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BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In Re: Joint petition for determination) DOCKET NO.
of need for an electrical power plant) 981042-EM
in Volusia County by the Utilities)
Commission, City of New Smyrna Beach,)
Florida, and Duke Energy New Smyrna)
Beach Power Company Ltd., L.L.P.)
_____)

VOLUME 6
Pages 756 through 861

PROCEEDINGS: HEARING
BEFORE: CHAIRMAN JULIA L. JOHNSON
COMMISSIONER J. TERRY DEASON
COMMISSIONER SUSAN F. CLARK
COMMISSIONER JOE GARCIA
COMMISSIONER E. LEON JACOBS
DATE: Wednesday, December 3, 1998
TIME: Commenced at 9:30 a.m.
PLACE: Betty Easley Conference Center
Room 148
4075 Esplanade Way
Tallahassee, Florida
REPORTED BY: CATHY H. WEBSTER, RPR

C & N REPORTERS
REGISTERED PROFESSIONAL REPORTERS
POST OFFICE BOX 3093
TALLAHASSEE, FLORIDA 32315-3093
(850)962-2020 / FAX (850)962-3996

DOCUMENT NUMBER-DATE

14015 DEC 14 98

FPSC-RECORDS/REPORTING

(APPEARANCES AS HERETOFORE NOTED)

BUREAU OF REPORTING

RECEIVED 12-14-98

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A A long old flat trench, if you will, of natural gas fire in this diagram, steam turbines rolling up to some oil fired -- excuse me -- yes, steam turbines rolling up to some oil fired capacity and so forth. Demand for many, many hours of the year is out there on the flat piece, out there riding around on the high-cost piece of this supply stack. This is the picture.

COMMISSIONER GARCIA: You don't contend that Duke New Smyrna is going to be providing power at that price then; do you?

A These are costs. These are marginal costs of production. The price tag is cost.

No, I don't.

COMMISSIONER GARCIA: Okay.

A In fact, quite - Let me follow up on that Commissioner Garcia; it's a very good question. Suppose the demand is out a significant ways on the gas trench up to where it joins the oil trench, and the demand curve for a given hour is cutting through at that point. The cut-through point gives the price to everybody including New Smyrna Beach, including the old punch, including the new. So your intuition is correct.

COMMISSIONER GARCIA: Everybody gets the same price?

1 A Everybody gets the fair market price. And the
2 fair market price is set by the marginal provider;
3 absolutely.

4 Okay. Now this, this slide is what tells you why the
5 Duke New Smyrna Beach project is so valuable. You can
6 put --

7 COMMISSIONER GARCIA: Let's go back to that, though.
8 Everybody gets the same price, but our ratepayers are
9 protected. Our ratepayers aren't out there. That's only
10 the margin that's out there. Our ratepayers -- Our
11 ratepayers are usually getting -- sucking up all the
12 nuclear right from the start. That's all going into our
13 ratepayers.

14 So they're out here very few times. This is a
15 very small percentage of FP&L's need or FPC's need that's
16 way out here. That's just the market that's out there for
17 the wholesale price; right?

18 A Yes and no. The people who are making markets at
19 the margin are quite often out there.

20 COMMISSIONER GARCIA: Right, but our ratepayers are
21 not out there?

22 A They may or may not be depending on the set of
23 contractual obligations that they have.

24 COMMISSIONER GARCIA: And even if they are, they are
25 only in a small way out there. In other words, FP&L is not

1 putting out all of its need out here?

2 A Oh, no. No; that's right.

3 COMMISSIONER GARCIA: My ratepayers or their
4 ratepayers are taking first dibs on all the cheap stuff
5 that FP&L has. Whatever it has left over is out here?

6 A Absolutely. And to amplify that, what you've
7 done is this is the go-forward costs, the fuel costs and
8 the O&M costs. You've written a contract de facto with
9 your ratepayers to give them return of and return on the
10 embedded cost portion of the plants that are left in the
11 rate base save the Duke New Smyrna, plus the O&M costs.

12 So absolutely. They're sheltered from energy price --
13 excuse me -- from any economic rent that would be developed
14 here, but they've had to pay the price of you imposing
15 fixed cost on them over time. That's what the rate base
16 is. That's what fixed cost and variable cost pass through
17 is. You've handed them a fixed entitlement. They don't
18 have to play the market.

19 COMMISSIONER GARCIA: Yeah, but the other side of that
20 argument clearly is the markets might not have supported
21 what you wanted and they may have been paying less for a
22 market, but they would have never been paying as low as
23 they pay because they are part of it.

24 A That's correct. That's correct.

25 But you can see from this chart many of the

1 discussions in the testimony are made quite clear here. If
2 you put Duke New Smyrna Beach type units in here, you don't
3 eliminate the old punch, you just push them further out the
4 stack; they run less; you save costs in Florida; and you
5 drive down the market price. And you do that on Duke's
6 nickle. They bear all the risk and they bear all the
7 cost.

8 Let's move over to page No. 11, page no. 11, which is
9 DMN-12, this is pretty important as well. I'd like to
10 spend a minute to go through that.

11 Consider the supply curve on the left of that diagram.
12 That's the supply stack we just saw in a conceptual
13 fashion. Consider the supply curve on the right hand side
14 of that diagram. That's the same supply curve but with the
15 500 megawatts of Duke New Smyrna Beach added.

16 So the left most world is one without the plant. The
17 right most world is the one with the plant. What happens
18 incrementally as the plant comes in? The magic crossing
19 point, the market clearing point, goes from the dot on the
20 upper left to the dot on the lower right.

21 What happens when that happens? Very important.
22 Irrefutable. Price drops. Price drops to everybody. Your
23 ratepayers get a direct economic benefit from price erosion
24 because of entry of the Duke New Smyrna Beach project.
25 Okay?

1 Quantity goes up, if there is any elasticity in
2 demand, if you're attracting jobs to Florida, you're
3 attracting investment to Florida, et cetera, et cetera, the
4 quantity of energy is actually sold -- excuse me -- is
5 actually increased.

6 Now many people say, oh, no, we don't want to consider
7 that; we want to assume demand is fixed. Okay. Lop off CF
8 and the whole right hand side of that and assume demand is
9 fixed at the left most level that goes through the BC
10 point there.

11 COMMISSIONER DEASON: Doctor, let me interrupt for
12 just a second, before you get -- You're assuming that with
13 Duke New Smyrna that there is going to be a reduction in
14 market price or --

15 A I'm not assuming it. That's an economic
16 reality. When you put more supply into a fixed market, you
17 have to drop the wholesale price. Absolutely. More
18 supply, same demand: lower price.

19 COMMISSIONER DEASON: Okay. But under the need
20 determination in Florida, we don't allow more capacity to
21 be built than is needed.

22 Do you agree with that or disagree?

23 MR. MCGLOTHLIN: By way of clarification, Commissioner
24 Deason, when you say "is needed," you mean for reliability?

25 COMMISSIONER DEASON: Let the witness interpret that

1 however he wishes.

2 MR. McGLOTHLIN: Well, just so you aren't talking past
3 each other, Dr. Nesbitt, would you clarify how you mean --

4 COMMISSIONER DEASON: What I'm saying is that we don't
5 have a fully open market here in Florida like your cattle
6 analogy, where anybody that wants to go into the cattle
7 business can do it and take their chances.

8 A Right.

9 COMMISSIONER DEASON: We only allow power plants to be
10 built according to what is needed. And I guess here today
11 and mainly yesterday we debated to a great extent what that
12 need was. And there is different definitions of what need
13 is.

14 But, anyway, there is a containment of some degree.
15 You agree -- There is not open entry in building power
16 plants in the State of Florida. If that were the case, you
17 wouldn't be here today; you'd already be building your
18 power plant and wouldn't have to bother with us.

19 Do you agree with that?

20 A My understanding is there's not open entry. All
21 I mean to say by this is if you let one entrant in, or two
22 or three. Let's talk about one. You will erode the price.

23 COMMISSIONER DEASON: Well, I guess my question is
24 what prevents New Smyrna, since there is a cap on the
25 amount of capacity that can be built, what prevents them

1 from not lowering the price and keeping demand where it is
2 so there's no benefit to the customers of Florida? The
3 only benefit is a higher rate of return to New Smyrna.

4 A More entry doesn't give a higher rate of return.
5 The more entry you have here -- Consider in your minds'
6 eye, Commissioner Deason, if the right most curve were
7 25,000 megawatts to the right of the left most curve, you
8 kill the market. You drive the price down below the point
9 where the 25th thousandth megawatt wouldn't want to enter.

10 Entry causes a lower incentive for the next entrant.
11 And then the next entrant causes a lower incentive for the
12 next entrant. And the next entrant causes a lower
13 incentive for the next entrant.

14 By analogy, the Silicon Valley is not covered with
15 Intel.

16 COMMISSIONER DEASON: How do we know there's going to
17 be another entrant? Because if we determine that New
18 Smyrna, there's a need for this plant and there's not need
19 for any other plants, they're the last game in town,
20 there's no more competition because the market, the amount
21 of capacity there is fixed by the decisions of this
22 Commission.

23 A That's one scenario, yeah. They'll be -- What if
24 there's another applicant?

25 COMMISSIONER GARCIA: But that would also presuppose

1 that we hit need right on the head; right?

2 A Right.

3 COMMISSIONER GARCIA: Because then if we in Florida
4 hit need right on the head, we'd know where that line
5 ended.

6 A That's right.

7 COMMISSIONER GARCIA: In other words, it would never
8 go up because we're the perfect Commission and the perfect
9 State, so it goes. But, obviously this, at the end, is
10 because we don't know exactly what we need. There is a
11 range there of need.

12 A Absolutely, Commissioner Garcia. Further more,
13 what if your goal was to restrict growth in Florida? You
14 could access need low and accomplish that goal. Don't
15 build the plants, don't build the infrastructure. I don't
16 think that that's your goal, or I would conjecture that
17 that's not your goal.

18 COMMISSIONER DEASON: No, I don't think that's the
19 goal. I don't think that's the goal of the law. The law
20 says, as I read it, and from a very general standpoint, is
21 that we want needed plants built but we don't want unneeded
22 plants built.

23 And, of course, there's a big debate on how you
24 determine and define need, but we do agree that there is a
25 requirement for plants to have a determination they are

1 needed before they are built.

2 A Absolutely, Commissioner; I understand that.

3 Let me make one -- I'm going to come to this in one of
4 my subsequent slides, but each plant that's profitable, I
5 would argue, you need. And it drives price down each time
6 you let it in, whether -- no matter how it gets here.

7 COMMISSIONER DEASON: So you're saying that from an
8 economic standpoint, as long as someone can come in and
9 build a plant at a cost that is lower than the last unit in
10 the dispatch, that it's needed?

11 A I would argue that. That's my personal opinion.
12 And not to do that imposes costs on Floridians that one
13 doesn't have to impose.

14 The next slide, no. 12 -- Did I effectively address
15 your question, Commissioner Deason?

16 COMMISSIONER DEASON: Yes; thank you.

17 A Okay. On page no. 12, question was asked by
18 Commissioner Clark yesterday, well, how much capacity. And
19 I think she asked it again today. Well, I'm going to give
20 you the Altos model answer to that. And that's on page no.
21 12.

22 The way we crafted that analysis, again, in pursuit of
23 being conservative here on evaluating the economic value of
24 the Duke New Smyrna Beach project was to pose the question
25 if it could build, i.e., as much new capacity as it wanted

1 overnight with no delays right at the beginning, how much
2 would it build? How much would the market absorb?

3 The answer, Commissioner Deason, to your question, the
4 question is 5400 400 megawatts of brand new high technology
5 gas combined cycle capacity right now today. The market
6 would absorb it. Those folks would make money. The next
7 one wouldn't.

8 COMMISSIONER GARCIA: You're telling me that I could
9 put out for bid 5400 megawatts in Florida and the market,
10 Wall Street, would pay for that in Florida and there's
11 enough market for it?

12 A Commissioner Garcia, no. Putting something out
13 for bid is profoundly different than a merchant plant,
14 profoundly different. No.

15 What I'm saying is that if people entered and were
16 allowed to enter the market to the point at which it was no
17 longer profitable to enter, you would see them voluntarily
18 build 5400 megawatts.

19 If you bid, it's different. Bidding is very
20 distortionary and very different than a merchant world,
21 very different. So --

22 COMMISSIONER GARCIA: So bidding doesn't get the
23 lowest price. In other words, I require our utilities to
24 bid out all their new power.

25 A It does not get the economically efficient

1 solution; doesn't get the lowest price, no, not
2 necessarily.

3 COMMISSIONER DEASON: So according to your definition
4 of need, it's 5400 megawatts giving today's economics and
5 the cost of this technology and that we could issue a
6 blanket order saying there's an amount of this much need,
7 come to Florida and build it, and until that point is
8 reached, then need ceases?

9 A That's my best guess, yes.

10 And Florida benefits from each and every megawatt
11 that's built because it drives the price down and yet it's
12 still profitable for the merchant.

13 Furthermore, item no. 2 there is critically important
14 to some questions that you raised earlier. And that is I
15 noted in my model that I allow transmission to go either
16 from Georgia to Florida or from Florida to Georgia,
17 whichever way is the most economic and whichever way the
18 traffic would bear. And, guess what? Nothing goes from
19 Florida to Georgia. This capacity is fully absorbed in the
20 Florida market. We'll return in a minute.

21 And item no. 3 says at most inconsequential amounts of
22 energy from Duke New Smyrna Beach would ever be sold out of
23 State. We can talk about why that is a little bit later.

24 Page no. 13: The Duke New Smyrna Beach project saves
25 fuel. We had a pre-debate debate over that a minute ago.

1 Okay. But according to our estimates DNSB is efficient.
2 It has a 6800 approximate heat rate. It displaces plants
3 on the high end of your supply stack that are 10,500 heat
4 rate and in some cases well above. You get a two BTU for
5 one BTU's displacement savings on fuel, roughly speaking.

6 When you run through those numbers, you'll see 13.6
7 trillion BTUs of cumulative fuel savings over the scope of
8 table 10, DMN-7. That's a lot.

9 Turning to the next page, page no. 14. Okay. So
10 what? Well, when you put less molecules, less BTUs through
11 the combusters of Florida, what happens to pollution? Got
12 to go down. Molecules are what pollute. Put half the
13 molecules through, get half the pollution.

