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9	TAKEN ON BEHALF OF:	FLORIDA PUBLIC SERVICE	
10	TAKEN ON BEHALF OF.	COMMISSION	
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1	INDEX	
2	WITNESS	PAGE
3	ROSEMARY MORLEY, Ph.D.	FAGE
4	ROSEMARI MORLEI, PH.D.	
5	Examination by Mr. Harris Examination by Mr. Wiseman	7
6	Examination by Mr. Moyle	36 64
7		
8		
9		
10		
11		
12		
13	* * *	
14		
15		
16		
17		
18		
19		
20		
21	CERTIFICATE OF REPORTER ERRATA SHEET	102 103
22	READ & SIGN LETTER	104
23		
24		
25		· · · · · · · · · · · · · · · · · · ·

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1 **PROCEEDINGS** 2 The following telephonic deposition of ROSEMARY 3 MORLEY, Ph.D. was taken on oral examination, pursuant 4 to notice, for purposes of discovery, for use as 5 evidence, and for such other uses and purposes as may 6 be permitted by the applicable and governing rules. 7 Reading and signing of the deposition transcript by the 8 witness is NOT waived. 9 10 MR. HARRIS: Let's go ahead and swear the 11 witness. 12 MS. SPRINGER: My name is Pamela Springer and 13 I'm a Notary duly appointed and commissioned here 14 in the state of Florida. In the matter of the 15 Petition for rate increase by Florida Power & 16 Light Company, Docket No. 120015-EI. 17 18 Thereupon, 19 ROSEMARY MORLEY, Ph.D. 20 was called as a witness, having been first duly sworn, 21 was examined and testified as follows: 22 MR. RUBIN: Larry, Pamela will go ahead and 23 fax the oath after she has signed and notarized it 24 to the number that you gave me.

Okay.

MR. HARRIS:

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Again,

That's wonderful.

1	my name is Larry Harris, I'm the staff attorney
2	for the PSC. And in the room with me are Paul
3	Stallcup and Bill McNulty.
4	And if you could go around now and take
5	appearances on the phone, and we'll start with
6	FPL.
7	MR. RUBIN: Sure. Ken Rubin, counsel for
8	FPL. And with me is the witness, Dr. Rosemary
9	Morley, Richard Fieldmen, and Clint Stiger.
10	MR. HARRIS: And then FIPUG, I heard Jon.
11	MR. MOYLE: Correct. The Florida Industrial
12	Power Users Group, FIPUG, Jon Moyle.
13	MR. HARRIS: And then Mr. Wiseman I heard, I
14	think you were on the phone.
15	MR. WISEMAN: Yes, this is Ken Wiseman for
16	the South Florida Hospital and Healthcare
17	Association.
18	MR. HARRIS: And do we have anyone else on
19	the line?
20	MS. CHRISTENSEN: Patty Christensen with the
21	Office of Public Counsel.
22	MR. NORIEGA: Tarik Noreiga, Office of Public
23	Counsel. Good afternoon.
24	MR. HARRIS: I have forgotten one document
25	that I need, and I need to run and get it, so if

1 you'll give me about ten seconds to run down to my 2 office and come back, I would appreciate it. 3 (Whereupon, record was paused briefly.) 4 MR. HENDRICKS: John Hendricks is also on the 5 call. 6 MR. HARRIS: This is Larry. I'm back and I'm 7 ready to get started if everyone else is. 8 MR. RUBIN: I think we're all set. 9 MR. HARRIS: Thank you so much. 10 EXAMINATION 11 BY MR. HARRIS: 12 Q Dr. Morley, I really do appreciate your time 13 this afternoon. I know this was short notice. 14 had sent some documents, and I know that it probably 15 took some time to get those together, so I wanted to 16 start out by thanking you for your availability. 17 You're welcome. 18 Q Thank you. As I committed to your counsel, we're going 19 20 to try to focus on one very specific area, and 21 specifically the testimony -- and it's in your direct 22 testimony, on page 26. 23 MR. RUBIN: Okay. I think we're there. BY MR. HARRIS: 24 25 It's lines 7 through 15.

1	
1	A I'm sorry, you said page 27?
2	Q Page 26, lines 7 through 15.
3	A Thank you.
4	MR. RUBIN: Okay. We're there, Larry.
5	BY MR. HARRIS:
6	Q Now, having pointed you to the testimony I'm
7	going to be questioning you about, the first document I
8	would like you to look at would be FPL's Minimum Filing
9	Requirements or MFR Schedule F-05.
10	Do you have a copy of that?
11	A I'm just getting it right now.
12	Q Okay. Take your time.
13	A Which MFR did you say?
14	Q MFR F-05.
15	A Yes.
16	Q Attachment 2.
17	A Yes.
18	Q And then page 4 of Attachment 2.
19	A Yes.
20	Q And is it correct that the information on
21	this page shows statistical information regarding your
22	net energy for load per customer forecast?
23	A Yes.
24	Q And for this deposition, would it be
25	appropriate for me to refer to this forecast as FPL's

1	energy use per customer forecast?
2	A Yes.
3	Q Okay. And am I correct that your energy use
4	per customer forecast is based on an econometric model
5	involving a linear multi-regression equation?
6	A Yes.
7	Q And then referring to the document, am I
8	correct that the information on that page shows the
9	adjusted R-square for the energy use per customer model
10	to be .994?
11	A Yes.
12	Q And since I'm not a statistician, could you
13	explain to me what an R-square statistic in this
14	instance means?
15	A Yes. It means that the model explains
16	99.4 percent of the variability in energy use per
17	customer over this historical period it was calibrated.
18	Q Okay. And you said it explains the
19	variation. Is that the variation between the dependent
20	variable and the independent variables in the model?
21	A No. I would say it explains the variation in
22	use per customer.
23	Q Okay.
24	A In other words, it explains more than
25	99 percent of the way energy use per customer has

1 varied historically. 2 Q Okay. Thank you, that was very helpful. 3 Now, if I could ask you to turn to another document, and this would be MRF Schedule F-7 or 4 5 No. F-7. 6 Α Yes, I have that in front of me. 7 Q Okay. And I would like to refer you to 8 Attachment 2 of that MRF F-7. 9 Α I'm there. 10 And I'll be referring back to this 0 11 several times so you might want to keep it handy. 12 first I wanted to discuss the out-of-model adjustments 13 that you make, and I believe you start making those 14 beginning on page 7 of 16 -- no, I'm sorry, that's not 15 right -- page 9 of 16 and continuing for the rest of 16 the attachment. 17 Α Okay. And to start off, I was wondering if you 18 Q 19 could explain to me what an out-of-model adjustment is? 20 An out-of-model adjustment adjusts the Α Yes. 21 output of the econometric model to take into account a variable that is not reflected in the historical 22 23 period. 24 For example, the first one shown here is

there's an out-of-model adjustment for our economic

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1 development rate. That is a fairly new economic 2 development rate designed to give customers a break who 3 move to Florida and add load and add jobs. 4 Because that is not reflected in the 5 historical period used to calibrate the model, there's 6 an adjustment here which raises the forecast for energy 7 use per customer to reflect that. 8 Q All right. And as I understand it -- and you 9 just referred to one -- there are a number of 10 out-of-model adjustments that you make to your forecast 11 in this attachment; is that correct? 12 Α Yes. 13 Q Okay. And some of these are, as you just referenced, the economic development rate or smart 14 15 meters or for hybrid automobiles; would that be 16 correct? 17 Α Yes, those are three examples. 18 Q And just to make sure I understand you, the purpose of these adjustments is to account for things 19 20 that were not present in the previous data that you used to development the forecast; would that be a fair 21 22 characterization? Yes, or they were not adequately represented 23 24 in the historical period.

Okay.

And then with respect to two specific

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out-of-model adjustments, and specifically on page 11, 1 2 I believe you refer to out-of-model adjustment for new 3 or modified wholesale contracts, and then you've 4 already referred to the out-of-model adjustment for 5 economic development. 6 The purpose of these adjustments would be to 7 reflect a significant change in energy use during the 8 forecast period as compared to the level of energy in 9 the historical dataset; would that be correct? 10 A I think it would be correct. I'm not sure 11 about the word "significant." 12 Q Okay. So just a different energy use? 13 A Yes. Now, I've referred you to page 26 of 0 14 15 your testimony. 16 A Yes. 17 If I understand your testimony, I believe Q that what you're doing is deducting from the energy use 18 per customer forecast incremental demand-side 19 20 management, or DSM, that FPL plans to implement in the 21 future; would that be a fair characterization? 22 I would like to explain it a little bit 23 differently or add to it, if I may. 24 Q Sure, absolutely. 25 The purpose of the adjustment is to adjust

1 the forecast for the future level of DSM savings that 2 was not reflected in the historical period used to 3 calibrate the model. 4 The historical period to calibrate the model 5 ended in June of 2011. So to the extent that there are 6 projected DSM savings from new participants and so 7 forth that were not -- that has not already occurred by June 11th, there is an adjustment to account for that. 8 9 Q Okay. Thank you for that clarification. 10 And I believe that if we refer back to that 11 MRF Schedule F-7, Attachment 2, page 15, we would see 12 the derivation of that adjustment or how that 13 adjustment was calculated; would that be correct? 14 Α I'm sorry, could you give me that reference 15 again? 16 It's MRF F-7 and it was Attachment 2 17 beginning on page 15 of 16. Yeah, I don't know if this -- that shows what 18 Α 19 I think the adjustment is. I don't know if that shows 20 the derivation. Yeah, I misspoke. That shows the 21 Q Okay. 22 adjustment itself? 23 Α Yes. 24 And am I correct that the column that's 0 25 marked "Net Energy for Load in Megawatt Hours or MWh,"

1 includes a deduction of the amount shown in the column 2 named "Out-of-Model Adjustment for Incremental DSM" 3 which begins in January of 2012? 4 Α You're going to have to give me a moment to 5 check on that. 6 O Sure. 7 Α I believe it is, but I just want to check to 8 make sure specifically. 9 Q Absolutely. Take your time. Yes, it is. 10 Α 11 Q Thank you. 12 And now I would like to refer you to another 13 document, and this would be FPL's response to staff's 14 13th set of interrogatories, Interrogatory No. 413. 15 Α Yes, I have that. 16 Okay. And I believe that the response to 17 this interrogatory states in the answer that the 18 out-of-model adjustment for incremental DSM for the 19 year 2012 represents the cumulative projected amount of 20 DSM for the period July 2011 to December 2012 less the 21 cumulative amount of DSM that is estimated to have 22 occurred prior to July 2011? 23 Α Yes, that's correct. 24 And then moving down, I think it's in Q Okay. 25 about the third to last line, the answer mentions a

historical period used to forecast energy sales, historical period used to development the sales forecast, the historical period used to forecast energy sales? Α Yes. Q And I'm wondering if you know what that historical period is? Α The historical period used to calibrate -- to develop the econometric model is -- it terminated in June 2011, and it would have been started, I guess, around ten years prior to that. Q Okay. Α But we'll get you the exact date. That would be great, but for now it was Q approximately ten years? And it terminated in June of 2011. Q Okay. I think that's all we need. I don't believe we need the exact date. If I could ask you now -- again, I'm shuffling a lot of papers -- but FPL's response to the staff's 10th Request for the Production of Documents, Request No. 77. Α Yes. And in mine it's the second page, but Q I think it's marked at the very top left corner as

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1 "Staff 005533," which is FPL RC-12, Tab 1 of 2. 2 I don't believe mine is marked as yours is. 3 Q Specifically what it is, it's a piece 4 of paper with a small table at the top and then a 5 three-column table for the rest of it. And the small 6 table at the very top is labeled "Incremental DSM, 7 parenthesis, MWh, underneath it, parenthesis, 8 incremental through 2012, and then has the years 2012 9 through 2020 and numbers in a column next to it. 10 Α Yes, I have it. 11 Q Okay. And looking at that table, the 12 incremental DSM table for the year 2013, looking across 13 it appears the number is 286,525; is that correct? 14 Α Yes. 15 And would I be correct that that is in fact Q 16 286,525 gigawatts -- I'm sorry -- 286,525 gigawatts? 17 It says, "megawatt hours." Α Okay. Megawatt hours. So I was incorrect. 18 Q Thank you. You can read better than I can. 19 20 Now, keeping that table out and then going 21 back to the Schedule F-7 we were just looking at, 22 Attachment 2, pages 15 and 16. 23 Okay. Of course I closed the book. Α 24 F-7?25 Q Yes, F-7.

