101

 1 BEFORE THE

 FLORIDA PUBLIC SERVICE COMMISSION

 2

 3 DOCKET NO. UNDOCKETED

 4

 In the Matter of

 5

 INTERCONNECTION OF SMALL PHOTOVOLTAIC

 6 SYSTEMS; NET-METERING OF CUSTOMER-

 OWNED RENEWABLE RESOURCES.

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 11

 VOLUME 2

 12

 Pages 101 through 203

 13

 14 PROCEEDINGS: RULE DEVELOPMENT WORKSHOP

 15

 BEFORE: CHAIRMAN LISA POLAK EDGAR

 16 COMMISSIONER MATTHEW M. CARTER, II

 COMMISSIONER KATRINA J. McMURRIAN

 17 COMMISSIONER NANCY ARGENZIANO

 COMMISSIONER NATHAN A. SKOP

 18

 19 DATE: Thursday, August 30, 2007

 20

 TIME: Commenced at 9:30 a.m.

 21 Concluded at 4:36 p.m.

 22

 PLACE: Betty Easley Conference Center

 23 Room 148

 4075 Esplanade Way

 24 Tallahassee, Florida

 25

 REPORTED BY: MARY ALLEN NEEL, RPR, FPR

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 1 P R O C E E D I N G S

 2 (Transcript follows in sequence from

 3 Volume 1.)

 4 CHAIRMAN EDGAR: Okay. We are back on the

 5 record. I hope everyone had a nice lunch. It went very

 6 fast.

 7 I think that when we stopped off, Mr. Bryant,

 8 you were in some comments, and then we all got hungry,

 9 so --

 10 MR. BRYANT: Yes, ma'am. The good news is, I

 11 was about to end up my comments.

 12 CHAIRMAN EDGAR: Okay. Well, then why don't

 13 you --

 14 MR. BRYANT: The bad news is, now both your

 15 and my blood sugar is pretty well satisfied, and I could

 16 go on forever.

 17 CHAIRMAN EDGAR: I'm ready to go.

 18 MR. BRYANT: All right. I talked about the

 19 practical problems with just implementing what you're

 20 trying to do with municipals and co-ops. I touched upon

 21 the jurisdictional issues. Michelle Herschel has

 22 covered those fairly well, and I will just hit a couple

 23 of those in a minute.

 24 But I want to point out that -- please do not

 25 misunderstand that the municipal electric utilities are

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 1 not suggesting in any form or fashion that we should not

 2 be doing these things. Okay? The Commission is well

 3 aware that we're out front on the renewable source

 4 rulemaking, and we have an actual proposal. We've been

 5 talking with the Commission and the Legislature and the

 6 Governor's Office based upon essentially a certain

 7 amount of revenues dedicated to a certain renewable

 8 portfolio. So we are there, I think, in the mainstream,

 9 if not out front, on some of these issues.

 10 But we're different. We're regulated

 11 differently. We're governed differently back home. Our

 12 elected officials are actually pushing us as the utility

 13 side of it to do these things. I don't know exactly

 14 what these things will end up becoming, but we have --

 15 seven of our municipal utilities already have a type of

 16 net billing, if you will, arrangement, and Barry is

 17 going to talk about -- Mr. Moline will talk about that

 18 in a minute.

 19 You heard me say, well, size, we can't do it

 20 if we're small. Don't believe that totally, because one

 21 of our smallest systems, Green Cove Springs with 5,000

 22 customers, has now one photovoltaic customer hooked to

 23 their system on a type of net billing arrangement, the

 24 point being each of those systems is going to have to

 25 structure within the particular size and governance

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 1 provisions that it's initiated under to accomplish these

 2 things. But we are doing it. Barry is going to talk

 3 about that in just a minute.

 4 If you just read your current rule line by

 5 line, there are problems in here with wordage that just

 6 cannot apply to us, and I'll just give you a example.

 7 Under your rules, rate structure rules that apply to the

 8 municipal electric utilities and cooperatives, Rule

 9 25-9, Part IV, you define rate, which does not apply to

 10 us, but define rate meaning refers to the price or

 11 charge for utility service. Then when you look at the

 12 definition of rate structure in your rules, which this

 13 is all your rule as to the municipals and co-ops, how we

 14 submit our rate structures to you for your approval

 15 process, it then defines rate structure as the

 16 classification system used in justifying different

 17 rates, and more specifically, the rate relationship

 18 between various customer classes, as well as the rate

 19 relationship between members of a customer class.

 20 Thus, certainly within the rate structure

 21 jurisdiction, as we develop these rate structures for

 22 our net metering customers, then we're going to have to

 23 bring those rate structures to this Commission for your

 24 purview, which is to make sure that they're not

 25 discriminatory to the other customer classes, et cetera.

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 1 So we cannot not do anything. Okay? We will not not do

 2 anything.

 3 But when you read your rule, each time you see

 4 something in your current rule, almost every line where

 5 it talks about dollars and cents, rates, charges that we

 6 can and cannot have, it can't work under your

 7 jurisdiction. It will not work. So that's the reason

 8 for my trying to make you painfully aware how painful we

 9 will be in this current rulemaking.

 10 And with that, Madam Chairman, I appreciate

 11 your indulgence. Mr. Moline will have a few comments.

 12 MR. MOLINE: Thank you, Madam Chairman and

 13 Commissioners.

 14 You know, Tinker Bell comes along when I

 15 speak.

 16 As Mr. Bryant just said, the municipal

 17 utilities are pregnant with net metering. There's no

 18 question. We net meter. We have members that are doing

 19 it, and we're doing it because our customers have asked

 20 for it. And in a couple of cases, it's one or two

 21 customers, you know, potentially growing. Primarily,

 22 almost exclusively it's photovoltaics, the projects that

 23 are being implemented.

 24 I wanted to share with you the net metering

 25 experience from other states. We've talked a little bit

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 1 about the experience of other states. But the idea of

 2 the net, where does the net go -- and the rule is

 3 suggesting a net being a payment back to customers

 4 annually. In 16 states, the annual net just goes back

 5 to the utility; in only eight states, the net goes back

 6 to the customer; and in 12 states, there's a carryover

 7 of the net forever until -- I presume until the customer

 8 ceases service. And while I don't know what happens at

 9 that point, in the case for the municipal utilities in

 10 Florida, that's in practice what's going on, is that we

 11 have carryover from month to month, year to year. And

 12 the policy would be, at the conclusion of service, then

 13 the customer would lose the net if there is a net.

 14 There's a question on payment that -- I would

 15 like to at the conclusion of my remarks ask Mr. Futrell

 16 if he would just clarify section (8)(f). We've had

 17 discussions here at lunch, you know, among some folks in

 18 the room not quite understanding what would be included

 19 in the payments. And if we can do that at the

 20 conclusion of my remarks, which will be brief, that

 21 would be great. I would appreciate that, at your

 22 indulgence.

 23 CHAIRMAN EDGAR: Sure.

 24 MR. MOLINE: There was a comment about

 25 insurance damage. And one utility, Lakeland Electric,

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 1 has a -- they're the only ones that go beyond

 2 residential customers in offering net metering. And

 3 they limit the size of the system to 75 percent of the

 4 transformer bank capacity that serves the customer, in

 5 other words, three-quarters of the ability of a customer

 6 to inject back into the system. And there's a good

 7 reason for that. By the way, their limit there is a

 8 half a megawatt, 500 kW, so it's substantial in size.

 9 But the reason why they have the limitation is

 10 because if a customer backfeeds into the system too much

 11 voltage, they could damage a significantly sized

 12 transformer, so that's why they have that limitation.

 13 They don't want to have overgeneration back into the

 14 system. Simultaneously, there could be -- if a customer

 15 does overgenerate, if a residential does overgenerate,

 16 or let's say a commercial customer in a neighborhood of

 17 residential customers, they could damage the

 18 transformers on a city block, for example.

 19 It's not something that's insignificant or

 20 something that we should just pass off and say, "Oh,

 21 that will never happen." There's a reason for the

 22 insurance, and that is because if you do have a voltage

 23 spike, you could damage those transformers. And might

 24 it be a couple thousand dollars? Maybe. It could be

 25 tens of thousands of dollars.

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 1 COMMISSIONER ARGENZIANO: If I may, what would

 2 it take? What kind of generation would it take to cause

 3 damage to a transformer? What kind of spike?

 4 MR. MOLINE: What kind of --

 5 COMMISSIONER ARGENZIANO: If somebody has a

 6 solar panel on their house to heat -- a water heater,

 7 let's say --

 8 MR. MOLINE: Well, in the case of a single

 9 photovoltaic system on a house, they could damage --

 10 this is smaller potatoes. They could damage the service

 11 that would lead from their house to the transformer.

 12 I'm mostly talking about a business that might be in a

 13 residential neighborhood that would have a larger

 14 system. If they had a voltage spike, then they could

 15 damage either other businesses or the service --

 16 COMMISSIONER ARGENZIANO: That's what I wanted

 17 to make clear, because I heard you say residential.

 18 MR. MOLINE: Yes. I'm not talking about a

 19 single house. A residential house could damage a

 20 neighbor. That's about the extent of that damage.

 21 COMMISSIONER ARGENZIANO: So a Tier 1 is

 22 really not going to hurt a transformer?

 23 MR. MOLINE: Right.

 24 COMMISSIONER ARGENZIANO: Okay. Thank you.

 25 MR. MOLINE: A couple more quick points, and

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 1 that is, I just wanted to clarify -- the gentleman from

 2 down there, I haven't met him, but he was talking about

 3 a Wal-Mart installation that would generate less than

 4 Wal-Mart's load. He made the analogy to an energy

 5 conservation system, and I would agree that that, in

 6 essence, is similar. You're essentially reducing

 7 Wal-Mart's load in that example, and it looks like

 8 energy conservation.

 9 This rule goes way beyond that example. And

 10 there's two levels of discussion we're having here. One

 11 is, we're talking a lot about photovoltaics, but the

 12 rule talks a lot -- and we had a presentation this

 13 morning from a methane digester where the economics of

 14 that project depended on the system generating back to

 15 the utility. So this rule goes way beyond that, and I

 16 think that it's important that we look at all the

 17 impacts, the potential impacts that that could happen.

 18 What that also means is that the economics of

 19 that type of situation, the methane digester, we're

 20 concerned about those subsidies. We recognize that when

 21 we're talking about these issues that there are

 22 subsidies. We can go ahead and do it. I told you

 23 already, we're pregnant with doing it, but let's

 24 understand what the subsidies are. Let's just write

 25 them down on paper, and let's all agree on, "Yes, this

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 1 the subsidy, and this is the subsidy that we want to

 2 give to renewable providers for this service." So we're

 3 okay with going forward on it as long as we identify

 4 what that is and agree that that's an appropriate policy

 5 for the State.

 6 And finally, the programs that we have in

 7 place, none of our municipal utility members actually

 8 make a payment. Just to clarify, they don't make a

 9 payment to customers. If they have excess generation,

 10 it's rolled over. And at this point right now, pretty

 11 much no one is rolled over yet. There is one system

 12 that's -- the Antique Car Museum down on Highway 90 and

 13 I-10, they've delayed their startup for the museum

 14 itself, but their photovoltaic system is in place, so

 15 they're actually generating. So there's a little

 16 confusion right now, but for the most part, they don't

 17 expect to overgenerate in that case.

 18 So again, we're talking about a lot of times

 19 here PV, but this rule goes much more broadly, and we

 20 would like the issue of the subsidy to be fully

 21 identified for us to discuss publicly. And then I would

 22 like to -- I'm open for questions, but I would also like

 23 to turn it to Mr. Futrell.

 24 CHAIRMAN EDGAR: Yes. Commissioner

 25 Argenziano.

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 1 COMMISSIONER ARGENZIANO: Thank you. First, I

 2 guess, when are you going to give birth? I couldn't

 3 help that. I'm sorry. Okay.

 4 CHAIRMAN EDGAR: And when will they be walking

 5 and talking? That's kind of what we want.

 6 COMMISSIONER ARGENZIANO: I guess that "very

 7 pregnant" got me several times.

 8 I guess this is more for staff. I would like

 9 to know the subsidy issue, because I've heard a couple

 10 of different things on that, and I would really like

 11 maybe staff to go into that in more detail so I have a

 12 good understanding if there is a subsidy or if there

 13 isn't, and where. Thank you. And congratulations.

 14 MR. MOLINE: We'll send you the birth

 15 announcement.

 16 CHAIRMAN EDGAR: Mark, can you speak briefly

 17 to the points that the Commissioner has raised, with the

 18 understanding that we will be having more discussions

 19 about this? And also, I think Barry had asked that you

 20 comment on a point.

 21 MR. FUTRELL: Sure.

 22 CHAIRMAN EDGAR: Thank you.

 23 MR. FUTRELL: On the subsidy issue, certainly

 24 when rates are set, they're based upon the costs

 25 identified to serve the customers' needs, and then rates

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 1 are set assuming that those -- based on the assumption

 2 that the utility will meet its revenue requirements to

 3 meet those costs.

 4 When there's some sort of reduction in the

 5 kilowatt-hours that are used or generated and purchased

 6 by the consumer, then there is some reduction in the

 7 contribution to revenue requirements. And if it becomes

 8 a significant number -- and that's one of the questions

 9 that -- we would like to have some discussion today

 10 about at what level does its become a real concern. A

 11 customer who may net meter may not make its full -- its

 12 contribution to fixed costs that it was intended to

 13 under normal conditions, and so those costs would have

 14 to be picked up by other customers to meet the revenue

 15 requirements of the utility. And the question that we

 16 would like to get a better understanding of is, when

 17 does that become a real problem for the utilities? Is

 18 there a level where up to a certain level it's not as

 19 big of a concern as others, and what magnitude is that?

 20 And that's something we would like to have a better

 21 understanding of as well.

 22 COMMISSIONER ARGENZIANO: And I think that's

 23 important to know, and to make sure that it's accurate.

 24 But -- I guess my question may sound dumb, but I don't

 25 know how else to ask it. If we're on a quest to build

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 1 our energy grids to provide -- to make sure that we have

 2 enough energy in the State of Florida for consumer

 3 demand, especially looking out in the future, then is it

 4 futile to have people -- I'm sorry. I know I have a

 5 deep voice. I have to basically lean over.

 6 Is it futile then to have people want to

 7 retrofit homes with either solar or any other energy

 8 device? Because at some point, when the -- if it got so

 9 expanded that the population were all using an energy --

 10 creating energy on their own through whatever mechanism,

 11 then we would be crippling the utilities. And at what

 12 point is it -- I mean, are we working against ourselves

 13 in trying to promote -- I mean, I would like to see

 14 people do more energy conservation. I would love to

 15 have solar panels on homes, and so on and so on. But by

 16 that explanation, then we are dipping into a pool,

 17 which, of course, then there will be a limited amount of

 18 people who are paying into that pool.