14 The Duke New Smyrna Beach plant is a net positive
15 adder to environmental pollution in Florida. Two for one.
16 Net positive adder.

17 How does this happen? Gas in an efficient unit is
18 only half as much as gas in a less efficient unit. So you
19 get a gas for gas savings if you displace gas.

20 Gas for oil, we know oil is black; it's bad; it's
21 terrible. It's full of all kinds of stuff other than
22 carbons and hydrogens. So you get more than just the BTU
23 for BTU swaps in oil. Important.

24 Slide no. 15, market power. Okay. Duke New Smyrna
25 Beach directly reduces potential exercise of market power

1 by the incumbents. As my testimony says, I'm not saying
2 the incumbents are exercising market power. There were a
3 number of questions yesterday about what market power is.

4 I'd like to point you to no. 2. Duke New Smyrna Beach
5 does not have market power. No way.

6 Now let's talk about why. It's in my direct testimony
7 as noted here on page 31, but Duke New Smyrna Beach
8 diminishes perspective exercise of market power. How? It
9 sets up -- It dilutes market concentration. Market
10 concentration is what you have to worry about when you're
11 worried about market power. Okay.

12 It creates a small, what we call a competitive
13 merchant fringe that limits prospects for market power and
14 price slab. Why? The merchant fringe, what is the most
15 propitious time for them to operate? It's when the prices
16 fly up. So they operate right against the interests of
17 anybody who is trying to exercise market power.

18 Question was raised yesterday what market power is.
19 What is market power? Takes a couple of things to give you
20 market power. Number one is granularity or divisibility of
21 your assets. If you shut your whole asset down, yeah, you
22 have market power but you don't get any money. You have to
23 be able to shut 10% of them down.

24 MR. GUYTON: Commissioners, I'm going to object.
25 He's taking a point -- Throughout this summary, he's taking

1 a point that he makes and then he is elaborating a great
2 extent on the point that he makes in his testimony.

3 I can't argue the fact that he's taken an occasional
4 point out of his summary, but he's not summarizing it.
5 He's elaborating on it, on virtually every slide.

6 I've sat back and been as patient as I can, but please
7 instruct the witness to summarize his testimony. This is
8 going on probably as long as it would for him to have read
9 his testimony.

10 MR. MCGLOTHLIN: Commissioners, yesterday the
11 opponents to the project asked for forty-five minutes per
12 party to argue a legal motion. We are asking for a bit of
13 latitude so that the witness may have fifteen or eighteen
14 minutes to cover a lot of important ground. I don't think
15 that's unreasonable under the circumstances.

16 CHAIRMAN JOHNSON: But the witness does need to limit
17 his summary to a summary fashion.

18 A Thank you. I shall.

19 Okay. With regard to page no. 15, I only want to make
20 one point related to no. 2: The Duke New Smyrna Beach
21 Plant does not have market power. That's because if they
22 shut down, they are nothing. If they run, they earn
23 something. They're going to run. That's not market
24 power. They're a price taker.

25 COMMISSIONER DEASON: But do you have a market power

1 if you can dictate the price?

2 A You can't dictate the price. If you're going to
3 run all the time up to the full extent of your capacity,
4 you cannot dictate the price. You're a price taker.
5 Whatever the price is, you take it and run. There are
6 times when it's good; great. There are times when it's
7 bad; no.

8 If you're a price taker, you do not have market
9 power. It's the definition of market power in the
10 economics literature. If you are a price taker, you do not
11 have market power.

12 COMMISSIONER DEASON: Do you know if the other
13 utilities in Florida that sell on the wholesale are
14 constrained by cost-based tariffs?

15 A I'm sorry, I didn't hear the question.

16 COMMISSIONER DEASON: Do other utilities in the State
17 of Florida that sell at the wholesale level, are they
18 constrained by cost-based tariffs or do they have
19 market-based tariffs?

20 A I don't know.

21 Moving to page no. 16, the Duke New Smyrna Beach
22 project increases the ability to meet load growth. Demand
23 growth is inevitable in Florida. When and if the plant
24 enters, there's incrementally more capacity chasing the
25 same level of demand. We're a growing demand and by

1 definition you have more reserve margin.

2 As I point out in line 14 -- excuse me -- page 14,
3 lines 13 to 20 of my prepared testimony, while I've not
4 quantified the impacts, when you have more supply, same
5 demand, you have more redundancy; you have more
6 reliability. It's a tautology. The more redundancy you
7 have, the more reliability you have.

8 Page no. 17, Duke New Smyrna Beach provides direct
9 risk reduction to Florida ratepayers. Direct risk
10 reduction, not just saying that we don't give any -- excuse
11 me -- that the Duke New Smyrna Beach plant causes no
12 incremental risk to ratepayers. It actually reduces risk.
13 One hundred percent of the price in marketability risk is
14 borne by the project owners, one hundred percent. No price
15 risk is borne by Florida ratepayers. You have more
16 capacity in place than you would otherwise have on someone
17 else's nickle.

18 Page no. 18, item no. 9, I believe. Imports from
19 points north of Florida. And by this I mean energy
20 imports, power imports, from points north of Florida will
21 decline in the future. You can't count on them.

22 Southern is going to evolve from being a net exporter
23 to a net importer over the next decade. It's going to get
24 its imports from its neighbors.

25 Off peak, Southern's low cost coal units are going to

1 be increasingly committed to whole markets. They're
2 growing.

3 On peak, everybody's cost the same. Why would you
4 move on peak power if everybody's costs of generation are
5 the same? There's no price differential to pay the
6 transmission.

7 Let me summarize then on page 19 by simply stating
8 that the Duke New Smyrna project is manna from heaven.
9 It's manna from heaven. Somebody else is taking all the
10 risk. It augments reliability. It gives you a better
11 environment, reduces the cost and reduces the price.

12 BY MR. MCGLOTHLIN (Continuing):

13 Q Does that complete your summary, sir?

14 A Yes, it does.

15 MR. MCGLOTHLIN: Dr. Nesbitt is available for cross
16 examination and questions.

17 And, Commissioners, I would point out that Dr. Nesbitt
18 does cover the area that includes some of the questions
19 that arose and some of the concerns expressed yesterday.
20 So he is the appropriate witness to respond to such
21 questions.

22 CHAIRMAN JOHNSON: Thank you.

23 Mr. Moyle.

24 CROSS EXAMINATION

25 BY MR. MOYLE:

1 Q Dr. Nesbitt, I have been provided a copy of your
2 handout and I followed it and I've reviewed your direct
3 testimony. I need to I think maybe clarify at least one
4 thing. And this may be more appropriate with counsel, but
5 you have a Ph.D. in Economic Engineering from Stanford
6 University; is that right?

7 A Engineering Economic Systems, yes; I have a
8 doctorate from Stanford.

9 Q And I suppose then that you are an expert in
10 economic engineering; is that correct?

11 A Yes, I would say so.

12 Q You consider yourself as such?

13 A (Witness nods head affirmatively).

14 MR. MOYLE: I guess what I'm asking is this witness
15 offered as an expert witness and, if so --

16 MR. MCGLOTHLIN: The answer to that is yes, he's
17 offered as an expert witness with expertise in economic
18 analyses, analyses of markets, and risks, as well as the
19 application of computerized simulations to those analyses.

20 BY MR. MOYLE (Continuing):

21 Q I have some probably general questions for you.
22 And I appreciate your willingness to explain them, but
23 there are a couple of points in your testimony, if I could
24 point them out to you, maybe refer them directly to you,
25 and ask you about them.

1 On page 15 of your testimony, lines 8 through 11, you
2 state that the Altos electric model predicts that there are
3 few places in North America where the need for new gas CC
4 generation is more acute and more immediate than in
5 Florida. Is that your testimony?

6 A Yes, it is.

7 Q Okay. And tell me why that's the case.

8 A I didn't catch your name, sir.

9 Q I'm sorry. Mr. Moyle.

10 A Mr. Moyle. Thank you.

11 Q Jon; that's fine.

12 A Mr. Moyle, you may recall when I was speaking a
13 moment ago, the scenario that I put together in the model
14 assumed immediate or allowed immediate overnight entry of
15 whatever technology wanted to enter, whatever plant wanted
16 to enter, in each of those 32 regions of the country. And
17 we had the most rapid and the most entry in Florida. 5.4
18 gigawatts, 5400 megawatts, of immediate entry into Florida
19 at the fuel price differentials we assumed, we considered
20 to be a critical need for entry, a lot.

21 And the main reason for that was the incumbent plants
22 there are costly. They draw that energy in. They draw
23 that entry in and they want to see lower cost production
24 come immediately.

25 Q So Florida, in your expert opinion, is not the

1 first, one of the first states that need this type of a
2 plant?

3 A It's my view it's in the top of the list of 32
4 regions indeed, yes.

5 Q You had a -- To move on, you had a page in your
6 handout and also in your direct testimony on page 29, you
7 had indicated that it's not likely that Duke will sell any
8 power outside of Florida. There's been some discussion
9 about that, that this plant could be located in Florida and
10 then not serve Florida needs but be used elsewhere. And I
11 think that -- I wanted to ask you to elaborate a little bit
12 as to why in your expert opinion it isn't likely that Duke
13 won't sell any power outside of Florida.

14 A Mr. Moyle, let me answer that this way: In
15 constructing the model, my associates and I enumerated the
16 generation options in Southern and points north of there
17 and in Florida. And we enumerated the transmission
18 capability from Southern Florida and from Florida back to
19 Southern. We didn't presuppose what would actually flow or
20 how those markets would clear. We simply laid in the
21 alternatives, so that those things could all compete
22 against each other straight up based on cost and price.

23 And under the range of simulations that's articulated
24 in my direct testimony, we never saw flow from Florida
25 North to Southern. Why? Off peak, Southern has got cheap

1 coal until it gets used up by growth in Southern and
2 contiguous regions, and then it's gas. Or it's coal
3 imported from its nearest neighbors upstream from it, which
4 by the time it gets wheeled a couple of times isn't that
5 cheap any more. You don't see the price differential,
6 okay, between Southern and Florida necessary to transport
7 energy north from Florida.

8 What does it take to transport energy north from
9 Florida? You have got to have a higher price in Southern
10 than you have in Florida, otherwise no one is going to want
11 to move it. You don't pump water downhill; you don't pump
12 energy downhill. You pump it uphill. You take it from a
13 lower market clearing price region to a higher market
14 clearing price region.

15 The market clearing price in Southern is never higher
16 than the market clearing price in Florida. So you don't
17 move it north. You move it south. That's why.

18 Q Thank you for addressing that.

19 Another comment in your testimony was interesting. I
20 would ask you to turn to page 34. The portion that I was
21 referring to is you make a statement that this project is
22 going to provide a direct economic benefit in the form of
23 lower cost electricity to Florida utilities. That's
24 accurate in your professional opinion, that Florida's other
25 utilities will receive a direct economic benefit in the

1 form of lower cost electricity if this plant goes forward?

2 A Let me amplify what I mean by that. The answer
3 is yes. As wholesale prices drop, as wholesale prices
4 drop, people have more propensity to buy the cheaper
5 wholesale power than perhaps relying on whatever
6 alternative form they would have to rely on, which is more
7 expensive. If you put a low cost alternative into it,
8 market prices drop. As prices drop and people behave
9 rationally, they take advantage of that. But the answer is
10 yes.

11 Q And then it would follow, you would assume that
12 the ratepayers of Florida would also stand to benefit if
13 this plant were permitted; correct?

14 A Let me answer that this way: My view is as
15 wholesale prices drop, the players in this state will make
16 sure that the ratepayers benefit from that.

17 Q And this table includes the Commission, I
18 presume; that's part of your answer?

19 A Yes, they are a player.

20 Q The comment you made with respect to bidding
21 versus a merchant plant, is it your understanding that as
22 an expert economist that a merchant plant will get you a
23 better lower price than bidding? And if that's yes, could
24 you briefly tell me why?

25 A Yes, I do. And let me tell you why. How does

1 bidding work in a generic sense? People compete for the
2 right to pass their capital costs downstream. They get the
3 right to pass costs downstream. How do we know that's the
4 best price? We don't. It's an entitlement.

5 What about building a merchant plant? Does Duke New
6 Smyrna Beach have the right to pass any cost downstream?
7 No. So we know that if you have the right or the
8 entitlement to pass costs downstream to your customers,
9 there is an incentive to load some costs on. There is an
10 incentive to be higher in costs. That's not to say that
11 you're always higher in costs, but it is to say there's
12 incentives to have a higher cost solution.

13 Give an example: If I'm a consultant and I know
14 people have to buy my services, do you think I charge the
15 same price as if I know they're shopping around? No, I
16 don't. I don't have the same incentives in those two
17 worlds. Merchant entry is at least as good as the bid
18 solution because merchant entry doesn't force anything on
19 anybody. Strictly voluntary market clearing transactions.

20 Q You had testified, also -- And this is switching
21 gears a little bit. But in your summary, you testified
22 it's your opinion that there is a need in Florida for this
23 type of plant. Could you briefly summarize why you believe
24 there's that need?

25 A There was quite a bit of discussion in my direct

1 testimony, but if you might refer to page 10 in my handout.

2 Q Okay.

3 A Noteworthy, incremental cost, the forward cost,
4 of the Duke New Smyrna Beach project and projects like it
5 is, it's at the left end of the hydrocarbon portion, let me
6 call it, of the supply stack.

7 Q Okay. This is what you spoke of earlier in your
8 direct testimony?

9 A Yeah.

10 Q It's also your testimony, isn't it, that this
11 project would result in environmental benefits to
12 Floridians?

13 A Indeed, I did. Yes.

14 Q In making your assessment of need, did you go
15 back and historically look at any of the situations we've
16 had in Florida, the 1989 Christmas freeze, for instance?

17 A I didn't look at it specifically. It was
18 embedded in the demand information we put together to
19 generate the model, but we didn't look at it as an explicit
20 event, no.

21 Q As an expert economist, I was wondering if you
22 could -- An event like the Christmas '89 freeze, somebody
23 earlier said they couldn't finish their turkey in the oven
24 on Christmas Day, is there a way to peg societal costs with
25 a situation like that? You know, I say the turkey, that's

1 one thing, but if there was interruptable power, you know,
2 fertilizer companies cannot use power because they're on an
3 interruptable rate, is there a way that you can calculate
4 those societal costs?

