefer a third party even outside of the state agency?

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MS. CLARK: Well, those are things that I think you need to think about, and I would hate to see -- I don't think it's wise to do what I've seen in some states, particularly California, where they have this huge bureaucracy that does those sorts of things. I think it's far better if you can keep it in the utilities to pursue and acquire the renewable resources.

11 MR. HINTON: So the funds would be 12 administered by the utilities?

MS. CLARK: Perhaps. I'm just trying to think. It seems to me if you have an alternative compliance payment, it's because you can't meet that goal for that year, for whatever reasons. Do you want to have the compliance payment with the idea that it can be used in future years to inspire further through more funds available to meet the goal next year?

20 MR. HINTON: What distinction do you draw 21 between that and a penalty?

MS. CLARK: Because one is you're complying with the goal, and the other one is you're saying you didn't comply with the goal. And you provide -- it goes back to the notion of flexibility, in being able to have

a variety of ways available to meet that goal and not be viewed as not meeting the goal and being penalized for it.

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And as I look through the other states, I think there was only one that sort of characterized it as a penalty. The others were careful to say it's an alternative way of complying with the goal.

8 MR. HINTON: Now, what do you think about cost 9 recovery for alternative compliance payments? Is that 10 something that should go into the rates?

MS. CLARK: Absolutely. It's another way of complying with it. And I believe in those other states it was recoverable. There may have been one or two where it wasn't recoverable, and it would seem to me that it's maybe not accurate to call it an alternative compliance method.

MR. HINTON: More like a penalty.

MS. CLARK: But the other states had -- I saw in the other states where they had that alternative, it was recoverable in the same way other expenditures to meet the goal are recoverable.

22 MR. TRAPP: What's the difference between an 23 alternative compliance payment and an affordability rate 24 cap? Are they on top of each other, or are they part of 25 each other?

MS. CLARK: I guess I saw it that even if you 1 2 had a rate cap and you had a goal, there's a chance that 3 there was not enough near term renewable resources out 4 there within the time period that you had to meet that 5 goal, so you would make the alternative compliance 6 payment. 7 MR. TRAPP: So you have two tiers of dollar 8 boxes out there. 9 MS. CLARK: No. I guess maybe I misstated it. 10 It seems to me that --11 MR. TRAPP: You take money --12 MS. CLARK: Here's the rate or the cap, and 13 you would be considered to have met the goal if you 14 either meet the goal or you bump up against your rate cap. If you've done neither, you could make an 15 16 alternative compliance payment which brings you up to 17 that rate cap. 18 MR. TRAPP: Which means to me that the 19 affordability rate cap and the alternative compliance 20 payments are the same thing. Both are being recovered 21 through some cost recovery mechanism from ratepayers. 22 Both put you in compliance with the goals. It just 23 seems to me that you deal with an affordability rate 24 cap, and you set it at the proper level to spend the 25 amount of money we need to to get the goals.

1 MS. CLARK: I guess maybe I could agree with 2 you if the goal you have set is something that's 3 achievable and the rate cap is set so that the two are 4 going to match. 5 MR. TRAPP: Yes. 6 MR. MOLINE: A comment on that as well. Т 7 think that Susan explained it extremely well, you know, 8 the idea of hitting the resource goal versus the rate 9 cap, the affordability rate cap goal. And ultimately, 10 what we're talking about sort of round and round today 11 is to balance the issue of that 20 percent goal versus 12 how much might rates change or might customers' bills 13 change. And, you know, we heard from Charlie earlier 14 that he didn't want rates to change at all. 15 Not to be dramatic, but I printed out this 16 picture, because this is not -- this is not a political 17 statement, but there's an elephant in the room here, and 18 that's cost. And we keep dancing around this issue of 19 cost, and you know we have to deal with it at some 20 point. You know, how much are customers' bills going to 21 change? In some cases they might go down because 22 they're cost-effective measures. In some cases they 23 might go up. But the point is that in order to meet 24 20 percent, there may be a change in customers' bills, 25 and the idea of the affordability rate cap is to hold

down that cost, make a significant investment, and see what that does.

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By the way, I did look at some states' alternative compliance costs, and they range wildly. And I think, without knowing -- maybe Ryan can shed some light on it. Some are very low, which seem to reflect an affordability rate cap, and some are high, which seem to reflect a penalty.