 19 So I don't know if we're not -- are we just

 20 butting heads until we get to a certain point, and then

 21 say, everybody else -- anybody who has gotten in using

 22 energy equipment, energy generating equipment in their

 23 own homes, now everybody else stop? It sounds like it's

 24 contradicting.

 25 MR. FUTRELL: Well, again, it gets to the

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 1 magnitude. Certainly it seems like even with

 2 conservation, it applies to conservation. If you just

 3 on your own put in a compact fluorescent, you're

 4 reducing your kilowatt-hours you purchase, so at some

 5 point, there could be an issue that causes -- it goes

 6 across with all these types of issues. The question is,

 7 where is the tipping point, if you will, that it becomes

 8 an issue where rates have to be looked at?

 9 COMMISSIONER ARGENZIANO: Well, Madam

 10 Chairman --

 11 CHAIRMAN EDGAR: Yes.

 12 COMMISSIONER ARGENZIANO: And I don't know

 13 that it would ever get to that point. I don't know that

 14 the mass of the citizenry would actually all do that.

 15 It may at one point decades from now. I don't know.

 16 But perhaps that would -- I guess if the smaller pool of

 17 people who are not generating electric at home are still

 18 with our utilities, they would be paying a higher cost.

 19 And if they got to that point, I guess then that would

 20 be the tipping point for them to want to be generating

 21 electric at home, and then what happens to our

 22 utilities? It's strange.

 23 And I had to discuss it, because I'm trying to

 24 figure out at what point is it not contrary to want to

 25 have more conservation and more energy generation. And

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 1 if we need more energy generation, as we don't want to

 2 wind up like in California, why would we limit or stifle

 3 that generation?

 4 Thank you, Madam Chair.

 5 CHAIRMAN EDGAR: Commissioner Skop.

 6 COMMISSIONER SKOP: Thank you, Madam Chair. I

 7 think Commissioner Argenziano raises a very good point.

 8 And I think listening to the feedback and input that has

 9 been solicited to the Commission this morning, it seems

 10 that there is that fine line between what is acceptable

 11 in terms of net metering and the number of type megawatt

 12 systems that would come into play.

 13 At least on a distributed basis for home use,

 14 I would think there would be a high probability to the

 15 extent that any electricity generated through solar or

 16 wind or renewable sources would likely be used in full

 17 or consumed by the household residents. But when you

 18 get into larger applications, such as has been

 19 suggested, there becomes a slight chance, a bit, at a

 20 larger generation capacity, that you could potentially

 21 leverage and capture what would not be otherwise

 22 available to a wholesale generator under the auspices of

 23 net metering. So I think that, you know, staff in

 24 setting the one-megawatt criteria has put a lot of

 25 thought into that.

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 1 But again, you know, there are other avenues

 2 that we're looking at in terms of renewables. I mean,

 3 the utilities, the IOUs have to put out a standard offer

 4 contract that, you know, is priced at avoided cost. And

 5 as Mr. Moline has mentioned and some of the other

 6 proposals have put forth, how do you incentivize the

 7 addition of renewables and bring those into the state?

 8 But there are other mechanisms, and I think

 9 the net metering is more perhaps properly geared towards

 10 residential applications than distributed, and also,

 11 too, for industry. But there becomes that point to

 12 where I think that, as the utilities have postulated,

 13 that there could be a propensity to arbitrage a price

 14 differential, and I think Progress has kind of

 15 articulated that and hit that on the nail.

 16 So again, I think that we need to give some

 17 due consideration, but I think that -- and I don't want

 18 to speak for the represented utilities, but I think that

 19 there's a sense of comfort with doing this on a small

 20 scale basis. But as that number creeps forward into the

 21 Tier 3 category, suddenly it warrants closer scrutiny or

 22 consideration of what is the impacts of the

 23 cross-subsidization problem, if it rears itself. So I

 24 just kind of wanted to add that to the discussion and

 25 let it continue down this path, because I think we're

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 1 getting some good constructive feedback from all the

 2 stakeholders.

 3 Thank you.

 4 CHAIRMAN EDGAR: Mr. Shirley, did you have

 5 some comments for us?

 6 MR. SHIRLEY: I just wanted to generally say

 7 that this line of questioning and discussion is really

 8 important, and it's important that you also cast the

 9 numbers in the appropriate time line. The sort of

 10 avoided cost concepts that are built into this rule are

 11 really short-run marginal cost avoided cost, and the

 12 questions from the Commissioner really go to the

 13 long-run marginal cost questions, because the savings to

 14 the utility and the consumers of avoiding future power

 15 plants is the right question to be asking in terms of

 16 what's the effect of adding this kind of generation.

 17 That's a slightly different question than what

 18 you do with net metering. And I guess it's somewhat

 19 unfortunate that the rule is constructed to have

 20 interconnection and net metering in the same box,

 21 because they're really two different phenomena, and

 22 there may be good values for distributed generation that

 23 yields long-run marginal cost avoided cost for the

 24 utility, which you may not want to net meter, but you

 25 want to pay that long-run avoided cost for.

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 1 So you just have to be careful that you're

 2 doing this analysis in the right set of reference

 3 points. That's really all I wanted to say.

 4 CHAIRMAN EDGAR: Thank you. Commissioner

 5 Skop, follow-up.

 6 COMMISSIONER SKOP: Thank you, Madam Chair. I

 7 just wanted to touch on that point just briefly. Can

 8 you reconcile that statement against -- staff has

 9 proposed the rule be one megawatt, and there has been

 10 some advocacy here for a higher number. But moreover,

 11 in terms of the -- you mentioned the long-run avoided

 12 cost versus the short-run avoided cost, looking at the

 13 different perspectives. Again, I think that this isn't

 14 really on a long-term basis, or a short-term basis, for

 15 any matter, going to displace the need for additional

 16 base load generation with within the state.

 17 We have an expansive growth rate in the State

 18 of Florida. And to the extent that we're able to add

 19 renewables, that's great, because that is a good thing

 20 to the extent that it displaces fossil fuel generation

 21 and such. And net metering is, I think, a good thing in

 22 principle. But in terms, you know, of the long-run

 23 avoided cost of building future power plants, I'm not

 24 able to reconcile that, given our growth rate. We're

 25 adding new combined cycle or new power plants every two

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 1 years, depending upon which service area you're in.

 2 So can you elaborate a little bit more in that

 3 regard about the statement that you made in relation to

 4 that, as well as staff's proposed recommendation that

 5 Tier 3 should be capped at one megawatt? Thank you.

 6 MR. SHIRLEY: Sure, Commissioner. I think the

 7 conceptual problem here is, it's hard to think of two-kW

 8 solar systems displacing 300-megawatt power plants. And

 9 you're right, they don't in an instantaneous sort of

 10 sense. But what they do is, as you add more small

 11 pieces of -- let's just call them demand-side resources.

 12 This really applies to energy efficiency as well as to

 13 customer-owned generation or customer-sited generation.

 14 As you add those, in essence, you push out into the

 15 future the time when that next power plant needs to come

 16 online, so there's a time value concept that you need to

 17 capture in that calculation.

 18 And thinking of it in terms of avoiding the

 19 power plant really isn't quite right. It's usually more

 20 about deferring power plants. And in a lot of states,

 21 frankly, the high growth states are looking at

 22 combinations of distributed generation and energy

 23 efficiency, where their targets are really to eliminate

 24 growth completely, at least in the next decade or two.

 25 So it may seem insurmountable when you're

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 1 sitting here in this high growth situation and you're

 2 adding these power plants on a regular basis. But when

 3 you sort of run the numbers and you look at what's

 4 achievable in terms of combining these kinds of

 5 resources with efficiency, you can make serious impacts

 6 on those growth rates, and then you start to really

 7 garner the savings of avoiding or deferring these power

 8 plants.

 9 The point is that when you do the calculus for

 10 avoided cost, that's the way you should be doing it.

 11 I'm not concluding what the answer is, but rather just

 12 trying to keep you back in the right framework of

 13 analysis.

 14 CHAIRMAN EDGAR: Commissioner.

 15 COMMISSIONER SKOP: Thank you, Madam Chair.

 16 Just as a follow-up on that same line, again, I think

 17 net metering is a good thing in principle. Again, I

 18 think that each of the stakeholders has brought forth

 19 some constructive input into the process.

 20 But with respect to the comment that you just

 21 made, looking at net metering and demand-side management

 22 and conservation measures, I mean, certainly wouldn't

 23 time-of-use, or adopting time-of-use metering more

 24 efficiently shift or flatten the demand curve to the

 25 extent that you could defer the building of additional

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 1 base load power generation plants? I guess what I'm

 2 getting at, under the net metering, the burden goes --

 3 if it's used to arbitrage the pricing differential

 4 between a wholesale generator and paying, as the

 5 utilities have mentioned -- again, there's a

 6 cross-subsidization problem, depending upon the order of

 7 magnitude.

 8 And again, I think what that gets to is,

 9 that's subsidized by the general body of ratepayers,

 10 whereas if you were to adopt time of use metering, that

 11 makes each individual consumer -- it makes each

 12 individual consumer make a conscious choice about when

 13 to use electricity, thereby flattening, theoretically

 14 flattening the demand curve, and puts the burden on the

 15 individual consumer instead of on the backs of the

 16 regulated entities to make that choice. So I just kind

 17 of wanted to kind of distinguish that or flesh that out

 18 a little bit more.

 19 MR. SHIRLEY: I think there's a fundamental

 20 assumption we all have that in the long run, none of

 21 this really gets set on the backs of the utilities.

 22 There may be lag periods where between rate cases the

 23 utility may feel the effects of this absent some

 24 decoupling mechanism. But every time they have a rate

 25 case, essentially, you add up all their costs and you

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 1 divide it by the sales, and that gives you the price. I

 2 mean, that's the fundamental way prices are set for

 3 utilities.

 4 So I think this question -- the threshold of

 5 net metering, how high you want to go, there's no clear

 6 answer to that. It's a judgment call. I think, you

 7 know, one megawatt, two megawatts, maybe even ten. Some

 8 states have gone to ten megawatts. Those are not

 9 unreasonable numbers, and I don't think they create huge

 10 dislocations in the utility system, at least at the

 11 penetration levels you're likely to see over the next

 12 five to ten years. And you can always revisit these

 13 questions if you see more deployment of these resources

 14 than you expected.

 15 But that's really why I made the comment about

 16 combining the interconnection with the net metering.

 17 The net metering is about creating incentives for

 18 particular kinds of resources. But separate and apart

 19 from that is the question of when do you want to use

 20 these kinds of resources to avoid costs, whether they're

 21 distribution, transmission, or generation costs. And

 22 those may have special circumstances, geographic

 23 circumstances. Where you have a congested area,

 24 distributed generation may be a great solution to avoid

 25 or defer transmission upgrades or transformer upgrades

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 1 and so forth.

 2 And again, these are usually valued in a time

 3 value kind of sense. It's how long can you defer that

 4 investment that creates value for the other customers

 5 from the system, if you will.

 6 COMMISSIONER SKOP: Just as a follow-up to

 7 that, I think what you just raised raises actually

 8 either interesting point. When you talked about

 9 congestion and the need for distributed generation, you

 10 know, that could potentially inure to a given utility's

 11 benefit should they have the need for it. So perhaps,

 12 you know, noting that staff has proposed a one-megawatt

 13 cap, I mean, maybe there should be some flexibility on a

 14 case-by-case basis to allow a regulated utility to

 15 either accept or reject a proposal that would be a

 16 higher capacity based upon their needs and the value

 17 that that might bring to their system, if you will.

 18 Is there any merit to that, and could perhaps

 19 the utilities chime in on that?

 20 MS. CLARK: Yes, Commissioner. I would say

 21 that that is one of the things that would be looked at

 22 in a negotiated contract, that under the standard offer

 23 rules and under your rules, you encourage negotiated

 24 contracts. And if that were the situation, where it

 25 provides more value because of where it's located or

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 1 when it provides energy, that gets taken into account in

 2 those negotiations.

 3 MR. TOTH: Excuse me, Madam Chair.

 4 CHAIRMAN EDGAR: Yes, sir.

 5 MR. TOTH: Yes. My name is Bill Toth, and I'm

 6 with All Source Energy from Bonita. And there's -- I've

 7 been listening to this discussion, and there's some

 8 basic mathematics that we're all overlooking, I think.

 9 If you look at your standard family home,

 10 there simply isn't enough square footage facing the

 11 right direction to produce maybe 50 percent of their

 12 needs. So there's no way that your average home is

 13 going to be receiving money unless the technology for --

 14 and I'm talking about photovoltaics here, okay, just

 15 photovoltaics. The math isn't there. The square

 16 footage isn't there, so you're only going to be

 17 producing a portion of the required energy to run your

 18 house. You're never going to be the point where you're

 19 putting energy back into the system on a payback rate.

 20 You may put a little back during the peak period, but

 21 you're never going to produce enough. The square

 22 footage isn't there.

 23 That's pretty much true also for commercial.

 24 If you're looking at a two-story, let's say, office

 25 building, there's -- the math is not there. They're not

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 1 going to be producing enough energy to be getting paid

 2 for it. Now, maybe if you had a warehouse that was not

 3 air conditioned and the lights were off all night, a

 4 very large warehouse, then you may actually be getting a

 5 payback from that. But if you're running an office

 6 building, it just -- the math isn't there.

 7 CHAIRMAN EDGAR: Commissioner Argenziano.

 8 COMMISSIONER ARGENZIANO: Are you referring

 9 only solar photovoltaic?

 10 MR. TOTH: I'm sorry. What?

 11 COMMISSIONER ARGENZIANO: Only to -- are you

 12 referring to the use of solar photovoltaic only?

 13 MR. TOTH: Yes. Yes, I am.

 14 COMMISSIONER ARGENZIANO: Only?

 15 MR. TOTH: Only -- I'm only talking about

 16 voltaic, yes. I'm not talking about some of the other

 17 -- ag, methane, or other things.

 18 COMMISSIONER ARGENZIANO: But if there were a

 19 combination of other mechanisms in that office building

 20 you're referring to --

 21 MR. TOTH: What other mechanisms are you

 22 talking about?

 23 COMMISSIONER ARGENZIANO: I'm not sure. It

 24 depends on the size of the office building.

 25 MR. TOTH: If they were to do energy

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 1 efficiency measures that would reduce, you know, by

 2 50 percent their energy needs, they might be at the

 3 break-even point.