1	A I have it.
2	Q And then, again, it's the same Attachment 2,
3	pages 15 and 16.
4	A Yes.
5	Q And by my math, if I add the numbers you have
6	marked on Schedule F-7 as out-of-model adjustment for
7	incremental DSM starting in January of 2012 and add
8	those up, it comes out to the 262,525 megawatt hours
9	referred to in the staff production of documents 2007,
10	Tab 1 of 2 I'm sorry, 2013?
11	A Yes.
12	Q Okay.
13	A I'm sorry, could you repeat?
14	Q Yeah. I'm just trying to make sure when I
15	look at the staff POD 77 for the year 2013, the number
16	286,525 is, I believe, composed of adding up the column
17	that's out-of-model adjustment for incremental DSM
18	that's contained on MRF Schedule F-7, Attachment 2,
19	pages 15 and 16?
20	A Yes, for the period beginning January 2013
21	through December 2013.
22	Q Okay. Perfect. Thank you.
23	So are the conservation plans and programs
24	that were used to calculate the 2013 DSM out-of-model
25	adjustment to the energy use forecast the same plans

1	and programs that have been in place for FPL
2	historically?
3	A Yes.
4	Q And would you agree with me that for at least
5	the last seven years, FPL's DSM, or demand-side
6	management, and goals have increased or gotten larger
7	each year for the past seven years?
8	A I couldn't say. I don't know.
9	Q Okay. Do you have a copy of staff's Request
10	for Production of Documents No. 81 with you?
L1	A Yes.
12	Q I would like to refer you to what's marked as
13	staff 005567, FPL RC-12. You may have those markings,
14	you may not.
15	A I don't have those marked. If you want to
16	give me the
17	Q Sure. It is page 3 of a PSC order. It's
18	Order No. PSC-04-0763. And that order is titled
19	"Notice of Proposed Agency Action Order Approving
20	Numeric Conservation Goals for Florida Power & Light
21	Company," and it was issued August of 2004.
22	A I have it.
23	Q Okay. And then on page 3 of that order,
24	there's a table.
25	A I have it.

And the table is titled "Proposed 1 0 2 Conservation Goals Cumulative." And then if I look in 3 the columns, there's two sets, residential and 4 commercial, industrial, broken down by summer, winter, 5 and annual for each, and then a year next to the left 6 of those from 2005 and then going out to 2014. 7 And when I look at that table, it appears 8 that the numbers grow incrementally larger year after 9 year? 10 Yes, because the table is labeled "Cumulative." 11 Okay. So given this table, would you agree 12 Q 13 with me that that supports the idea that FPL's DSM 14 goals have increased or grown larger year after year since at least 2005? 15 Yes, I would agree that the cumulative 16 17 savings have grown year after year. 18 Q Okay. Thank you. I appreciate that clarification. 19 20 Do you, Dr. Morley, of your own knowledge, know if the annual rate of increase of FPL's projected 21 22 2012 and 2013 DSM is higher than, the same as, or lower than the annual rate of increase which has occurred for 23 24 FPL since 2005? 25 I don't.

1 Q If you could refer now back to your direct 2 testimony on page 26, lines 8 to 15. 3 Α Yes. 4 0 And I think I had -- I think that I 5 understand that the testimony is that incremental DSM 6 is deducted form the energy use per customer forecast 7 and this is to refect reductions in load that are not 8 otherwise reflected in that historical dataset? 9 Α Yes. And that is the same adjustment we make 10 in the ten-year site plan for generation planning 11 purposes. 12 0 Okay. Does this historical dataset include 13 the -- to your knowledge -- does the historical dataset include the impact of continuously increasing 14 15 demand-side management or cumulative demand-side 16 management? It would reflect the level of sign-ups 17 Α 18 that we had up through June of 2011. It would not 19 include new DSM sign-ups after that period. 20 Q Correct. But I'm going to step back a second and go off my script, which is always dangerous, but I 21 22 believe that I understood from your testimony in 23 general that a forecast is a model that you develop 24 whereby you attempt to fit, I'll call it a line or

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projection, to the historical dataset and then use that

to extrapolate future results; would that be a fair characterization?

A Yes.

Q Okay. And what I'm trying to find out is if the historical dataset shows cumulative DSM numbers that are increasing, wouldn't that model then produce a future forecast that reflects that increasing growth?

A No.

Q Okay. Can you explain to me why not?

A Yes. Because, first of all, there's no variable for DSM in the econometric model, number one. And number two, it doesn't reflect new sign-ups, just as it does not reflect this wholesale load also in our historical period. But because it doesn't reflect new wholesale that we're getting, let's say, from Lee County, we make an adjustment for that.

And it's the same logic with DSM. And, in fact, making that adjustment for DSM is the way we have done it for generation planning purposes in the ten-year site plan for several years. So this adjustment here is being made appropriately and consistent with that.

Q Okay. You've lost me for a second so I might become more inartful than I already have been on my questions. And I think this would reflect my

fundamental misunderstanding of a regression model.

But I recall when I took statistics in economics in college, one of the things that I thought I was learning to do was to look at datasets and predict a future trend based on those datasets. And I have thought that that's what we were sort of doing here.

And what I think I heard you to say is that the model used doesn't include a DSM variable; that's correct?

A Correct.

Q Okay. So given that, would it ever be appropriate not to include an out-of-model adjustment for future DSM?

A No, I don't think so. And, in fact, as I said, that's the way we do it in the ten-year site plan and we've done that for a long time. And I think that's consistent with the adjustment we make for wholesale load.

We could say, well, we have wholesale loads -- we would have wholesale loads in the past so we don't need to make an adjustment for it. But we do because we have a new level that is not reflected in the historical period.

Q Can I ask why if you know that historically

you've had demand-side management and you reasonably expect that in the future you will have demand-side management, the model that you use does not contain a variable for demand-side management? Α Well, I suppose we could do that. just not the way we've traditionally done it. that we don't have a variable for DSM in the model, this is the way I think you treat it. Q Okay. Do you know why FPL has not in the past used a model that includes a DSM variable? Because I think that the way we've been doing it is very straightforward, and as I said, it's consistent with our ten-year site plan. Q All right. And is it your testimony that -and I think you said this, I want to make sure -- is it your testimony that you believe the way the model is constructed is most appropriate for this use, which is forecasting future growth, and that an out-of-model adjustment for DSM is the appropriate way to handle I'm not trying to put words in your mouth, I just DSM? want to make sure I understand. I appreciate that. I would ask you to repeat Α I just want to make sure I understand.

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Yeah.

Dr. Morley, believe that the way FPL currently does

I'm just trying to make sure that you,

1 this forecasting, which is not to include a DSM 2 variable, is the appropriate way to do it and that it 3 produces the appropriate results for these uses that 4 this model is used for, whatever they might be? 5 Α Yes. 6 0 Okay. If I could have just a second to go 7 off the record, I need to talk to one of my staff 8 members for just a second. 9 MR. RUBIN: That would be fine. 10 (Whereupon, the record was paused.) 11 BY MR. HARRIS: Thank you for your patience. My question is 12 13 does the dependent variable in your historical dataset 14 reflect reduced energy use attributable to historical 15 demand-side management? 16 Yes. It does not reflect any increase in 17 participants on or after July of 2011. 18 Q Okay. 19 MR. HARRIS: Another second, please. 20 (Whereupon, the record was paused.) 21 BY MR. HARRIS: 22 To go off script again, and hopefully I Q won't -- I think I've done pretty well, at least I 23 24 haven't made a fool of myself to have people in the 25 room throwing stuff at me, so I'm going to go off

script and hope it works out and sort of get to the root of my questions — and that is I think just a little while ago you said you did not know what the annual rate of increase of FPL's DSM would be in the future, whether it was higher than or lower than the trend or the historical dataset.

And I'm having some difficulty understanding,
I guess, how if the historical — if the dependent
variable from the historical dataset captures that DSM,
you can't have any idea what the future is, but then
you can do an out-of-model adjustment which captures
that future incremental DSM.

And this may be very inartful and I could try to rephrase it, but you might be better understanding what I'm asking than I am. I'm just trying to sort of capture how the out-of-model adjustment can predict the future independent of any kind of historical dataset?

A Well, number one, there's no trending variable in the model so it's not picking up trend; it's establishing a relationship between energy use per customer and per capita income, employment, things like that.

- Q Okay.
- A There's no trend in the model.
- 25 Q All right.

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A It's not picking up any trends; it's just establishing a relationship between energy use per customer and those independent variables. That's number one.

Q Okay.

A And number two, as far as how we make the adjustment, it's very straight forward, it's been done in every ten-year site plan in recent history. It's how we report similar things done for the summer peak, for example, in the ten-year site plan, so it's a very straightforward process.

Q Okay. I think I understand you. You're being very helpful. And I apologize for my ignorance. I think what I just -- I'm going to try to see if I can repeat what you just said so I'm sure I understand it. And if I'm wrong, please correct me.

I think what I sort of in my mind heard you say is I have a formula -- I'm going to say "formula," I know that's not right -- I have a formula, and given various inputs, whether it's, you know, customer income or this or that, I can plug those numbers into this and what will come out is an output, and then when I look at the historical correlation of that output to what actually happens in the real world, the fit is very, very high, and that was your R-squared.

So I think what I'm hearing you say is that the model or the formula or whatever that you developed can take those input variables and with a great deal of tightness or fit predict the output, which in this case would be the net energy for load. Am I getting the concept right? Α Yes. And that's why the trend doesn't Q Okay. matter because all you are -- I shouldn't say all you're looking at -- but for the purposes of this model, what you're looking at is can I take some number of inputs and get a very good fit for the output. Your testimony is that you can with this high R-squared, and you don't necessarily worry about the DSM because you have a very high fit without it, but in order to make an even better fit, you're trying to find ways to predict future changes; would that be fair? That's very close. What I would say is I Α don't worry about the historical level of DSM. Q Okay. But I do need to take into account new DMS Α sign-ups to have an accurate forecast. Okay. You are being very, very helpful, and Q I do appreciate it.