9 I won't go through them all. There are 11 10 that I found. They range from New Mexico, sort of 1 to 11 2 percent of gross revenues, Washington, 4 percent of --12 actually, this is a sliding scale up, but ultimately up 13 to 4 percent of gross revenues, to other states that are 14 in the range of 5-1/2 cents a kilowatt-hour, which is a 15 -- to us, that would be a doubling of our wholesale 16 rates, essentially, which is pretty stiff. So they 17 range from where we are in our proposal, you know, in 18 the 1 percent range, all the way up to a doubling of wholesale rates, although Wisconsin has -- their 19 20 language is make a good-faith effort, but I don't know 21 that we would be satisfied with that here.

The point is that we have to address cost at some point, and I think that we can't be glib about it. We have to put the issue on the table. And if we want to -- if you as the staff want to take the executive

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1 order and say, "Here's 20 percent, and here's what we 2 think that will cost," well, that's fine. Maybe there's 3 value to putting several options on the table for the 4 Commissioners so that they can see the cost of the 5 original order and then maybe the cost of some 6 creativity and doing things different ways. 7 MR. FUTRELL: Who? Oh, Bob Graniere. 8 MR. GRANIERE: Instead of a question this 9 time, I just want to offer this as an explanation of the 10 difference when an alternative compliance penalty is a 11 penalty and when it's an alternative compliance payment. 12 Regardless of its level, it would seem, and 13 what the literature seems to show is that when the 14 alternative compliance payment is put into some sort of 15 mechanism that guarantees that renewables will get on 16 the ground in the future, it becomes an alternative 17 compliance payment. If, however, it is put in some 18 mechanism where some of that money, or even all of that 19 money does not find its way into a fund, where it does 20 not guarantee that renewables will get on the ground 21 sometime in the future, then it looks just like a 22 penalty.

The other thing we have -- the other pieces of information that we've gotten in other workshops is that there is a ranking of the level of these payments. In

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1 general, an alternative compliance payment is higher 2 than the most cost-effective renewable facility alternative, which is also generally higher than the 3 price of the REC. So the general ranking for these 4 5 things to be workable and to do what they're supposed to 6 do, the lowest priced thing is the REC, the next lowest priced thing is the cost of the lowest priced renewable 7 8 energy facility, and then the alternative compliance 9 payment is above that. Any other ranking, the incentive structure is destroyed. So as a result, that's why --10 11 so those are the criteria to make it an alternative 12 compliance payment and not a penalty.

13 MR. KATOFSKY: I guess I would just like to 14 add a couple of things on this topic. An ACP is meant 15 really to do two things. One is to cushion impacts to 16 ratepayers, but it also needs to be high enough to 17 create an incentive for renewable generators to come 18 into the market. So in Massachusetts, we have one 19 that's 5 cents a kilowatt-hour adjusted for inflation. 20 It's around 55, \$56 a megawatt-hour today, and that 21 should be enough to get a lot of generation into the 22 ground.

At the same time, when you multiply that through, assuming that there was no generation built and everybody was paying the alternative compliance payment,

1 when you multiply that on the percentage of the RPS, it amounts to a fairly small overall rate increase. So if 2 3 the Massachusetts requirement is 4 percent in '09 times 4 5 cents a kilowatt-hour, it's a tiny fraction of, you 5 know, 1 cent. If you had a similar ACP in Florida times 6 20 percent, it would increase the bill by about 1 cent a 7 kilowatt-hour, which would be a fairly high impact. 8 That was assuming that everybody was paying the 9 alternative compliance payment.

The one other comment I would make is that the notion of cost recovery and ACPs was also developed when states were doing their unbundling, so a lot of these early RPS programs included restructuring. And competitive suppliers, of course, are not subject to cost recovery.

16 So I think it would actually be very 17 instructive to go through all the states and see in 18 which states do ACPs get included in cost recovery and 19 in which ones do they not, because I think in a 20 vertically integrated market such as Florida, I think 21 it's worth looking at that issue very carefully as 22 opposed to -- you know, if Massachusetts' restructuring 23 is wildly successful, we would all be on competitive 24 suppliers, and they would just be pricing their products 25 in the market subject to the market. And if they had to

pay alternative compliance, that would be their tough luck, basically, and if they could pass that on to customers, great. If they couldn't because the market price for power would not allow them to do that, then they would have to absorb that in that particular year.

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I think those are all things to think about as to how you structure if you want to have an ACP as part of the RPS or have some other mechanism in Florida.