 4 CHAIRMAN EDGAR: Commissioner Skop.

 5 COMMISSIONER SKOP: Thank you. Touching on

 6 Commissioner Argenziano's comment, I think one possible

 7 scenario, depending upon the location, might be where

 8 you have solar during the day and also wind, taking

 9 advantage of potential perhaps sea breezes at night, and

 10 then you might be in an opportunity where that might --

 11 you know, I think that is an example that is

 12 hypothetical in part, but --

 13 MR. TOTH: That may be in other parts of the

 14 country, but it won't -- not in Florida. The wind is --

 15 the wind power isn't there unless you're offshore.

 16 COMMISSIONER SKOP: Okay. I would beg to

 17 differ, but again, I won't get into that discussion.

 18 Thank you.

 19 CHAIRMAN EDGAR: All right. Mr. Keyes, did

 20 you have a comment?

 21 MR. KEYES: Sure, just two things. One is,

 22 the only -- you're right that there isn't the roof space

 23 available. The only times I've seen residential systems

 24 that come close to meeting their own load is when they

 25 have, you know, a back 40 and they've got a big solar

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 1 array back there. Then you can do it.

 2 And a good rule of thumb that I generally use

 3 just to kind of picture how big these systems are is

 4 that you can get about a watt out of a square foot. It

 5 depends on how efficient your systems are, you know, if

 6 you're using really high efficiency cells or lower

 7 efficiency. But just as a general rule of thumb, you

 8 can get a watt per square foot, and if you know an acre

 9 is 43,000 square feet, so that's like 40 kW in a square

 10 acre. That's about as much as you can hope to get.

 11 You'll probably get less than that. And so when you're

 12 talking about a 250-kW system, you're talking about six

 13 acres or a little more.

 14 CHAIRMAN EDGAR: Thank you. Yes,

 15 Commissioner.

 16 COMMISSIONER ARGENZIANO: I think an acre is

 17 43,560.

 18 MR. KEYES: That's the number. I was close.

 19 CHAIRMAN EDGAR: Okay. I want to make sure

 20 that we -- I try very hard to get to everybody, so,

 21 Mr. Christian.

 22 MR. CHRISTIAN: Thank you, Commissioner.

 23 Commissioner, Dave Christian on behalf of Verizon. And

 24 I'm the only communications representative, I believe,

 25 in the room, so I'm a little bit outnumbered.

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 1 But I wanted to let you know some of the

 2 interesting things that we're doing to take

 3 responsibility for managing the environmental effect of

 4 operating a global 24-by-7 business. We operate

 5 thousands of vehicles, occupy millions of square feet of

 6 real estate, and consume a significant amount of energy

 7 to keep our networks running. Whether it's through

 8 conserving energy, recycling, or finding innovative

 9 technological solutions to environmental challenges, we

 10 are committed to being a respectful, responsible, and

 11 positive influence on the environment in which we

 12 operate.

 13 I believe you have a packet of materials, some

 14 slides in your handouts, as well as a report that

 15 provides a lot more detail than the couple of minutes

 16 I'm going to share with you today. But I would like to

 17 point out that as a result of to our energy conservation

 18 and waste prevention and recycling efforts in 2006,

 19 Verizon reduced our greenhouse gas emissions on an

 20 average by 334,000 metric tons. That's equivalent to 60

 21 passenger cars not driven for one year, conserving over

 22 34 million gallons of gasoline, and growing more than

 23 7,500,000 trees for ten years. So those numbers add up

 24 for a corporation the size of Verizon.

 25 Why do I bring that up? In Florida, we're

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 1 going to be doing our part here in that conservation

 2 effort and energy conservation effort. We are building

 3 right now a 25-kW solar array to power one of our

 4 central offices in Tampa. We expect that actual

 5 production is going to average between 19 kW and 21 kW

 6 for a five-and-a-half-hour day. We've estimated the

 7 savings based on just our energy bill, but we think with

 8 net metering, what this will do is incent companies like

 9 Verizon to do even more with alternative energy sources.

 10 And I encourage you to read our materials,

 11 because we have a lot of things going on that are very

 12 interesting in this effort.

 13 CHAIRMAN EDGAR: Thank you. Mr. Jacobs.

 14 MR. JACOBS: Thank you, Madam Chair. My name

 15 is Leon Jacobs. I would like to offer just a few

 16 comments on behalf of the Southern Alliance for Clean

 17 Energy, which is a nonprofit, nonpartisan group focused

 18 on clean energy.

 19 First of all, I would like to echo some of the

 20 comments that have been made by Florida Municipal that

 21 there are in practice and in place already net metering

 22 programs which those entities have looked at and vetted

 23 and found to be more than adequate for their needs,

 24 which suggests to me that this path is not such a

 25 trepid, fault-ridden policy approach.

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 1 In fact, I believe JEA and Lakeland, and I

 2 believe Tallahassee, all give credit back at full retail

 3 levels, not at a level below that. I agree with the

 4 statement by Mr. Moline that they do not actually make

 5 payments, but they give credit back at the full retail

 6 rate. They each adopt the practice of looking at those

 7 statements monthly and making those credits monthly,

 8 although they do do the 12-month approach. So we're not

 9 shattering any real taboos here.

 10 And it's important to remember that there are

 11 customers out there who are willing to take it, albeit

 12 not as many as we would like. And I think your

 13 question, Commissioner, about whether or not we can do

 14 more to educate the public on this is a very appropriate

 15 question, and I would suggest to you that that's a very

 16 real part of what you want to look at in this

 17 initiative.

 18 Now, let's talk a little bit about the subsidy

 19 issue. And I'm going to try to keep my comments to the

 20 net metering, as you suggested. And the point, I think,

 21 that was brought out by Mr. Futrell is a very important

 22 point, and by Mr. Shirley. This has to -- if you want

 23 to address subsidies, you cannot do it on a short-run

 24 marginal cost approach, because it will always seem as

 25 if you're imposing an undue burden on the system, and

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 1 that is not what net metering is intended to do. Net

 2 metering is intended to incent people to take on these

 3 technologies for the long term, to keep them for more

 4 than six months or a year, two years, five years,

 5 whatever the life cycle for these technologies are. And

 6 so I think you do yourself and you do the state a

 7 disservice if you a formulate policy on this based

 8 primarily on short-run marginal pricing.

 9 And in fact, I think what you may find is what

 10 maybe others are finding, I think what I've heard the

 11 City of Tallahassee has certainly found, is that when

 12 you do this effectively and you do it with effective

 13 customer outreach, your long-run costs are going to go

 14 down. And so what you may actually find out is that

 15 you're going to have more systemwide benefits, and there

 16 will be no subsidies. I can't state here today that

 17 that is the case. I think there's merit to the position

 18 that the companies raised, but I think it's something

 19 that you've to look at from a fairly objective point of

 20 view.

 21 But I want to narrow in on one particular cost

 22 that I don't think I've heard much today, and that is

 23 the cost of transmission. In all of your deliberations

 24 now, you're looking at a whole range of topics now that

 25 are going to have impact on the transmission grid in

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 1 Florida, more specifically the idea of putting two or

 2 three new nuclear plants on the grid. I know this is a

 3 controversial subject, and I bring it up at some level

 4 of question.

 5 But this whole idea of location on marginal

 6 pricing is a question -- what that means is, at peak

 7 when there's grid congestion, whether or not a user on

 8 the back end of a congestion point pays a premium to

 9 negotiate the grid. I don't know whether it happens or

 10 not. I can't say that it does. But I would suggest to

 11 you, to the extent you begin to have a more congested

 12 grid, the pressure is going to increase significantly

 13 pricing wise for transmission. It's a price we rarely

 14 see, but I guarantee you, moderate to large users feel.

 15 And what you just heard is one user who says

 16 they want to manage those kinds of costs, and they would

 17 like to look at this provision as a way to manage those

 18 costs. And my suggestion to you is that a really

 19 important aspect of your policy development here ought

 20 to be to address that particular point of view. If they

 21 want to manage those costs, they ought to have this as a

 22 vehicle, and to not do so I think really narrows and

 23 constricts a lot of the impact of what you could have

 24 with this policy.

 25 And I suggest to you that to the extent you do

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 1 that, you begin to send more constructive signals to the

 2 market. I suspect that the companies will begin to see

 3 positive effects of this, i.e., they'll begin to see the

 4 cost of serving their peak loads impacted. I can't say

 5 how or to what degree, but I suspect you'll begin to see

 6 that.

 7 And I'm not talking about load shifting. I'm

 8 saying actual long-term costs of serving their peak

 9 load. I think you were getting at that, Commissioner

 10 Skop. And I don't know. I can't answer your -- give

 11 you an answer to your discussion about what flattening

 12 the load would do. But I think -- I don't know that

 13 that's territory we don't want to approach, and I think

 14 you've got to come up with an answer. And if the answer

 15 is certainly that it won't help that, then so be it.

 16 That's the answer. But I think there's somewhat of an

 17 impact.

 18 And then finally, I would suggest to you

 19 that -- this is really kind of a minor point, that -- I

 20 think it was brought up early that there's really an

 21 opportunity here for consistency across some of the

 22 other issues that you're looking at, the renewables, and

 23 maybe even cap and trade, that you want to make sure

 24 that what you do here is consistent, i.e., if you're

 25 going to put in metering here -- and I see in the rule

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 1 that the company is really going to choose the measuring

 2 technology.

 3 All I'm just suggesting is, ensure that it's

 4 consistent so that if there's a technology put in for

 5 net metering, it can effectively address people getting

 6 credit for -- getting their RECs measured and

 7 effectively putting those back into the system. You

 8 don't want to remove the opportunity for that to happen.

 9 I don't know to what extent there will be, and what I'm

 10 hearing is that there may not, but I think there will

 11 be. I think you'll see that there's opportunity here

 12 for some parallel policy making across those areas.

 13 CHAIRMAN EDGAR: Thank you. We are going to

 14 need to, I think, move on, because I still do want to

 15 spend some of our time on the earlier part of the

 16 language of the rule and make sure that I provide the

 17 opportunity for additional comments. So, sir, would you

 18 like to speak to the net metering portion?

 19 MR. STRAWN: Yes, please.

 20 CHAIRMAN EDGAR: Okay.

 21 MR. STRAWN: Mr. name is Lawrence Strawn, and

 22 I'm with the Orlando Utilities Commission. I'm in our

 23 rates department.

 24 I would like to speak to -- one of the topics

 25 that has been brought up here is that photovoltaics

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 1 offsets the energy requirements of customers. I agree

 2 with that statement. It's a positive thing for the

 3 State of Florida, in fact. But I think there has been

 4 the implication that it also offsets the peak

 5 requirement of the utilities, and I would respectfully

 6 disagree with that point.

 7 Speaking for our utility and for other

 8 utilities in the state I think I can speak to as well,

 9 we alternate -- we seem to alternate year in and year

 10 out from being a winter peaking utility to being a

 11 summer peaking utility, and it's generally about every

 12 two or three years that we peak in the winter. And when

 13 we do peak in the winter, those peaks occur at 7:00 or

 14 8:00 in the morning when the sun is barely over the

 15 horizon or just over the horizon. And at those times,

 16 photovoltaics are going to be inconsequential, simply

 17 because the sun is not up. So we will have the -- we

 18 will not be able to delay the siting of new generation,

 19 because our peak will still be there.

 20 So photovoltaics, in a sense, is additional

 21 generation, not offsetting generation. And by having

 22 fewer kilowatt-hours to collect the cost of that

 23 generation over, I'm afraid it pushes a subsidy on those

 24 customers who cannot afford or who rent -- we have quite

 25 a high percentage of our customers who live in

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 1 apartments, who simply don't have the option of putting

 2 photovoltaics on their home.

 3 I thank you for your time.

 4 CHAIRMAN EDGAR: Thank you. Mr. Krasowski.

 5 MR. KRASOWSKI: Thank you, Madam Chair. I

 6 very much enjoyed this conversation and learned a lot.

 7 It's great that you're dealing with a lot of these

 8 issues. I have all sorts of notes, but I'll try to be

 9 brief.

 10 I think from my perspective, there's a

 11 specific objective we're trying to achieve, and that's

 12 to provide safe energy at a reasonable cost to the

 13 customers of Florida. And this is the Public Service

 14 Commission, and "public" is the super big word, and from

 15 my perspective, is serving the public here. And I just

 16 totally agree with the implementation of net metering.

 17 Maybe we have a couple of issues going here

 18 right now, though, as others have mentioned. Maybe the

 19 net metering is one issue, and then small generators of

 20 additional energy could be another category. But as far

 21 as net metering and displacing the use of the existing

 22 provision of energy through energy generation on

 23 location is what we should be focused on here and not so

 24 much the excessive generation. That should be another

 25 issue. Okay?

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 1 The site generation provides for reliability

 2 and security, and it also -- I think another issue we're

 3 very much interested in is the reduction of CO2. So to

 4 the extent that wind or solar can do that, we should, I

 5 believe, move forward with net metering for that purpose

 6 and once again set aside larger generators for another

 7 day.

 8 Besides this, there's a specific issue I would

 9 like to raise that's a bit off field here, but I think

 10 relevant to the first paragraph, and that is the wording

 11 in line number 4 that identifies that we are

 12 particularly interested in photovoltaic and wind energy

 13 systems, as somebody has suggested, to diversify the

 14 fuel type.

 15 Now, my concern here -- and I agree with this,

 16 but I think we should be more specific and instead of

 17 saying particularly interested, I think we should

 18 specifically identify what we're talking about. And

 19 what I've heard other people mention was methane

 20 capture, which is, I think, very excellent.

 21 But in Florida, the incineration of municipal

 22 solid waste under law is considered a renewable

 23 resource. And I just would hate to see this rule here

 24 be used by someone justify what has been previously

 25 identified as McPuffs. And that's a proprietary –-

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 1 there was a day when one of our fast food vendors was

 2 going to burn their waste on location and generate some

 3 energy from it, or at least get rid of their waste. And

 4 there are small portable generators of electricity that

 5 can run on waste, and small waste burners are -- and I'm

 6 talking about municipal solid waste, not just wood or

 7 other waste products, but I'm talking about mixed

 8 garbage.

 9 So I would be concerned that unless it was

 10 excluded, that as a renewable source of energy, that

 11 burning garbage in small locations and in small amounts

 12 that don't fall under regulations that the larger

 13 incinerators do for air emissions, that they might

 14 somehow work their way into this program.

 15 So I would just suggest that we get more

 16 specific exactly what we're talking about as far as what

 17 technologies -- and you can always expand it later if

 18 something new comes along -- and also more specific in

 19 terms of the size of the facilities. And maybe you

 20 could have some sliding scale that would identify an

 21 allowable size of on-site generation that matches the

 22 previous need for energy at that location, from a house

 23 to a big box store.

 24 Thank you very much for your opportunity to

 25 address the group.

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 1 CHAIRMAN EDGAR: Thank you, Mr. Krasowski. I

 2 appreciate your suggestions as well.