5 A There is indeed. And the way to think about it,
6 I won't take a lot of time in a technical discussion, is
7 based on page No. 11. You look at willingness to pay
8 relative to what you have to pay. Subtract the two, and
9 that looks at societal costs. It's a respectable measure
10 and a respected measure.

11 A good example of that is your laptop, you probably
12 got it for a couple or three thousand dollars, but your
13 willingness to pay might have been forty-five thousand.
14 You're getting \$40,000 worth of benefits. Congratulations.
15 That's the way economists think about it.

16 Q Let me ask just a couple of other questions and
17 I'll finish up.

18 There was a bit of discussion earlier about the risk
19 of this plant not being built or not running. As an expert
20 economist, having looked at the situation in Florida and
21 the numbers, do you think there is any significant risk of
22 this plant not providing electricity and running if such
23 electricity were contracted for by others?

24 A I think there is no such risk. I think, if I put
25 myself in the position of the owner of this plant, every

1 hour that the price is above my production costs, I'm
2 going to be running. I'm going to have especially strong
3 incentives to run my plant on peak. I'm not going to
4 withhold one iota of production on peak because that's the
5 time I have to make all my money. I have more incentive
6 than anybody else to run.

7 No, I think they'll run.

8 Q One final question: It's your expert testimony
9 that this plant, if it is permitted to go forward, will
10 result in both ratepayer benefit and environmental benefit
11 to Florida; is that correct?

12 A That's correct.

13 MR. MOYLE: I appreciate your indulgence, Madam
14 Chairman. I don't have anything further.

15 CHAIRMAN JOHNSON: Mr. Guyton.

16 MR. GUYTON: Thank you, Chairman.

17 CROSS EXAMINATION

18 BY MR. GUYTON:

19 Q Dr. Nesbitt, will you describe for the Commission
20 the market structure that your model assumes that the Duke
21 New Smyrna power will be sold into?

22 A Yes, sir. Might I refer you to page no. 4 again.
23 I'm sorry. Page no. 4 in the handout. I apologize.

24 If you look at in the middle of that page competitive
25 hub, and you look at a whole bunch of arrows going into

1 that competitive hub, many of which come from what I've
2 designated indigenous generation, and some of which come
3 from inbound transmission, the structure of the market that
4 I've assumed for Florida is that all the existing and the
5 prospective new generation units, which were arrayed in
6 those rectangles in the mid left, have to compete based on
7 price, based on the supply stack that you've seen in the
8 competitive hub. And the person in the competitive hub,
9 just as they would in a --

10 COMMISSIONER GARCIA: Which is not how it actually
11 works; right?

12 A It may not be. It's the way the wholesale market
13 works, I would argue.

14 Okay. And they compete in the competitive hub priced
15 on their price -- based on their cost. Excuse me. And
16 inbound transmission competes based on its cost as well.

17 So we're simulating the operation of a Florida market
18 as choosing the lowest cost alternative from investment,
19 operation, retirement, and inbound transmission, the lowest
20 cost solution.

21 Q Now you assume for Florida an aggregate market;
22 do you not?

23 A Yes. Florida is assumed as one aggregate
24 region. Yes, it's represented that way.

25 Q And you assume an aggregate market that everybody

1 sells at and buys at fair market value; correct?

2 A That's correct. We assume one competitive hub,
3 as you can see in the diagram, which is an aggregate for
4 all of Florida; yes, sir.

5 Q And you assume for purposes of your model that
6 there is no excess or shortage of supply; correct?

7 A If you'll refer, Mr. Guyton, to the picture on
8 page 6.

9 Q I'm sorry, Dr. Nesbitt, would you answer the
10 question and then give me whatever detail that you would
11 like, please, sir?

12 A I'd like to answer it, if you don't mind, in the
13 context of figure 6.

14 Q Fine.

15 A There's one price that represents the aggregate
16 of Florida as shown in figure 6 and there is one quantity
17 of consumption for Florida as represented in figure 6.

18 Q So you assume no excess or shortage of supply;
19 correct?

20 A Market clears -- Energy markets clear in Florida;
21 that's the assumption.

22 Q So there is no excess or shortage of demand?

23 A Mr. Guyton, I have trouble with that question.
24 At the market clearing price, there is no excess and
25 there's no surfeit. Energy is sold and bought.

1 Q And what you have here is --

2 CHAIRMAN JOHNSON: Mr. Guyton, hold up for a moment.

3 Sir, as you answer the questions, could you start them
4 with a yes or no answer. Often times it's -- Particularly
5 at this late hour, it's hard for us to follow where you're
6 going.

7 A Yes, Madam Chairman.

8 CHAIRMAN JOHNSON: But if you start with a yes or no,
9 feel free to elaborate on your answer.

10 MR. GUYTON: Thank you, Madam Chairman.

11 BY MR. GUYTON (Continuing):

12 Q And this is a wholesale market that you've
13 modeled; correct?

14 A This is the wholesale -- Yes, this is the
15 wholesale market that I modeled.

16 Q And this is a micro economic market structure,
17 where everybody in Florida on the producer side is price
18 taking profit maximizing, and everybody on the consumer
19 side is cost minimizing, shop-around consumers?

20 A That's correct. That's the way I represented it.

21 Q Now you describe this market somewhat in your
22 Exhibit DMN-15; do you not?

23 A Yes.

24 Q And there you speak of the coming merchant world
25 or the coming merchant electric world. What do you mean by

1 those terms?

2 A The coming merchant world to me -- Let me define
3 merchant world. Merchant world has two aspects to it in my
4 view. Number one, zero cost pass through. Nobody can
5 impose costs on anybody else, and no obligation to serve.
6 No obligations at all.

7 The coming merchant world, as indicated in that
8 document, it's my personal view that we'll see the merchant
9 world within the next decade. I don't know when.

10 Q Doesn't that also assume that there is no market
11 power?

12 A Doesn't what assume there was no market power?

13 Q Your phrase "the coming merchant world, doesn't
14 that assume that no one has market power?

15 A Does not; does not assume that.

16 Q Do you recall your deposition, Dr. Nesbitt?

17 A I recall portions of it.

18 Q Do you have a copy of it, sir?

19 A Yes, I do.

20 Q Would you turn to page 88 of the first day,
21 please.

22 MR. McGLOTHLIN: For clarification, this is FP&L's
23 deposition?

24 MR. GUYTON: Yes.

25 A I believe I have page 88. Do you have a line

1 citation?

2 BY MR. GUYTON (Continuing):

3 Q Yes, sir. I asked you at page 17 -- I'm sorry --
4 at line 17, "Several times in your DMN-15 you speak of the
5 coming merchant world or the merchant electric world. What
6 do you mean by those terms?"

7 And at line 25 and part of your answer, wasn't part of
8 your answer, "There is no market power. Market power is
9 precluded"?

10 MR. McGLOTHLIN: Mr. Guyton, the page number
11 reference, please.

12 MR. GUYTON: Page 88, line 25.

13 MR. McGLOTHLIN: Thank you.

14 A I do see that, yes.

15 BY MR. GUYTON (Continuing):

16 Q Are you changing your testimony now or is that
17 part of what you mean by the coming merchant world?

18 A Let's me clarify my testimony here, if I might.
19 What is merchant world? It's a world where there is no
20 fixed cost pass through, no obligation to serve. Okay.

21 I'm not sure whether there is monopoly power allowed
22 or not in the definition of merchant world. As I think
23 about it now, the way most -- I know the way Mr. Stalin
24 thought about the merchant world is one in which no one has
25 market power.

1 I'm not sure there is a definition of merchant world
2 that's clean and pure. I would say, yes, I am changing
3 this prior testimony in my deposition. I don't think the
4 existence or non existence of a market power has any
5 relevance to a merchant world.

6 Q In your coming merchant world is every plant
7 privately owned?

8 A Not necessarily.

9 Q Would you turn to page 89 of your deposition.
10 Actually, I'm going to read the question at page 88 and I'd
11 ask that you read the answer that you gave in your
12 deposition.

13 "Several times in your DMN-15 you speak of the coming
14 merchant or the merchant electric world. What do you mean
15 by those terms?"

16 Would you read your answer, please, sir?

17 A Excuse me. I didn't follow where you were.

18 Q I'm at page 88, line 17 through 19. Same page we
19 were on a minute ago.

20 A Yes.

21 Q "Several times in your DMN-15 you speak of the
22 coming merchant world or the merchant electric world. What
23 do you mean by those terms?"

24 That was a question I posed; wasn't it?

25 A I see that.

1 Q Would you read your answer, please, sir?

2 A Yes, I will.

3 "To me a merchant world is one in which there is no
4 guaranteed fixed cost pass through by anybody, in words
5 that I use. Charles Stalin, former FERC Commissioner used,
6 nobody is capable of forcing costs on anybody else in a
7 system. That's a merchant world. Okay. And there is no
8 market power. Market power is precluded. Everybody is a
9 pure competitive price taking profit maximizing producer or
10 a cost-minimizing consumer. Every plant is privately owned
11 and every plant de facto is profit center. And that's a
12 merchant world."

13 Q Now in the term "coming merchant world," is it
14 still your testimony that every plant is privately owned?

15 A The notion of private ownership here is profit
16 maximization, not whether or not there are shareholders or
17 it's public. It's do they pursue price taking profit
18 maximization.

19 If it's clarification you're looking for, I will say
20 that if they're price taking profit maximizing, then they
21 behave as a private agent.

22 Q Now this coming merchant world, that is not a
23 world that currently exists in Florida; is it?

24 A It's my understanding that it does not exist yet.

25 Q But that is the world that you have modeled in

1 your simulation?

2 A That's not the only world that I've modeled, but
3 the model simulates that world.

4 COMMISSIONER CLARK: Dr. Nesbitt, that's a yes to his
5 question?

6 A No. That's neither.

7 Let me answer that this way, Commissioner Clark. In a
8 merchant world or in regulated world, people march up the
9 supply stack in ascending order of costs. So it models
10 both worlds.

11 BY MR. GUYTON (Continuing):

12 Q Would you turn to page 89 in your deposition?

13 A I'm on page 89.

14 Q All right, sir. You recall I asked you, "Is that
15 the world as it currently exists in Florida?"

16 And you said, "As far as I know it's not."

17 And then I asked you, "Is that world that you have
18 modeled" -- "Is that the world that you have modeled in
19 your simulation?" What was your answer there?

20 A My answer there is -- was "That's the world, yes,
21 that we have modeled in our simulation, a world in which
22 everybody is a price taking profit maximizing producer and
23 a cost-minimizing consumer. It's a world in which you have
24 a robust complete wholesale power market that clears itself
25 at the market clearing price. That does not mean that

1 people don't march up the supply stack in ascending order
2 of costs the way they do in a regulated world. It's simply
3 a characterization of that world."

4 Q And what transitions would have to happen to the
5 Florida wholesale market to achieve the market world that
6 you've modeled in your simulation?

7 A I see that you asked me that question before as I
8 recall.

9 Q Go ahead and your answer and make sure that we're
10 not inconsistent here.

11 A Okay. I've read my answer there. What was the
12 pending question?

13 Q What transitions would have to happen in the
14 Florida wholesale market to achieve the merchant world that
15 you've modeled in your simulations?

16 A I think the answer beginning on line 23, let me
17 reread that as I would answer that now. The wholesale
18 market -- There's not one answer to the question. There
19 are a number of prospective ones. The answer to your
20 question is I don't know all of them. Elimination of fixed
21 costs pass through or O&M cost pass through would go a long
22 ways towards that, as I pointed out here.

23 Another way is to set up a highly transparent power
24 exchange that shows everybody the price all the time and
25 force everybody to go through it. That's another way that

1 could contribute to it. It may or may not get you all the
2 way there.

3 Another way is total deregulation of everything except
4 for transmission and downstream. It's another way to get
5 there.

6 COMMISSIONER CLARK: You know, Dr. Nesbitt, then I'm
7 confused. I thought you said your model modeled the coming
8 merchant world and whatever we have here now. And what I
9 hear you say now is it doesn't.

10 A Commissioner Clark, maybe let me clarify that.
11 The coming merchant world in some dimensions is not
12 particularly different from the existing regulated world.
13 The dimension being that when you look at the mix of
14 generation units in the region that you're looking at in
15 ascending order of forward costs, it's the case that the
16 regulated world strives to access those plants in least
17 cost, i.e., ascending cost fashion. Isn't that correct?
18 Yes.

19 The market will access that mix of plan in ascending
20 order of cost as well.

21 The models that you get to simulate that can come from
22 quite different dimensions, but they come up with that
23 answer. In my lexicon, the market, be it regulated or
24 unregulated, walks up that supply stack in ascending order
25 of costs in much the way Commissioner Jacobs alluded to

1 yesterday. That's common.

2 COMMISSIONER CLARK: So your model is applicable to
3 the coming market and it's applicable to what we have now?

4 A That element of it is.

5 COMMISSIONER CLARK: Okay.

6 A That element of it.

7 BY MR. GUYTON (Continuing):

8 Q Would you turn to your DMN-15, please, sir, and
9 specifically if you would look at page 12.

10 A I'm on page 12.

11 Q If you'd look in the first paragraph. I think
12 it's the fifth line down. Do you see the sentence that
13 begins "In the coming electric world"?

14 A I see that.

15 Q Would you read that, please, sir?

16 A You mean --

17 Q Out loud. I'm sorry.

18 Out loud is what I was going to ask you, make
19 sure you did.

20 A I understood that. "In the coming merchant
21 electric world, the price differential will no longer be
22 determined by rate-based formulas through which fixed as
23 well as variable costs can be imposed downstream on
24 unwitting customers by companies with regulatory
25 complicity. It will not be determined by system landis

1 which reflect the fact that fixed costs were imposed on
2 customers completely apart from energy sales."

3 Q Thank you. Is it your view of regulation that
4 regulation determines price differentials, quote, by
5 rate-based formulas through which fixed as well as variable
6 costs can be imposed downstream on unwitting consumers by
7 companies with regulatory complacency?

8 A It's my view that those costs by construction can
9 be imposed on customers downstream, all customers. And the
10 way they're imposed is that the regulators force them to be
11 composed under the mandate that they have, yes.

12 Q Now my dictionary defines complicity as
13 participating in wrongdoing. Do you mean to suggest in
14 this sentence that regulators are participating in
15 wrongdoing?

16 A Not at all.

17 What I mean to suggest is it's -- it's a -- It's
18 a contractual -- Or it's a -- I won't say contractual. Let
19 me not add any more.