9 MR. FUTRELL: Ryan, let me step back to one 10 thing we were talking about earlier, about the idea of 11 using alternatives for compliance and to encourage 12 different types of renewable resources as far as the 13 tiers, carve-outs. We talked a lot about multipliers. 14 How have states wrestled with deciding which of those 15 types of methodologies are better? What kind of 16 considerations have gone into that? Obviously, there's 17 a whole host of them out there. What's your impression 18 of the states' experiences in that?

MR. KATOFSKY: I'm not sure I'm going to have a very good answer for that question. I think it depends on the situation in that state.

We've talked a fair bit about New Jersey, and they're actually a good example of a state that has done quite a number of things. And they had a strong interest in solar because they looked at their in-state

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resources, and they don't have a lot of onshore wind in New Jersey. They're geographically quite small, so they don't have a lot of biomass resources in New Jersey. But what they do have is, they have an awful lot of rooftops. They have about 8 million people in New Jersey. I think one of the people there referred to them as the Persian Gulf of flat roofs.

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8 So they had a strong interest in solar, so 9 they structured their RPS program with a solar 10 set-aside. And then, as the earlier comments were made, 11 in order to facilitate a phasing out of a subsidy, of a 12 rebate program, which is a fairly expensive proposition 13 for a state that has a large solar target, they created 14 a solar REC market. So they have sort of a logic there.

15 I think every state just pursues that sort of 16 based on their own needs. In Pennsylvania, they wanted 17 a broader set of technologies to qualify, so they 18 created tiers. They have a tier that includes coal bed 19 methane and energy efficiency, clean coal technology. 20 Municipal waste is in one tier. They have sort of the 21 more traditional renewables in a separate tier. So 22 every -- and they had their reasons for doing that. 23 Obviously, they're a coal state, so they had some other 24 technologies included in their definitions of 25 eligibility. But at the same time, they created tiers

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1	to recognize that there are differences among them.
2	MR. FUTRELL: Okay. We can move on to the
3	MS. GREALY: Mark, could I
4	MR. FUTRELL: Yes, go ahead, sure.
5	MS. GREALY: It just occurred to me, this has
6	been very helpful, but it has been in response to, you
7	know, particular questions. And when we talked about
8	the next workshop and the next workshop, as you were
9	speaking and again, very helpful, very informative.
10	I've been obviously trying to do as much education,
11	self-education as possible.
12	But I was wondering if it might be useful for
13	all of us if we could get some sort of overview, summary
14	presentation about what is happening in each of the
15	states. You know, if some you think are more relevant
16	than others given our market, fine. But I for one would
17	find that extremely helpful and maybe of beneficial use
18	for the next workshop.
19	MR. FUTRELL: That's a good idea. That's
20	something we may want to talk about. That's a good
21	idea.
22	Okay. Let's talk in the remaining time to try
23	to see what we can get through on renewable energy
24	credits. Again, we've talked about that somewhat today.
25	Would anyone like to open up with any comments on some

of these questions we've got on renewable energy
credits?

MS. CLARK: I think, Mark, more extensive comments will be something we'll do in a written filing, but, yes, we do think that RECs should be used for compliance purposes.

7 One of the things, you asked about 8 out-of-state renewable energy credits. We think, of 9 course, if you are focusing on the Florida market, you 10 want to use them to the extent they're available, but 11 would suggest that utilities be permitted to purchase 12 the out-of-state RECs.

13 One of the things we've been sort of trying to 14 toss around is, in order to meet the notion of inspiring 15 or trying to incent in-state revenues, maybe you 16 should -- not revenues, renewable resources. If you're going to allow the RECs, which we think you should, is 17 18 there some way to value the in-state RECs in a different 19 way to recognize that they are an in-state resource? You might discount the out-of-state RECs. 20

You also asked how long should they be used for. And let me go back. Absolutely, we think there needs to be a tracking system, a tracking and trading system. I looked at one website on RECs, and they listed some of the entities that undertake this

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third-party administration of the RECs, and we saw ERCOT 1 2 and NEPOOL among those third-party entities. 3 As far as how long the credits should be used for compliance, I understand that typically the RECs are 4 5 allowed to be used for compliance up to three to five years from when they are generated. Of course, a longer 6 7 period would minimize costs to customers, so that's something to think about when you think about 8 9 incorporating a REC system into this endeavor. 10 Absolutely, on the banking, we agree that 11 banking should be allowed of those RECs. 12 As far as what it may do to the voluntary 13 green power programs, we're still sorting through that. 14 It seems to me that if you have more demand for a 15 limited number of RECs, it will certainly drive up the 16 price for that. So to that extent, to the extent the voluntary programs are purchasing RECs, it will increase 17 the price of those RECs if the supply of RECs is not 18 19 also increased. And given that there will likely be a 20 rate impact, you may see some customers dropping out of 21 the voluntary program, because now there is, in effect, 22 a mandated program. 23 MR. FUTRELL: Go ahead. 24 MR. BRYANT: May I ask a question first, Bob, 25 just to make sure I understand, on the topic about