 3 Okay. Let's go ahead -- we had some

 4 discussion earlier about the interconnection portion of

 5 the rule, but I would like to go back to that and open

 6 it up to hear comments from those of you who would like

 7 to speak with us and have some suggestions. And I'm

 8 trying to kind of keep an eye on the clock too, so I

 9 don't want to cut anybody off, but again, I would like

 10 to leave some time at the end of that discussion to see

 11 if there are other general comments.

 12 So, Mark, do you have anything to kind of get

 13 us started as we shift gears?

 14 MR. FUTRELL: Just that again some of the --

 15 the idea with the interconnection rules, to begin to

 16 focus on expediting the interconnection process for

 17 these smaller systems to help encourage and make it

 18 easier for them, shorten the process, give some

 19 definitive time lines on when the utility has to get

 20 back with them and process the paperwork, also

 21 establishing standards for the interconnection and for

 22 the inverters if they're required. And we've also got

 23 our tiers that we've talked about. Many of the other

 24 provisions are similar to our existing rule. And then

 25 we've talked this morning about the insurance issue.

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 1 CHAIRMAN EDGAR: Thank you. Okay. Susan.

 2 MS. CLARK: Madam Chairman, first let me

 3 introduce myself. I neglected to do that and let you

 4 know who I was here on behalf of. My name is Susan

 5 Clark. I'm with the law firm of Radey, Thomas, Yon &

 6 Clark. I'm here on behalf of the IOUs. That would be

 7 Florida Power & Light, Progress Energy, Gulf Power, and

 8 Tampa Electric Company. And as I said earlier, we do

 9 have technical people here to answer questions of a more

 10 technical nature.

 11 Madam Chairman, I guess I'm curious. Do you

 12 want me to go through sort of and touch on those

 13 comments or ideas we had on the interconnection part,

 14 regardless of the subsection?

 15 CHAIRMAN EDGAR: That was my thinking.

 16 MS. CLARK: Okay. I'm just going to go

 17 through them quickly, with the understanding that we

 18 will be able to file written comments --

 19 CHAIRMAN EDGAR: Yes, ma'am.

 20 MS. CLARK: -- and give them to you then.

 21 Let me just talk first about the definition of

 22 customer-owned renewable generation. We are suggesting

 23 adding something like, at the end of the sentence, "that

 24 can be connected to the utility's distribution system

 25 using a utility-interactive inverter as specified in UL

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 1 1741."

 2 Let me tell you, there's a couple of purposes

 3 in that. It's important that it address the

 4 distribution level as opposed to transmission. You get

 5 into more issues if it is at a transmission level.

 6 With regard to the inverter, it's important

 7 that it be a utility-interactive inverter, because there

 8 are apparently what's called stand-alone inverters, and

 9 the problems with them, with the stand-alone, is that

 10 they do not have the capability to disconnect from the

 11 system, and therefore island that customer when the grid

 12 goes off. So you need that capability for safety

 13 purposes.

 14 We're also suggesting a change to the

 15 definition of gross power rating to suggest an addition

 16 of, after "facilities," "measured in kW," and then in

 17 parentheses, "at unity power factor at the point of

 18 distributed resource connection, as such point is

 19 defined in IEEE 1547." And that, we believe, is needed

 20 for clarity and consistency with that IEEE standard. It

 21 tells you where that needs to be.

 22 Turning over to what is now subsection (3)(a),

 23 you see the words after -- at the end, "as applicable."

 24 We believe those words should be deleted, because IEEE

 25 1547 and UL 1741 should be applicable in all instances,

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 1 and to suggest that they may not be by putting "as

 2 applicable" would be incorrect.

 3 Turning over to subsection (c), we had a

 4 concern there about the prohibition against requiring

 5 further design review, testing, or additional equipment.

 6 It seemed inconsistent with a later section that dealt

 7 with the utility being permitted to require extra

 8 studies. And if those revealed the need for additional

 9 equipment, that ought to be -- you ought to be allowed

 10 to require that. And it was just an argument of

 11 consistency.

 12 I'm going to skip the ones that I think are

 13 just drafting clarification and give them to your staff.

 14 MR. TRAPP: Could I ask you a clarifying

 15 question, a very technical clarifying question?

 16 CHAIRMAN EDGAR: Sure. Mr. Trapp.

 17 MR. TRAPP: Commissioner Clark, when you

 18 address in your written comments the provision that

 19 you're questioning about measured in kilowatts at unity

 20 power factor at the point of interconnection --

 21 MS. CLARK: Yes.

 22 MR. TRAPP: Would you please address in your

 23 written comments whether that is consistent with the

 24 power factor at which utilities are delivering power and

 25 that we're not creating any extraordinary criteria for

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 1 the net meterer that the utility is currently not

 2 complying with, because unity power factor is pretty

 3 tough.

 4 MS. CLARK: Madam Chairman, we will.

 5 MR. TRAPP: Thank you.

 6 CHAIRMAN EDGAR: Mark.

 7 MR. FUTRELL: Thank you, Chairman. And I also

 8 have a technical question on the question you raised as

 9 far as the utility-interactive inverter. And could you

 10 explain -- walk us through the need for that type of

 11 equipment? As I understand it, for photovoltaic

 12 systems, they require an inverter to convert the power

 13 from DC to AC to be used with the customer's appliances,

 14 and also to be used on the utility's system if there's

 15 any backfeed. You're suggesting that this would be

 16 applicable to all renewable generation regardless of

 17 whether it's a PV or a non-PV, as I understand it.

 18 MS. CLARK: Well, you know, the

 19 utility-interactive inverter has application to those

 20 that don't have a rotating engine. And as we have

 21 indicated previously and will indicate in our comments,

 22 where you do have a reciprocating engine, you have more

 23 issues with regard to feedback into the system, and that

 24 was the reason for limiting it to the inverter. We will

 25 address those in our comments.

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 1 MR. FUTRELL: And you mentioned the issue of

 2 islanding. How does that square with the requirement of

 3 having a manual disconnect switch, and how do those two

 4 relate to each other?

 5 MS. CLARK: Well, I think the islanding is

 6 something that has to happen automatically, and the

 7 manual interconnect is when you're working on it or

 8 somebody is out there, they can disconnect it. But it

 9 needs the capability of islanding without human

 10 interaction.

 11 MR. HINTON: So if the inverter utilized by a

 12 renewable generator, a PV system, if that had the

 13 ability to island, then would you no longer need this

 14 utility inverter?

 15 MS. CLARK: As I understand it, when you

 16 describe it as a utility-interactive inverter, it will

 17 do what it needs to do as far as islanding. If it is

 18 stand-alone, it will not do it.

 19 Commissioner Argenziano and Commissioner Skop,

 20 we heard you on the insurance. I can tell you that in

 21 the workshop that your staff had, what we heard from the

 22 photovoltaics providers is that the liability insurance

 23 was not an issue, that it was covered by homeowners.

 24 But we did hear your question as to whether or not

 25 having that kind of facility increases your premium.

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 1 And also, looking at the issue of the

 2 distinction between what you might require for a

 3 residential installation as opposed to a commercial, I

 4 think certainly on a commercial installation, the

 5 opportunity for liability or accidents either affecting

 6 another's property or another person are greater than

 7 residential, and there may be a reason to draw that

 8 distinction as well, and we will cover that in comments.

 9 CHAIRMAN EDGAR: Commissioner Argenziano.

 10 COMMISSIONER ARGENZIANO: And that was my

 11 point earlier when I said that I would think that the

 12 larger facilities would be looking at that liability,

 13 and I didn't know if it was already part of a liability

 14 package that's offered by the insurers or not. And for

 15 a farmer, even a larger farmer who's nowadays in Florida

 16 living day by day, when it comes to Florida ag, even

 17 though you all should eat Florida food -- excuse me.

 18 That comes with just -- you should. But my concern is,

 19 would it put an extra premium on that individual, even

 20 maybe a smaller farmer who still has the liability

 21 issues?

 22 MS. CLARK: We understand that it doesn't, but

 23 we're going to find out.

 24 We have some suggestions -- I'm now over on

 25 subsection (6) regarding time lines for the Tier 3.

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 1 Studies are necessary in that instance, and we have some

 2 suggestions on those time lines and reasons for them

 3 which we will give.

 4 Madam Chairman, I would characterize the rest

 5 of our comments as being more clarification in nature,

 6 and in the interest of time, I will be happy to provide

 7 them in our written comments to staff.

 8 CHAIRMAN EDGAR: Okay. Thank you. And of

 9 course, for any comments that we would like in writing,

 10 but I obviously would like to use the time while we're

 11 all gathered together primarily for those comments that

 12 might be most helpful for us to all hear together and to

 13 discuss. So thank you for your comments, Susan.

 14 Mr. Keyes, did you have comments on

 15 interconnection?

 16 MR. KEYES: Thank you.

 17 CHAIRMAN EDGAR: You're welcome.

 18 MR. KEYES: Just a few. In most

 19 interconnection standards, there's some sort of

 20 screening process that allows the utility to step

 21 through how many systems are already on the line

 22 circuit, line section, what's going to be the voltage

 23 effect, is this in a network area. Networks are more

 24 sensitive to having load on them. There's a number of

 25 screens. And I would assume that the utilities would

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 1 want that here as well. In 99 percent of the cases,

 2 when you're talking about a smaller solar system, they

 3 just fly through the screens. But for that oddball

 4 system, you would like to be able to have the -- the

 5 utility to have discretion to be able to say, "No, not

 6 that system."

 7 So, for instance, looking at page 5, line 4,

 8 or 3 and 4, it's saying that an agreement will be

 9 executed by the electric utility within 30 days, or 60

 10 days for Tier 3. It doesn't say anything about you

 11 can't -- you know, there are situations where you're not

 12 going to approve the agreement. So you need to give the

 13 utilities some discretion to be able to set the

 14 standards even for the smaller systems.

 15 And I'm sounding like a utility advocate, but

 16 we all -- all three of us actually came from utilities,

 17 and it's bad for the industry to have the standards such

 18 that you can have fly-by-night companies come in and set

 19 up bad systems and the utilities can't do anything about

 20 it. It would just give the industry a black eye. So

 21 there should be some sort of screening mechanism. And

 22 you'll get the opportunity, I'm sure, with Wayne to be

 23 able to go through the different models that do those

 24 screens.

 25 Let's see. This is a somewhat minor note, but

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 1 on page 2, when we're talking about the IEEE 1547 up on

 2 line 4, I've been told by engineers that 1547 does not

 3 include 1547.1, which is the new standard that goes over

 4 testing procedures, and you would want to have testing

 5 procedures included in there too. Most of the new

 6 standards go through that.

 7 And on -- let's see. On the visible load

 8 break disconnect on page 4 -- I will quickly get over my

 9 head if I go in too deep on this, but in essence, the

 10 inverters have a disconnect to them, so they detect when

 11 the grid goes down and automatically shut down. And in

 12 most circumstances, there isn't a need for a separate

 13 disconnect, and we'll address that in our comments.

 14 So it's -- it's useful in synchronous

 15 generators. For an asynchronous generator using an

 16 inverter, like a photovoltaic system, which is going to

 17 be most of the systems that come under this rule, you

 18 don't really need to have a disconnect switch. In some

 19 ways, it seems like a silly thing to debate forever and

 20 ever, because you're only talking about up to a few

 21 thousand dollars when you're on a million-dollar system,

 22 but it's just a stupid thing to -- a stupid extra thing

 23 to require.

 24 And finally, I talked about insurance before,

 25 but let me make one other point on that front. As the

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 1 tiers are set up now, you have the second tier ending at

 2 100 kW. If you do accept the approach of a 250-kW

 3 cutoff for insurance, it might make sense to have the

 4 Tier 2 go up to 250 kW.

 5 And getting on to the point of searching

 6 through your insurance policy to figure out whether your

 7 general liability insurance covers you or not, I would

 8 be really surprised if there's any insurance policies

 9 out there now that specifically exclude photovoltaics.

 10 But I've gone through the pain of looking

 11 through my insurance policy, and, yes, there's an awful

 12 lot of exclusions in there. And I can imagine a few

 13 years from now when there's a lot of solar systems some

 14 bright insurance person saying, "Hey, there's another

 15 thing we can exclude." And in the meantime, you're

 16 asking everybody to go and go through that pain, when

 17 there isn't much to insure there. There isn't -- as I

 18 pointed out before, there isn't much damage that you can

 19 do with a system under 250 kW.

 20 So that's my main points. I don't know if you

 21 may have points.

 22 MR. COOK: Chris Cook with SunEdison once

 23 again. I would recommend in the standard increasing the

 24 standard to two megawatts, irrespective of whether you

 25 change your net metering standard from one to two

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 1 megawatts. Two megawatts is clearly the national

 2 standard as a breakpoint for an expedited

 3 interconnection study. It's contained in FERC Order

 4 2006. And I think just about every state that has

 5 promulgated interconnection rules in the last two or

 6 three years also uses a two-megawatt breakpoint as their

 7 demarcation between an expedited study and a more robust

 8 interconnection study.

 9 I would note that for a generator in Florida,

 10 as someone mentioned before, if you are interconnecting

 11 to transmission, you go under the FERC standard for

 12 interconnection. And to the extent that the state

 13 standards mirror the FERC standards, you don't have

 14 forum shopping from a generator's perspective saying one

 15 set of rules is better or more advantageous than the

 16 other.

 17 I would recommend in terms of -- I would agree

 18 with my colleague in terms of expanding the rules,

 19 including more details as to how a utility goes about an

 20 expedited study. Certainly the IREC model

 21 interconnection rules could be utilized as a guide in

 22 that regard.

 23 Another state that I would direct as a good

 24 guide would be Colorado, who I believe it was last year

 25 or the year before that adopted interconnection rules as

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 1 part of a solar program that was launched in the state.

 2 And the one advantage of Colorado is that it mirrors the

 3 FERC rules almost identically, so they completely

 4 eliminated there any forum shopping in the state,

 5 identifying that the FERC rules were in fact adequate.

 6 To give you a little background on those, the

 7 FERC -- the large proportion of the FERC rules was a

 8 consensus filing before the FERC from the Edison

 9 Electric Institute, a group of small generators. NARUC

 10 representatives were involved in that, NRECA, the

 11 National Rural Electric Cooperatives. And all those

 12 parties in that proceeding agreed to that filing, and

 13 that's really the core of what you find in FERC Order

 14 2006, so I would assume that's not terribly

 15 controversial.

 16 A couple of other detailed notes. My

 17 colleague to the right from the utilities suggested

 18 striking right before the applicable standards the IEEE

 19 1547 and UL 1741 standard. I would propose that that be

 20 retained, because an additional standard, IEEE 929,

 21 should probably be utilized. 929 was the predecessor to

 22 IEEE 1547. It's no longer a standard, but I suspect

 23 there's some inverter manufacturers out there who

 24 originally had their equipment, which is still available

 25 for sale, certified to IEEE 929 and then UL listed to

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 1 1741.