20 Q All right. Would you turn to page 24.

21 COMMISSIONER CLARK: You're just really saying
22 regulation isn't really the best substitute for
23 competition? I mean, it can't match competition in terms
24 of what you're trying to illustrate?

25 A Let me address that this way. When markets are

1 competitive, when you have easy entry, when you have people
2 behaving as private owners, it's well known it's the most
3 economically efficient solution. The least amount of
4 mistakes are made. The market is smarter than any
5 individual because it contains the decisions of every
6 individual. That's all I would say.

7 So where you can use non regulation, yeah, use it.
8 That's my view, my personal view.

9 COMMISSIONER CLARK: It better allocates scarce
10 resources?

11 A Yes; that's what efficiency means.

12 COMMISSIONER CLARK: And it drives price to cost?

13 A Excuse me?

14 COMMISSIONER CLARK: It drives price to cost?

15 A It drives price to marginal cost as long as
16 market -- there's no market power, yes.

17 COMMISSIONER CLARK: Thank you.

18 BY MR. GUYTON (Continuing):

19 Q Would you turn to page 24 of DMN-15.

20 A Mr. Guyton, I'm on page 24, yes.

21 Q Thank you. On the first line of a discussion
22 there you use the term "deregulation," speaking of it
23 opening up a Pandora's box. What do you mean by the term
24 "deregulation"?

25 A Well, it has quite a few elements to, including

1 but not limited necessarily, to merchantization as I have
2 defined it, which means elimination of cost pass through,
3 elimination of cost oversight, elimination of obligation to
4 serve.

5 Q Deregulation is something that your simulation
6 assumes in this case; correct?

7 A It has assumed deregulation. And, as I've
8 pointed out before, there are elements that are common to
9 the deregulated and the regulated world.

10 Q And it's assumed that deregulation as you've
11 defined it not just for the Florida market, but for all
12 regional markets in your model?

13 A That's correct. All 32 have a common
14 representation of the regulatory scheme, yes.

15 Q Let's turn, if you will, to -- I guess we are on
16 it. We'll talk a little more about it. Your North
17 American Regional electricity model. It doesn't employ
18 reserve margin criterion; does it?

19 A In this simulation it does not. It has the
20 capability to do it.

21 Q And your North American Regional electricity
22 model doesn't employ a loss of load probability value in
23 this simulation; does it?

24 A In this simulation it did not.

25 Q And your North American Regional Electricity

1 model didn't employ an unexpected -- or an expected
2 unserved energy criterion in this simulation; did it?

3 A It did not. And the reason it did not is we
4 wanted to assume as much capability on the part of every
5 plant in North America as we could so we would have a
6 conservative valuation of the Duke New Smyrna Beach
7 project. We wanted to be conservative.

8 Q So you assumed 100% availability of all the
9 units?

10 A That's the way we did it in this simulation, yes.

11 Q Now your North American Regional Electricity
12 model adds capacity when the capacity is economically
13 viable and profitable; correct?

14 A I'm sorry, I didn't understand the question.

15 Q Your North American Regional Electricity model,
16 the way it adds capacity is that it adds capacity when the
17 capacity is economically viable and profitable?

18 A It adds capacity up to the point where the next
19 increment of capacity is no longer profitable. And it adds
20 profitable capacity at each opportunity, yes.

21 Q And is that the way it adds combustion turbine
22 units as well?

23 A That's the way it adds all units.

24 Q Now in that model, your North American Regional
25 Electricity model, you've used a load forecast; have you

1 not?

2 A We have used a load forecast. We've used
3 historical information and we've put together our own
4 forward demand forecast, yes.

5 Q And you've used a net energy for load forecast in
6 the model?

7 A That's my understanding that we did, yes.

8 Q And the net energy load forecast that you use for
9 Florida was from NERC 1996 database; was it not?

10 A I'd have to check that. I have people here in
11 the room who can tell me which particular year that was.

12 Q Please do.

13 A '96?

14 Mr. Guyton, it was 1996.

15 Q And that data was reported by utilities in 1996
16 to their regions and that in turn was reported to the NERC;
17 correct?

18 A I believe that's the process, yes.

19 Q But that forecast only extended from 1996 through
20 2005; correct?

21 A I believe those were the years, yes, ten years
22 forward, I believe.

23 Q How did you forecast Florida's energy
24 requirements beyond 2005?

25 A I think that was laid out in my deposition. If

1 you don't mind, I'd like to find that. It might take a few
2 minutes.

3 Q Well, sir, you might want to take a look at
4 page 64 and 65, first day.

5 A Thank you.

6 May I have the pending question reread?

7 Q How did you extend your net energy for load
8 forecasts beyond 2005 for your simulation for Florida?

9 A I'm trying to think of how to answer that simply
10 without a long answer.

11 As you probably remember from the deposition, what we
12 project out into the future is the entire shape of load
13 subject to the considerations that are in my direct
14 testimony. It's not just forecasting net energy for load.
15 But I believe that was based on the 10-year forward
16 projection that you talked about extrapolated forward I
17 believe at the average ten-year growth rate. I'd have to
18 check that in the deposition. And from that point out,
19 which I believe was 2005, to the end of the simulation
20 period, which I believe was 2014. So it's the average
21 growth rate across the decade of projected, of NERC
22 projected net energy for load.

23 Q Now your North American Regional Electricity
24 model does not use a peak demand forecast; does it?

25 A What it uses is a time varying forecast of demand

1 in each forward year. So it does not strictly and only
2 forecast peak, no. It forecasts the entire forward
3 distribution of demand.

4 Q Now when you model units in your North American
5 Regional Electricity model, you don't model individual
6 units, you model aggregates of units of certain types; do
7 you not?

8 A In this simulation we used aggregates, yes.

9 Q And for those aggregates you develop a weighted
10 average heat rate for each type of unit?

11 A That was the process that was used for this
12 simulation, yes.

13 Q And you develop a weighted average non fuel O&M
14 for each type of unit?

15 A That was the process, yes.

16 Q How do you model unit power sales in the North
17 American Regional Electricity model?

18 A If you recall, all the sales of energy, as I
19 alluded to earlier, go into a common regional aggregate
20 point of sale/point of resale, if you will, wholesale hub,
21 competitive hub. So all energy goes in and is purchased by
22 cost-minimizing customers and all of it goes out.

23 Q Well, sir, how do you -- What do you understand a
24 unit power sale to be?

25 A I don't know what you're using the term as right

1 now.

2 Q If one utility within the Florida region sold the
3 output of its power to another utility, how would you model
4 that? Would you model that at the contract price?

5 A Mr. Guyton, Florida is modeled as one single
6 aggregate. So intra-Florida exchanges would not be
7 specifically modeled. It's an aggregate market.

8 Q And if you had a unit of power sale between the
9 SERC region and Florida, where you were buying the output
10 of a SERC unit, a Florida utility was buying that, how
11 would that be modeled?

12 A The way that would be modeled is there's a
13 competitive hub, as I've termed it, within what I've called
14 Southern in the model. It's got a market clearing price.
15 There's a competitive hub in Florida, as I've characterized
16 earlier. It has market clearing prices. All sales of
17 energy between those two hubs occur at those market
18 clearing prices.

19 Q So you'd market that transaction at the market
20 clearing price from SERC to Florida instead of at a
21 contract rate; correct?

22 A I mark -- Exactly. As I mentioned in my
23 deposition, I mark all sales and all purchases to market.
24 All sales and all purchases are to market.

25 Q So you made no attempt to capture contract

1 prices?

2 A Not in this simulation I didn't.

3 Q Now your model models purchases from non utility
4 generators by pricing them at the market clearing price
5 that your model otherwise calculates, essentially just
6 subtracting that capacity from demand for load; correct?

7 A As I mentioned in my deposition, that's one good
8 way to think about it. The other equivalent way to think
9 about it is the way that was evident in the California
10 supply stack we saw earlier. You put it at the extreme
11 left hand side of the supply stack at a very, very low
12 cost, so it's always dispatched first. The net effect is
13 equivalent.

14 Q And you said there were two different ways to
15 think of it. Which way did you do it in your simulation?

16 A The way we did it in the simulation was to put it
17 in at a very low cost, i.e., put in the, as an example,
18 hydro, at a very low cost and make sure it dispatched first
19 into the supply stack and into the market.

20 And the effect of that is to sell it at the market
21 clearing price.

22 Q Once again, you didn't look at the contract
23 prices for non utility generators to develop the price for
24 the dispatch?

25 A Not within each region. Everything is mart to

1 market.

2 Q Now if there were a unit that were owned by a
3 Florida utility but located in another region, would that
4 resource be treated as the resource of another region or
5 would it be treated as a Florida resource?

6 A It would be treated correctly as a resource in
7 the other region because what its energy does is goes and
8 competes and affects the market clearing price in what
9 you've termed, Mr. Guyton, the other region. The physical
10 entry into that other region affects prospectively the
11 market clearing price there. Once all the action happens
12 in that other region, that other region either competes or
13 doesn't in the region where the owner resides.

14 Q And, once again, to capture the price of that
15 unit, you would price it at the market clearing price in
16 the region other than Florida rather than at its contract
17 price; correct?

18 A For this simulation, I've reflected its price at
19 the market clearing price in both regions, the origin
20 region and the destination region, yes.

21 Q And that doesn't reflect the contract price? Or
22 that doesn't -- I'm sorry. There isn't a contract price.

23 When you modeled Florida in your simulation in this
24 case, you didn't include any planned or proposed utility
25 additions; did you?

1 A I think we did, and I think we did by allowing
2 the model to have as much, quote, unquote, early capacity
3 as it wanted. It shows 5400 megawatts of early capacity,
4 i.e., immediate overnight installations in Florida of gas
5 combined cycle capacity.

6 To the extent that represents what the utilities are
7 planning, then we did. To the extent it doesn't, then we
8 didn't.

9 Q But you didn't attempt to go out and identify the
10 specific planned and proposed unit additions and add those
11 at their heat rates and at their projected costs? Instead,
12 you used a generic gas combined cycle for your analysis;
13 didn't you?

14 A Yes, and, indeed, we did. And the reason we did
15 that, as I alluded to before, we wanted to be conservative
16 on our estimates of market clearing price. We wanted to
17 have those prices reflect entry and quick entry of best
18 available technology, not necessarily announced technology
19 or announced plant.

20 Q And you didn't model any -- In your simulation,
21 you didn't model any repowering projects; did you?

22 A We did not model repowering projects explicitly,
23 no.

24 Q To your knowledge, has the North American
25 Regional Electricity model been presented to a regulatory

1 agency before?

2 A To my knowledge it has not.

3 Q To your knowledge, has the North American
4 Regional Electricity model been reviewed by a regulatory
5 agency before?

6 A I'm having a hard time with your question,
7 Mr. Guyton. The modeling approach has been around for 25
8 years. The modeling approach has been reviewed by and used
9 in support of a number of regulatory arenas. I don't know
10 how to answer those questions in the way you've posed them.

11 The specific model itself that was run for this
12 simulation, I believe not.

13 Q And your North American Regional Electricity
14 model as it was run for this simulation has not been relied
15 upon by a regulatory agency before; has it?

16 A I don't know.

17 Q Now, Dr. Nesbitt, you have not disclosed even
18 under a protective order in this docket or a protective
19 agreement all the inputs and the outputs of your North
20 American Regional Electricity model; have you?

21 A I've attempted to do that. I think I have. I
22 may have missed some. But it has been my -- It has been my
23 intention to disclose all the inputs and all the outputs to
24 the Altos North American Electricity model.

25 Q Well, even in your most recent attempt, you were

1 selective about your years, weren't you, and you didn't
2 give all the years that you modeled on the short-term run?

3 A I don't know whether I did or not. It was my
4 intention to do that.

5 Q In this proceeding, even with the offer of a non
6 disclosure agreement, you've not shared the model's
7 internal logic; have you?

8 A I haven't shared the model's internal logic,
9 indeed. The gigantic collection of your reports that you
10 have articulates the model's internal logic in great
11 detail.

12 COMMISSIONER CLARK: Was that a yes or no?

13 A That's a yes. I have shared all the internal
14 logic, yes.

15 COMMISSIONER GARCIA: I don't know if that answers the
16 question, though. He says you've given him -- Have you
17 given him the internal logic for the model? That you got
18 your inputs from the reports filed by FP&L doesn't
19 necessarily tell us.

20 A Let me tell you what I've given them and maybe
21 that will help. What we've intended to give is all the
22 methodological documentation, all the equation
23 documentation, all the input documentation, all the output
24 documentation, all the economic science, everything.
25 Everything we have written. And it's all proprietary and

1 it was all disclosed under a protective order. It's all
2 been given. I don't know of anything that was withheld or
3 not given. And that's on the internal logic of the model
4 as well.

5 BY MR. GUYTON (Continuing):

6 Q What was it that you offered to license to
7 Florida Power & Light Company for \$45,000, Dr. Nesbitt?

8 A What we offered to license to Florida Power and
9 Light Company was the ability to make your own runs, just
10 as Microsoft would request a license for you to run Excel.
11 That's what we offered.

12 Q And what would be entailed for Florida Power &
13 Light to be able to make its own runs?

14 A What would be entailed?

15 Q Yes.

16 A Call me up.

17 Q And what would you provide to Florida Power &
18 Light that you didn't provide to Florida Power & Light in
19 discovery?

20 A What we would provide includes the source code.
21 You could look at the source code at our site. It's
22 protected, but you could go through it until your heart's
23 content with no restrictions other than you don't carry it
24 offsite. That's the only thing that was not provided to
25 you.

1 And the right to use it for your benefit.

2 Q Let's go back to your DMN-7, please, sir.

3 A I'm on DMN-7, Mr. Guyton.

4 Q Dr. Nesbitt, what were all the models that you
5 used to develop the capacity factor data shown in column 3
6 of DMN-7?

7 A The models that were used to develop that
8 included the ones that you mentioned earlier on. I'd like
9 to resummairize those. The North American Regional Electric
10 model, North American Regional Gas model, and the
11 operations model.

12 Q During the course of discovery, did you provide
13 to Florida Power & Light Company the operations model?

14 MR. MCGLOTHLIN: I'm going to object to the question
15 unless he lays a predicate that the model was asked for.

16 MR. GUYTON: We'll get to that. I don't know that we
17 need the predicate to ask -- for him to answer the question
18 as to whether or not he had provided the operations model.