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1 should out-of-state renewable energy credits be counted. 2 Just so I understand, let's assume that Tallahassee 3 contracted with a biomass facility 32 miles north of 4 Tallahassee, which would place it in Georgia, give or 5 take a mile. Does that question then anticipate or ask 6 whether or not that biomass facility should be countable 7 for the City of Tallahassee for renewable energy 8 credits? 9 MR. TRAPP: I have a question for you. Are 10 you combining the attributes of kilowatt-hour production 11 and environmental attributes to your REC, or are you 12 divorcing them? That was my question to Susan. Do you 13 have to buy the power with the REC, or is the REC 14 detached? 15 MS. CLARK: Well, let me --16 MR. TRAPP: Because that goes to my next 17 question. I'll give you the whole series. You gave me 18 your whole series, so I'll give you my whole series 19 back. 20 In response, my question -- and I MR. BRYANT: 21 don't mean to interrupt. 22 MR. TRAPP: I don't know, because it depends 23 on whether you tie the energy with the REC, and then how 24 you account that for the goal. 25 I go back to my question earlier. Please FLORIDA PUBLIC SERVICE COMMISSION

address how this reconciles with the Governor's request to the Commission that 20 percent production be from renewables.

4 Therefore, if you tie the kilowatt-hours to 5 the RECs, I see how you count that toward that goal. Ιf 6 you disassociate them, then all we're doing is trading 7 money, and I go back to my previous premise: Why don't 8 you just do it on the dollars instead of the 9 kilowatt-hours and let the kilowatt-hours stand alone, 10 because you get into all these questions about does Fred 11 have to get physical transmission rights across the 12 state line to get a REC out of Georgia --13 MR. BRYANT: See, actually, my --14 MR. TRAPP: Or does he just get the REC out of 15 Georgia because it floats as a piece of paper, a 16 certificate to him. And I think that's what all these 17 questions go to. We're asking y'all.

MR. BRYANT: And that's the reason -- and, Susan, I apologize for interrupting you, because I think you were responding to it differently than I was thinking of the question. In my terms, I assumed the question was -- the reason I used Tallahassee is because they have a transmission line that goes to Georgia. MR. TRAPP: You're right.

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MR. BRYANT: So I was assuming that

Tallahassee would then receive the power, the energy 1 2 from the biomass facility, so that was part one of my 3 question. And in that case --4 MR. TRAPP: It depends on whether we say it 5 has to be generated in Florida or not. 6 MR. BRYANT: Yes. I would think that --MR. TRAPP: Should it be received in Florida? 7 8 MR. BRYANT: I would think the biomass 9 facility --10 MR. TRAPP: Should it be totally disassociated 11 and a certificate come to Florida? I mean, those are 12 the three options I think we need to come to resolution 13 on, and I don't have an answer, so I look to your 14 comments to tell us what to do. 15 MS. CLARK: Well, in answer to his question 16 about out of state, I should have been maybe a little 17 more precise. If it's energy being delivered into the 18 state, then it would be actually replacing some energy, 19 presumably. 20 Now, your question about you buy the energy 21 and then you buy the REC, what I've seen in the websites 22 and I think what you need to care about is no double 23 counting of something as a renewable, and that's what 24 the RECs do address. If you are selling it as a package 25 or a part of whoever is purchasing that power pays for

is renewable energy as opposed to energy, there's no REC associated with that generation. So you want to prevent that double counting, and that's why you would have the trading and tracking system, so one source for the same generation of electricity doesn't get two credits or double counted.

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7 MR. TRAPP: I also wanted to ask a question 8 about the volunteer programs out there. If customers 9 still want to -- notwithstanding a 1 percent revenue 10 increase or whatever the affordability cap might be set 11 at, if a body of customers still wanted to contribute 12 another 10 bucks on top of that to a voluntary program, 13 what's wrong with that, and what's wrong with counting 14 the kilowatt-hours toward the goal, but just not taking 15 any more money out of the total cap? Use their \$10 if 16 they want to give us \$10. It takes -- it means \$10 less 17 you have to take out of the affordability cap, but we'll 18 count the energy anyway.