 2 This gets a little confusing in following all

 3 the standards and the numbers, but IEEE 929 has become

 4 subsumed in 1547. But if had you an inverter out there

 5 that was IEEE 929 compliant, it could have been listed

 6 under UL 1741, because the UL rule for listing this

 7 equipment is just simply expanded to cover the

 8 difference in the evolution in the IEEE standards.

 9 In order to address the issue that my

 10 colleague, Mr. Keyes, raised, IEEE 1547 has a number of

 11 subparts that address specific instances. 1547.1 is the

 12 testing standard. There's other 1547-point numbers that

 13 address other pieces of the interconnection puzzle. And

 14 so I think if you listed 1547 et sequence, you would

 15 cover all of the applicable parts of 1547.

 16 Thank you.

 17 MS. CLARK: Madam Chairman, if I could just

 18 comment --

 19 CHAIRMAN EDGAR: Yes, ma'am.

 20 MS. CLARK: -- on that point. And I neglected

 21 to mention that we were concerned about the fact that

 22 the rule at some point should include 1547.2. I think

 23 the notion of adding 1547 et sequence is not going to

 24 adopt the later versions, and you will likely have to

 25 come back and update the rule as those become adopted

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 1 and available for your incorporation into the rule. But

 2 we would agree that those things should be incorporated

 3 at the right moment.

 4 CHAIRMAN EDGAR: Thank you.

 5 Okay. Who would like to speak to us next

 6 about this portion of the rule?

 7 Yes, sir.

 8 MR. BRYANT: Fred Bryant. If I may, I have

 9 just a couple of general comments.

 10 If you look in the title to the connection

 11 portion, customer qualification and fees, again, that's

 12 my point that under your rate jurisdiction, you can

 13 regulate the fees investor-owned utilities charge for

 14 the interconnection. I would submit to you that the

 15 "and fees" portion doesn't apply to the municipals and

 16 the co-ops, because you don't regulate our fees and

 17 charges, so that's just a drafting point.

 18 But I also would like to point out that you

 19 should consider -- and I'm not sure it is in here --

 20 that there are zoning regulations that might prohibit an

 21 interconnection at a customer-owned facility. For

 22 example, Commissioner Skop, I know you're very much

 23 interested in wind generation. However, there are

 24 zoning restrictions by local government that would

 25 prohibit perhaps a 40-foot wind generator in a

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 1 residential subdivision. So somehow we have to work

 2 within these rules with the local government zoning

 3 regulations, which, of course, my municipal utilities

 4 are also zoning regulators, so we have to pay attention

 5 to that.

 6 In addition, unfortunately, some of those

 7 neighborhoods will, even if the zoning were appropriate,

 8 have restrictive covenants, which has become a national

 9 debate, even where the covenants prohibit solar panels

 10 on roofs, which I think are, quite frankly, ridiculous.

 11 But we do have that problem.

 12 And we certainly do not want the utility on

 13 the enforcement stage saying, "Okay. You cannot do this

 14 because of restrictive covenants or zoning," because the

 15 utility then becomes the policeman, which we're really

 16 not. In the municipal systems, our utility director

 17 wants to be able to say, "The zoning department won't

 18 allow this," if you understand the distinction. It's a

 19 little political, if you understand that.

 20 Just a point here on your disconnection. What

 21 if a utility customer which has one of these resources

 22 for which they're connected up to and receiving these

 23 net billings, et cetera, suddenly becomes a delinquent

 24 or defaulting utility customer, is not paying their

 25 bill, and you actually go out there and you want to

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 1 disconnect them for nonpayment of their bill? Can we

 2 disconnect them for nonpayment of the bill, but not

 3 disconnect their renewable resource? The rule is silent

 4 to that. I think that's an oversight.

 5 But again, these things are the practicalities

 6 of what we're going to have to live with every day in

 7 the field. And I know the staff can't think of

 8 everything. I just happened to think of that when I

 9 read it, and I said, "Wait a minute. If they're

 10 delinquent, we're going to cut them off, but we might

 11 not be able to under this proviso here."

 12 CHAIRMAN EDGAR: Commissioner Skop.

 13 COMMISSIONER SKOP: Thank you, Madam Chair.

 14 And I apologize for my in and out. Apparently while we

 15 were at lunch, apparently a document appeared in front

 16 us with no -- of unknown origins. And again, adhering

 17 to the highest ethical standards, I cringed a bit. But

 18 my understanding of the ex parte communications in the

 19 Florida Statutes is that under 120.54, rulemaking

 20 proceedings are exempt from ex parte limitations. So

 21 again, I --

 22 CHAIRMAN EDGAR: That's correct.

 23 COMMISSIONER SKOP: -- wanted to ask

 24 Ms. Helton to speak to that before I spoke or asked a

 25 question related to this document that just appeared

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 1 before us.

 2 MS. HELTON: That's correct, Commissioner

 3 Skop. There are no ex parte prohibitions in rulemaking

 4 proceedings.

 5 COMMISSIONER SKOP: Okay. With that in mind,

 6 Madam Chair, there's a document that was before us that

 7 was entitled -- and I don't know if anyone wants to

 8 claim ownership to this, but "Florida Solar Energy

 9 Industry Comments to the Florida Public Service

 10 Commission's Net Metering Interconnection Standards."

 11 Is anyone willing to vouch for this?

 12 CHAIRMAN EDGAR: Commissioner Skop, we have,

 13 as you're aware, at the end of the agenda time for

 14 public comment, which I've said a number of times. And,

 15 yes, these gentlemen did approach and ask if they would

 16 be able to speak at that time, and I said they would be

 17 recognized. And they asked if they could hand out a

 18 document, and I did know that that was going to be done

 19 at that time. But I expect that they would like to

 20 speak to it, and that is certainly their right, and

 21 again, we have the opportunity for public comment.

 22 COMMISSIONER SKOP: I understand, Madam Chair.

 23 And like I say, I saw something of interest that I

 24 wanted to speak to, but again, I wanted to insulate

 25 myself to make sure that I was not in any violation of

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 1 ethical standards. So --

 2 CHAIRMAN EDGAR: You are insulated.

 3 COMMISSIONER SKOP: Thank you.

 4 CHAIRMAN EDGAR: Commissioner Argenziano, I'm

 5 sorry. Did you have a question?

 6 COMMISSIONER ARGENZIANO: This is an open

 7 meeting.

 8 CHAIRMAN EDGAR: Yes, sir. Yes, ma'am.

 9 Sorry. Yes to everybody. I'm sorry. Yes, this is an

 10 open meeting. We have public comment. We are duly

 11 noticed. We are being transcribed. It is a workshop,

 12 and we're all here to talk together. Okay.

 13 MR. BRANDT: Madam Chair.

 14 CHAIRMAN EDGAR: Yes, sir. You're recognized.

 15 MR. BRANDT: Thank you. Again, I would like

 16 to thank the Public Service Commission for having these

 17 hearings, and I think it's a great step in the right

 18 direction.

 19 CHAIRMAN EDGAR: And if you would, go ahead

 20 and give us your name and your organization.

 21 MR. BRANDT: Yann Brandt with Advanced Green

 22 Technologies.

 23 CHAIRMAN EDGAR: And I think I just spoke over

 24 you unintentionally, so if you would do that again, and

 25 now I will listen. Thank you.

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 1 MR. BRANDT: Yann Brandt, Advanced Green

 2 Technologies out of Fort Lauderdale, Florida.

 3 I just want to speak to some interconnection.

 4 I have a little bit of experience with interconnection.

 5 I've been trying to interconnect a system that we have

 6 permitted in Fort Lauderdale, and I'm glad to say we've

 7 reached a tentative agreement with Florida Power & Light

 8 to interconnect the state's largest building-integrated

 9 photovoltaic system. And I would like to applaud, you

 10 know, Florida Power & Light for working with us to kind

 11 of discuss some of these issues we're discussing today,

 12 but I think we can learn from that as well as, you know,

 13 what the rest of the country and the world has done for

 14 interconnection of photovoltaics and other renewables.

 15 I would like to start with a comment made

 16 before under Section C, requesting the permission to use

 17 secondary protection or additional equipment in order to

 18 isolate the photovoltaic system, or anti-islanding it's

 19 called, I believe, under the technical term.

 20 The inverters that are out in the market have

 21 been out for a long time. There's UL tests, ASTM tests,

 22 IEEE tests that mandate that these machines do exactly

 23 as they say. To have to mandate or to ask for

 24 additional equipment is, one, not needed, as well as

 25 there's -- you know, mandating that these systems

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 1 require another product that has never been used in

 2 photovoltaics or has never been tested under that

 3 scenario might actually cause these two brains,

 4 basically, that realize that the grid is off to conflict

 5 with each other. And in our comments, we'll give you a

 6 technical bulletin from an established inverter company

 7 that also has some concerns with additional equipment.

 8 As far as voltage spikes that we spoke about

 9 before in the insurance discussion -- and this isn't an

 10 insurance comment. It's just that voltage spikes -- the

 11 inverter, in order to protect itself, is rated, and

 12 everything is tested in the PV world to a thousand watts

 13 per meter square. That's one full sun. However, there

 14 are circumstances where around a cloud, there is

 15 additional wattage per square meter, where you may

 16 actually get a spike in wattage or voltage coming from

 17 the solar. What the inverter actually does to protect

 18 itself and the system from being harmed or damaged, it

 19 will shave off any excess wattage that comes through the

 20 system, protecting not only the PV system itself, but

 21 the grid as well. And we'll again give you a technical

 22 bulletin for that so you can, you know, contact the

 23 inverter company if you have additional questions on

 24 that.

 25 The AC disconnect, I understand the utility's

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 1 concern, and I don't believe it's a concern that they

 2 should have. They see disconnect after the PV side as

 3 mandated by the fire department. The fire department

 4 has to be able to come shut off the utility's grid and

 5 shut off any customer generation as well. You know,

 6 it's a life safety issue that's in the code, in the

 7 National Electric Code under the photovoltaic section.

 8 So I don't see how -- you know, it's just another

 9 knowledge of -- we're really not reinventing something

 10 that is new. We're just using a technology that has

 11 been throughout the country for a while, and throughout

 12 the world a little longer than that.

 13 As far as FMEA's concern on permitting and

 14 being able to say that, well, this community is now

 15 allowed to have solar, the interconnection agreement

 16 requires a permit from a building department to be in

 17 the hands of the building owner, and I think they will

 18 take care of that section of it.

 19 And I would like to finish off by maybe

 20 engaging into a little discussion on -- when talk about

 21 gross power rating -- and this is where photovoltaics

 22 differs from other renewables, is that photovoltaics are

 23 sold and installed per watt DC, and that's before --

 24 that's the wattage before it goes to the inverter.

 25 Through a series of transmission losses and

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 1 efficiencies, we end up with useable AC power in our

 2 standard supply to the building. When we talk about

 3 gross power rating in the tiers as well as, you know,

 4 for all of the discussion, are we going to classify

 5 photovoltaics separately as a DC gross power rating, or

 6 are we going to figure out a standard way to calculate

 7 the AC power output, to figure out the gross power

 8 rating so we know which tier to put our customers in to

 9 figure out where they want to be in the whole realm?

 10 You know, I open that up for discussion in here. I

 11 don't know the answer to it, and I look to engaging in

 12 conversation.

 13 CHAIRMAN EDGAR: Nor do I.

 14 MR. BRANDT: I think it's necessary to talk

 15 about it, because photovoltaics are unique in that way.

 16 I appreciate it.

 17 CHAIRMAN EDGAR: Mark, can you share -- shed

 18 some light?

 19 MR. FUTRELL: That's a good question. I wish

 20 I could. I think we kind of are just going on the

 21 assumption that it's converted to AC equivalent, but

 22 that's good point. We need to investigate further. I

 23 don't have a straight answer for you.

 24 CHAIRMAN EDGAR: That's fine. We appreciate

 25 you raising the question, and duly noted, and I know our

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 1 staff will look into it.

 2 Yes, sir. Did you have a comment?

 3 MR. REEDY: Yes, please. Bob Reedy with the

 4 Florida Solar Energy Center. And just to ride onto that

 5 comment, I would say since we're dealing with a utility

 6 interface which is AC, I think it's very appropriate

 7 that we would decide that that's where we're talking

 8 about it, is the AC, the interface gross power rating,

 9 which would be a clear definition.

 10 Beyond that, since we talked about

 11 jurisdiction, it's not jurisdictional. It's, I guess, a

 12 charge or a responsibility that FSEC, our acronym, FSEC,

 13 is concerned to try and make it as easy as possible for

 14 solar energy to grow in the state. And so I just would

 15 -- with respect to Mr. Bryant's remarks about the

 16 different rule, I would just hope that the result,

 17 whatever the legal requirements are, and I certainly

 18 respect that that may be the case, that the effect on

 19 the ground, so to speak, for the installers and the

 20 industry that are trying to get this done is that at

 21 their level, it looks the same wherever you are in the

 22 state, with whichever utility and whichever community

 23 you're in.

 24 Many of the questions that we receive at the

 25 Solar Center, and we get dozens of calls a week about

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 1 I'm in this and that utility, or I've got this question.

 2 A lot of the confusion has to do with right now the

 3 hodgepodge of practices and rules. So let's please work

 4 towards a -- after we get through the legal filters, we

 5 get to a practical rule that works the same everywhere.

 6 I told Barry Moline I would be kind, but I've

 7 got to say that in addition to the voltage surge

 8 impossibility from photovoltaics, there's no possibility

 9 of an overcurrent scenario either, because photovoltaics

 10 are what's known as a current source. In other words,

 11 they do not -- they produce a given current output. So

 12 on two counts, that doesn't happen. That was kind.

 13 That was kind.

 14 However, I do share, obviously, the concerns

 15 for rotating machines. They're different animals, and

 16 so certainly there has to be consideration of those

 17 concerns.

 18 The disconnect is another issue that we see as

 19 -- to help promote solar energy, to say that that

 20 disconnect -- while needed by a fire department, the

 21 fire department uses the house, the meter as a

 22 disconnect. Since we also encourage anyone who puts in

 23 a solar system to meter the output of their inverter so

 24 that we -- for a lot of reasons, REC information as well

 25 as just the economic information and the performance, we

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 1 encourage a utility grade meter and a utility grade

 2 socket.

 3 And we would suggest that that certainly is a

 4 fine disconnect, because it's fine enough for everyone

 5 and for it to disconnect the whole house, and it should

 6 be fine enough to disconnect the PV system. And it can

 7 be booted, what's called booted and locked, if need be,

 8 and serve that purpose. And it would be a very low cost

 9 and dual function. In other words, it's something we

 10 would like to see anyway and not add any costs.