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I'm going to go back on script and hopefully

these won't be totally off now that I have a better 1 2 understanding of what we're actually doing here for 3 which I am very thankful to you. 4 If I could ask you to go back to the 5 Schedule F-7, Attachment 2, page 15. 6 Α I have it. Okav. 7 Okay. For the column labeled "Net Energy for Q 8 Load" from July 2011 through December 2011, would those 9 include an out-of-model incremental DSM adjustment? 10 Α No, they did not. Okay. And for that period, July 2011 through 11 December 2011, does FPL's projected net energy for load 12 13 include the impact of annually increasing levels of DSM 14 by the operation of the forecast model? 15 Α I'm sorry, could you repeat that question? 16 Sure. For that same period, July 2011 Q 17 through December 2011, does the projected net energy 18 for load include the impact of annually increasing 19 levels of DSM as an operation of the forecast model? 20 Α It does not. Q 21 Right. Thank you. 22 And I believe you already explained this, but 23 if I could ask you to do it one more time, can you explain to me why that July 2011 through December '11 24

does not include the impact of annually increasing DSM

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1 given that historical energy use data was used to 2 create the energy use for customer forecast? 3 Α Because there's no variable for DSM in the 4 model and there's no trend variable, it's just the 5 relationship between energy use per customer and various variables, including employment, income, and so 6 7 forth. 8 And I believe you've stated -- and I Q 9 keep asking you -- that you're not -- that there was no 10 attempt to include DSM as an independent variable in 11 the model; is that correct? 12 Α Correct. 13 Q Okay. MR. HARRIS: If I could have another minute 14 15 to go off the record. 16 (Whereupon, the record was paused.) 17 BY MR. HARRIS: 18 Q Okay. I'm being told that I in fact have asked our questions about the model and everything, so 19 20 I'm a little proud of myself. And I really thank you, 21 Dr. Morley. 22 And I have sort of a slightly different sort 23 of focus of the next couple of questions I would like 24 to discuss with you, and that is essentially do you 25 know, Dr. Morley, whether the goals that were used to

calculate this incremental out-of-model adjustment are based on the goals set by the Commission in its 2004 order or whether the goals that were set by the Commission in its 2009 order? And I can given you those order numbers if you need them. I think that's okay. The incremental DSM adjustment is based on our currently approved DSM plan. It's not based on a set of goals per se. It's based on our currently approved plan. Q Okay. And I believe I referenced the order number that that plan was approved in. I have that. Q Right. Α Maybe I should get it as well. Okay. Q But I believe in that plan, the -- I'm sorry -- in that order, the Commission said, FPL keep doing the programs you have. Q That is my understanding of the Commission's order, yes. Maybe add some pilot -- I'm paraphrasing, of Α course -- but that's what the plan on which the DSM adjustment was based. All right. And given that we sort of agree, Q

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you know, in shorthand language that the Commission

sort of ordered go ahead and keep on doing what you're doing, that would be what the historic dataset reflects as FPL has been doing; is that correct?

A No, it isn't, because go on and keep on doing those plans, it doesn't mean don't go out and get new sign-ups.

Q Okay.

A But the plan says -- we're going to go, hey, we have Program F, we may have had it for a while, but now we're going to go out and get 1,000 more participants next month and 1,000 more and so forth.

So it's really the new participants that are being reflected in the DSM adjustment.

Q Okay. So to make sure I understand, the existing plans and programs are exactly that, plans or programs. And you're saying that that doesn't capture that 1,000 more people or 2,000 or 20, or whatever it is, might want to sign up for those plans or programs?

A The DSM plan that was used to come up -- that was used as a basis for the DSM adjustment, it was a plan by which we had certain programs and there was a plan to add new participants every year to those programs.

Q Okay. And those are the numbers in the out-of-model adjustment that are shown broken down on

1	Schedule F-7, correct?
2	A Correct.
3	Q Okay. And you're saying that those numbers,
4	those new participant numbers, or whatever they are,
5	isn't based on a specific goal, either 2004 or 2009;
6	it's based on the plans and programs that FPL has in
7	place to achieve demand-side management savings?
8	A Yes.
9	Q Okay.
10	MR. HARRIS: Hold on for a second.
11	(Whereupon, the record was paused.)
12	BY MR. HARRIS:
13	Q This is Larry Harris, I'm back. Dr. Morley,
14	you've spoken of the number of participants increasing
15	in the future.
16	Would it be fair to say that if the number of
17	participants increased, then the total gigawatt hours
18	of savings will also increase?
19	A Yes.
20	Q Okay. And if FPL has reported that
21	historically gigawatt hours of cumulative DSM savings
22	have increased year after year, would it be fair to say
23	that that's due to an increase in participants in the
24	past?
25	A It could be. Maybe there's something else

changing it, I don't know. 1 Right. So I quess what I'm trying to get at 2 is if we have historically seen an increase in 3 cumulative DSM gigawatt hours historically in that 4 dataset and we know that in the future there's going to 5 6 be a growth in gigawatt hours of DSM because of 7 increased participants, I'm still trying to get back to 8 how that growth is not captured by the historical dataset and thus necessitates an out-of-model 9 adjustment? 10 11 Α Because there's no variable for DSM sign-ups in the model. 12 13 Q And is there any variable that would capture 14 that gigawatt hours of cumulative DSM demand? 15 MR. RUBIN: Are you still talking to staff? 16 MR. HARRIS: I thought I had asked you all 17 and you were looking to see the answer to my last 18 one, I'm sorry. 19 THE WITNESS: I'm sorry, I didn't realize a 20 question was pending. 21 BY MR. HARRIS: 22 Q That's my fault for, I guess, not making that 23 clear. Well, I hope you enjoyed the break. 24 I have two last questions, I think, and 25 hopefully we can move on. We'll get the last

1 questions. 2 Do you have a copy of the FECA report that I 3 had asked -- we, I think, included a link on the 4 website to? 5 Α Yes. 6 Okay. And if I could, could you turn to page 7 19 of that report, and it's Table 10 that I'm looking 8 for on page 19. 9 Α Yes, I'm there. 10 Q And am I correct that when I look at Okay. this table, it shows that FPL has achieved savings 11 12 above the DSM goals on a cumulative basis for the 13 period 2005 to 2010? 14 Α Yes. 15 And I think you might have answered Q Okay. 16 this probably several times: Would those DSM savings 17 above the goals for 2005 through 2010 be reflected in 18 the historical monthly net energy for load data which 19 appears in MRF Schedule F-7? 20 Α Yes, this historical level would be 21 reflected; however, the level of cumulative DSM savings 22 occurring after that time would not. And that's why in 23 the ten-year site plan where they were looking, let's

say, at the summer peak, we make a reduction for

incremental DSM just as we're doing here for these

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1 sales forecasts. 2 So what we're doing here for sales is 3 completely consistent with what we do for summer peak 4 for generation planning purposes. So we plan for the 5 peak, we don't assume that there's going to be a level 6 of DSM higher than what's actually occurred in the 7 We have to take that into account in the 8 ten-year site plan, and we do that. 9 Q I believe that is all the questions we Okay. 10 I'm going to check with my two guys. 11 shaking their heads no so I think we're done. 12 So, Dr. Morley, I really do appreciate your 13 time today and the short notice and being patient with 14 me and helping me to understand this, and I hope I have 15 not provided -- that my ignorance has not been too 16 stressful on you, so I thank you. 17 Α You're welcome. 18 MR. RUBIN: Thank you, Larry, we appreciate 19 I didn't know who was prepared to go next. MR. WISEMAN: 20 This is Ken Wiseman. I'm happy 21 to go next, if that's okay. 22 Vickie, is that all right with you, or do you 23 want to go next? 24 MR. MOYLE: This Jon. 25 MR. WISEMAN: Hi Jon.

1	MR. MOYLE: Hi Ken.
2	MR. WISEMAN: And, I apologize, but could we
3	take a two-minute break?
4	MR. RUBIN: Sure, that would be fine, Ken.
5	MR. WISEMAN: I'll be right back. Thank you.
6	(Whereupon, a recess was taken.)
7	EXAMINATION
8	BY MR. WISEMAN:
9	Q Good afternoon, Dr. Morley. Ken Wiseman for
10	the South Florida Hospital and Healthcare Association.
11	How are you?
12	A I'm fine. Good afternoon also.
13	Q Can you turn to page 20 of your direct
14	testimony, please. Do you have that?
15	A I do.
16	Q Okay. At lines roughly 18 through 22, you're
17	discussing inactive meters. Do you see that testimony?
18	A Yes.
19	Q Can you clarify in this testimony where
20	you're referring to inactive meters, are those inactive
21	meters across all of FPL's different customer classes
22	or is that limited to residential?
23	A No, it's not limited to residential.
24	Q So that would include all of commercial,
25	industrial as well, correct?

It includes residential and 1 Α 2 nonresidential inactive meters. 3 Okay. And then do you have a -- does FPL have a breakdown of the measure of inactive meters 4 5 for -- or among the different -- broken down by the 6 different customer classes? 7 Historically they are categorized as 8 residential or nonresidential. My understanding is 9 that all accounts, whether they are inactive or active, are assigned a default rate in our billing system so 10 11 that an inactive residential account would have a 12 residential RS-1 rate class, and I believe the nonresidential would have a default rate of GS-1. 13 14 0 So even if it were an industrial customer 15 then, if it's an inactive meter it would be classified 16 for this purpose as GS-1; is that right? 1.7 Α Yes. The default rate for all inactive meters other than residential --18 19 Uh-huh. Q 20 -- would be GS-1. 21 Okay. And do you have a breakdown by residential versus nonresidential of inactive meters 22 relative to total customers? 23 24 Α I don't have it with me. I think similar 25 material may have been provided in discovery.

MR. WISEMAN: Can I make an on-the-record 1 2 document request for a document that would have a 3 breakdown of inactive meters by residential versus nonresidential customer class? 4 5 MR. RUBIN: Ken, that's the equivalent of 6 discovery being served today on August the 10th, 7 so I would object to the request. You know, 8 whatever has been produced has been produced. 9 I don't know that it's appropriate -- I don't 10 think it's appropriate to basically make a verbal 11 request for production of documents at this time. 12 And I do believe whatever has -- I believe 13 something like that has already been provided, 14 Ken, in some response to some discovery. 15 can find it, I will identify it for you, but we 16 don't want to begin doing discovery again at this 17 point. 18 MR. WISEMAN: All right. Well, we can take 19 that up separately. 20 BY MR. WISEMAN: 21 Can you tell me, Dr. Morley, how do -- or how 22 does the occurrence of inactive meters affect your 23 forecasted net energy for load? 24 Α We use the ratio of inactive meters to Yes. 25 total customers as kind of a proxy for the impact of

1 housing and the real-estate market has on the Florida 2 economy so that it's an independent variable in the 3 model used to forecast energy use per customer. All right. So if you could refer to one of 4 Q 5 the MRFs that Mr. Harris was questioning you about, it's MRF No. F-7, and particularly if you could go to 6 7 Attachment No. 2, page 15 and 16. And let me know when 8 you're there, please. 9 Α Thank you, I will. That's MRF F-7, 10 Attachment 2 of 13, page 15 and 16? 11 Q Correct. 12 Yes, I'm there. Α 13 Q And the title is Inputs for the Net Energy 14 for Load Forecast? 15 Α Yes. 16 Q Looking at it, this appears to be --17 there appear to be two pages to this particular 18 dataset. Where would the -- first of all, is there an 19 out-of-market adjustment for inactive meters? 20 Α No. 21 Q So where is the incident of inactive meters 22 captured in this dataset? 23 Α It's not an adjustment; it's a variable in 24 the model. And if you turn to page 1 of 16 in that 25 same attachment.