19MS. CLARK: I think to the extent you let the20customers volunteer to do that, it's better.

MR. TRAPP: Yes.

22 MS. CLARK: And I wasn't suggesting that --23 MR. TRAPP: I was just seeking clarification. 24 MS. CLARK: You were asking for the effect on 25 the volunteer programs, and I wasn't suggesting that

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1 2 they would be done away with.

MR. FUTRELL: Ryan has a comment.

MR. KATOFSKY: The issue of double counting is I think very important. And to your last point, generally speaking, if an either -- the terms we use are -- we talk about bundled renewable energy, so that is energy with attributes.

8 And to the first point about the sort of 9 out-of-state RECs or out-of-state eligibility, generally 10 speaking, just about every RPS, maybe with one or two 11 exceptions, defines a geographic boundary in which the 12 renewable generation can qualify. So, for example, the 13 PJM states generally use the PJM control area, so if 14 Delaware has an RPS, but it's generated in Maryland, 15 that counts. And they use a REC tracking system, so 16 they use the RECs from anywhere within PJM to qualify.

New England does the same thing with the six New England states. Texas is its own control area with very little interconnection, so in Texas, if it's not made in Texas, it doesn't count. You can't bring it into the control area.

If power is -- if RECs are to come in from outside the geographic area, the general way that the RPS programs approach that is that the REC can come in if there is also a contract path for the energy. So

1 there are projects in New York State that are Mass. RPS 2 qualified. The only way they can sell their REC to 3 Massachusetts is if the power is delivered to the New 4 England Power Pool. It doesn't have to go to the same 5 place, but it has to come into the New England control 6 area, the energy. So you can contract for RECs out of 7 state as long as the energy -- or out of region as long 8 as that energy also comes into the region. So that's 9 sort of one issue, but that's generally how people have 10 approached it, with geographic boundaries.

MR. TRAPP: Is there a difference between -going back to the regulated versus deregulated markets, it seems to me I read that there's more of a propensity for contract path type of systems in vertically integrated regulated states, whereas the REC trading programs are more prolific in the dereg states.

MR. KATOFSKY: That's correct. But you could apply similar criteria. You could say -- I guess if you were only doing contract path and you were only dealing with a bundled product, then you don't really have much of a choice. You have to deliver it to the obligated party.

23 MR. TRAPP: So then the only value to a REC 24 would be if they had an extended life attached to them 25 and banking attached to them so that if you created a

1 surplus in any one year, you could carry it over into 2 another year. 3 MR. KATOFSKY: Correct, so the REC gives you 4 that flexibility and can smooth out some pretty volatile 5 ups and downs in REC pricing. 6 MR. TRAPP: So even in a regulated state like 7 Florida or a vertically integrated state like Florida, 8 RECs would have some value to --9 MR. KATOFSKY: You could still do it that way, 10 yes. 11 And to the other point about voluntary versus 12 mandatory programs, generally states that have both, 13 they have green power pricing, or in unbundled states, 14 they're called green checkoff programs, they generally 15 try to avoid counting any renewable energy that is paid 16 for in a voluntary program as counting towards an RPS 17 target. 18 MR. TRAPP: And why is that? 19 MR. KATOFSKY: I think they just want to avoid 20 the potential for double counting. If you decide, hey, 21 someone has paid for this out of their own -- sort of 22 the goodness of their heart or the guilt that they feel, 23 or whatever it is that makes them purchase green power, 24 you could say to yourself, well, that's still helping 25 meet a statewide goal, and that's okay, as long as you

made sure that it wasn't sold twice. That would be 1 2 really -- obviously, it would be really important to 3 make sure it wasn't sold twice. 4 MR. TRAPP: I agree with that. 5 MR. KATOFSKY: Because that's a really good 6 way to make money, if you can sell the same thing twice. 7 But you could set up an accounting system based on 8 kilowatt-hours that would look at the physical 9 quantities separately from the who paid for it. You 10 could do that. 11 MR. MOLINE: We've grappled with this issue a 12 bit too. And interestingly, the issue of where the RECs 13 are generated or where the renewable energy is generated 14 and if it's far away, you know, we sat and talked about, 15 you know, FPL has been a leader in wind nationally, and, 16 you know, should they get credit in Florida. And we 17 thought it was probably a good idea for them to get credit in Florida for that. 18 19 Simultaneously, you also want to provide --20 you know, one of your initials goals talked about 21 economic development. We want to develop these 22 resources in Florida, and those two issues would sort of 23 go against each other. 24 There may be a way -- and we talked about the 25 idea of out-of-state RECs, where a KWH would be worth 75

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percent of in-state or something like that. And Colorado does that as well.