 11 Certainly in a larger system that wouldn't apply. But I

 12 think that, again, as we said, we're talking about a

 13 million-dollar system, and we're into a special design

 14 scenario anyway.

 15 One other thing. It's not -- it's sort of

 16 interconnection, and it has to do with size, but it

 17 might get back into net metering, but I didn't quite get

 18 a chance to make the comment. And that's just simply to

 19 say that when you look at the effect of generation

 20 behind the meter and you're looking at the

 21 kilowatt-hours, that's all you have, you're not looking

 22 at the house, you're looking at the energy bill, I

 23 challenge anyone to tell me the difference between a

 24 house that has a 2,000 kilowatt-hour a month load with a

 25 1,000 kilowatt-hour a month generation and a house that

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 1 just has a 1,000 kilowatt-hour a month load.

 2 And the answer is, of course, there's not any

 3 when you're just looking at the energy. And since

 4 that's what the billing is on, that is always a problem

 5 to me when we start talking about size and subsidies and

 6 the impact of how this is going change things, because

 7 it really doesn't change things unless you overgenerate.

 8 Then you can tell that there's something there.

 9 Otherwise, it just looks like a very efficient house,

 10 which we promote efficiency tremendously. So, you know,

 11 a very big house that's very well built would have a

 12 very light load or have, you know, a very low load for

 13 the month.

 14 And those are my comments. Thank you.

 15 CHAIRMAN EDGAR: Thank you, Mr. Reedy.

 16 Mr. Krasowski.

 17 MR. KRASOWSKI: Yes, ma'am. Thank you.

 18 I would like to take this opportunity -- Bob

 19 Krasowski with the Florida Alliance for a Clean

 20 Environment -- this opportunity to float a couple of --

 21 two ideas.

 22 And one is that we've been discussing the

 23 financial aspect of implementing a lot of these things.

 24 I think we should look at a charge for all power company

 25 customers similar to what they do in California, where

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 1 they charge everybody a dollar a month. This could be

 2 seen and promoted as a transitional fee to help us get

 3 from dirty energy to clean energy. And in California, I

 4 know they use it to buy inefficient appliances, old,

 5 inefficient appliances. And we could do many things,

 6 like help finance the initial cost of some of these

 7 applications we've been talking about today, with the

 8 money.

 9 Not too long ago, the customers of FP&L were

 10 identified as being -- there was a need for them to pay

 11 like $3.46 a month to pay for a $5.7 billion power

 12 plant, and there are other instances around the state.

 13 So it wouldn't be something that would be unreasonable

 14 to ask the people of Florida to pay for. They can

 15 either pay for one type of technology or another, and

 16 they can invest in the transitional period into the

 17 implementation of these new technologies that are

 18 cleaner technologies, and, of course, the utilities can

 19 participate. However, you would manage that. Certainly

 20 you would manage the fund.

 21 And then the other idea is, Florida is very

 22 much a growth, a pays for growth state, at least in some

 23 counties. I think this might be done more at the county

 24 level than it is at the state level, but it's a very

 25 popular concept among Floridians. So I would suggest

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 1 that an impact fee, a state impact fee for energy be

 2 levied on all newcomers to Florida. I don't want to

 3 have to pay for somebody that's moving here, to

 4 subsidize their energy needs, especially if their energy

 5 needs involve any type of polluting technology, so clean

 6 energy is the priority. And we could charge this fee

 7 based on the amount of difference between a home built

 8 -- how efficient a home is.

 9 An example I've used many times, the Florida

 10 Solar Energy Center did a lot of research on a maximum

 11 efficiency, zero-energy home, compared it to a control

 12 home, and they noticed that there was a 70 percent

 13 difference in energy use, and then if they put

 14 photovoltaics on it, it was even more. So we could find

 15 out those current numbers, and then to the extent that

 16 people's homes were less efficient than the 70 percent,

 17 or maybe even the 92 percent, that would be -- that

 18 would then represent their impact fee, the impact fee

 19 that would be assessed on their home. We have to be

 20 creative and agress -- assertive, excuse me, not

 21 aggressive, assertive in our strategies to transition

 22 from dirty energy to clean energy.

 23 Thank you very much for letting me make my

 24 comments.

 25 CHAIRMAN EDGAR: Thank you. Other comments?

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 1 Yes, sir.

 2 MR. TOTH: Thank you, Madam Chair. I have

 3 some questions on the time frames and the order as far

 4 as going through the interconnection agreement and them

 5 getting back with you, dealing with having to get

 6 permits, and what if something changes, what if the

 7 utility requires a change. You know, the language in

 8 the current rule is not very clear on that. And I've

 9 already -- for the sake of brevity, because of the time,

 10 I've already provided Mark with some written comments

 11 and some suggestions, so I just wanted to bring that up.

 12 It's not clear, and it needs to be clarified in the

 13 regulation regarding more clearly the steps and the time

 14 frame between the steps. Okay?

 15 CHAIRMAN EDGAR: Okay. And before you go on,

 16 I'm going to ask, because we are kind of switching gears

 17 between pre-lunch and post-lunch, if you would go ahead

 18 and for the transcript give us your name too.

 19 MR. TOTH: I'm sorry.

 20 CHAIRMAN EDGAR: That's okay.

 21 MR. TOTH: I'm Bill Toth with All Source

 22 Energy from Bonita Springs.

 23 I did have one additional comment, and I'm not

 24 sure whether it goes here or not, but it keeps getting

 25 brought up about the co-ops and the small public

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 1 utilities. Okay?

 2 For five years, I was a private industry

 3 representative that sat on the National Environmental

 4 Laboratory Accreditation Conference that created the --

 5 for the federal EPA the National Environmental

 6 Laboratory Accreditation program. We had -- the reason

 7 I bring that up is because we had to wrestle with a lot

 8 of these same issues, dealing with everything from a

 9 large private entity to a small private entity and a

 10 large government entity to a small government entity.

 11 In some cases, in the case of a municipal water plant,

 12 it was a one-person operation. And I was on that

 13 committee for five years, and when I left, they had not

 14 finished the regulation or the program. It was finished

 15 a year after I left. And in the end, the small public

 16 entities were exempted from it simply because the

 17 regulatory bodies over them were different, the things

 18 like -- I believe it's Fred --

 19 MR. BRYANT: Yes, sir.

 20 MR. TOTH: -- was talking about with different

 21 regulatory authorities, and like bond issues and things

 22 like that. And I certainly don't believe anyone in here

 23 wants to see it take six years for this rule to be

 24 passed. And I would like to recommend --

 25 CHAIRMAN EDGAR: Nor do we.

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 1 MR. TOTH: I would like to recommend, just

 2 because of the difficulties associated with mixing and

 3 mingling the different jurisdictional entities, that we

 4 remove the small public entities and the co-ops from

 5 this rulemaking.

 6 CHAIRMAN EDGAR: Have you been working with

 7 Mr. Bryant?

 8 MR. TOTH: I spent five years wrangling with

 9 this about ten years ago.

 10 CHAIRMAN EDGAR: No, all good points, and all

 11 points, you know, that obviously we've all taken note

 12 of, and I know our staff have as well. And the

 13 jurisdictional issue, just speaking for myself, is one

 14 of those issues that I expect that we will be looking at

 15 more closely and continuing to work with all

 16 stakeholders. And I don't know, you know, kind of where

 17 we'll end up, but what I do know is there will be the

 18 opportunity for more discussion, both on the policy and

 19 the legal requirements.

 20 MR. TOTH: I just want to see this thing in

 21 the near future.

 22 CHAIRMAN EDGAR: Duly noted. Yes, ma'am.

 23 COMMISSIONER ARGENZIANO: I think he has heard

 24 a rumor that government moves really slow.

 25 MR. TOTH: I've participated in it.

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 1 COMMISSIONER ARGENZIANO: As have I.

 2 CHAIRMAN EDGAR: Thank you, sir. I appreciate

 3 your comments.

 4 Any other comments kind of directly on the

 5 language that we've been talking about at this point?

 6 Yes, sir.

 7 MR. SHIRLEY: Yes, Madam Chair. I would like

 8 to just provide some general comments and sort of put

 9 what you've got on the table in the context of what

 10 we've seen in some other states. It's really sort of

 11 filling in some of the details of the comments we've

 12 already heard, and I hope I'm not repetitive.

 13 There are a number of rules that have been

 14 adopted in other states. Chris Cook mentioned some of

 15 them. In addition, Oregon is currently -- I guess

 16 they've just actually begun the formal rulemaking, but

 17 they've just finished the stakeholder process to write

 18 their proposed rule. All of these other rules share a

 19 number of things in common, at least what I would

 20 consider the good rules share a number of things in

 21 common.

 22 One is the use of some fast-track process for

 23 configurations on the system that the engineers are

 24 comfortable with as a sort of general rule, the

 25 so-called screening process, where if you're no bigger

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 1 than 15 percent of the load on that line or your ground

 2 fault current is no bigger than some amount, very

 3 specific articulated standards which, if you use these,

 4 provide a lot of certainty to the marketplace, which is

 5 very important to developers and manufacturers so that

 6 they know when they come to Florida, if they're in this

 7 configuration, you know, they're just going to be

 8 interconnected. There won't be a lot of studies or

 9 negotiation with the utility. Usually it takes a very

 10 small amount of uncertainty or cost for these projects

 11 to just be abandoned, because the margins really are not

 12 very big. So the more certainty you can provide process

 13 wise, I think the better off you are.

 14 And it's really good for the utilities as

 15 well, because then they know if you're in the screen,

 16 you passed the screen, it's sort of a hassle-free

 17 transaction for them, and they can spend their time and

 18 focus on the things that are really more likely to be of

 19 some concern from the systems operation standpoint.

 20 So I would really encourage you to look at

 21 some these other state rules and consider adding this

 22 sort of screening process so that you remove the

 23 uncertainty from the system.

 24 The other feature I think that you'll see in

 25 these other rules is a fairly tight, well-defined time

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 1 line for the steps that you go through, all the way from

 2 what happens when you file the application, you know,

 3 when does the utility have to finish screening process.

 4 If you pass the screens, you get interconnected. If you

 5 don't pass the screens, then you enter some sort of

 6 study phase. And the customer may or may not want to

 7 enter that phase, because that's usually when you start

 8 spending money from the customer's standpoint. And then

 9 you probably also want to define the types of studies

 10 that the utility can do and the time lines for those as

 11 well so that everybody at the table understands what the

 12 whole process looks like going in.

 13 I'm not going to go through all the details of

 14 those, because it's fairly lengthy, and some of it is

 15 technical, and other is just boring. The point, though,

 16 is that it ought -- the more clarity you can offer

 17 through those mechanisms the better.

 18 And then finally, most of these also rules

 19 also have in them a standardized agreement or series of

 20 agreements, depending on -- for different size units,

 21 there may be different standard agreements. This also

 22 takes a lot of uncertainty out of the process, makes it

 23 clear to the customer what the terms of the deal is

 24 going to be when you actually sign it if you get through

 25 all the interconnection engineering issues.

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 1 So rather than leaving that to individual

 2 utilities to develop their own standardized agreements,

 3 I think it's much better to have a statewide standard,

 4 because these developers operate statewide usually.

 5 They're not just in one utility's territory, and when

 6 they're marketing their product, they want to understand

 7 the underlying economic and contractual arrangements

 8 that they're going to be facing no matter where they go.

 9 So I would encourage you to consider bringing the

 10 standard agreements into the rulemaking rather than

 11 leaving it aside for the utility to develop on their own

 12 for that.

 13 And then just one sort of minor issue on how

 14 the units are rated, the power factor sort of question

 15 that -- you know, Susan and I are both lawyers, but

 16 we're forced to play engineers at work from time to

 17 time, so I empathize with her uncertainty about that.

 18 But most of the other rules have used a nameplate rating

 19 to demark the differences in sizes of units.

 20 I had not heard until today this issue of the

 21 solar DC rating perhaps being a higher number than what

 22 comes out at the inverter, and that may require some

 23 special language. But I really think it's probably

 24 better to use the manufacturer's nameplate rating as

 25 your criteria, because then it's just -- you can look on

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 1 the piece of equipment, and you know what it is, and you

 2 don't have to go through some other process to do that.

 3 I have provided to Mark a fairly lengthy

 4 survey of rules that I prepared about a year ago. I

 5 recently updated to add Oregon and Maryland to that.

 6 It's got about 13 different states and a couple of model

 7 rules, the IREC rule and the Mid-Atlantic Distributed

 8 Resource Initiative Model Rules, sort of a side-by-side

 9 comparison of all the features of those different rules,

 10 which I'm hoping he'll make available, obviously, to you

 11 and to anybody. You know, it's a public record. We

 12 haven't published it per se, but it's not copyrighted.

 13 You're welcome to use it in any way you want. And it's

 14 fairly neutral. It's just describing what's there and

 15 not editorializing really on what's good and bad per se,

 16 but it might help you in sort of coming to grips with

 17 these multiple facets of interconnection.

 18 That's all I have. Thanks.

 19 CHAIRMAN EDGAR: Thank you, Mr. Shirley.

 20 Okay. We're going -- Mr. Keyes, did you have

 21 a continuing comment?

 22 MR. KEYES: I just wanted to clarify that DC

 23 to AC. And I'm an attorney who occasionally has to play

 24 an engineer too, but I have an engineer next to me to

 25 cover me if I screw it up.

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 1 But inverters are generally in the range of 90

 2 to 95 percent efficient, so your 100-kW solar system is

 3 going to -- at 70 degrees, which is the testing

 4 temperature usually, you're going to get something like

 5 90 to 95 kW out of that system AC on the inverter, and

 6 it makes sense to rate these things on the AC basis,

 7 because the AC power is what you're going to be net

 8 metering, if that makes sense.

 9 CHAIRMAN EDGAR: And this is why we have

 10 engineers on our staff, or one of the many reasons, one

 11 of the many reasons. Thank you.

 12 Okay. I would like to kind of move to the

 13 last scheduled part of our agenda, which is public

 14 comment. And if there are individuals that have not yet

 15 had the opportunity to comment that would like to share

 16 either specific or general comments related to the

 17 subject of the workshop, I would very much like to hear

 18 from you, and just make me aware of it. And I know that

 19 the gentleman here to the right had let me know that he

 20 would like to comment, so if you would, share your name,

 21 and thank for joining us.

 22 MR. HANSEN: I'm Gordon -- and you can tell me

 23 if you can't hear me. I'm Gordon Hansen, my wife

 24 Jeannie over there. And we're from Chuluota, Florida,

 25 20 miles east of Orlando. I'm retired from the Naval

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 1 Research Laboratory for 15 years after working there 32

 2 years in underwater acoustics.

 3 My real mission for me is to have a national

 4 solar hot water heating program. And that has been

 5 proven would save $72 billion and 600 billion pounds of

 6 pollution each year just by that one fact. Each

 7 homeowner would save one-third of his electric bill with

 8 a solar hot water heating system.