1	Q One second. Page one of 16, yes.
2	A The second column on the far right is the
3	Inactive Ratio.
4	Q Right. And so when you get back to page 15
5	of 16 of the would I be correct then that the column
6	that's listed Net Energy for Load already incorporates
7	an adjustment for inactive ratio, you're carrying
8	forward what was on page 1?
9	A It's not an adjustment; it's an independent
10	variable in the model.
11	Q I stand corrected. Let me rephrase. Back on
12	page 15, the column Net Energy for Load already takes
13	into account the inactive ratio as an independent
14	variable; would that be correct?
15	A Correct.
16	Q Okay. Now, if you could turn to Attachment
17	No. 3 in MRF No. F-7 as well as Attachments 4 and 5
18	let me make sure five is included in this, one second.
19	Actually, Attachments 5 through 8.
20	Can you tell me what correlation there is
21	between these attachments, these datasets and
22	dataset that we've just been discussing, Attachment 2
23	in MRF F-7?
24	A Attachment No. 5, I think is that the
25	first one you mentioned?

Q Correct. Attachment -- I'm sorry -Attachment No. 3, that's the first one, Inputs for
Residential Sales Forecast, we'll start with that one.

A Yes. This attachment provides the residential sales and the forecast of residential sales and the forecast of residential customers. And then the columns beginning with Cooling Degree Hours and ending at Real Retail Price of Gasoline, those columns are the independent variables that were used in the econometric model used to forecast residential sales. And then the column Out-of-Model Adjustment for Advanced Meter Reading Infrastructure and the next are adjustments to that.

Q How, if at all, does this particular attachment, Attachment No. 3, relate to Attachment No. 2?

A Attachment No. 2 is the same thing, it's the extent that it — it's the history and forecast of net energy for load and then the history and forecast independent variables used to forecast that energy for load. Attachment 3 is the same thing but looking at residential.

Q Right. So in other words -- and to shortcut this -- if I went through Attachment Nos. 3 through -- I think it's actually Attachment No. 11, those

1 attachments are essentially the detail underlying 2 Attachment No. 2? 3 Α No, I would not say that. 0 4 Can you correct my statement then? 5 Α The first -- Attachment No. 2 is the inputs 6 used to forecast net energy for load, a model for that. 7 Then there are separate models for residential sales, 8 commercial sales, and so forth. 9 Q So Attachment Nos. 3 through 12, they don't 10 feed into Attachment No. 2; they're independent? 11 Α Yes. 12 Q All right. Thank you, that's very helpful. 13 Now if you could turn to page 29 of your 14 testimony, please, and again your direct. 15 Α Yes. 16 This is, I believe, the first of a number of 17 instances where you refer to the Durbin-Watson 18 statistic and the absence of significant 19 autocorrelation. Could you explain what 20 autocorrelation is? 21 When you fit an econometric model, 22 there is always a residual in each period, and the residual would be here is what the -- in this case --23 24 actual level of use per customer was and here is the

predicted level of use per customer based on the model.

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That difference is the residual.

Autocorrelation refers to what happens when there's a pattern in those residuals. And that basically means there's a pattern that the model is not picking up. And that's not a good thing.

It also means that the model may not be as efficient as it could be. But basically it means there's a pattern in the residuals, that basically something is happening that the model is not picking up.

- Q All right. Now, if I recall for purposes of the Durbin-Watson statistics, the closer to 2.0 the better; is that correct?
 - A Yes, that's the rule of thumb.
- Q Okay. What deviation or at what level of deviation from 2.0 would you look at and say, well, there's a potential autocorrelation problem?

A It varies for each model because it depends on the number of -- the degrees of freedom. I don't have a table specifically so I can't give you -- yeah, you have to look at a table specific to the degrees of freedom in each model.

Q Can you give me an example using degrees of freedom, you know, just use a hypothetical to put it in a framework that would allow me to understand sort of

the ratio between degrees of freedom and the presence of an autocorrelation problem?

A I can give you a hypothetical. It's something that you have to do anytime you run a model. And we did it to check the Durbin-Watson. Anytime in Durbin-Watson, there's an area — there's a gray area, there's a good area, there's a bad area. And we confirmed that for each of those models that Durbin-Watson was a good area. But I'm not sure I can give you a hypothetical.

Q Okay. Did you determine that by running different iterations of the model?

A No. Basically after we completed the model, we looked at and said this here -- whatever they are -- and went to a statistic book and said, okay, based on that, is the Durbin-Watson okay? And that's what we did.

Q Okay. Actually, I want to go back to MRF
No. 7. I forgot to ask you one question about that.
When you were speaking to Mr. Harris, you had indicated that the adjustments, the out-of-market adjustments that were reflected in Attachment 2 show the out-of-market adjustment but not the derivation of the out-of-market adjustment.

Can you tell me how you determined the

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1 derivation? Was that through the use of a different 2 econometric model or how did you do that when you did 3 this? 4 MR. RUBIN: Ken, let me just for the 5 record -- I know you said "out-of-market 6 adjustment" a number of times. I think you were 7 referring to the out-of-model adjustment. 8 MR. WISEMAN: I'm sorry, Ken, you're right, I 9 apologize, yes, out-of-model adjustment. 10 MR. RUBIN: No, that's fine. 11 THE WITNESS: It depended on which adjustment 12 that you're looking at. For example, the 13 out-of-model adjustment for the economic 14 development rate, we got estimates from customer 15 service and regulatory affairs on the number of 16 customers they expect to sign up for the new 17 economic development rate. 18 And with that information -- and I think we 19 may have made some assumptions about what the size 20 of the customers were going to be and so forth --21 so with that we determined the level of economic 22 development rate adjustment. 23 BY MR. WISEMAN: 24 Q Okay. So for instance -- well, that sounds 25 like that was a subjective analysis. Is that a fair

characterization?

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A No. I think it's based on projections from customer service and rate department. I know customer service has been talking to customers about this rate and I think they probably have a pretty good idea about the number of customers who would be interested in it. And they talked to certain customers who knew that they would have potentially new facilities coming on board they could qualify, so I don't think it was subjective.

- Q Well, it's not based upon a specific formula, correct?
- A It is to the extent that it's based on the number of customers expected and their size and their load factor and so forth.
- Q All right. Bear with me for a second. Can you look at Attachment No. 4 to the MRF 7, page 8 of 8. Let me know when you have that.
 - A Attachment --
- Q Attachment No. 4, page 8 of 8. The title is
 "Inputs for Commercial Sales Forecast."
- 21 A Yes.
 - Q Okay. There's an out-of-model adjustment for NEL reconciliation. Do you see that?
- 24 A Yes.
- 25 Q Can you tell me how that was derived, how the

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numbers in that column were derived?

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A Yes. That's based on the difference between the forecast for net energy per load versus the sum of the economic model for the individual revenue classes. And to come up with a forecast, we go with the forecast for energy for load because it has — the model has better statistics and it also reflects things like energy efficiency savings that are not reflected in the individual revenue class forecast.

So this column is based on the level of sales applied by the net energy for load model and it's allocated between the commercial and the residential revenue classes.

Q And I think you said you're comparing the net energy for load forecast versus the -- I think you said the individual revenue forecast for revenue classes?

A Yes. And I should have added that it's not actually -- it's actually the level of billed sales implied by the net energy for load forecast.

Q Okay. And the individual revenue forecast that you're talking about, which MRFs would that -- or which attachment to an MRF would reflect those forecasts?

- A Are they reflected here?
- 25 Q Yes. Are those the attachments we were

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looking at, Attachments 3 through 12 that you are 1 2 referring to in MRF No. 7? 3 Α Yes. Great. 4 Q Okay. 5 Α I'll check them again, but it's basically 6 Attachment 3 is the forecast for residential sales, 7 Attachment 4 for commercial sales, and then small 8 industrial and so forth. 9 Q Okay. 10 Α Yes. 11 All right. That's helpful because I think Q you're helping me understand how these different 12 13 schedules fit together. 14 Now, let me ask you a question. We can use 15 the page we were on, Attachment No. 4, page 8 of 8 on 16 MRF No. 7. You see in the column Out-of-Model 17 Adjustment for NEL Reconciliation there are a number of 18 entries that have negative numbers, correct? 19 Α Yes. 20 And then if you look under Commercial Sales, Q 21 there are sales figures in megawatt hours, right? 22 Α Yes. 23 Q So is the negative number in the 24 out-of-model -- let me rephrase the question. 25 number in the commercial sales column reflect the

1 reduction of the negative number in the Out-of-Model 2 Adjustment for NEL Reconciliation column? 3 I just want to check that. Yes. 4 Q Okay. Now I have some questions about a few 5 discovery responses that FPL provided to SFHHA that I 6 asked -- I sent an email, hopefully you have those 7 handy. 8 Do you have FPL's response to SFHHA 9 Interrogatory No. 114 available? 10 Α Yes. 11 Q All right. Can you -- I just need clarifying 12 information on this. And I'm looking at Attachment 13 No. 1 to that response. Attachment No. 1, Tab 1 of 5 14 has data. I just want to make sure we're on the same 15 page. Under the year 2000, there's a number 95,019, 16 17 and then on the other side of the table for 2012 in the row for -- I guess it's 2021 -- there is a number of 18 19 132,174. Are we on the -- do we have the same page in 20 front of us? 21 Α Yes. 22 Okay. Can you tell me what these numbers Q 23 represent? 24 Α Yes. Just give me a moment. These tables 25 were provided in response to a question that asked

provide for each year from the year 2000 to present FPL's forecast of future levels of customer growth in energy for load in peak demand.

The table that you referenced is our forecast

The table that you referenced is our forecast of net energy for load provided in prior editions of the ten-year site plan. The column that says, "2000," the column is 2000 and the first year is 2000, and the figure is 95,119, that's the forecast of net energy for load for the year 2000 made in the 2000 ten-year site plan.

- Q So this is in megawatt hours or --
- 12 A Gigawatt hours.

Q Gigawatt hours, okay.

So to make sure I'm interpreting this correctly -- and hopefully I've got this lined up correctly -- if we took -- if we looked in 2006 for the year 2012, FPL forecast net energy for load of 137,675 gigawatt hours, correct?

- A Correct.
- Q And then in 2012 for 2012, FPL projected gigawatt hour sales of 111,021, right?
 - A Correct.
- 23 Q All right. Great.

Let's go to Tab 2. And can you tell me what

25 the data on this page reflects?

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1	A Yes. This is the forecast of the summer peak
2	in various editions of the ten-year site plan.
3	Q All right. And Tab 3 of 5, what data are
4	reflected on this page?
5	A I believe this is the winter peak.
6	Q All right. Tab four of five, what data are
7	reflected on this page?
8	A This is the annual change in customers.
9	Q Customers by numbers, right?
10	A Yes. This is the annual change in the
11	average number of customers.
12	Q Average number of customers, okay.
13	And the last page, Tab 5 of 5, what data are
14	reflected there?
15	A Total customers, or I should say average
16	number of customers by year.
17	Q And, I'm sorry, so going back, Tab 4 is
18	average customer growth, Tab 5 is average customers by
19	year; is that correct?
20	A Of course I got them out of order when I went
21	through them.
22	MR. RUBIN: We have papers printed out that
23	don't have tab numbers on them, Ken, and that's
24	what the confusion is.
25	MD MISEMAN. Okay

1 THE WITNESS: If you read me off a figure, 2 I'm sure I can verify it. 3 BY MR. WISEMAN: Q What I see is Tab 4 of 5 in the column 2000 4 5 for 2000 is the number 67,965. And at the bottom 6 right-hand part of that page for 2012, the forecast for 7 whatever the last year on there is, is 67,963? 8 Α Yes. That's the change in the annual -- the 9 change in the average number of customers. Q 10 Okay. And then what I have as Tab 5 of 5, 11 the number -- the first number on the left side for 12 2000 is 3,823,974, and on the right side under 2012, 13 the last number is 5,185,756. 14 Α That's the average number of customers by 15 year. 16 Q Okay. Great. 17 Now, if we could turn to Interrogatory 18 No. 115. Do you have that? 19 Α I do. 20 And looking at Attachment No. 1, Tab 1 Q Okay. 21 of 2 -- and it has various statistical measures, 22 correct? 23 Α Yes. 24 Can you tell me what is being measured Q 25 by the T-statistic?