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3 There may be another way to do it, and that is 4 to have is a limitation, a quantity limitation of so 5 many kilowatt-hours of your goal can come from out of 6 state. And that way it allows us to do get credit for 7 whatever it is that we're either purchasing or maybe 8 investing in elsewhere to a certain degree. We 9 recognize the value of building in Florida as well, so 10 that way there's not a penalty for doing that for every 11 kilowatt-hour that's generated.

MR. TRAPP: So we have a carve-out for RECs. MR. MOLINE: Yes. Well, we do like RECs for the -- as Bob was suggesting, for flexibility. I don't think anybody is going to comply 100 percent with RECs, but to smooth things out, as Ryan said.

17 And we also have that issue of regional 18 markets. You know, do we do the Southeast? You know, 19 we don't have the same control area issues as PJM and 20 others, but can we just claim the Southeast as a place 21 where, you know, we're just commingling, or do we just 22 say, you know, as I suggested in the first place, a 23 certain quantity of renewable energy can come from 24 elsewhere? And ultimately, it goes back to the idea of 25 what are we trying to do here. You know, it's a

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planetary issue, so does it really matter where it's generated if it actually is generated and we can account for it?

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The issue of trading RECs, there might 4 5 ultimately be an in-state market and an out-of-state 6 market, because the out-of-state RECs tend to be -- have to be certified. Green-e is one certification 7 mechanism. If our definition goes beyond -- if 8 9 Florida's definition of renewable energy goes beyond what would qualify as a Green-e REC or a qualified REC 10 11 from somewhere else, we couldn't trade that elsewhere. We might not be able to trade an MSW REC elsewhere, but 12 13 we might be able to trade that in-state. So there might be two mechanisms, you know, our definition versus a 14 national definition. 15

16 MR. TRAPP: Who administrates this thing? 17 Who's going to go out there and verify -- and don't 18 point to me.

MR. MOLINE: I don't know.

20 MR. TRAPP: I've been to ISO land, and I've 21 been to the broker land, and I've been to all these 22 lands, and it seems like you need an administrator to 23 keep track of these things, verify them and all that 24 kind of stuff. Sounds like more money.

MR. KATOFSKY: You have REC registries. In

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all these jurisdictions that use RECs, you have to have 1 someone who, you know, provides that sort of initial 2 3 registration and certification, and then the tracking. It's all -- these are functions that if you go to a 4 5 REC-based system you need to maintain, whereas if you do a contract path, you just have to make sure that that 6 7 resource qualifies, and then you have a power purchase agreement or what have you between the two parties. 8 9 MR. TRAPP: Has anybody done 10 self-certification and gotten away with it without a 11 whole lot of finagling and corruption and what have you? 12 MR. JONES: Yes. I can say in JEA, in their 13 RPS, their self-imposed RPS, it was self-certification when we were there. We decided to not buy into the 14 15 Green-e rules. We did our own self-certification by our 16 own rules. So you can go naked, if you will, and not 17 have a certification, like follow Green-e or ERT or the 18 Bonneville rules. But I think if you adopt a certain 19 rule, then you're just following all the standards of a 20 Green-e certification. MR. TRAPP: Did you have audit follow-up or 21 22 anything to check on the --23 MR. JONES: Well, you know, actually, GRU, 24 actually, as I understand it, they have an independent 25 auditing company that comes in and tracks the RECs sold

1 in a voluntary program with a CPA, and they certify 2 their own. So you can. I don't know that I would 3 endorse that. But I think you could, you know, address 4 the issue of the certification by using a third-party 5 verification compliance methodology like Green-e. We're 6 not saying the Green-e rules, but there are several 7 different types of rules, and you could just adopt those standards. 8

9 And even with some minor variety to that, 10 speaking to what I had mentioned earlier, is the idea 11 that some other non-electric energy production 12 facilities could be counted toward the RPS. Again, 13 we're talking about an energy portfolio standard 14 perhaps. I would hope that the Governor's intent was a 15 renewable energy portfolio standard, not a renewable 16 electricity standard. And so, you know, you can 17 certainly just adopt a certain set of rules.

And just to give you some background too on the cost of the tracking mechanisms, in New Jersey, the company I was with previously, we bid on the administration portion of that. I think we bid it at 375,000 to administrate it for a year. Somebody else bid it at something like 40 or so thousand, and they won.