 9 I'm also very interested in photovoltaic.

 10 Right now we have just received our permit to put in a

 11 4,800-watt voltaic system on our property. We live in

 12 the woods, so how is that going to be affected? This is

 13 going to be a tower with a solar panel and a hot water

 14 panel that follows the sun, and in the middle of that is

 15 also going to be a windmill.

 16 So I'm very interested in what our payback

 17 will be. According to the present or the old version, I

 18 figured it out. It's going to take me about 75 years to

 19 have a full payback. This is based on a cost of around

 20 $36,000 and our electric bill being around $100, which

 21 is not very much. But under the present rules that you

 22 are discussing, my payback will be around 30 years, not

 23 too bad. That's if I generate enough electricity to

 24 exactly offset the amount that I use, because the way I

 25 look at this rule is that up to that point, the offset

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 1 point, I will get full retail price back from my

 2 generating system.

 3 But in order to pay it off early, I need to

 4 generate something extra, and right now I'm not clear on

 5 what that would be. If it was at retail price, that's

 6 great. I could generate extra power and pay it off

 7 earlier. What the rule says -- I can't find it -- is

 8 that the non-fuel charge plus recovery clauses under an

 9 otherwise applicable rate. I don't know what that is.

 10 Can anybody explain that to me?

 11 CHAIRMAN EDGAR: Mark?

 12 MR. FUTRELL: That's good timing, because

 13 Mr. Moline had the same question that's outstanding.

 14 Again, we're talking about page 6 of the draft rule,

 15 lines 10 through 14.

 16 And first, he's correct that for power that's

 17 offset, that offsets your usage, effectively, you are

 18 offsetting the full retail rate. Now, for power that's

 19 maybe sold back to the grid, that's accumulated month to

 20 month. At the end of 12-month period or at the end of

 21 the calendar year, there would be a payment for any

 22 unused credit, and that's based upon what's called the

 23 non-fuel energy charge plus recovery clauses. Those are

 24 terms from the tariff world.

 25 If we think about for a residential customer's

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 1 bill, there's basically three big components. There's

 2 the customer charge, which takes care of costs

 3 associated with metering and billing; there is the

 4 non-fuel energy charge to help to recover the fixed

 5 costs that the utility has incurred to provide service;

 6 and there's the recovery clauses, which include -- the

 7 primary parts of that are the fuel charge and purchased

 8 power charges.

 9 So the rates you would be compensated at would

 10 be the non-fuel energy charge and those recovery clauses

 11 totaled together. You would still pay the customer

 12 charge, which varies from utility -- it can be 6 to $12,

 13 perhaps. It depends. So that would be what you would

 14 pay. So, for example, the non-fuel energy charge could

 15 be 4 cents, and the recovery clauses, which include

 16 fuel, could be 6 cents. You would be compensated at a

 17 rate of 10 cents per kilowatt-hour.

 18 MR. HANSEN: Okay. The other comment that I

 19 had is, we have at FPL -- we're a customer of FPL, and

 20 they have the Sunshine program. And the Sunshine

 21 program allows you to join a club for $9.75 a month, and

 22 they're going to guarantee that you will be using energy

 23 from renewable sources, and one of the sources is a

 24 Sarasota plant which puts out 250 kilowatts of solar

 25 energy. They have 3,400 members at this point. And if

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 1 you figure it out, the solar system they have at

 2 Sarasota will cover 60 customers. That leaves 600 more

 3 places that they must build in order to cover the amount

 4 of members that they've got.

 5 I realize that they're buying power from other

 6 towns, other countries, or other states, wherever they

 7 can get it. But it doesn't seem like it's possible for

 8 them to be selling memberships for something that

 9 doesn't appear to be visible. I don't know if there's

 10 any comments on that.

 11 The other comment I have is, the difference

 12 between DC and AC, actually, AC is measured in RMS

 13 voltages, which is the root mean square, and that is

 14 equal to the DC value, so there is no difference between

 15 DC and AC. And when you convert the DC to AC, if you

 16 did it at 100 percent, it would actually equal the DC.

 17 Okay? So if your inverter is 95 percent efficient,

 18 that's basically what you'll get out, minus some other

 19 minor losses.

 20 The other comment that was made that the

 21 energy in a one-square-foot area that you would get out

 22 would be about a watt. I don't know if that was

 23 corrected or not, but respectfully, I believe it's more

 24 like 10 watts. The energy that the sun impinges on the

 25 earth per square foot has been documented as being

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 1 93-point-some watts, and that's in a standard. I use

 2 100. Very easily, if you have a 10 percent efficient

 3 system, then you're going to get 10 watts out. I hope

 4 that's true, because my 4,800-watt system just went down

 5 to 480 watts if it isn't.

 6 Thank you.

 7 CHAIRMAN EDGAR: Thank you. Yes, sir.

 8 MR. STALEY: My name is Tom Staley, and I'm a

 9 resident in Micanopy, Florida, and I'm a user of a solar

 10 panel system in my house, and I just wanted to give you

 11 some -- I got interested in this meeting because I had

 12 some problems with it, and I wanted to just tell you

 13 what they were.

 14 I have a small, 1,000-watt system, basically a

 15 thousand watts, so that's one kilowatt. I spend $60 a

 16 year on $200,000 worth of insurance, and I had to hunt

 17 for a company to do it. I didn't bother going through

 18 my homeowners. At the time, I didn't even think about

 19 it. But I spend $60 on $200,000, which is required by

 20 Progress Energy.

 21 I have no problem with the power that we

 22 produce that we use, because every bit of that is our

 23 power. I get maximum benefit out of that. But the

 24 power that we produce that we don't use which goes back

 25 into the grid, I get reimbursed somewhere between 4 and

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 1 5 five cents a kilowatt-hour. And what happens -- we've

 2 been talking about how to generate a rate, a payback

 3 rate. My feeling is, if a utility company is charging

 4 you 10 cents for that month, you should be reimbursed

 5 for 10 cents, and here's the reason why. If they take

 6 -- that power that I produce that I don't use goes back

 7 into that grid, they're taking that power and selling it

 8 to one of my neighbors, and they're getting full benefit

 9 from that, and then they're reimbursing me half of what

 10 they're getting. So don't tell me that there's no

 11 payback there. They're getting big paybacks here, and

 12 they want to keep it that way. And my feeling is they

 13 should be paying us back the exact 10 cents that they

 14 charge us for a kilowatt-hour.

 15 And the reason we put the system up -- we

 16 never asked for a subsidy or a rebate of any kind. We

 17 didn't ask for it, and we didn't get it. We just paid

 18 for the system. This was before Florida had a rebate

 19 system. But the reason we did it was because the

 20 alternative to doing what we do is using more coal. And

 21 if you use more coal -- I don't know if you all fish in

 22 the State of Florida, but fishing has gone down the

 23 tubes in the State of Florida. We have acid rain

 24 problems, and we have mercury in the water. They're all

 25 caused by coal. That's the biggest source of all that

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 1 mercury and that acid rain that's coming out. So the

 2 only thing that I could do about it was to do something

 3 on my own, which we did.

 4 I don't believe that there should be any size

 5 limit on PV systems. I think you should consider -- I

 6 think you should consider any size PV system, because in

 7 my book, PV and wind generation are the only two viable,

 8 really viable nonpolluting ways to get energy. And in

 9 Florida, contrary to what somebody said, I really don't

 10 think wind is going to be very big. And I think Florid

 11 Power & Light, who's building all the wind generators

 12 out in California and Texas, is a good example of that.

 13 They're not doing it here. They're doing it there, and

 14 they're doing it for a reason, because it's much better

 15 out there than it is here. But I think wind is a great

 16 source, and I think PV is a great source, and I don't

 17 think you should have any limit to it.

 18 And I wanted to say also that I think the

 19 impediments to net metering right now are much greater

 20 than the subsidies that the State is offering. And if I

 21 had known that I was going to be paid back half of what

 22 my kilowatt-hours are worth for the past four years,

 23 even after asking my power company to come back in and

 24 put my meter back on the wall -- the original meter I

 25 had was one of those mechanical meters, and it actually

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 1 turned backwards. When I produced power, it turned

 2 backwards. When I used power, it turned this way. So

 3 there was no problem with calculating what I needed to

 4 get reimbursed. There was no reimbursement. They just

 5 took a kilowatt-hour off for every kilowatt that we

 6 produced. And that to me is a fair system. But the way

 7 we've got it right now, Progress Energy is stealing from

 8 me. That's the way I feel about it, and stealing from

 9 everybody.

 10 And I think the reason -- I did an Internet

 11 search recently on the State of Florida rebate program.

 12 Only -- at that time, which was last week or the week

 13 before, there only 76 rebates that had been issued for

 14 PV systems in the State of Florida. And I think the

 15 reason only 76 are offered in the State of Florida with

 16 all the sunshine that we have is because people have

 17 realized it's not a viable system without net metering.

 18 You need to have net metering. If you don't have net

 19 metering, it won't work.

 20 Thank you.

 21 CHAIRMAN EDGAR: Thank you, Mr. Staley. And

 22 our staff has distributed a copy of the information that

 23 you provided, so thank you for bringing this as well.

 24 And I know that the gentlemen in the back

 25 would like to speak, and so if you would come forward.

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 1 Yes. I think if you'll use those two chairs

 2 over there by the court reporter, that should work. And

 3 if you would, tell us your names.

 4 MR. MAINGOT: I'M Chris Maingot with Superior

 5 Solar Systems.

 6 CHAIRMAN EDGAR: And let me make sure that

 7 your mike is on. Can you check the button there?

 8 MR. MAINGOT: Okay. I'm Chris --

 9 CHAIRMAN EDGAR: Thank you.

 10 MR. MAINGOT: -- Maingot with Superior Solar

 11 Systems. We're a contractor in the Central Florida

 12 area. And myself and Bill Gallagher -- his company is

 13 Solar-Fit. He's also a contactor on the East Coast.

 14 And we represent the Florida Solar Energy Industries

 15 Association, FlaSEIA for short. And we apologize for

 16 any controversy we caused in handing those fliers out at

 17 lunchtime.

 18 CHAIRMAN EDGAR: No controversy. Sometimes

 19 there's confusion with the paperwork, but it's all fine.

 20 MR. MAINGOT: Okay. I would just like to read

 21 a little bit off of our handout. The goal of the

 22 Florida Solar Energy Industry is to expand the use of

 23 solar energy throughout the state, to eliminate

 24 regulatory barriers, and contribute to Florida's energy

 25 mix at an appreciable rather than symbolic level. By

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 1 doing so, the state will benefit through more

 2 diversified power generation, increased grid

 3 reliability, reduced dependence on foreign energy

 4 sources, energy price stabilization, economic

 5 development, and reduced greenhouse gas emissions.

 6 These goals can be reached through the

 7 following recommended policy changes. These recommended

 8 standards are consistent with current best practices in

 9 other states, as well as with the model rules for

 10 interconnection and net metering by the Interstate

 11 Renewable Energy Council, who is represented here today.

 12 And I'm not going to go through all of this

 13 stuff. Most of these points have been covered. We

 14 agree with IREC that we need to get the cap at two

 15 megawatts instead of one megawatt. That seems to be

 16 more of a national standard.

 17 We believe that the maximum AC nameplate

 18 capacity shall not exceed 90 percent of the customer's

 19 utility feed rating. I know that Mr. Moline had said 75

 20 percent was something that they were using right now,

 21 but we believe that 90 percent still has safety built

 22 into it.

 23 There were a couple other points here. I know

 24 Bill has one issue in the rule that he would like to

 25 talk about as well too.

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 1 MR. GALLAGHER: Yes. I'm Bill Gallagher. I

 2 also would like to apologize for the improper protocol.

 3 CHAIRMAN EDGAR: That's okay. I do need you

 4 to speak up or make sure the mike --

 5 MR. GALLAGHER: Can you hear me now?

 6 CHAIRMAN EDGAR: That's better. Thank you.

 7 MR. GALLAGHER: Okay. I apologize for the

 8 improper protocol.

 9 Something that was brought up here that I

 10 think is extremely important that we may have overlooked

 11 is the use of a public service message. There was no --

 12 something was said to the effect that, well, people will

 13 just catch on. And I've been in the solar industry

 14 business for about 32 years, and they really -- they

 15 only catch on through direct advertising by small

 16 contractors such as us.

 17 So we really need the help of the State of

 18 Florida, maybe through public service messages just

 19 saying that, hey, the sun is here, it's available, you

 20 know, don't miss out on your state and federal credits,

 21 call your whatever today. It's as simple as that. It

 22 would probably be something that the local papers and

 23 the radios would be proud to do if it was approached

 24 right. We really need the help doing that. Excuse me.

 25 The other thing that I'm looking at here that

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 1 I have a question on -- and maybe I'm just reading it

 2 wrong. On page 3, line 22, it says the electric utility

 3 shall have the right to have personnel present at the

 4 initial testing of equipment, customer equipment and

 5 protective apparatus. I'm not sure if I'm reading that

 6 right, but that's very, very impractical, and probably

 7 impossible if we're talking about coordinating a meeting

 8 with a utility representative at the homeowner's house

 9 when we activate the system. You know, we may see

 10 anywhere from 10 to 70 systems a day installed

 11 ultimately in the State of Florida.

 12 Please correct me if I'm wrong. Is that what

 13 that relates to?

 14 MR. FUTRELL: It gives them opportunity to be

 15 there. It doesn't require them to be there, but it

 16 gives the opportunity. They have the right to be there.

 17 And it's in our current solar PV rule.

 18 MR. GALLAGHER: I suggest that, you know, you

 19 review that. If for some reason the utility took the

 20 liberty of saying, yes, we have to be on every one, it

 21 would cripple the industry. And at this point, it

 22 really is unnecessary. We go through a strict

 23 certification process through building departments. It

 24 has to be inspected. To have a utility company

 25 representative present, it would be hard to do.

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 1 CHAIRMAN EDGAR: Yes, sir. Commissioner

 2 Argenziano.

 3 COMMISSIONER ARGENZIANO: And, Staff, I may

 4 need some help here, but the way I'm reading that is

 5 that if the company -- the company has the right to go

 6 there. If the consumer or the company, your company

 7 calls them and they can't get somebody out, well, then

 8 it's their tough luck. Wouldn't that be it?

 9 MR. FUTRELL: That's the way I understand it.

 10 COMMISSIONER ARGENZIANO: In other words, if

 11 the electric company could not -- I mean, if you

 12 notified them and did due diligence, we're going to test

 13 this today, and the company -- of course, you've got to

 14 give them some time, I would imagine. But if they can't

 15 get somebody out there, then I wouldn't want to see them

 16 hampered by that either. But I don't think it says -- I

 17 guess it could be construed many different ways, but I

 18 would think there would be a good attempt to try to get

 19 the electric utility to be out there, and if they can't,

 20 I don't think it would stop your operation. And I would

 21 want to make sure of that, of course, and see what the

 22 electrics have to say also, Chairman.