1 Α That measures whether the independent 2 variable is statistically significant. 3 Q Okay. And can you tell me -- if you look under Net Energy for Load, the first -- well, I 4 5 guess -- yeah, the first series of numbers under Net 6 Energy for Load, you see T-statistics ranging from 7 positive to negative. 8 Can you tell me what is indicated by the most 9 positive number and what's indicated by the most 10 negative number? 11 And it's the absolute value of the 12 T-statistic that's relevant for determining whether the 13 independent variable is statistically significant. 14 a coefficient is positive, then the T-statistic will be 15 positive; if a coefficient is negative, the T-statistic 16 will be negative. But the main thing is the absolute 17 value of the T-statistics. Well, when you say, "the absolute value," 18 Q 19 does that mean the higher the better or --20 Α I mean, it's regardless of the sign. 21 For example, as a rule of thumb, we would want a 22 T-statistic that has an absolute value bigger than two. 23 Q Okay. 24 Α The first negative -- let me see -- the first 25

negative there is for -- it's a negative 3.7 for the

inactive ratio.

Q Correct.

A That's reflecting the fact that there's a negative relationship between the inactive ratio and use per customer. You get more inactive meters, more empty homes, it depresses the economy, it depresses use per customer.

And the absolute value of the T-statistic is 3.721. That's what I refer to as absolute value.

Q Okay. Now I understand. Thank you.

Now, in the column P-value, there are numerous instances where there's a zero -- the percent is 0.00 percent. Do you see that?

A Yes.

Q And is that due to rounding or does that indicate that you didn't use a -- you didn't estimate the P-value in those instances?

A I'm sorry, could you repeat that?

Q Yeah. In those instances where under the column P-value it says, "0.00 percent," does that indicate that you conducted the test -- or you ran the estimate of the P-value and you derived at an actual zero or you rounded that off, or does that indicate that you simply didn't estimate the P-value in those instances?

1	A No, the P-value is estimated in all cases.
2	Q Okay. So in instances you've got many
3	instances of zero percent. And just eyeballing this,
4	it looks like the highest value is under Medium
5	Industrial Sales, you've got a value of 46.27 percent.
6	Can you tell me what does the 46.27 percent
7	represent here?
8	A Well, the P-value works with the T-statistics
9	for independent variables to make sure that they're
10	statistically significant. In the case of an intercept
11	or a constant term, it's less relevant.
12	We typically want an intercept or constant
13	term in the model, and we're not really concerned about
14	the T-statistic with the P-value.
15	Q All right. How about looking at standard
16	error. I believe the rule of thumb is to get a
17	95 percent confidence level in a regression, that you
18	would multiply the standard error by two in either
19	direction; is that correct?
20	A I'm not clear on what you're asking.
21	Q How would you derive a 95 percent confidence
22	level focusing on the standard error? Are you familiar
23	with that?
24	A Yes. I would probably have there's
25	probably an option in the model and I would do it that

1 way. But what we look at is the T-statistic. 2 Q So you don't look at the standard error? 3 Α Not of the individual independent variables. 4 We look at whether they are significant or not. And 5 that's indicated by the T-statistic. 6 Okay. Would I be correct that it's rule of 7 thumb to obtain a 95 percent confidence level, you 8 would multiply the standard error by two in either 9 direction? 10 Yes, when it's a normal distribution. 11 Q Okay. If you look again at -- start at the 12 net energy for load, every one of those standard errors 13 is less than .1 -- is less than 1.0, correct, and in 14 most instances less than .01, correct? 15 Α Yes. 16 Okay. But if you go down to the Large 17 Industrial Sales, the standard error is 44,552. Do you 18 see that? 19 That's on the intercept, the constant term, I Α 20 think. 21 Q What does that indicate? 22 Α In the econometric models, we like to have a 23 constant term for several reasons, including the 24 Durbin-Watson is not reliable if we don't have a 25 constant term, so we put those into the models. We're

not concerned about whether it's -- the T-statistic in 1 2 all cases is that significant. 3 And so that's the concept -- so that Q 4 particular -- in that particular instance, that's the 5 constant. And would the same be true then for the medium industrial sales? 6 7 Yes. Where it says, "c-o-n-s-t," that's the 8 constant term in the econometric model. 9 All right. Well, if you could turn to page 2 Q of that attachment. 10 11 Α Okav. 12 I noticed that for the medium industrial Q 13 sales statistics, you ran 81 iterations, but for residential sales and large industrial sales, you ran 14 15 only one iteration in each instance. 16 Can you tell me why you in some instances ran 17 a significant number of iterations and in other instances just one? 18 19 That's determined by our software. 20 mechanically sitting there redoing the iteration. 21 run the model to run the equation and that's how long 22 it took. But I'm not manually determining that. So that's the model doing it itself? 23 Q 24 Α Software I would say. 25 Yeah, software. Great.

1 Next, if we could turn to Interrogatory No --2 your response to Interrogatory No. 21. I'm sorry, 121. 3 Α Okay. 4 Q And if you could just give me a clarification 5 There are -- SFHHA asked for projected levels on this. 6 of growth each year between 2007 and 2010, and there 7 are numbers here. But are those megawatt hours, 8 customers? Can you tell me what those numbers 9 represent? I believe it represents numbers customers 10 11 because the page referenced in my testimony references 12 customers. 13 Q So it's customers, numbers of customers? 14 Α Yes, number of customers. 15 Q Okay. 16 Because the section of my testimony 17 referenced refers to customers. 18 Q Okay. Next, if you could turn to FPL's response to SFHHA POD No. 84. And this was a -- it's 19 20 actually a couple of documents. It starts off with 21 Bates page SFHHA-001414 and runs through Bates page 22 SFHHA-001441. Do you have that? 23 MR. RUBIN: We're just checking Bates 24 numbers. 25 THE WITNESS: Yes, I do.

1 BY MR. WISEMAN: 2 Could you turn first to the page 3 that's been marked SFHHA-001445. I think that's beyond the numbers 4 MR. RUBIN: 5 that you just identified, Ken. You said 1445. 6 MR. WISEMAN: Well, it is. Apparently my 7 pages are out of order. Hold on a second. 8 BY MR. WISEMAN: 9 Q The document I have -- actually, it starts 10 immediately after 1441. These must have gotten 11 It's a PowerPoint presentation entitled 12 "Proposed Short-Term and Long-Term Load Forecast, 13 Rosemary Morley, September 27th, 2011," and it states 14 pages SFHHA-001442 through 1483. 15 Α Yes. 16 MR. RUBIN: Hold on one second, Ken. 17 MR. WISEMAN: Just let me know when you're 18 ready. 19 MR. RUBIN: Okay, I will. 20 Ken, I'm looking at this document, I believe 21 that it is a document that was produced with a 22 request for confidential classification. 23 don't know, as we sit here today, who has signed a 24 confidentiality agreement. And I can perhaps 25 check and see if there are specific pages.

give me a minute to see what I can figure out on this, okay?

MR. WISEMAN: Sure, I understand.

MR. HARRIS: This is Larry Harris at the PSC.

The court reporter has asked for a little break,

she has to take a comfort break.

MR. RUBIN: That's fine, that will give us a little time.

(Whereupon, a recess was taken.)

MR. RUBIN: We looked at the document, the document is a document that's been produced in discovery as a confidential document. Now, understanding that FIPUG, SFHHA, and OPC have all signed the agreement, the confidentiality agreement. I know that we have one other participant on this call, Mr. Hendricks, I believe, who has not signed such a confidentiality agreement, so I'm not sure the best way to proceed here.

MR. WISEMAN: Ken, I'll tell you what I'll do, because I don't want to prolong this. I think I can narrow — instead of asking what I was going to ask, I think I can ask a few questions in a generic way that it won't refer specifically to this document.

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1	BY MR. WISEMAN:
2	Q Dr. Morley, are you familiar with the term
3	"low usage customers"?
4	A Yes.
5	Q Can you tell me what that term means?
6	A It refers to residential customers using
7	between one and 200 kilowatt hours a month on average.
8	Q All right. And I think you said this in your
9	answer, but just to be clear, it concerns the term
10	concerns residential customers only, correct?
11	A Yes.
12	Q Now, would you capture within the terminology
13	of low usage customers inactive meters as well?
14	A No. I think they are both ways of looking at
15	vacant premises. But inactive would mean the meter is
16	totally off; whereas, low usage means they are still an
17	FPL customer but their usage is very low, indicating
18	that someone may not be living there permanently.
19	Q Okay. So could low usage customer also
20	include seasonal housing?
21	A Oh, yes.
22	Q Okay. We talked a little bit before about
23	the term "P-value," we just mentioned it briefly. Do
24	you recall that?
25	A Yes.

1 Q Can you tell me a measurement that's P-value 2 in excess of what percent would be considered 3 problematic? 4 I don't know if there's a particular 5 The P-value would indicate the probability threshold. 6 that the coefficient really is not different than zero. 7 So you want it to be very low, but I don't know if 8 there's a particular threshold. I think it might 9 depend on the model. If it's high, quite a bit above zero, 10 Q 11 recognizing that -- well, let me rephrase it. If it's 12 clearly far enough away from zero to indicate a problem to you, what kind of problem would that indicate? 13 It would indicate -- number one, if the 14 Α 15 P-value is high, then the T-statistic is not going to 16 be high. And that would indicate that the variable may 17 not be statistically different than the -- or the 18 coefficient may not be statistically different than 19 zero. 20 Q Well, would that indicate a problem with the 21 model? 22 Α I mean, yes, you want to have the P's as 23 close to zero as possible. 24 All right. Give me a second, I'm looking to Q

see if there's anything else here that I can ask you on

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a just kind of high-level basis without getting into 1 2 the document itself. 3 MR. HENDRICKS: This is Hendricks. If it's a 4 problem for me to be on here and it's impeding 5 anything, I would be glad to drop off, just 6 letting you know that. 7 MR. WISEMAN: Thank you, Mr. Hendricks. Ι 8 actually think this is fine. 9 I had some other questions. I think one 10 thing that would clear this up -- and this will be 11 a request to FPL -- I will check, and if we have 12 received this document in color, I really don't 13 have any other questions. If we haven't received 14 it in color, could you provide me a color copy of 15 it? 16 MR. RUBIN: Yes. 17 MR. WISEMAN: It's just that there are graphs 18 on there where there are lines which it's hard to 19 distinguish one from the other. 20 MR. RUBIN: Sure. Do you have a black and 21 white copy in front of you, Ken? 22 MR. WISEMAN: Yes. 23 MR. RUBIN: Yeah, I'll provide you with a 24 color copy if you don't have one. 25 MR. WISEMAN: Okay. That would be great.

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1 And with that, I have no further questions. 2 Thank you very much, Dr. Morley. 3 THE WITNESS: You're welcome. 4 MR. MOYLE: Mr. Hendricks, Jon Moyle, I'm 5 happy to go or if you have questions, I'll defer to you. 6 7 MR. HENDRICKS: Jon, I don't have any 8 I was just listening for general questions. 9 information. Thank you, though. 10 EXAMINATION 11 BY MR. MOYLE: 12 I have some questions, but I don't think it Q 13 will take terribly long. And most of them are based on 14 your direct testimony. 15 Have you done an updated load forecast that 16 is not reflected in your testimony? 17 Α No. 18 Do you have plans to do a updated -- or when Q 19 is your plans to do your next load forecast? 20 The next load forecast will be done in Α 21 conjunction with the 2013 ten-year site plan, so it 22 would be done either early next year or towards the end 23 of this year. 24 So you do your load forecast on an annual Q 25 basis?