19 MR. MCGLOTHLIN: Well, there's an assumption there
20 that the model was supposed to have been given. We don't
21 know until it's established that a discovery request was
22 made for it.

23 MR. GUYTON: I don't know that there is any
24 presumption at all. I just simply asked if he provided the
25 operations model to Florida Power & Light.

1 MR. McGLOTHLIN: And I object to the question unless a
2 predicate is laid.

3 CHAIRMAN JOHNSON: The witness may answer.

4 A I don't believe that was provided to Florida
5 Power & Light Company. I'll have to check, but I don't
6 believe it was.

7 BY MR. GUYTON (Continuing):

8 Q Earlier we handed out the request for production
9 that Florida Power & Light Company made to Duke New Smyrna,
10 FP&L's First Request for Production. Do you have a copy of
11 that? Did a copy make its way to you, Dr. Nesbitt?

12 A Was that the document that was handed out at the
13 conclusion of the earlier discussion?

14 Q Yes, sir.

15 A I believe I have it. Help me make sure.

16 Q Well, the first page reads, "Florida Power &
17 Light Company's First Request for Production of Documents
18 Nos. 1 through 13 to Duke Energy New Smyrna Beach Power
19 Company, Limited, LLP."

20 A Yes, that's the one I have.

21 Q All right, sir. If I understand your testimony
22 correctly, you used the operations model to develop column
23 3 of DMN-7; correct?

24 A As I testified earlier, we used the North
25 American Regional Electric model and the operations model,

1 yes.

2 Q Is your DMN-7 a document in which it is assumed
3 or projected that the project with its heat rate of 6,832
4 BTU per kilowatt hour will displace generation from less
5 efficient gas fired steam boiler or even from less
6 efficient CTG units?

7 A Yes. The premise of that document assumes such
8 displacement.

9 Q Is DMN-7 a document in which it is assumed or
10 projected that the project will displace oil fired
11 generation?

12 A Oil fired or -- I'm sorry.

13 Q Oil fired generation.

14 A The reason I answered no to that earlier is what
15 the document does is it asks the question what if it
16 displaced all oil in column 5, what if it displaced all gas
17 in column 6.

18 Q But this is a document, is it not, in which it is
19 projected that it assumes in column 5 all oil, and in
20 column 6 all gas; correct?

21 A That's correct. Column 5 it asks the question if
22 all oil -- If oil and only oil were displaced, how much
23 would there be. And column 6 is if gas and only gas were
24 displaced, how much would there be. Yes.

25 Q And this -- I'm sorry. I didn't mean to cut you

1 off. Were you through?

2 A Yes.

3 Q Is your DMN-7 a document which projects or
4 supports the project's projected capacity factor ranging
5 from 83% in 2002 to 94% or more by 2012?

6 A What DMN-7 does is simply articulate the capacity
7 factor that comes out of the operating model. It tells you
8 what the answer was to the North American Electric model
9 and then the operating model. And then it goes on to make
10 the subsequent calculations, which are on that page.

11 Does that answer the question?

12 Q Yes, sir; I think it does.

13 Would you look at Florida Power & Light Company's
14 First Request for Production now, again, please?

15 A Yes.

16 MR. GUYTON: May we have that marked?

17 COMMISSIONER DEASON: Mr. Guyton -- Mr. Guyton, before
18 -- are you leaving for now DMN-7?

19 MR. GUYTON: No, Commissioner, I'm not.

20 COMMISSIONER DEASON: Are you getting ready -- Okay.

21 MR. GUYTON: May we have that marked for
22 identification, please, Chairman?

23 COMMISSIONER JOHNSON: Exhibit 20.

24 (Exhibit 20 marked for identification).

25 BY MR. GUYTON (Continuing):

1 Q Dr. Nesbitt, would you look at request for
2 production no. 1 on what's now been identified as Exhibit
3 20?

4 A That's on the second page; yeah.

5 Q Yes, sir. It asks for all documents and analyses
6 in which it is assumed or projected that the project with
7 its heat rate will displace generation from less efficient
8 gas priority steam boiler units.

9 And I believe you've stated that DMN-7 would have been
10 responsive to this; correct?

11 MR. McGLOTHLIN: Object to the characterization. I
12 don't think that's what the witness said.

13 BY MR. GUYTON (Continuing):

14 Q Would DMN-7 be responsive to this Request for
15 Production, Doctor?

16 A It would have been only partially responsive.
17 The displacement issue comes out of the North American
18 Regional Electric model as well and leads to the capacity
19 factors themselves.

20 I have a hard time answering the question the way you
21 posed it, sir.

22 Q That's fine. I'm not asking if it was solely
23 responsive. I just asked if it was responsive.

24 Would the analysis or simulation that you did from
25 your operating model also be responsive to Request for

1 Production No. 1?

2 A No, it wouldn't have. The operating model simply
3 generates the capacity factor you see in column 3 for one
4 single plant or one single plant aggregate. It doesn't
5 look at displacement or substitution in the way that table
6 DMN-7 does. DMN-7 is fairly self-contained.

7 Q All right. Would the operating model have been
8 responsive for Request for Three -- Request for Production
9 No. 3 that says "Provide all documents and analyses
10 supporting the project's," and if you will move to the end
11 of it, "capacity factor ranging from approximately 83% to
12 94%"?

13 A It would have been. And my recollection is it
14 was included in the license agreement that was offered to
15 you. The operating model is a licensable product of Altos.

16 Q But it wasn't provided in the disks that were
17 provided in response to Request for Production Nos. 1, 2 or
18 3; was it?

19 A My understanding or my recollection is it was not
20 provided.

21 MR. MCGLOTHLIN: I'm going to object to any
22 continuation of the line of question on the grounds that
23 this is obviously a discovery dispute. The appropriate way
24 for FP&L, if it feels that it has not received the
25 discovery it has asked for, is to file a motion to compel.

1 To my knowledge, no such motion is outstanding and it's
2 inappropriate to pursue this in cross examination in
3 preparation for a motion to strike when there's been no
4 request appropriately made.

5 MR. GUYTON: It's quite a dilemma I face. First I
6 couldn't raise it on voir dire. Now I can't raise it in
7 cross examination.

8 I think it's entirely permissible. Let me explain,
9 and I'm going to renew my motion at this point because I
10 think it's pretty clearly established that the operating
11 model run, from which the capacity factors were derived on
12 DMN-7, should have been provided in discovery; certainly
13 was responsive. And DMN-7 should have been provided as
14 well.

15 Dr. Nesbitt has a model that he didn't disclose in his
16 testimony. We found out about it ultimately through
17 discovery in a deposition. But we asked in discovery for
18 preparation for that deposition, which would have -- If it
19 had been provided to us, as it should have been, we would
20 have been aware of the existence of the operations model.
21 We would have had an opportunity to take a look at its
22 inputs and its outputs and the other matters that it
23 computes.

24 It is a very significant portion of this gentleman's
25 testimony because if you look at DMN-7, this is the only

1 exhibit on which Dr. Nesbitt has any data from any of his
2 models beyond 1998. This is the only exhibit. And the
3 only exhibit is -- The only data on this exhibit is the
4 capacity factors on DMN-7, column 3.

5 Had we been given an opportunity that we should have
6 been given to explore the operations model that underlies
7 this exhibit, we wouldn't find ourselves in a position of
8 having to struggle through two days of deposition and
9 discovering only almost on the eve of hearing just what it
10 was that we had and we didn't have.

11 Now it's worse than that because if you look at what
12 was provided by Duke New Smyrna, they provided, as
13 Dr. Nesbitt acknowledged, disks. We were given the
14 impression that we had all of the analysis.

15 Now we find out, and we've only been able to establish
16 in the last few minutes, that we didn't have all the
17 analysis.

18 Commissioners, I simply think that Florida Power &
19 Light finds itself in a situation where we have no choice
20 but to move to exclude and strike DMN-7 and the testimony
21 associated with it in his prefiled testimony, as well as
22 the same exhibit in a Joint Petition Exhibit and the
23 associated testimony.

24 And we move to exclude it on the basis that it should
25 have been provided in discovery and wasn't.

1 Now could we have filed a motion to compel? Well, had
2 it been suggested -- Had we been aware that we didn't have
3 everything in a timely manner before the close of the
4 discovery deadline, perhaps we could have. But we were
5 blissfully unaware that we didn't have this information
6 because we were led to believe that we did. We took days
7 to pore through this information and now we find that
8 indeed we didn't have all that we needed.

9 This is a crucial portion of this gentleman's
10 testimony. We think it should be struck.

11 MR. MCGLOTHLIN: May I respond?

12 COMMISSIONER JOHNSON: Yes.

13 MR. MCGLOTHLIN: First, I'd like to point out that
14 Mr. Guyton alluded to learning about this information
15 during a discovery deposition. That deposition was held on
16 November 10th and November 11th. And I spent a long time
17 during the deposition watching Dr. Nesbitt and his
18 colleague help Mr. Guyton get into the model and look over
19 their shoulders and the computer and offer cooperation and
20 help.

21 And I'm comfortable in saying that our side has been
22 more than forthcoming in efforts to give FP&L the
23 information to which it was entitled.

24 I was also led to believe by Dr. Nesbitt's answer that
25 FP&L was informed that this particular information was a

1 licensable product and that there were some additional
2 steps that would have to be taken in order to get it. And
3 to my knowledge FP&L did not pursue that.

4 So I think it's fallacious to say that Duke New Smyrna
5 failed to provide them everything it was required under
6 discovery.

7 More than that, I believe if we'll have a moment to
8 break and look at the transcript of deposition, I think all
9 that was made clear at the time.

10 COMMISSIONER JOHNSON: Okay.

11 MR. GUYTON: I'll say this.

12 COMMISSIONER JOHNSON: I'm sorry. Let me make sure I
13 understand. You're saying at the deposition that was taken
14 on the 10th or 11th, the discussion as to the availability
15 of the information and how one would go about receiving
16 that information was provided?

17 MR. MCGLOTHLIN: Yes. Now we're having to rely on
18 memory at this point because, again, we weren't aware of
19 the complaint until it came up during the hearing this
20 morning. But I think if we could have a few moments to
21 consult the transcript, we would glean more.

22 COMMISSIONER MOYLE. Okay. Mr. Moyle.

23 You need to turn the mike on.

24 MR. MOYLE: I'm sorry. Just by way of introduction, I
25 think that Mr. Guyton admitted when he was making his

1 motion that they found out about the information in the
2 deposition. So in my mind this isn't the case of somebody
3 willfully concealing something. If they actually provided
4 the information in the deposition and there was failure to
5 either ask a follow-up question about, well, could I get
6 that or to file a motion to compel, it sure in my opinion
7 doesn't warrant a striking of testimony.

8 I would ask how many times FP&L has ever been subject
9 to a motion to compel in any of the proceedings it's been
10 in prior to this one.

11 MR. GUYTON: Commissioners, I want to make sure you
12 understand something. We knew at the time of deposition.
13 We figured out at the time of deposition that we didn't
14 have the operations model run. What we didn't know was
15 that the operations model run was responsive to Request for
16 Productions 1, 2 and 3. And we weren't able to discern
17 that until we were able to go back and take a look at the
18 remainder of Dr. Nesbitt's testimony.

19 I remind you that we were doing one and two
20 depositions a day through that period of time. And by the
21 time that we became aware of this, our opportunity to
22 compel was gone. The discovery deadline had come and
23 gone.

24 MR. MCGLOTHLIN: Mr. Guyton --

25 MR. GUYTON: But -- But --

1 MR. McGLOTHLIN: Did you --

2 MR. GUYTON: But --

3 COMMISSIONER JOHNSON: Hold on. I want to make sure I
4 understand Mr. Guyton's argument.

5 MR. GUYTON: But we -- But we were lead to believe by
6 the Request for Production response that all the documents
7 that were responsive to 1, 2, and 3 were on the two disks
8 -- I'm sorry -- the three disks that Dr. Nesbitt provided
9 us. And we didn't discover that until after the discovery
10 deadline had passed. And the only remedy that we have now
11 is to move to strike the testimony.

12 MR. McGLOTHLIN: I suggest he had another remedy.

13 COMMISSIONER JOHNSON: Mr. Guyton -- Hold on one
14 second. I want to make sure I understand Mr. Guyton's
15 position.

16 So you were -- Whether in the deposition or at some
17 other time, you thought that in those Requests for
18 Productions that the disks that you were given provided you
19 with the information that he had referred to in those
20 depositions?

21 MR. GUYTON: We knew that we didn't have the operating
22 model runs. We learned that in deposition. We confirmed
23 that in deposition.

24 COMMISSIONER JOHNSON: Okay.

25 MR. GUYTON: But we nonetheless thought that we had

1 all the documents that were responsive to Request for
2 Production 1, 2, and 3.

3 COMMISSIONER JOHNSON: And would that have given you
4 the operations model runs?

5 MR. GUYTON: It should have been. That's what
6 Dr. Nesbitt just acknowledged several moments ago that
7 those runs would have been responsive at least to Request
8 for Production No. 3. We were under the impression that we
9 had all the documents that were responsive to that. And it
10 turns out we didn't. We didn't have the operations model,
11 and that's what we needed, but we didn't know that's what
12 we needed even though we knew we didn't have the operations
13 model, because we'd been led to believe we had everything
14 that we needed.

15 MR. MCGLOTHLIN: I think we've established that Duke
16 New Smyrna and Altos offered to provide that model under a
17 license agreement at or prior to the deposition.

18 Now the problem -- One of the many problems I have
19 with FP&L's argument is that they say they had no remedy
20 because the deadline had passed. But FP&L to my knowledge
21 never communicated to Duke New Smyrna or to Dr. Nesbitt's
22 company that they thought they had a grievance because we
23 have been cooperating with them throughout and would have
24 cooperated that point. Deadlines can be changed by
25 stipulation, by motion.

1 COMMISSIONER GARCIA: If that was a question,
2 Mr. Guyton, why didn't you bring it to the Hearing Officer?
3 If you needed something crucial to your case or this
4 testimony was before us and you were planning on striking
5 it, why didn't you bring it to the attention of the Hearing
6 Officer before this Commission had to sit through and wade
7 through this stuff?

8 MR. GUYTON: As I prepared for this over the
9 Thanksgiving holidays, it finally dawned on me what I had.
10 I just didn't think there was time. I thought that the
11 appropriate time given the circumstances was to raise it at
12 hearing.