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So it's not a fortune to set up a tracking

mechanism. It's really just -- once you define what the rules or a REC are, the third-party verifiers will come in and do the audits and look at what -- make sure that the RECs complied and that they match up with the sales. You can get into processes like New York, you know, with conversion transactions, and they get very complicated, or you can do something very sensible and very easy.

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MR. FUTRELL: Has there been any discussion or thought about using a phase-out on RECs and using them in the near term to help maybe meet some near term goals and then phasing them out to help develop real projects?

MR. JONES: Well, I think the RECs and the 12 megawatt-hours that are behind the RECs are just a unit 13 14 of measure, and it's just sort of -- if you can't measure it, you really can't tell whether you got to 15 certain goals. So phasing out RECs would be almost like 16 17 saying you're just going to stop counting. So RECs are just -- in my mind, just a unit of measure or a 18 mechanism or a matrix to tell whether you've got to a 19 20 certain goal or not.

So I'm not sure if I addressed that correctly, but to phase them out -- and actually, at some point in time, when greater than, let's say, 50 to 60 percent of the total generation is renewable, RECs become irrelevant. Like why bother counting at that point?

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MS. HARLOW: Ryan, are there any states that use contract paths in their RPSs rather than a REC counting system? And if they do use contract paths, or if Florida decided to do that, if our Commissioners decided to do that, how would we prevent our utilities or our generators from selling RECs outside the state into other RPS programs so there would be a double counting, it just wouldn't be happening in Florida?

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9 MR. KATOFSKY: California certainly does not 10 use RECs, and neither does New York, so California is 11 probably the best example of a state that uses a 12 contract path approach. I believe there are some states 13 for which they permit both. I think Arizona and New 14 Mexico have RECs as an option, but also would allow 15 direct purchases of bundled renewable energy.

16 I think if you went with the contract path 17 approach and you wanted to ensure that the utilities 18 didn't double count, you would have to develop a system 19 where you could monitor that and make sure that they 20 weren't selling RECs elsewhere. It wouldn't just be a 21 question -- a general issue for anybody who has 22 renewable energy these days is that there is a voluntary 23 REC market out there. And I buy RECs for myself, you 24 know, on a voluntary basis, and it's fairly easy to do. 25 So I buy -- you know, I'm hopefully buying it from a

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reputable source, and I would hope that they're not also selling those RECs to somebody else.

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MS. HARLOW: I'm just wondering about the issue with double counting with RECs, even if we do have this administrator, because like you're saying, different states have different administrators. How do those administrators know what's going on in the other states so it's not double counted?

9 And it reminds me of a situation where you 10 have a snow bird, and they vote for the president in 11 Florida, and then they fly home and they vote in New 12 York because they're so patriotic they want to vote 13 twice, you know. And it's because you have two 14 different systems checking on the votes in two different 15 states.

16 MR. KATOFSKY: Right. And actually, that's a 17 good question, and I'm not sure that I have a 18 satisfactory answer, but you would need to ensure that. 19 And there are projects that are RPS certified in 20 multiple states, and then they can choose, presumably, 21 which states they will sell their RECs to in a given 22 year, depending on what their contractual obligations 23 are. And this is a -- you know, we have a patchwork 24 system of RPS in this country, and that's just the 25 reality.

MS. CLARK: Judy, I would just respond to that. I'm not sure that would be a concern if they're selling two RECs. I mean, I would presume they have to certify that they're selling the attributes to you, and if they then certify to somebody else, they're selling the attributes, there's a fraud somewhere.

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MR. JONES: Judy, if I can clarify, just from 7 a practical operational point of view, what happens is 8 9 that at the year end, a REC entity who has to comply either for voluntary or compliance purposes gathers up 10 their attestation forms. And these attestation forms 11 12 come from the generator of those RECs, and they attest 13 that these are the true and correct meter readings and that they have not sold these to any other party. Then 14 15 you have these third-party entities that are separate to the transaction that ostensibly go in and do audits and 16 17 match up the attestation forms with the generation and 18 make sure they're not double counted.