1	A Yes.
2	Q And you perform your forecast, I'm assuming,
3	so you understand how to plan your system; is that
4	essentially right?
5	A Yes. The load forecast is input into the
6	ten-year site plan.
7	Q Okay. And with respect to the load forecast
8	and its impact in a rate case, what is your
9	understanding with respect to the impact of a load
10	forecast in a rate case?
11	A The load forecast is provided to the rate
12	department, so they developed revenues at current rate.
13	Q So am I correct that if there are a lot more
14	customers that are being forecast, then that results in
15	a lot more money being realized, more customers, more
16	revenue; is that essentially correct?
17	A Well, of course, that would depend on what
18	else is happening. But, yes, an increase in customer
19	holding, all of those things constant would result in
20	an increase in revenue.
21	Q Okay. But then there's also when you have
22	new customers, you have increased costs to provide
23	service to those customers; is that right?
24	A Yes.
25	O Okay So with respect to kind of a rule of

thumb, if there is one, typically is an increase in customers such that the revenue projected with the increase in customers sufficient to cover the increase in projected cost to serve those customers? Α I don't know. Do you think any of your witnesses would know the answer to that question? MR. RUBIN: I object to the form of the question. You can answer it, Rosemary. THE WITNESS: I don't know. BY MR. MOYLE: O Staff asked a number of questions about the DSM model, and I just had a couple of points of clarification. Is the chief distinction between something being in-model and out-of-model, you know, an ability to make adjustments in it in conjunction with other independent variables, that you can do that in-model and out-of-model, you really can't because the model gives you an output and then you have to make a singular adjustment for the out-of-model variable? If I could maybe try to say what I think the difference is. 0 Sure. Is when we have a history and a -- a specific

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history on a variable, we have a forecast of a variable, that variable may be a candidate to be an independent variable in a model.

When we have a phenomena, I say, or a change that we know is going to happen in the future that is not expressed as a historical variable, that would be more of a candidate for an out-of-model adjustment.

Q And your wholesale sales and purchases are out-of-model?

A Yes.

Q Okay. But you do have a pretty good historical background on those, right?

A We do. But the way wholesale works, we have no defined increases so we have made an adjustment to increase the sales forecast to reflect the fact that we're serving Lee County now, which we only recently started to serve, and we're going to be serving a higher — could be serving Florida Keys as a full requirement customer when in the past we only served them as a partial requirement customer.

Q So because you have factual, concrete data as to actual wholesale needs, you made that an out-of-model as compared to doing a projection with in-model?

25 A Yes.

Q And you had made a comment -- and I may not have it exactly right -- but in your conversation with Mr. Harris, you had made a comment about in your modeling or forecasting that the historicals were not really important. And that was how I interpreted it. Did I understand that correctly? I hope I didn't say that. I didn't say that the historicals are not important. Q So are historicals important for the purposes of forecasting? Yes, the model is based on the historical relationship between an independent and -- various independent and the dependent variables. Q I'm just trying to understand the DSM Okay. distinction. But you do have a pretty good body of historical information with respect to DSM; is that right? Α Yes. And notwithstanding the body of historical Q information, the DSM is not an in-model adjustment, correct? Α Yes; it's an out-of-model adjustment for levels of DSM that are occurring outside the historical period. And when you say, "levels of DSM outside the

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historical period," what does that mean? 1 2 It means levels of DSM over and above the 3 savings that were included in the historical period 4 used to develop the model. 5 Q And how do you come up with that level of 6 savings over and above the information used to develop 7 the historical model? 8 Α It's based on our DSM plan, so we looked at 9 the level of DSM savings, let's say, 2013, and compared 10 that to the cumulative level of DSM savings that had 11 occurred during the historical period, so it's the 12 delta between those two things. 13 Q Okay. Page 14 you indicate in your testimony that you -- if I understand it -- you're using 14 15 population growth based on August of 2011 data; is that 16 right? 17 Α Yes. 18 Q Okay. And is there no other more current 19 population forecast than August of 2011 that you're 20 aware of? 21 Α The EDR met a few weeks ago and they Yes. 22 revised the actual level of historical population and 23 they also revised the population forecast. 24 0 And how did they revise it? 25 They increased the actual level of population

1 for the second quarter of this year and they made a 2 corresponding increase to their population projection. 3 Q So if you were asked the question was that 4 the -- well, let me ask this: Do you know the levels 5 by which they increased the projections? 6 Α Not off the top of my head. I think -- like 7 I said, there was an increase in the actuals and then 8 also a corresponding increase in the projections. 9 Q So your testimony on page 15, if you were 10 using the most recent data from EDR, the 32,124 or 11 .7 percent would go up; is that right? And if I could explain why. 12 13 customer forecast is based on the historical 14 relationship between FPL customers and Florida 15 population, and then also the forecast for Florida 16 population. 17 Because in July of this year they upped the 18 actual estimate of population, that would indicate that 19 we need to recalibrate the model. And when we do that, 20 there's an offset, so there's really no increase in the 21 customer forecast. 22 Is that because of the magnitude of the Q 23 projected increase by EDR? 24 Α That's because of the increase in the No.

actual level of population for the first two quarters

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1 of this year. In other words, they changed history, if 2 you would. And when they changed history, we have to 3 recalibrate the model. Q So is what you're telling me that 4 5 notwithstanding the fact that EDR has increased the 6 customer -- or the population growth estimates, that 7 you're not able to change your testimony or correct 8 your testimony with more recent information because you 9 would have to calibrate the model; is that right? No, I'm not saying that. I didn't think that 10 Α 11 was your question. I thought you were asking me would 12 there be an increase in customers, and I said there 13 would not be. There would not be. Well, I guess I'm just 14 Q 15 trying to understand it. You know, if EDR 16 hypothetically -- if they say we're going to have, you 17 know, a 5 million increase population-wise in the state of Florida and FPL serves approximately half of the 18 state, that would be a 2.5 million population growth. 19 20 To me that would indicate that it would warrant an 21 adjustment in your forecasted customer growth. 22 Would you agree with that? 23 MR. RUBIN: Object to the form of the 24 question.

Go ahead, you can answer.

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THE WITNESS: I think if we did that, we would reduce the customer forecast.

BY MR. MOYLE:

Q Why?

A Because they have reduced the actual -- I'm sorry, they have increased the level of population, the actuals. And the forecast is based on the relationship between our customers and population, plus the forecast of population.

So basically they're saying -- because they're changing history -- they're saying there's a different ratio between our customers and Florida population than the model is based on.

Q Do you understand what they're saying with respect to the difference in ratio?

A Yes, they're just -- well, basically they're just changing their population. What I need to do to come up with a customer forecast is to look at the historical relationship between our customers and Florida population.

Q So if I understand what you're saying, is it's not a one-for-one growth? If they project we're going to have 100 new people come to the state and you assume FPL serves 50 percent, you just don't take that and translate it and say that means we have 50 new

customers; is that right?

A That's correct. It's based on an econometric model looking at Florida population as the independent variable and FPL customers as a dependent variable, and the model is sadistically fitting the relationship between them.

- Q So historically you would get some percentage of that projected increase; is that right?
- A Yes. The model is establishing that relationship.
- Q Okay. As we sit here today, do you know what that percentage might be?
 - A No.
- Q Does EDR publish their revised estimates, do you know?
 - A It's on their website.
- Q Okay. On page 17 you were asked about the economic conditions in Florida in recent years. And I want to just simply ask you to describe the economic conditions of Florida presently.
- A There's been some improvement to the extent that the unemployment rate has come down. It's still very high. I believe it's 8.6 percent, so it's still higher than the national average; although, that gap

25 has narrowed a lot. We are adding employment, so

1 that's positive. 2 And I think it really goes to global insight 3 assessment when they said it was one of cautious 4 optimism really in terms of the Florida economy in that 5 we're not in a state of contraction, but certainly in 6 terms of the unemployment rate, it's still high. 7 Would it be fair to describe that the current 8 economic conditions are difficult --9 MR. RUBIN: Object to the form. BY MR. MOYE: 10 11 -- economically for most Floridians and 12 businesses, as far as you know? 13 MR. RUBIN: Object to the form of the 14 question. 15 You can answer, Rosemary. 16 THE WITNESS: I think it depends on if 17 someone is employed or not employed and how their 18 particular business is doing. 19 BY MR. MOYLE: 20 Yeah, I think that's probably true in any Q 21 situation. But just as a general statement? 22 Not to be difficult, but I know there are Α 23 sectors adding jobs. So if you're talking about maybe 24 tourism, retail, maybe things are not that bad because 25 those are the sectors that have been adding jobs.

1 you're in a sector like government, which has been 2 contracting, then you would have a very different 3 viewpoint. Q So just for the purposes of the question, just assume it's an overall economic condition, would you agree that in toto the overall 7 economic conditions in Florida currently are difficult? MR. RUBIN: Object to the form. You can answer. 10 THE WITNESS: Yeah. And, again, I'm not 11 trying to be difficult, but I think it depends on, 12 you know, the individual's personal circumstances. We are not -- I would say that economically we are 13 not in a recession in Florida in terms of 14 15 experiencing absolute contraction in jobs. 16 BY MR. MOYLE: 17 I understand. But I think you said, yeah, Q but it's still difficult. I mean, because the question 18 19 on page 17 asks you to describe the conditions. And I 20

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think you do it in a general way, you know, about the Great Recession taking a heavy toll on the economy. I was just curious as to your current view.

So I guess we can agree that, you know, while sectors may vary, the overall condition remains difficult; would that be fair?

1 MR. RUBIN: Same objection to the form. 2 think she's been asked and answered that question 3 a few times, Jon. Go ahead, Rosemary, give it one more try. 4 5 BY MR. MOYE: 6 If you would just give me a yes or no, that 7 may move it along. 8 Α I don't think it's a question that can be 9 answered with a yes or no. 10 So how would you describe them in general 0 11 terms? 12 I would say that the -- that we are 13 experiencing recovery but the recovery has been 14 somewhat tentative. And there are certainly certain 15 sectors there that are having difficult times, 16 absolutely. 17 O Have you attended the customer hearings? 18 No, I have not. Α 19 So I take it that you don't have information Q 20 about some of the testimony that's been provided about 21 the economic circumstances affecting some of your 22 customers that were provided at the customer hearings? 23 Α I have read summaries of the service 24 hearings. 25 Q Yeah. And you're aware that some of the

1	testimony has been about the at least for certain
2	individuals about difficult economic times?
3	MR. RUBIN: I'm going to object to the form
4	of the question.
5	Go ahead, Rosemary.
6	THE WITNESS: Yes.
7	BY MR. MOYE:
8	Q Okay. Let's move on. On page 19 you have a
9	discussion about the IHS Global Insight, that you used
10	information provided by them in your model; is that
11	right?
12	A Yes.
13	Q Okay. And do you know what the current per
14	capita income is, the average per capita income is for
15	a Floridian?
16	A Not off the top of my head.
17	Q Do you have a document or any information
18	before you that might reveal that to you?
19	A I'm checking.
20	Yes, I have that in front of me.
21	Q And what does it can you answer the
22	question now?
23	A Yes. Global Insight estimated that in 2011
24	the per capita income and this is real per capita in
25	real 2005 dollars was about just under 36,000.