13 MR. MCGLOTHLIN: That assumes there would have been no
14 cooperation, which is not a valid assumption given the
15 amount of cooperativeness that's been extended in this
16 case.

17 CHAIRMAN JOHNSON: Staff.

18 MS. PAUGH: Perhaps a short recess would be in order
19 for counsel to take a look at what is proposed to be
20 struck. Perhaps the parties can get together and resolve
21 this. I don't have any other real solutions at this point.

22 CHAIRMAN JOHNSON: I'm sorry, Leslie. I wasn't -- I
23 didn't hear your -- You said a recess to do --

24 MS. PAUGH: So counsel can convene. Mr. McGlothlin
25 has indicated he's not clear on everything that's proposed

1 to be struck. Perhaps they can discuss this and resolve
2 something in a few minutes of recess.

3 Does that sound reasonable?

4 MR. GUYTON: Commissioners, I'd be glad to recess, but
5 I think whether we're clear on -- I think we're clear on
6 what we're moving to strike. I just think we have a
7 difference of opinion.

8 COMMISSIONER GARCIA: You're moving to strike all the
9 testimony?

10 MR. GUYTON: Oh, no; very specific portions of it.

11 COMMISSIONER GARCIA: Just the issues of the model?

12 MR. GUYTON: DMN-7, both in his exhibit and in the
13 petition, and in the portions of the Joint Petition Exhibit
14 and his testimony where he specifically addresses DMN-7.

15 MR. MCGLOTHLIN: Well, it's clear to me that I oppose
16 the motion because, quite frankly, I think FP&L has chosen
17 the wrong avenue. They had the opportunity to try to work
18 this out. They chose instead to wait until the hearing and
19 surprise us with it. So I don't think a short break is
20 going to change my mind as to my position on the motion.

21 CHAIRMAN JOHNSON: I'm going to deny -- I'm going to
22 go ahead and make a ruling now and deny the motion.

23 I agree and believe that there were other avenues that
24 should have been used to pursue this. A motion to compel
25 would have been helpful. And from listening to the

1 arguments that have been made, at least around the November
2 10, 11th date, and I think, Mr. Guyton, you agreed that the
3 question was first raised at least as it relates to the
4 operations model runs, and to the extent that you didn't
5 get everything that you needed in some of the other
6 requests, the Request for Productions 1, 2 and 3, that
7 should have been requested early.

8 Do you have any more questions?

9 MR. GUYTON: Commissioner Deason, I do have a few more
10 questions about DMN-7. You asked if I was about to leave
11 it.

12 BY MR. GUYTON (Continuing):

13 Q Dr. Nesbitt, as you look at DMN-7, the capacity
14 factors in column 3 are used to calculate the other values
15 in the other columns; are they not?

16 A Yes, they are.

17 Q You apply the capacity factor for each year to
18 the total capacity of the unit to derive the generating
19 column or the generation column?

20 A That's right. And as we discerned in the
21 deposition, I used 515 megawatts to make that calculation.

22 Q And that's the unit at ISO conditions; correct?

23 A I'm sorry?

24 Q That's the unit's capacity at ISO conditions; is
25 it not?

1 A I just used 515. The number speaks for itself.

2 Q Well, wouldn't you agree that if ISO conditions
3 are 514 megawatts, but that the average rating of this unit
4 is 496 megawatts, to calculate the generation from this
5 unit, you should have used the average rating rather than
6 the ISO rating?

7 A Perhaps, but the point of this -- The point of
8 this exhibit is lost in that kind of difference. It simply
9 notes that you get a two-for-one savings in fuel; very
10 simple exhibit.

11 MR. GUYTON: Thank you, Dr. Nesbitt.

12 Commissioner Deason, that's all I had on DSM-7.

13 COMMISSIONER DEASON: Dr. Nesbitt, could you explain
14 to me why the capacity factors shown on DMN-7 consistently
15 increase from the year 2002 to the year 2012?

16 A Yes. Let me summarize a few of those reasons.
17 That's a good question. There's a lot -- In the North
18 American Regional Electric model a lot of demand growth
19 assumed in V-Car and in Carolinas.

20 COMMISSIONER DEASON: I'm sorry; what?

21 A A lot of demand growth assumed in Florida, in
22 V-Car, in Southern, NESPP, and the various regions. Demand
23 is growing. The existing coal capacity there is fully
24 consumed and dedicated to whole markets. As that happens,
25 you walk on the combined cycle piece of the supply traunch

1 for more hours of the year. And as demand grows, the coal
2 and other base load type capacity stays constant, the
3 capacity factor on the combined cycle units increases over
4 time.

5 CHAIRMAN JOHNSON: Additional questions, Mr. Guyton?

6 MR. GUYTON: That's all I have. Thank you.

7 CHAIRMAN JOHNSON: Mr. Sasso.

8 CROSS EXAMINATION

9 BY MR. SASSO:

10 Q Dr. Nesbitt, neither counsel for Duke nor anyone
11 else has given you a definition of need for purposes of
12 this proceeding; correct?

13 A No. They've asked me to define my own definition
14 of need for this proceeding.

15 Q And your definition is essentially that need is
16 market driven; is that right?

17 A No. The need speaks for itself. The need is the
18 need for lower cost, higher reliability, cleaner, well
19 augmenting options.

20 Q Determined by the market?

21 A Determined by whatever prices are transacted and
22 whatever costs of the marginal unit occur at that time. If
23 you want to call that the market, you can.

24 Q Now your model that you've been discussing this
25 afternoon and this evening focuses on wholesale demand and

1 wholesale supply; is that right?

2 A That's correct. There's no attempt to represent
3 anything downstream from wholesale except in terms of a
4 demand curve or a demand projection.

5 Q Could you look at page no. 6 in your summary
6 exhibits?

7 A I'm sorry. I don't know quite where to look.

8 Q The handouts that you gave us all this evening.

9 A Oh, I'm sorry. Yes, sir.

10 Q Is that fundamentally the premise for your
11 opinions about need in this case?

12 A I'm having a little bit of trouble answering
13 that. That's the premise that underlies the model that I
14 used to determine need.

15 Q Yeah, that's fine.

16 Now, in fact, you produce or reproduced that same
17 model or that same I guess exhibit or chart in DMN-15; is
18 that right?

19 A I believe it's figure 8 there. I'll have to
20 check, but I believe it's in DMN-15. Yes, it's figure 8.

21 Q And, incidentally, DMN-15 was copyrighted in
22 1998; is that right?

23 A That's correct.

24 Q Could you read aloud for the Commission the
25 caption on figure 8?

1 A Yes. "Figure 8: After deregulation, here's the
2 way the world will work."

3 Q Thank you.

4 A And here's the way the world works in part before
5 deregulation.

6 Q Now you've determined that the wholesale market
7 in this state is such that 5400 megawatts of new -- of
8 combined cycle capacity may be economically added through
9 the year 2002; is that right?

10 A Yes.

11 Q And you conclude that any company or utility
12 considering building a combined cycle plant in Florida
13 before that year would rationally conclude that it could
14 make money off of plant up until the point that 5400
15 megawatts of new capacity is added; is that right?

16 A No, I didn't say utility company, no. What I
17 assumed and what's implicit in that 5400 megawatt number is
18 this: A price taking profit maximizing producer would make
19 money until he or she was the 5400th megawatt, and then he
20 or she would stop making money.

21 Q So that number wouldn't -- I'm sorry. That
22 number couldn't be used for judgments by investor-owned
23 utilities in Florida, for example?

24 A Couldn't be used for judgment? Could you
25 elaborate a little bit what you -- what the question is?

1 Q That number couldn't be used by, say, Florida
2 Power Corporation or Florida Power and Light to determine
3 whether and under what circumstances to add capacity to
4 their system?

5 A Well, I think it bears upon such decision. It
6 certainly indicates that the market would absorb it. And
7 it would -- And the price at that market at wholesale would
8 be above cost for the eighty-plus percent hours that are
9 projected, yes.

10 Q Now using your definition of need, a developer
11 would basically conclude that a plant was needed up until
12 the 5400 megawatts was added, right, a merchant developer?

13 A A merchant developer, yes, would conclude there
14 was need up to 5400 megawatts.

15 Q Now, of course, some other economist might put
16 the number at 6,000 or 5,000 or 10,000; is that right?

17 A I don't know. I don't know what some other
18 economist might do.

19 Q Well, you or some other economist might guess
20 right or wrong about the number of plants that could be
21 absorbed economically in the State; is that right?

22 A I wouldn't want to judge my own guess.

23 Q And let's say ten years out some new technology
24 arrives on the scene, entrepreneurs would make a new set of
25 judgments about whether they could add capacity to the

1 State based on your economic model; is that right?

2 A Could you read the question back?

3 I'm sorry; I missed the last part of it.

4 Q Well, let's say ten years out or so some new
5 technology arrives that enables marginally more efficient
6 plants, then economists and entrepreneurs' merchant plants
7 would make a new set of judgments about whether to add yet
8 an additional fleet of plants to the State; is that right?

9 A Not only is that right, if we saw that new
10 vintage or that new generation of plants coming, you'd see
11 it reflected in price now and people today would start
12 making those judgments. They wouldn't wait for ten years
13 because they'd see it coming.

14 Q Now you're basically using micro economic
15 principles that describe how a competitive market operates;
16 is that right?

17 A Absolutely right.

18 Q That's sometimes called the theory of the firm?

19 A That's sometimes, yes.

20 Q And these same economic principles apply equally
21 to cattle growers in Kansas?

22 A They are thought to apply to competitive
23 producers in a competitive market with competitive
24 consumers, as I defined it, yes.

25 Q Would apply to McDonald's restaurant or a 7-11?

1 A Not necessarily, not where there's product
2 differentiation like that; not necessarily.

3 Q It would apply to commodities; is that it?

4 A Commodified markets. There is debate about
5 whether it would apply to segmented or differential
6 markets.

7 Q But basically under these principles, an
8 entrepreneur would perform a market study, anticipate
9 demand, pricing cost, and add a new unit as long as he
10 concludes he can make money on it; is that right?

11 A Not necessarily. You don't have to argue what he
12 or she does. He or she simply adds capacity to the point
13 where it's no longer profitable to add capacity based on
14 whatever criterion he or she wants to impose. It's the act
15 of adding capacity that matters.

16 Q And how does one make that judgment whether to
17 add capacity?

18 A How does one make that judgment in the real world
19 or in the model? I mean, could you clarify a little bit?

20 Q Is there a difference?

21 A No.

22 Q Well, answer for both then.

23 A What most entrepreneurs that I'm aware of do is
24 they render judgments about forward prices. They render
25 judgments about the costs of the assets that they're

1 projecting to put into those forward price markets. And
2 they discount the margins that they get in those forward
3 markets to present value and see if they exceed the capital
4 costs. If they do, they consider moving ahead. If they
5 don't, they don't move ahead, just like the model does.

6 Q Now from a perspective of a utility like Florida
7 Power Corporation, would it be your opinion that that
8 utility should plan to add a combined cycle plant to its
9 fleet before the year 2002 only if it could beat other
10 market entrants in meeting an aggregate state-wide demand
11 of 5400 megawatts?

12 A Not necessarily.

13 Q Why not?

14 A There's a couple of reasons. Florida Power and
15 Light Corp is regulated. And it may or may not -- let's
16 assume it does -- seek to rate base its investments. That
17 distorts the decision. That puts an entitlement on the
18 rate of return back. So Florida Power and Light Corp would
19 not be like -- There would be no reason to forecast forward
20 prices. Once you've sold the rate base, as Commissioner
21 Garcia alluded to yesterday, you're whole; you're cool;
22 your okay.

23 So Florida Power and Light Corp doesn't necessarily
24 have to withstand the market test on its output.

25 Q Well, let's reverse it. Let's suppose that you

1 understood that the utilities in Florida were planning to
2 add 8,000 megawatts, let's say, of new generating capacity
3 by the year 2002. Now that wouldn't change your conclusion
4 that the Duke plant should be built; is that right?

5 A Let me help you with your question. If I knew
6 that they were going to add it -- Planning to add it is
7 different than the reality of adding it. If you told me,
8 hey, Dale, ten years out there's 8,000 megawatts of
9 capacity that was added nine years that you didn't think of
10 and it was added. It wasn't planned to be added. It was
11 added. And it was natural gas combined cycle high
12 technology adds, yeah, you've killed the market for new
13 entrants.

14 COMMISSIONER GARCIA: While he looks up for the next
15 question, what would happen -- Let's say that these
16 companies go forward with their projects. Let's say they
17 can't reach an agreement with you on price, so they come to
18 this Commission and they decide to build these projects.
19 They're not going to put it into rate base. And they build
20 8,000 megawatts. What happens then?

21 A The first thing that happens is you have to worry
22 about affiliate abuse. They say they're not going to put
23 it in rate base. They have a regulated entity and a non
24 regulated entity. Industries that have been --

25 COMMISSIONER GARCIA: All right. But that's our job.

1 Let's say we take care of that. We have to do that today
2 and we'll probably have to do it for quite a while.

3 A Commissioner, I would argue you can't take care
4 of it, but I will assume for purposes of argument that
5 you've taken care of it. And the reason you can't take
6 care of it is the incentive of a regulated company is so
7 strong to load costs on to that side of the line, they will
8 figure out a way to do it.

9 But let's assume that you've taken care of it, what's
10 next? You've got the same plant with one exception, with
11 roughly the same costs. He has an incentive to have higher
12 costs in his plant if he's a regulated entity than I do if
13 I'm an unregulated entity. Why is that? Every penny that
14 I shave off my operating cost goes to my bottom line. He
15 doesn't care about pennies. Not he specifically, but he,
16 the regulated entity, doesn't care about pennies. They
17 flow to the customer.

18 I've got to be the lowest cost provider. I have
19 profound incentives to be that. And they're profit
20 incentives.

21 In a competitive market, my cost structure for the
22 self same unit is going to be lower if I'm a merchant than
23 if I'm a regulated utility.

24 COMMISSIONER GARCIA: So if you build your power plant
25 and they still can't reach an agreement with you on firm

1 capacity, you're telling me that the market won't hold it,
2 so I'd have to tell him no about building new capacity?

3 A You may or may not. Keep in mind, Commissioner,
4 and you're on the right track here, I believe. All he's
5 got to do is compete against the last guy in the supply
6 stack, just like I do. So he may well be able to build a
7 higher cost unit than I.