19 So there are third-party entities, and then 20 there's also a whole 'nother set of guidelines that the 21 National Association of Attorneys General have written 22 on the rules and ethics and standards and practices and 23 things like that. So there's a fairly good amount of 24 understanding of how REC transactions are supposed to 25 work. And knock on wood, so far there has not been an

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Enron-ish sort of thing that has gone on, and most 1 2 people really recognize that the way to assure that is 3 to have the third-party entity certify the RECs. That's not to say that it's foolproof, but at least you've got 4 5 a third party that's not part of the transaction that's 6 assuring that these were only sold once and from one 7 specific generator and meet certain rules. MS. HARLOW: So that third party is outside of 8 9 that entity that you said earlier won a bid for a 10 statewide contract for \$40,000? 11 MR. JONES: No, that was actually the 12 registry. MS. HARLOW: The registry. 13 14 MR. JONES: The entity that basically had the 15 computer interface with the RECs that went up for sale 16 and then sold those RECs. The third-party verifiers, 17 usually how that worked is, if you're a seller of RECs, 18 then you basically have to pay Green-e, you know, \$5,000 19 a product, or you might pay them \$100,000 for a whole 20 list of products for the year, and that pays for all of 21 the audits, the certificates, the verification that they 22 met those rules, whatever the rules. So if the State of 23 Florida has these rules, they're going to verify that 24 they met those rules in terms of what a REC is and when 25 it was generated and that it wasn't sold twice, and so

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MS. HARLOW: And who is providing the funds to, say, Green-e? Is it the state, or is it the renewable generator?

5 MR. JONES: In the case of Florida, probably 6 the generators. Probably the generators would -- well, 7 it really depends. Whoever basically conveys the REC, 8 that's usually who pays for these audit services. So if 9 its a utility who has the generator and is retiring the 10 REC, then they'll probably have to pay for the Green-e audits. Otherwise, you could have an intermediary party 11 12 that buys RECs from a generator, sells them to the 13 utility for retirement, and they would as a broker 14 intermediary pay those audit fees and assure that the 15 public interest was met, that they weren't double 16 counted, and so on.

MR. TRAPP: I think the certificates should have original lithographic Disney art on them, and that way --

MR. JONES: And that is --

21 MR. TRAPP: -- they will have more value 22 than --23 MR. JONES: Actually, they can actually just

24 be certificates, or they can be electronic. In New 25 Jersey, there's not actually a physical certificate.

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It's all electronic.

2 Now, in the voluntary green power programs, 3 people like to have that plaque that they want to show 4 that they -- demonstrate that they, like Ryan, has gone 5 above and beyond. He knows probably full well -- I'm 6 not sure where you live, Ryan, but if his state has an 7 RPS, he knows that some of his power is being created 8 from renewable energy, but he wants to go above and 9 beyond that. 10 And I have to stress that there's a lot of 11 entities within the State of Florida on a voluntary 12 basis that absolutely would probably have renewable 13 generation on their own building and use it for their 14 own compliance purposes, and that now is out of play for 15 purposes of a utility complying with it, so again, back 16 to that tenet of you can only sell it once. So if an 17 on-site generator wants to do it for himself, for their 18 own internal voluntary goals, then they're making claim 19 to those attributes, and they have retired it for their 20 purposes. It's out of play for RPS purposes. 21 Just a note of clarification. 22 MR. FUTRELL: Do we have any other comments or 23 questions on this section? 24 MR. TRAPP: Two minutes. 25 MR. FUTRELL: Well, I think we've come to the

1	end of the day, unless anybody has any other comments
2	they want to add. Thank you for attending.
3	And again, a reminder that we're looking at a
4	transcript on the 4th of September. And we would
5	request that to the extent you can, provide comments by
6	the 12th of September. And we're looking at another
7	staff workshop at the end of September, and we'll let
8	you know about that date. And again, we will get out
9	the spreadsheet, the entire spreadsheet with the backup
10	data within as soon as we can compile the sign-up
11	sheet, we'll get that out to you.
12	Thank you for coming.
13	(Proceedings concluded at 5:29 p.m.)
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1	CERTIFICATE OF REPORTER
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3	STATE OF FLORIDA:
4	COUNTY OF LEON:
5	I, MARY ALLEN NEEL, Registered Professional
6	Reporter, do hereby certify that the foregoing
7	proceedings were taken before me at the time and place
8	therein designated; that my shorthand notes were
9	thereafter translated under my supervision; and the
10	foregoing pages numbered 119 through 236 are a true and
11	correct record of the aforesaid proceedings.
12	I FURTHER CERTIFY that I am not a relative,
13	employee, attorney or counsel of any of the parties, nor
14	relative or employee of such attorney or counsel, or
15	financially interested in the foregoing action.
16	DATED THIS 3rd day of September, 2007.
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20	Tallahassee, Florida 32308
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