1	Q And that's for 2011?
2	A In 2011. It's in real 2005 dollars.
3	Q In 2005 dollars?
4	A Correct.
5	Q Why would you use 2005 dollars for a 2011
6	projection?
7	A Because this is what goes into the
8	econometric model used to forecast energy, so they want
9	to look at not nominal dollars but real inflation
١٥	adjusted per capita income.
11	Q And is that per family or per person?
12	A It's per capita, so it's per person.
13	Q And when they do that, do they include people
14	under the age of 18, do you know?
15	A I don't know. Since it's per capita, I would
16	assume that they do.
17	Q Notwithstanding the laws in the state that
18	kids under 16 can't work?
19	MR. RUBIN: I'm sorry, Jon, I didn't hear
20	your question.
21	MR. MOYE: It was a little tongue-in-cheek.
22	I think obviously people under 16 I'm not sure
23	they are allowed to work, and I just was curious
24	as to whether that model is diluted by including
25	youngsters, people in school, if she knows.

1 THE WITNESS: I think it's the standard 2 definition of per capita income. 3 BY MR. MOYLE: 4 Q Okay. And I guess you're just not sure about 5 people underage as to whether that's in or out of the 6 standard definition? 7 I would say that it is because it's per 8 capita, which means per person. 9 Q Okay. So where would the per capita income be for 2012 and 2013, if you have that information? 10 11 Yes. For 2012 it would be -- and, again, 12 this is -- I should have given you a more precise 13 number for 2011 -- and, again, this is in real 14 dollars -- it would be \$35,600 and then for 2012, 15 \$35,900. 16 And '13? Q 17 Α \$36,400. And do they have '14? 18 Q 37,400. Again, all of these are in real 19 Α 20 dollars. 21 Thank you. Q Okay. Page 24. And I had asked you about wholesale 22 23 contracts, and those are an out-of-model adjustment. These are the -- this is at least one of the wholesale 24 25 contracts that you were referencing, am I correct, in

1 that wholesale obligations will have an increase of 2 load of approximately 1.2 percent; is that right? 3 Α Yes. Okay. And do you understand or can you Q 4 5 explain with respect to increases that are related to 6 serving wholesale contract needs, are those costs being 7 sought in this rate case, do you know? 8 Α What I do know is those are included in the 9 separation factor. So to the extent that we have more 10 wholesale, we have the separation factor, the 11 allocation to retail is smaller. 12 Okay. And then if I look at page 27, line 7, 13 you state that the moderate growth will continue in 14 2013 with net energy for load increasing by 1.1 percent 15 to 112,201 GWh; is that right? 16 Α Yes. And if I take the increase of 1.2 associated 17 Q 18 with the new wholesale contracts, would it be true that 19 if you back out the wholesale contracts, that the net 20 energy for load projected in 2013 is actually a 21 negative .1? 22 Α I think that might be right. 23 there's also an increase -- there's also an increase in 24 retail delivered sales during that year.

I just was trying to stay away from

25

Q

Okay.

1 apples and oranges. You know, I think that my 2 impression was on 24, you know, 1.2, and I that -- and 3 you're talking about the 1.2 net energy for load; is 4 that right? 5 Α Yes. 6 Q Okay. And then on page 27, you're talking 7 about overall system increase; is that right? 8 Yeah. And if I could add something that Α 9 might be helpful. 10 0 Please. 11 On 24, the 1.2 is the change -- is the impact 12 of the wholesale adjustment; it's not the year-to-year 13 change between 2013 and 2012. 14 Q Well, what time frame is it measured over? 15 Α It's what the forecast would have been for 16 2013 without wholesale load. 17 Q But your last sentence there states, quote, 18 on balance, the combination of new, expanded, and 19 terminated wholesale contracts is expected to add 1,379 20 GWh to the 2003 forecast for energy for load, an 21 increase of 1.2 percent. 22 Α Yes. I think the two figures or two pages 23 you cited are looking at different things, because on 24 24, the 1.2 percent is comparing, okay, what would the

forecast for 2013 be without wholesale, not what the

1 2012 to 2013 growth in net energy would have been 2 without wholesale, but simply what would net energy for 3 load in 2013 be without any adjustment for wholesale. 4 Whereas, the figures you quote on 2013 are looking at 5 the year-to-year change in net energy for load. 6 MR. RUBIN: You're referring to page 27 now? 7 THE WITNESS: I'm referring to page 27, yeah. 8 BY MR. MOYE: 9 Q So would it be fair to say that the -- let me 10 I think the record is clear. just move on. 11 appreciate you trying to answer that. 12 Do you feel a need to clarify it anymore? I would be happy to say it again. 13 Α 14 again, I think the number on 24, the 1.2 percent, is 15 not looking at the impact wholesale had on the change between net energy for load between 2012 and 2013; it's 16 17 looking at the net impact of just having the adjustment 18 at all. 19 So if I asked you what impact would 0 20 additional wholesale contracts have on the net energy 21 for load as you testified to on page 27, could you 22 answer that? 23 No, not off the top of my head. Α 24 0 What would you need to answer it? 25 Α A calculator and some time and my computer at

my office. 1 2 Q You might want to bring an HP when you come 3 to Tallahassee. 4 I appreciate that. 5 Q Because I may ask you that when you're on the 6 stand, so fair warning; how is that? 7 Α I appreciate it. 8 Q All right. Let me move on. 9 Page 28, your answer to whether the 10 methodology for forecasting net energy for load is the 11 same in the last rate case is "fundamentally, yes," 12 correct? 13 Α Yes. Okay. The use of "fundamentally" is a little 14 Q 15 bit of a modifier and an adjective. I wanted to ask 16 you, has there been any change whatsoever with respect 17 to the methodology used by the company in its last rate 18 case as compared to this current rate case? 19 Α Yes. And what would that be? 20 Q 21 In the last rate case, there were a number of 22 adjustments that are no longer in the current forecast. 23 In terms of last time, there was an adjustment for Energy Efficient Standards. That's no longer treated 24

as an adjustment; it's a natural variable in the model.

Last time there was an adjustment for the housing market as an out-of-model adjustment. We no longer have that adjustment as an out-of-model adjustment; we have an actual variable in the model. And I believe last time there was also an intercept adjustment, and we do not have that in the current model.

Q What's an intercept adjustment?

A An intercept adjustment was made in the last rate case on the net energy for load model, and it was an adjustment to address the fact that the model was tending to overforecast fail based on the pattern in the residual. We do not have that in the net energy for load model in this case.

Q Why did you not include it?

A In this case we didn't need one.

Q So the last case the model was projecting more customer usage; is that right, or more customers?

A What happened in the last rate case is there was -- when we calibrated, the model -- every time you calibrate a model and you do so over the historical period, we have what's called a residual, which is the difference between, in this case, actual net energy for load and what the model predicted. And there was a pattern where the model was chronically overforecasting

So we made an intercept adjustment in that case sales. to address that issue. We do not have that problem in this case and we do not have that adjustment. Q If a model was overforecasting sales, does that work in a rate case? Does that work, all other things being equal, to the benefit of the consumers or the benefit of the company? Α I don't know that it works to anybody's benefit because it's just not an accurate forecast. Ι think the objective for everybody is to have an accurate forecast. Q And when I say "to the benefit of," let me just say with respect to the economics, would that mean more money that was being sought for recovery or less money or do you know? I don't know. Q Any other changes other than the ones we've talked about? I think those are the main ones. Α We also --

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A I think those are the main ones. We also —
I should add we also have a couple of adjustments in
this case increasing our sales forecasts that were not
in the last case, and that includes an adjustment for
plug-in electric hybrids and for the additional load
from our Economic Development Rider.

Q Okay. And that's what you talked about

1	earlier with staff, I think, right?
2	A Correct.
3	Q All right. So I take it from your answer
4	then as time goes on, then some things that are outside
5	the model adjustments then get incorporated into the
6	model; is that fair?
7	A Yes.
8	Q Okay. A couple of questions on CPI and then
9	we'll be hitting the homestretch. Page 41 you have
10	some testimony about the Consumer Price Index?
11	A Yes.
12	Q Okay. And why do you include this in your
13	testimony?
14	A Because it supports, I think, the MRF that
15	calculates the O&M benchmark.
16	Q And the 7.2, that's a cumulative growth
17	number; is that right?
18	A Yes. That's the difference between the
19	Global Insight forecast for the 2013 average CPI versus
20	the actual average CPI in 2010.
21	Q Okay. And this CPI, it's applied to O&M is
22	that right?
23	A I wouldn't say it's applied to O&M, but there
24	are a series of MRFs that refer to like an O&M
25	benchmark, so it's used in that MRF.

1	Q And is the purpose of using it to suggest
2	that the cost associated with O&M will increase?
3	A That's not my understanding. My
4	understanding is it is just comparing O&Ms against a
5	benchmark.
6	Q Do you use the CPI in any of your CapEx
7	projections?
8	A I don't know if they are using CapEx
9	projections. I do know that they are provided as part
LO	of the budgeting process.
11	Q So you're aware you're seeking expenses
12	associated with Cape Canaveral in this case, right?
L3	A Yes.
L 4	Q And do you know what the numbers associated
L5	with Cape Canaveral are based on?
L6	A I do not.
L 7	Q Do you know if a CPI I guess if you don't,
18	you don't know whether CPIs apply to Cape Canaveral; is
۱9	that right?
20	A That is correct.
21	Q Okay. Let me just flip you to your rebuttal
22	on a couple of points and I think we will be done. Can
23	you explain to me abnormal weather versus normal
24	weather?
5	A I don't know if I can explain abnormal

Normal weather, as we use it in Florida in weather. developing load forecast, is based on the 20-year average of weather variable. Q So it's a 20-year average. And then what characterizes a year as normal or abnormal vis-a-vis the 20-year average? Could you repeat the question? I'm sorry. You responded that you have a Q 20-year -- 20 years of weather information. And my question is how do you use that 20 years of information to determine whether temperatures within a year are normal or abnormal? Α There would be a comparison of the two theories. Q I'm sorry? You would compare the 20-year average for a weather variable like, let's say, cooling degree hours for a particular year or a particular month. Q You compare what? Α I used the example of cooling degree hours as one of our weather variables. Q Is that the main component that is used to distinguish normal from abnormal; cooling degree hours? Α No. The model used to forecast sales net

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energy for load includes cooling degree hours and two

heating degree day variables.

Q Is temperature used?

A Temperature is -- well, of course, of all of the three things I mentioned are in effect based on temperature, because the cooling degree hours looks at each day and each hour of each day and considers how that hourly temperature compares with a base of 72. So ultimately all three of those weather variables I talked about are based on temperature.

Q And that's indirectly because you assume when it's cold people will turn on their heaters and when it's hot people will turn on their air-conditioners; is that right?

A Yes. And that's with like, for example cooling degree hours, it's based on a base of 72 degrees as the, you know, threshold where people would turn on the air-conditioning.

- Q Do you adjust for growth in the model?
- A On what model?
- Q The weather normalization model.
- A There's no weather normalization model per se. There's a model used to forecast energy, and that has various weather components. And in order to use that model to come up with the sales forecast, we assume normal values for the weather variables.