8 COMMISSIONER GARCIA: Your model just showed us that
9 all we can -- All the market will bear, according to your
10 model, is 4,500 megawatts, I think.

11 A The other way: 5400, yes.

12 COMMISSIONER GARCIA: Fifty-four hundred; okay. They
13 have planning and let's say they go forward, but they can't
14 reach an agreement with you. So they have to build their
15 plants. And they roll theirs into rate base.

16 A Right.

17 COMMISSIONER GARCIA: What does that do to them and to
18 the ratepayers if they're on the hook and you're still
19 pumping power and not agreeing to enter into a relationship?

20 A A couple of things it does. It imposes more cost
21 on your ratepayers than is economically efficient.
22 They're paying too much for what they get.

23 COMMISSIONER GARCIA: Yeah, but they have a duty to
24 serve; you don't.

25 A They have a duty to serve. What you do when you

1 over build the market like that, you certainly diminish and
2 eliminate the incentives for entry.

3 COMMISSIONER GARCIA: Right.

4 A Because your supply stack has moved so far out,
5 there's so many hours that where the demand crosses that
6 supply stack where there's no margins, that you've killed
7 the incentives for entry. But the price to do that is to
8 force the capital costs through to the ratepayer that
9 the market wouldn't pull them. So there's a trade off.
10 BY MR. SASSO (Continuing):

11 Q Dr. Nesbitt, isn't it a fact that you have not
12 compared the cost of the Duke New Smyrna unit to any other
13 individual unit?

14 A For purposes of this testimony I have not. I am
15 aware of other cost estimates. I've seen a lot of them in
16 other estimates.

17 Q Fine, you've answered my question. Thank you.

18 Now it is your opinion, I believe as you were just
19 describing to Commissioner Garcia, that each merchant plant
20 has a strong profitability incentive to build itself and
21 operate itself at the rock bottom of the cost curve; is
22 that right?

23 A That's almost right. They have incentives to
24 minimize their costs subject to being capable and available
25 when the prices are higher than their O&M costs, not to

1 high grade and liquidate their units through imprudent
2 operation. But the lowest possible cost of operation that
3 can allow them to monetize the prices that exist in the
4 market.

5 Q Well, you've indicated they have very strong
6 incentives to maximize revenues and reduce costs; is that
7 right?

8 A Maximize profits, maximize the difference between
9 price and cost.

10 Q They would have a very strong incentive to keep
11 maintenance expenditures at a minimum, for example?

12 A At a prudent minimum to make sure they're capable
13 when it's time to generate the revenues.

14 Q Have a very strong incentive to defer any expense
15 they thought they might be able to get away with?

16 A No, I wouldn't say that.

17 MR. MCGLOTHLIN: Object to the characterization.

18 A I wouldn't say that at all. I would say to
19 operate prudently, in the most prudent economic fashion.

20 COMMISSIONER GARCIA: Well, Doctor, tell me what the
21 problems would be if they operated -- Let's take his
22 characterization. What happens to your power plant if you
23 do what he says?

24 A Well, if I ran the power plant with no
25 maintenance, cut it to the bone, I better get it off my

1 books in 30 days or 60 days or 90 days or my shareholders
2 aren't going to like me very much.

3 COMMISSIONER GARCIA: And what happens to Floridians

4 A What happens to Floridians? In order for me to
5 run that much, basically I have to discount the power to
6 the point where it all moves. I can't put it into the
7 atmosphere. It's great for Floridians if I want to
8 liquidate my asset that quickly. Suppose you drove your
9 car and you never changed the oil and you never put grease
10 in it and you never put gas in it --

11 COMMISSIONER GARCIA: Well, let's not talk about me
12 because I do that. That's how I run my car.

13 A Your life cycle cost is obviously lower there,
14 but you pay for it on the back end. Your plant burns up or
15 falls apart or doesn't function. But in order to do that,
16 you've got to put so much on the market and work so hard
17 even in uneconomic times that you're losing money. And the
18 ratepayers of Florida are better off. You're just
19 subsidizing the ratepayers with imprudent operation if you
20 do that.

21 BY MR. SASSO (Continuing):

22 Q Let's suppose that Duke decides to enter into
23 power purchase contracts with retail utilities in Florida.
24 Would you agree that a contract involves a hedge between a
25 downside risk and an upside risk?

1 A I don't want to presume anything about retail
2 contracts.

3 Q You disagree with that characterization?

4 A I just don't want to presume about retail
5 contracts. That's not the point.

6 MR. MOYLE: Also, I would object in terms of
7 presumption. I think there has been testimony previously
8 that there is a contract.

9 BY MR. SASSO (Continuing):

10 Q We're talking about wholesale contracts; does
11 that help you?

12 MR. McGLOTHLIN: Would you repeat the question,
13 Mr. Sasso?

14 MR. SASSO: Yes, sir.

15 BY MR. SASSO (Continuing):

16 Q Let's suppose that Duke decides to enter in a
17 power purchase contract to sell wholesale power to a retail
18 utility in this State. Would you agree that the contract
19 involves a hedge between a downside risk and an upside
20 risk?

21 A Depends on the terms in the contract.

22 Q Let's suppose that Duke could sign a long-term
23 contract to sell power at \$30 a megawatt hour. And if the
24 price goes to \$50, Duke would give that benefit up?

25 A That's correct, if that happened.

1 Q And if the price fell at \$20, Duke would be
2 protected; is that right?

3 A That's right.

4 COMMISSIONER GARCIA: Doctor, let me ask you a
5 question. Are you finished with that line?

6 MR. SASSO: No.

7 COMMISSIONER GARCIA: Okay. Keep going; I'm sorry.

8 BY MR. SASSO (Continuing):

9 Q And the ratepayers would bear the risk of the
10 price falling to \$20 while the retail utility has a
11 contract to pay \$30; is that right?

12 A Not necessarily right. It depends on whether the
13 ratemaking or regulatory body would rule the \$30 fixed
14 price contract as a prudently incurred contract. We've
15 been through a lot of that in the last 25 years.

16 Q Now we've already discussed the fact that Duke
17 has greater economic incentives to reduce costs I believe
18 in your opinion than even State-regulated utilities, like
19 Florida Power; is that right?

20 A What I would say is not to personalize it to
21 Duke. The merchant has the most incentive to reduce cost
22 to the most prudent lowest level of anyone.

23 Q And the most incentive to maximize revenues,
24 also?

25 A Not maximize revenues, please, Mr. Sasso. It's

1 maximize profits, not revenues.

2 Q Maximize profits?

3 A Profits.

4 Q And as a market-driven entity, a merchant would
5 have a tremendous incentive to negotiate contracts that
6 captured as much of the upside benefit as possible; is that
7 right?

8 A Not necessarily. The merchant may want to go, as
9 they say in the trade, go naked; may want to just play the
10 spot market and liquidate their asset in the spot market.
11 If contracts that are too good to be true come in, they may
12 want to do that. They have flexibility.

13 Q May not want to enter into long-term contracts at
14 all; is that right?

15 A May or may not. It's a market game.

16 MR. SASSO: That's all I have. Thank you.

17 COMMISSIONER GARCIA: Let me ask you, Doctor: Isn't
18 there a danger there? We're in a relatively -- Well, I
19 think we're in a very good time economically. Financing is
20 relatively inexpensive. We have a need in Florida, but as
21 Commissioner Deason has pointed out on many occasions, and
22 he has the benefit of having served in some capacity before
23 this board or on this board when interest rates were much
24 higher and building power plants was very difficult and
25 very expensive and ratepayers had to help build that

1 capacity.

2 Doesn't that put us in a very dangerous place with you
3 not having a duty to serve like our IOUs in Florida?

4 A Quite the contrary, no. Competitive market in my
5 view has more reliability than a non competitive. Look at
6 oil: We had shortages in 1980. Now we're up to our
7 eyeballs in \$9 oil. And there's no regulators there.
8 There used to be. No.

9 COMMISSIONER GARCIA: But the perfect example is we
10 had that problem in Florida. We depended on oil in Florida
11 and we got stung and because of that we have sort of
12 changed the mix in Florida or companies have changed the
13 mix. But we can require them to do that. We can't require
14 you to do that. And there you're sitting on the spot
15 market in a particularly advantageous position and putting
16 Floridians at risk to some degree.

17 A See, I think along those lines, let me talk
18 philosophy for a moment. The market puts the ratepayers at
19 the least risk. Airline customers are at the least risk
20 they've ever been at. Gas customers are at the least risk
21 they have ever been at. Trucking customers are at the
22 least risk they have ever been at. So it's not a tautology
23 to me that regulation is the low risk path. Quite the
24 contrary.

25 If you impose higher than market costs on people,

1 that's the worst kind of risk I know for sure on bearing
2 non market costs. It's not necessarily the regulatory
3 solution is the low risk route. It's not necessarily true
4 that the conservative, go slow solution is the lowest
5 route. In my view it's not.

6 Does that answer the question?

7 COMMISSIONER DEASON: Let me ask a few questions.

8 First of all, back to the capacity factor on your
9 Exhibit DMN-7 and it growing consistently from year to
10 year, I think you indicated that the assumption is that
11 there is a growing market and that with this type
12 technology and the costs associated with it, it would run
13 more of the time. It would be dispatched more.

14 Is that a simple characterization of your answer?

15 A Yes, sir; that's a simple characterization.

16 COMMISSIONER DEASON: So I assume then that that
17 assumes that technology is static, that there is not a new
18 wave of new technology that comes in that would then be
19 more cost effective than the combined cycle of New Smyrna
20 because if that happened, I assume then that those units
21 would be built and would be displacing the New Smyrna
22 operation. Is that a correct assumption?

23 A No, Commissioner Deason, think of it this way. I
24 think the appropriate way to think of it is this: Suppose
25 New Smyrna Beach is built and then suppose in your scenario

1 there's a new technology that comes in next year and it's a
2 lot cheaper, New Smyrna Beach still beats all those
3 marginal units out there. It still runs. It still makes
4 money and it still enjoys this capacity factor.

5 Each incremental unit competes against the margin, not
6 the incremental units that are going in at the same time.
7 That's the key.

8 COMMISSIONER DEASON: So to the extent that there's
9 still marginal units -- There are units out there that are
10 on the margin that are still above the cost of the New
11 Smyrna project, we would still see these capacity factors?

12 A Above, yes, sir; and above by a magnitude that's
13 enough to pay for that next entrant's capital cost to get
14 in the game. Absolutely, sir.

15 COMMISSIONER DEASON: Now, let's reverse things a
16 bit. What if we were in a situation, and I think
17 Commissioner Garcia perhaps anticipated my questions. What
18 if we were in a situation to where the incremental costs of
19 providing new capacity was greater than the last guy in the
20 stack?

21 A That's an interesting question. And that's
22 precisely what happened in the oil and gas business in the
23 1970's. The marginal cost in the near term of new oil and
24 gas in North America was dramatically higher than what was
25 there. It was not pretty. We had prices flying up because

1 when you had demand going ahead and you had to bring in new
2 oil and gas resource, you had to go to the high cost
3 source. But you had to do it because the market was there.
4 We stood in gasoline lines and we were willing to pay for
5 the escalating marginal cost unit.

6 I would commend to you, and Interon puts this picture
7 on the page. If you look at real commodity prices for the
8 last 100 years, they're flat, real inflation adjusted,
9 which means that situation, Commissioner Deason, just
10 doesn't happen empirically. It may for short periods of
11 time, but it just doesn't happen. Increasing marginal
12 cost.

13 COMMISSIONER DEASON: It just doesn't happen?

14 A Empirically it doesn't happen except for very
15 short periods of time. In the past history of commodities
16 it just doesn't happen.

17 COMMISSIONER DEASON: So you're saying that something
18 could not happen to cause gas prices to increase such that
19 the marginal cost of new capacity is more than what the
20 existing cost is?

21 A In my view at the moment that's a highly unlikely
22 scenario. When we look at the amount of blue water gas
23 that's sitting out in the Gulf of Mexico and we look at the
24 low incremental costs and the plans to expand gas pipe into
25 Florida, into Georgia, into the Carolinas, into the

1 Northeast, into Chicago, I personally find that a highly
2 unlikely scenario. The incentives for gas producers and
3 gas companies to expand is very, very good at the basis
4 differentials we see now. And, in fact, as you probably
5 know it's happening; it's proposed. I don't see it as a
6 highly scenario.

7 COMMISSIONER DEASON: Well, what caused the cost of
8 new generation in the '70's to exceed that of imbedded
9 costs?

10 A The cost of new generation in the '70's to exceed
11 embedded costs? I don't have a complete list in my mind,
12 but part of the problem was the embedded contracts under
13 regulation for fuel were very low. Natural gas was
14 regulated at 50 cents, but incremental spot gas was \$2.25;
15 severe regulatory distortion in natural gas.

16 If you recall, Commissioner Deason, crude oil price
17 controls didn't come off until 1978; severe. They were
18 burning old oil to produce new oil. That's how distorted
19 the system was. So anything new had an artificially
20 dramatically higher marginal cost than anything old. It
21 was strictly a regulatory distortion of price controls and
22 the reduced incentives for people to go out and get the new
23 asset under the price control regime. That's my view.

24 COMMISSIONER DEASON: Well, you've indicated that
25 under your definition of need, that there's 5400 megawatts

1 of combined cycle capacity that is cost effective for the
2 Florida market; is that correct?

3 A That's correct. There's 5400 megawatts that
4 could profitably be added at the economics that we have
5 assumed, yes.

6 COMMISSIONER DEASON: And that's because that much
7 capacity could be added that would beat the last guy in the
8 stack to the extent that it would provide the opportunity
9 for that new capacity to generate a profit?

10 A Yes. And let me add to that. I've probably
11 framed it too much as a war game, where I've got to beat
12 the last guy in the stack because there is demand growth.
13 And so that 5400 megawatts of new capacity installation
14 both displaces the old and augments the load growth that's
15 sure to happen and makes up for the imports from Southern
16 that are going to dry up, particularly on peak.

17 So it's all of the above. And I've probably
18 overestimated and I don't want to leave you with that
19 impression that it's a war game, it's a zero sum, because
20 it's obviously not.

21 COMMISSIONER DEASON: If we reach a point to where --
22 and I know you think it's extremely unlikely, but it's
23 still a concern that I have, if we reach a point to where
24 the incremental cost of new capacity, and there is growth
25 and we have to have the capacity for liability purposes --

1 A Absolutely.

2 COMMISSIONER DEASON: Who do we go to to build that
3 capacity if it's not cost effective for the merchant plants
4 to come in to the state and do it?