 23 MR. COOK: Madam Chairman, Chris Cook. If I

 24 could weigh in on that, I think you'll find if you look

 25 at a lot of other states' rules, interconnection rules

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 1 in this regard, it's the customer's obligation to notify

 2 the utility when they intend to connect the system and

 3 give them typically 10 or 15 business days advance

 4 notice, and then the utility exercises their right as to

 5 whether they want to be there or not. But it doesn't

 6 hold up the project. You go forward whether they're

 7 there or not.

 8 MR. GALLAGHER: Well, thank you, Chris, for

 9 clarifying that, because that really is -- you know,

 10 really crucial to the construction business.

 11 But overall, I had a whole list of questions,

 12 and every one of them was addressed, and we thank you

 13 very much from allowing us to speak and addressing this.

 14 CHAIRMAN EDGAR: Absolutely. Thank you for

 15 your participation. But stay with us for a few moments,

 16 if you would.

 17 Commissioner Carter.

 18 COMMISSIONER CARTER: Thank you for coming. I

 19 understand -- thank you, Madam Chairman.

 20 I understand that you've been in the solar

 21 business for about 30 years.

 22 MR. GALLAGHER: That's correct, sir.

 23 COMMISSIONER CARTER: Have you noticed a

 24 dramatic increase or any kind of increase, or has there

 25 been an increase in more and more homeowners going with

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 1 solar for their hot water heaters or the use of solar in

 2 their homes?

 3 MR. GALLAGHER: Well, if I can take you back a

 4 little bit in time -- and it's hard to believe I've been

 5 in business in 30 years, because I'm only 18 years old.

 6 No, seriously, you know, way back in -- and, of course,

 7 a lot of the fellows have been here a long time too.

 8 But initially when the tax credit was instituted back in

 9 the late '70s, early '80s, the process was that the tax

 10 credit would be phased out over about a four-year

 11 period. It would go from 40 percent to 30 percent to 20

 12 percent to 10 percent and finally phased out, because

 13 the tax credit isn't the end-all. It's to get people

 14 motivated to go ahead with it.

 15 Well, in 1985 around Christmas time, there

 16 was, of course, an administration change, and the tax

 17 credit, instead of being reduced at that rate, was

 18 basically stopped. And at that time, it basically cut

 19 the legs off the solar industry. Many, many people went

 20 out of business. It just tells you how crucial it was.

 21 The public was so gung-ho about doing solar, and it was

 22 just a very, very vibrant economy. Well, when that

 23 happened, it just -- it reduced it to ashes. And it has

 24 taken about 20 years to rebuild it to the point now

 25 where we have the momentum again, and a lot of it is

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 1 instituted by, you know, the federal.

 2 Okay. Then when the state got involved, and

 3 now with Governor Crist, these are all such positive

 4 things, because -- and somebody brought it up earlier.

 5 If you just, you know, take a trip over to Germany, take

 6 a trip to Japan, go to Israel -- in Israel it's mandated

 7 that every permit pulled, every home has to have solar.

 8 I was fortunate enough to visit the country about a

 9 month and a half ago. Every house, every building has

 10 solar water heating on it.

 11 And I don't want to belabor this, but if I can

 12 take a couple more minutes, there was conversation some

 13 time ago about how expensive solar is. Well, solar

 14 thermal is 3 to $4,000 per household, and once you get

 15 your credits, it's like $2,000. And these systems can

 16 be financed for about what your savings are, so it

 17 really doesn't cost anything to do this technology.

 18 There's a misconception out there that it's expensive,

 19 and it really is not. And I think if we inform the

 20 public, maybe through public service messages, you will

 21 see the industry take off and go where it needs to be,

 22 because we're light years behind other countries.

 23 CHAIRMAN EDGAR: Thank you. Commissioner

 24 Skop, I know you had some questions.

 25 COMMISSIONER SKOP: Thank you, Madam Chair.

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 1 Again, I wanted to also thank Mr. Maingot and

 2 Mr. Gallagher for coming. Again, we appreciate your

 3 input. And again, I apologize. There was no

 4 controversy associated with the document. I was just

 5 merely trying to ascertain the origin of the document

 6 that I wished to speak to. And given the ethical

 7 obligations that I have not only as a Commissioner, but

 8 as an attorney and member of the Florida Bar, there's

 9 certainly no harm in proceeding cautiously. So, again,

 10 I wanted to just make it known that there was no

 11 controversy, I just wanted to make sure that I was able

 12 to speak to a document that I found interesting.

 13 So in that regard -- and I don't know if

 14 others in the audience have the document, but item 2 in

 15 the simplified interconnection standards that the

 16 Florida Solar Industry comments are advocating speaks to

 17 the maximum AC nameplate capacity shall not exceed 90

 18 percent of the customer's utility feed rating.

 19 And simply the question I had, and I would

 20 like to direct it to the members of the represented

 21 utilities, would the limiting requirement shown in item

 22 2 of the simplified interconnection standards mitigate

 23 any of the cross-subsidization concerns of the

 24 respective utilities with respect to, if it were simply

 25 limited to what they could draw or the feed, that would

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 1 also limit what they could potentially -- their output.

 2 I just wanted to get some perspective on that, if you

 3 will.

 4 MS. CLARK: I don't have a copy of that, but I

 5 think -- but as I understood that limiting factor, it

 6 had to do with how much energy can be put back for the

 7 safety of the installation. Are you suggesting that

 8 there might be some limitation on how much excess energy

 9 would have to be bought back?

 10 COMMISSIONER SKOP: Well, what I have is --

 11 actually the document I have is truncated, which is part

 12 of the reason I'm having trouble understanding it. But

 13 nevertheless, I was just trying to state that it

 14 advocates a maximum AC nameplate rating of two

 15 megawatts, which is consistent with some of the other

 16 testimony that we've had, but is different than what

 17 staff is proposing in the proposed rule.

 18 But it also has another requirement that the

 19 maximum AC nameplate capacity shall not exceed

 20 90 percent of the customer's utility feed rating. So

 21 I'm wondering whether that in itself is an additional

 22 limitation upon the capacity nameplate rating of the two

 23 megawatts and how the utilities might feel about that.

 24 MS. CLARK: We can respond to that, but as I

 25 heard what Mr. Moline was saying on that issue, that is

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 1 to protect what you might feed back into the system so

 2 that it doesn't have the possibility of exceeding what

 3 the system can take.

 4 COMMISSIONER SKOP: Right. Well, I was --

 5 MS. CLARK: I must be -- I'm not communicating

 6 with you at all.

 7 COMMISSIONER SKOP: Well, I guess that goes

 8 into the sizing criteria, where they said that it was

 9 sized for the particular application, so I was just --

 10 never mind. I think --

 11 MS. CLARK: Do you want me to see if I can get

 12 you some help?

 13 COMMISSIONER SKOP: No, that's fine.

 14 MR. KEYES: Just to give a simple example of

 15 my home, and I'm going to use really round numbers, but

 16 the maximum amount of power that can come into my home

 17 is somewhere around 10 kW, so 90 percent of that would

 18 be nine-kW system I could put on my roof. And over the

 19 course of the year, sometimes when everything is on, I'm

 20 using six kW. In the middle of the night, I'm using

 21 anything. Average, over the year, I'm using somewhere

 22 around one kW.

 23 So my nine-kW system, the sun is only shining

 24 roughly about a quarter of time, and sometimes it's, you

 25 know, dawn or dusk, and it's partial. But over the

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 1 course of the year, the average output of my nine-kW

 2 system would be then somewhere two and a quarter kW,

 3 which is a lot more than my consumption. So, yes, with

 4 that 90 percent standard, you could exceed your -- if I

 5 understand the issue correctly, you could exceed your

 6 load by quite a bit. Your generation could exceed your

 7 load.

 8 COMMISSIONER SKOP: Thank you.

 9 MR. KEYES: And maybe you shouldn't put too

 10 much faith in me, because the gentleman was absolutely

 11 right that you get 10 watts per square foot, and I was

 12 completely wrong, not one watt.

 13 COMMISSIONER SKOP: Thank you.

 14 CHAIRMAN EDGAR: Commissioner Argenziano.

 15 COMMISSIONER ARGENZIANO: I don't have a

 16 question for this gentleman, but I would like to ask

 17 Mr. Tom Staley, who was up before, because I think he

 18 said something, and I just want to make sure.

 19 CHAIRMAN EDGAR: Okay.

 20 COMMISSIONER ARGENZIANO: One more.

 21 CHAIRMAN EDGAR: Sure. Sir, could you come --

 22 I'm sorry. Could you come forward again and let us ask

 23 a clarifying question. And we will need you to come to

 24 the microphone so that we can get it on the transcript.

 25 Thank you.

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 1 COMMISSIONER ARGENZIANO: Thank you.

 2 Mr. Staley, did you say before that Progress Energy

 3 required $200,000 of insurance?

 4 MR. STALEY: That's correct.

 5 COMMISSIONER ARGENZIANO: And could I ask

 6 staff, the current rule says 100,000, and who is the one

 7 who implements that upon the consumer? I mean, if the

 8 rule is 100,000, where does Progress Energy have the

 9 right to require 200,000?

 10 MR. HINTON: According to the rules, if it's a

 11 10-kW or smaller PV system, then I don't think they do

 12 have the right, unless somebody has some more

 13 information they would like to share.

 14 COMMISSIONER ARGENZIANO: Thank you.

 15 Mr. Staley, that was required of you when you put your

 16 system in by Progress Energy?

 17 MR. STALEY: Before I could turn it on.

 18 COMMISSIONER ARGENZIANO: I would like to

 19 check into that.

 20 MR. HINTON: What was the date?

 21 MR. STALEY: Pardon me?

 22 MR. HINTON: How long ago was that?

 23 MR. STALEY: It was August of 2003.

 24 COMMISSIONER ARGENZIANO: And, Madam Chair, I

 25 would be concerned in the future. You know, who checks

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 1 on that requirement? Thank you.

 2 CHAIRMAN EDGAR: Commissioner, thank you for

 3 your question, and thank for sharing that additional

 4 information. And I know our staff is going to look into

 5 it, and get back with us, of course.

 6 All right. Is there anybody else who has not

 7 had the opportunity to share comments with us that would

 8 like to?

 9 Commissioners, any other direction for our

 10 staff or closing comments? Commissioner Carter.

 11 COMMISSIONER CARTER: Thank you, Madam Chair.

 12 Today I was sitting in a listening mode, to listen, to

 13 hear the disparate opinions and recommendations as well

 14 as listen to some of the exciting things that are

 15 happening.

 16 I think that we've already made it clear to

 17 all of the people that are participating that we would

 18 encourage them to submit written information that will

 19 help us come to a way to clarify some of the points. I

 20 look forward to reviewing the documentation and getting

 21 it back. I think this is a great beginning, and a lot

 22 of people from different areas, different ideas, and all

 23 like that, and I think that's the best way to do it.

 24 When everybody has some input, then we can come up with

 25 the best possible solution. So I just want to say thank

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 1 you.

 2 CHAIRMAN EDGAR: Thank you. Commissioner

 3 McMurrian.

 4 COMMISSIONER McMURRIAN: I had a question.

 5 I'm not even going to try to be as eloquent as

 6 Commissioner Carter was and thank everybody for their

 7 comments today.

 8 But earlier, at the very beginning when

 9 Ms. Gervasi was reading the notice, there was -- and I

 10 should have asked this then probably. But there was a

 11 discussion about Rule 25-6.065 is what we have before as

 12 amended, but there was also mention of a .066 and a

 13 .067. And I know Mr. Shirley talked about separating

 14 the rules into two different parts. So I guess what I'm

 15 trying to understand is what's going to be in .065 and

 16 .066 and .067, not exactly, of course, what's in those

 17 rules, but --

 18 MS. GERVASI: I don't think we know that just

 19 yet, but that's something we will certainly be looking

 20 at.

 21 COMMISSIONER McMURRIAN: Is that what it's

 22 for?

 23 MS. GERVASI: And we may not end up using all

 24 of them.

 25 COMMISSIONER McMURRIAN: Okay. So it's just

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 1 sort of a placeholder so that if we do decide to parse

 2 things out.

 3 MR. FUTRELL: Right. It gives us flexibility

 4 that if we want to separate the rules into

 5 interconnection and net metering, we have the option to

 6 do that.

 7 COMMISSIONER McMURRIAN: Okay. And I did have

 8 one other question, Chair.

 9 With regard to the comments that were brought

 10 up about dispute resolution, I was wondering if staff

 11 had already considered an initial step. I don't mean to

 12 put you on the spot either, but I also wondering if

 13 there were other -- if maybe you were going to look at

 14 that, if there might be other models where there might

 15 be some initial step before it comes to the Commission.

 16 MR. FUTRELL: Well, certainly we would like to

 17 try to, you know, just over the phone or meeting with

 18 the customer face to face and interacting with the

 19 utility try to get as much as we could straightened out

 20 before it got to a more formalized process. That would

 21 certainly be our desire, is to try to handle things

 22 informally to the extent we can, being mindful of trying

 23 to get resolution as quickly as possible.

 24 MR. TRAPP: I would like to just add that I

 25 think staff's intent was to basically use the complaint

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 1 process that the commission currently uses, including

 2 the use of, you know, our Consumer Affairs Department as

 3 a collection point for complaints, try to handle them to

 4 the extent that we can at an informal staff level by,

 5 you know, communicating between the customer and the

 6 utility, and then to the extent that it needs to

 7 escalate to a more formal type of full Commission

 8 ruling, it would ultimately get there.

 9 I think there is some other language and some

 10 other rules that may be more explicit with respect to

 11 the Commission's overall complaint handling process. I

 12 know that we -- I think this was a matter that we talked

 13 about in the hardening rules too, and I would like to

 14 have staff have an opportunity to go back and look at

 15 that language and maybe spell that out a little bit

 16 better.

 17 COMMISSIONER McMURRIAN: That sounds good.

 18 That was all, Chairman. Thank you both.

 19 CHAIRMAN EDGAR: All right. Thank you. And

 20 as we've discussed a little bit, I think, today, we've

 21 requested and we are requesting written comments by

 22 September 18th. The transcript is expected to be

 23 available by September 10th. I want to on behalf of all

 24 of us thank everybody for their participation.

 25 Commissioners, it's been another long day and

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 1 another good day. I think we've had a lot of really

 2 good information. And thank you to our staff, and we

 3 are adjourned.

 4 (Proceedings concluded at 4:36 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 101 through 202 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 9th day of September, 2007.

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