5 A Commissioner Deason, one of the interesting
6 phenomenon, and I think very relevant phenomenon in the
7 market, is several years before your capacity gets tight or
8 super tight or critically tight, you know it. The prices
9 are up. The prices are higher more of the time.

10 When people knock on the door out there, it's because
11 prices are high more of the time. The people come to you
12 with these proposals, you know the prices are high more of
13 the time. There's a harbinger of shortage to come that
14 works very well.

15 COMMISSIONER DEASON: My concern, though, is that as
16 you've defined need, you've indicated that here in 5400
17 megawatts there's a difference between what the new
18 supplier can produce it at their cost compared to the last
19 guy in the stack.

20 My concern is what happens when we've got to have
21 capacity for reliability purposes and somebody has got to
22 come in and build a plant that's more expensive than the
23 last guy in the stack.

24 A Well, there's --

25 COMMISSIONER DEASON: Who does that? We cannot rely

1 on the merchant plant to do that or can we?

2 A I think you can.

3 COMMISSIONER DEASON: And how can we do that?

4 A Again, back to what happens in the market.

5 Okay. The thesis that if -- I'm sorry. Excuse me. The
6 thesis that something is needed but the market prices are
7 not showing it I think is wrong. The market prices will
8 show you when you need it and they will show the merchants
9 and they will show the incumbents. People will know in the
10 wholesale markets when that's coming.

11 COMMISSIONER GARCIA: So we're not necessary.

12 A You'll know.

13 COMMISSIONER GARCIA: So this process that we're
14 engaging in is completely unnecessary?

15 A I wouldn't say that. You obviously have a number
16 of reasons to do it. You do want to exert some prudence.
17 You want to make sure, for example, I think one legitimate
18 role you have is to make sure there is no market power.
19 You wouldn't want to give the same company necessarily all
20 5400 megawatts because you've got market power problems
21 again. So there's a role deciding who.

22 I'm sure there are locational issues that need to be
23 thought out intraFlorida. I haven't worked on those. But
24 I'm sure there are intraFlorida transmission issues.

25 There are also natural monopolies in transmission and

1 distribution. You've got to sort through those all the
2 time. There are a number of roles. Market -- Prevention
3 of market power is a critically important role.

4 COMMISSIONER DEASON: So you're indicating then when
5 prices get high enough, then the incentive is going to be
6 for another merchant plant to come and meet the need
7 regardless of whether there had been -- by building that
8 plant they become the last guy in the stack?

9 A That's right. And I wouldn't limit it to just
10 merchants. Certainly when the prices get high and the need
11 gets evident, the incumbents come, too.

12 COMMISSIONER DEASON: Well, what about --

13 A You don't have to -- I'm sorry.

14 COMMISSIONER DEASON: Who then is responsible for
15 maintaining the reserve margin capacity when in your own
16 analysis it's very critical that there is a high enough
17 capacity factor that the plant gets run high enough to make
18 it cost effective? Obviously a merchant plant is not going
19 to be built just to sit idle most of the time so that a 15%
20 or 20% or whatever reserve margin is achieved in the State.

21 A Good point, Commissioner Deason. And one way to
22 do that is when you maintain reserve margin, the economic
23 incentive is to do that with the lowest, and we call it
24 preservation cost unit out there. What's the unit that
25 cost me the least to keep around for the next year or the

1 next hour, the next month that I need in reserve. Okay.

2 And a pretty good guess at who that might be is the
3 unit whose operating hours has dropped precipitously and
4 perilously low, the existing incumbent unit.

5 You know darn well that no one is going to replace
6 that unit because it runs about as often as I'm on the golf
7 course, which isn't enough. Okay. And so you know you're
8 not going to have economic incentive for that.

9 A reserve market requirement that's predicated on the
10 cost to preserve the capacity isn't a bad idea. Keep the
11 old CTs around. Doesn't cost you much to preserve them
12 from year to year. You're sure you've got them when you
13 need them, but you're not baring uneconomic rate base cost
14 to do it, nor uneconomic operating costs.

15 COMMISSIONER DEASON: So is the incumbent utility, and
16 we just require them to do it and put it in rate base and
17 their captive ratepayers pay for that?

18 A I don't see that as a bad solution. It's not a
19 lot of money involved there. The preservation costs of the
20 old units isn't always that high.

21 COMMISSIONER DEASON: But then the incentive would be
22 to not -- to minimize the reserve margins so you don't have
23 that cost to bear. Do we have that now?

24 A No. The reason I'm having a hard time, it's
25 probably the same hard time you're having: What's the

1 right reserve margin? One of the reasons that you have a
2 hard time with that, if you have one 1000 megawatt plant,
3 that's a lot less reliable than 1,000 1 megawatt plants.

4 COMMISSIONER GARCIA: Doesn't your figure give us like
5 a reserve margin of something like 30%?

6 A Something like that. I haven't done the numbers,
7 but, yes, sir.

8 COMMISSIONER DEASON: But that's just a fallout
9 calculation?

10 A Yes.

11 COMMISSIONER DEASON: I mean, your 5400 has no bearing
12 whatsoever on what is the proper reserve margin; it just
13 falls out?

14 A No.

15 COMMISSIONER GARCIA: Because it would probably
16 displace a lot of other --

17 A Yeah. And I haven't said, and I think the
18 comment would be appropriate, what you do with the
19 displaced units you keep in reserve or not, I haven't
20 really addressed that here.

21 COMMISSIONER GARCIA: Well, I guess, if I can just
22 follow-up on this line because I think it does make a lot
23 of sense. If you go to your supply stack issue, on page --
24 which is page 10 of the handout.

25 A Yes, sir.

1 COMMISSIONER GARCIA: What happens when -- Let's say
2 that the need in Florida was for 25,000.

3 A Yes, sir.

4 COMMISSIONER GARCIA: And so we're right there. You
5 know, we're looking into the future. All the expensive
6 stuff has gotten out of the way. And so the market has
7 sort of leveled out.

8 And I guess it goes back to what Commissioner Deason
9 was talking about. Is anyone going to build anything when
10 what you're looking at is a stable market that there isn't
11 any high demand or demand has been stabilized out?

12 A Sure. Absolutely.

13 COMMISSIONER GARCIA: I mean, would you be building
14 this plant if I were telling you or your figures were
15 looking at making sales at about 21, 22 dollars?

16 A I'd be nervous about that, but if sales were up
17 in the mid 20s, yes, I would build the plant.

18 But keep in mind, Commissioner Garcia, that the
19 price -- This is a static, a highly static rendition of the
20 supply stack. Demand is wiggling across the supply stack
21 in every hour of the year. A lot of hours when, God help
22 us, it's way over to the left and no one makes any money,
23 but there's some hours when it's way over to the right and
24 people make a lot of money: merchants, people who can
25 monetize the difference between price and cost.

1 So the merchants won't be looking at a world where the
2 demand is fixed static for every future hour at 25,000
3 megawatts. They'll be looking at a world where a lot of
4 hours --

5 COMMISSIONER GARCIA: But generally those things
6 average out. I mean, this is an average out. You know,
7 it's sort of like -- I don't know -- like hydro units in
8 certain countries where you have strong hydro. I mean, if
9 you've got bad weather, they go down and the thermal units
10 make a whole lot of money, but most of the other time
11 they're sitting there idle.

12 A Yeah, exactly. South America does that.

13 But keep in mind, though, there's an asymmetry on the
14 high side from the perspective of a merchant. Okay. All
15 those hours where he or she is on the left side of this
16 supply stack, he or she doesn't make very much money. But
17 those few hours where he or she is on the high end of the
18 supply stack, which is precisely the time you want them,
19 because that's on peak and that's for reliability reasons.

20 COMMISSIONER GARCIA: Here's my worry. You sort of
21 grow, and I guess it goes back and Commissioner Deason is
22 much better with technical knowledge of what we're talking
23 about, so I'm dumbing down the conversation for my own
24 understanding.

25 Let's say we do it your way. We just let merchants

1 come in. And eventually what happens is it stabilizes
2 itself out to some degree. And instead of having those,
3 because everyone is sort of -- The 5400 megawatts come in.
4 And so the question is that last one in the stack is the
5 one that worries me, that last one, does Duke come here?
6 Does Duke go somewhere else? And how do we get that?

7 I mean, we know we can get it from our people because
8 we tell them if we get worried, but your interest isn't
9 reliability. Your interest isn't the ratepayer; your
10 interest is money.

11 A No.

12 COMMISSIONER GARCIA: I'm not saying that they're not
13 interested in money. That would be wrong, but their money
14 comes at a cost to them.

15 A That's right.

16 COMMISSIONER GARCIA: And to this State. They get a
17 certain reliability of it, but we can force them to build
18 that next generation unit at the 21, 22, when Duke wouldn't
19 touch that because it's just -- So what happens?

20 A That's right.

21 COMMISSIONER GARCIA: So aren't we taking them out of
22 there and aren't we putting them at a disadvantage and
23 we're letting you just sort of come in to the cream now
24 that may be available in Florida but leaving them the tough
25 times?

1 A Well, not necessarily. In a way you are and in a
2 way you aren't because you've guaranteed them return of,
3 return on, and full cost pass through, which is
4 theoretically at least about what the marginal plant would
5 be earning in a risk free basis anyway. So, no, you
6 haven't hurt them.

7 COMMISSIONER GARCIA: But right now we have a market
8 that according to you we could use 5400 megawatts of very
9 efficient power. So why don't we just approve our guys to
10 do it because we know we're going to get -- from them we
11 know that our ratepayers are going to benefit from that all
12 the time?

13 A Because you'll institutionalize a higher cost
14 structure than you would get by merchandizing part of it
15 and you'll never measure it because you have an incumbent
16 who is a regulated utility. He or she has market power and
17 far less incentive to control costs.

18 COMMISSIONER DEASON: In a regulated environment, and
19 I know there's a lot of shortcomings to regulation, and I
20 realize that, but in a regulated environment, when you have
21 an embedded cost to production, which is an average of many
22 units, different technologies, and different life cycles,
23 when the incremental cost of new production is higher and
24 the capacity needs to be built and we order the utility to
25 build it, it increases that embedded cost?

1 A Absolutely.

2 COMMISSIONER DEASON: But we don't allow them to price
3 it at the new marginal cost of production, it gets averaged
4 in. Likewise, when the cost of new production is less than
5 embedded costs, we don't penalize them and say, all right,
6 charge everything at the new lower incremental cost. When
7 they build new capacity, we average it in and it has a
8 small effect, but it in fact should be the lower price.
9 That's the way that system works.

10 Now I guess my concern is is that when we go to market
11 pricing and if this plant is allowed to be built, New
12 Smyrna, the project -- And there's nothing wrong with that
13 because that's what markets are all about -- they're going
14 to price it at the incremental costs. Actually, they're
15 going to price it at the cost of whatever the last guy in
16 the stack is at that particular time.

17 A Indeed. Each --

18 COMMISSIONER DEASON: It has nothing to do with their
19 costs and they think they can make a profit at that. I'm
20 sure they can because if they're only going to build 500
21 and the market really demands 5400, they're probably going
22 to be able to maximize and earn a very healthy rate of
23 return.

24 And I guess -- I guess my question is this: We need
25 5400 megawatts to insure that the pricing on the wholesale

1 market is going to be at true marginal price of new
2 production?

3 A Yes and no. I mean, think about it this way:
4 The reason that 54 -- Keep in mind what my 5400 number is.
5 It's the number of plants that can profitably be added by
6 merchants. Okay.

7 As Commissioner Garcia and you have both pointed out,
8 I haven't really looked at reliability issues. I've
9 assumed that all the plants are very, very reliable because
10 I want a conservative estimate. I don't want to go 8,000
11 or 9,000 or 10,000 megawatts and find out it was just a
12 reliability assumption that caused that.

13 But subject to that, what I'm saying is, and it's very
14 close to what you said -- the 5400 megawatts of capacity
15 that you need are what you're going to get from profit
16 maximizing producers but no more. Okay.

17 And when you get that, you're going to get a
18 substantial reduction in price in many, many hours of the
19 year, not all, but many. Okay.

20 So the Florida ratepayers are mighty nicely taken care
21 of to the extent that they get open fluid access to the
22 wholesale market. Okay.

23 And that last point, I agree with you, Commissioner
24 Deason, in economics no one knows. The last plant is
25 always the problem. He or she gets no profit. Why should

1 he or she care if he or she is even in there? Absolutely.

2 As a regulator, if you believe that last plant has
3 some market power or there's some contractual difficulties,
4 it's really fairly low cost, low risk kind of regulation to
5 mandate the last plant. But to mandate 5400 megawatts of
6 endogenous, indigenous fully regulated, poorly incentive
7 plants is not necessarily the only way to do it.

8 CHAIRMAN JOHNSON: Staff.

9 MS. JAYE: Thank you, Madam Chairman.

10 CROSS EXAMINATION

11 BY MS. JAYE:

12 Q Staff would ask you to turn to the FRCC 1998
13 supply stack. This is in your handouts.

14 A Yes.

15 MS. JAYE: While you're turning there, Staff is going
16 to handout copies of your deposition.

17 Madam Chairman, I would ask that this deposition be
18 marked.

19 CHAIRMAN JOHNSON: I'll mark this exhibit as Exhibit
20 21. Is this the only exhibit for this witness?

21 MS. JAYE: Yes, Madam Chairman.

22 (Exhibit 21 marked for identification.)

23 CHAIRMAN JOHNSON: We're going to adjourn for the
24 night and reconvene tomorrow at 8:30.

25 MR. GUYTON: Madam Chairman, I apologize. I've lost

1 track of my exhibits and I apologize. What is Exhibit 19?

2 CHAIRMAN JOHNSON: The handout.

3 MR. GUYTON: Thank you.

4 CHAIRMAN JOHNSON: Mr. Guyton, what's 20?

5 MR. GUYTON: The First Request -- FP&L's First Request
6 for Production of Documents to Duke New Smyrna.

7 CHAIRMAN JOHNSON: And we've marked the Staff one
8 as 21.

9 MS. JAYE: Thank you, Madam Chairman.

10 CHAIRMAN JOHNSON: And with that, we'll adjourn until
11 8:30 in the morning.

12 (Proceedings in evening recess.)

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