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1	Q Okay. So back on how you ascertain weather a
2	year is normal or abnormal, can you tell me currently
3	is the summer weather that we are currently
4	experiencing trending normal, abnormal, too early to
5	tell?
6	A This summer has actually been very close to
7	normal in our service territory, and that's based on
8	our cooling degree hours.
9	Q It's based on what?
10	A Our cooling degree hours.
11	Q Okay. And then how do you testify or tell me
12	that it's normal based on cooling degree hours? What
13	do you compare? I think you got to compare X to Y to
14	say, okay, it's normal, right?
15	A Yes. That would be based on the actual
16	cooling degree hours in July versus the 20-year normal
17	for cooling degree hours in July.
18	Q Okay. And do you know the actual cooling
19	degree hours in July?
20	A I don't know the actual values. I have
21	looked at it. And that's why I can tell you that it's
22	very close to normal. In fact, I think it was a little
23	bit below normal.
24	Q Okay. And when you say, "below normal," I

don't want to hold you to the numbers, but can you give

1 me an estimate in terms of percentage points? 2 It was very, very close to normal. I can't. So is there a scale based on the 3 Q Okay. 4 number of cooling degree hours that trigger as to when 5 something is normal and when something is abnormal? 6 there -- if it's a variation of more than 5 percent, 7 then that becomes abnormal, but if it's within 8 5 percent it's normal? Is there some type of approach 9 like that, or if not, can you explain to me how you 10 make a judgment normal versus abnormal? 11 I think that we would make a judgment. 12 example, for 2010 was an extreme weather year because 13 the number of heating degree days was higher than any 14 year we have based on data going back to the 1940s, so 15 that was -- that's why we used the word "extreme" to 16 describe the 2010 weather. 17 0 Okay. So do you use the number of days or 18 the number of hours? 19 For cooling degree -- for the cooling load, Α 20 we look at cooling degree hours; for heating loads, we 21 look at heating degree days. 22 Q Why the difference? 23 Α The difference is because what happens with 24 cooling degree hours, it actually looks at every hour

So it would pick up on the fact, okay, you

25

of the day.

1 may have some hours that are above 72, and it would 2 pick up all of those hours. 3 For heating load, we found that heating 4 degree days, which just looks at the average 5 temperature per day, has a better fit in the model 6 because I think what happens when people are cold, they 7 turn on the heat for that day. They're not fine tuning 8 the heat the way they might for air-conditioning loads. 9 Q Is there any data that backs up that 10 assumption that you're aware of? 11 Yes, because we found when we fit the model 12 it's got a better fit. 13 0 And what model are you referring to? 14 Α The net energy for load model. 15 Q So I guess with respect to the question as to 16 how you ascertain between a normal period of time 17 versus an abnormal period of time, you have an average 18 that you get from 20 years worth of data; is that 19 right? 20 Α Yes. 21 Q Okay. So let's just say the average comes 22 out to 100, okay? That over the 20 years, the average 23 is 100, okay? 24 Α Okay. 25 Can you assume that?

1 Α Okay. 2 And the year that is being measured, the 3 value is 120, okay? 4 Α Okay. 5 Would that be normal or abnormal? 6 I think we haven't used the term "abnormal," 7 so I'm not sure what that means. I think in terms of 8 defining something as an extreme weather year, what we 9 would do is look at the weather that year and not only 10 compare it against the 20-year normal but actually look 11 at the full distribution of the past X number of years 12 so that it's not only above or below normal, but it's 13 a -- if you form a full distribution of the weather 14 data, it's at the extreme tail. 15 Q So I want to make sure I'm using the right 16 You do have normal years, right, and you use 17 that term? 18 Α Yes, we use that for past sales. 19 Q Okav. So what is the proper term when a year 20 is not normal? 21 I think what we have used is "extreme Α 22 weather." 23 Q Okay. But based on our conversation, I'm not 24 getting a sense that there is a set percentage that 25 would need to exist with respect to variability for

something to then be considered extreme; is that right? No, we haven't -- no, I don't think it's based on a set percentage, but it would be based on the full distribution. And when you have a year like 2010 that is the coldest in any year going back to the '40s, at least to the '40s, then that would be extreme weather year. Q So how would you make a judgment if there was a year that was colder than any year going back to 1970? How would I make a judgment? It's not a judgment; it's just looking at the data. We have the data and we compare the year versus, you know, what had happened in every other year going back to 1970 or whenever. Q And who makes this judgment as to whether it's a normal year or an extreme year with respect to weather? Α Well, I think that we've made that call for 2010 because it was so extreme. Q Because why? Because it was so extreme. Q Okay. And when you say, "we," do you make that call or do you have a committee that makes it or who makes it?

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A I don't know that it was a committee. It was		
just evidence and the facts. It wasn't on the process		
at all. How we characterized the past year has no		
impact on how we do sales forecast or how we define		
normal weather.		
Q Okay. I'm just trying to understand, you		
know, in your process who makes you know,		
number one, how a judgment with respect to normal		
versus extreme is made, and I've asked a lot of		
questions about that. And then secondly, who makes		
that decision.		
A And for normal weather, it's based on the		
20-year average.		
Q Okay. And then who looks at the information		
and says, I think this is normal; is it you?		
A I calculated the 20-year normal based on 20		
years of data.		
Q Okay. And then do you make a recommendation		
or do you give that information to somebody?		
A That is used in the sales forecast.		
Q Okay. But doesn't ultimately the buck stop		
with somebody with respect to making a decision as to		
whether it's either an extreme year or normal year?		
A No.		
Q So nobody within the company ultimately says		

1 I take responsibility for looking at this information 2 and deciding that this year is a normal weather year? 3 Α There's a process where we calculate the No. 4 weather impact by year, and we just calculate the 5 We don't come up -- we don't qualify it as 6 it's abnormal. 7 But if I understood your testimony when I was asking you about is there a formula where there's a 8 9 variable of more than X percent then it is -- a 10 conclusion is that it's -- we're looking at the 11 formula -- that it's an extreme year as compared to a 12 normal year, and my understanding of your testimony is that you don't have such a process or a formula, 13 14 correct? 15 Α No, it's not needed to calculate normal 16 Normal weather is simply the average of 20 17 years. We don't throw out years, we don't throw in years; it's just an average of 20 years. 18 19 Q All right. So back to the 100-year example, 20 if we came up with the 20-year average as 100 and then 21 the year being measured was 120, would it be normal or 22 extreme? 23 Well, when you say, "the year being 24 measured" --

25

Q

Right.

1	A is that historical year?
2	Q It would be the current period that would be
3	compared to the 20 years worth of data to make a
4	judgment about weather a year in question was a normal
5	weather year or not?
6	A I think there is no judgment; it would just
7	simply be that if a certain year had 120 cooling degree
8	hours and the 20-year normal was 100, then we would say
9	that the year in question has 20 more cooling degree
10	hours than the 20-year normal.
11	Q Yeah. And my example was designed to in
12	effect show a 20 percent variability. Does that change
13	any of your testimony?
14	A No.
15	Q If you assume rather than the 100 and 120 but
16	that the variability in temperature from the year being
17	measured to the 20 years worth of data was a 20 percent
18	variance on the upside, does that change any of the
19	testimony?
20	A No.
21	MR. HARRIS: Jon, this is Larry Harris. Can
22	you finish up, the court reporter needed to leave
23	about 4:30 and it's now 4:45.
24	MR. MOYLE: Sure.
25	MR. HARRIS: So we're really imposing on her

dramatically. So to the extent you can wrap it up 1 2 pretty darn quick, I know I would appreciate it. 3 MR. MOYE: Yeah. I just have two more 4 questions, so I'll try to keep it to that. 5 BY MR. MOYE: Page 5, line 16 you state, "A decision to 6 7 base normal weather conditions on only ten years of 8 data would impact a variety of proceedings, including 9 those addressing the need determination of new 10 generation resources and demand-side management goals." 11 Can you explain how a decision to base normal 12 weather conditions on only ten years would impact these 13 two areas? 14 Α Did you say would only impact those two 15 areas? 16 I'm just asking you how the impacts would be 17 felt based on your testimony? 18 Α The load forecast for this rate case and for 19 any need determination filing or any demand-side 20 management goal docket is based on the assumption of 21 normal weather using 20 years. 22 If the Commission were to decide that it 23 should be based on normal weather using only ten years, 24 that would impact the load forecast that went into --25 that would be used for any need determination filing or

1 for any other purpose. 2 And the impact was just based on the data? 3 Α It would impact it because the load forecast 4 is based on the assumption of normal weather. 5 the Commission determines that normal weather should 6 not be based on 20 years but should be based on ten 7 years, then the load forecast for all of those purposes 8 would change. 9 Q And then on page 4 you make a 10 statement about "Using only ten years of data is 11 inconsistent with FPL's long-term generation planning." 12 Isn't it true that FPL plans are on a 13 ten-year horizon and there's a ten-year site plan proceeding? 14 15 Α There's a ten-year site plan proceeding, and 16 the load forecast in the ten-year site plan is based on 17 a normal 20-year weather assumption. And the load 18 forecast that goes in the ten-year site plan is based 19 on 20 years of weather; not ten. 20 And the last question, give me your 21 definition of normal weather. 22 Normal weather is the 20-year average of 23 weather. 24 Q And your definition of extreme weather? 25 I would say an example of extreme weather was

1 2010, because the number of heating degree days was in 2 the 99-plus percentile. 3 Q Can you define extreme weather? 4 It would be weather that is at the extreme 5 percentiles. 6 Q Okav. And I assume that we're not able to 7 lock down extreme? 8 Α I was going to offer something. 90 percent 9 or above. 10 Q 90 percent above of a variance or 90 percent 11 of what? 12 Α 90 percent of the historical weather data. 13 In other words, if you form -- if you have a full 14 history of heating degree days by year and you form a 15 distribution from low to high, the heating degree days 16 in 2010 would have been at the extreme right-hand side 17 in the 99 percentile. In other words, it had more 18 heating degree days than any prior year. 19 Q Okay. 20 MR. MOYLE: Well, I have imposed upon the 21 court reporter, and I'm sorry for doing that. I 22 didn't anticipate taking this long, but thank you. 23 Thank you, Ms. Morley, and the court reporter 24 for your patience. And I don't have any other 25 questions.

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1	MR. RUBIN: And I know that we are all
2	itching to go, but I didn't know if OPC or if
3	Mr. Hendricks had any questions.
4	MR. HENDRICKS: Hendricks no questions.
5	MR. NORIEGA: OPC no questions.
6	MR. RUBIN: Okay. Thanks very much. We will
7	exercise our right to read the transcript.
8	(Whereupon, proceeding concluded at 4:50
9	p.m.)
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8	translated under my supervision; and the foregoing
9	pages, numbered 5 through 101, are a true and correct
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2	114 W. 5th Avenue Tallahassee, FL 32303
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4	August 15th, 2012
5	TO: KEN RUBIN, ESQ.
6 7	RE: In re: Increase in rates by FP&L
8	Dear Mr. Rubin,
9	Enclosed please find your copy of the deposition of ROSEMARY MORLEY taken on August 10th, 2012, in the above-styled case.
10	As the witness did not waive reading and signing, I am
11	also attaching the errata sheet as the last page of the transcript and request that your office make the
12	necessary arrangements with your witness to read your copy of the deposition, noting any corrections on the
13 14	errata sheet, then dating and signing the errata sheet, within 30 days or before commencement of trial, whichever is first.
15	PLEASE FORWARD THE ORIGINAL, SIGNED AND DATED errata
16	sheet to LAWRENCE D. HARRIS, JR If the errata sheet or a request for an extension is not received within 30
17	days, Counsel may assume that the signature has been waived.
18	It was a pleasure working with you on this matter.
19	Sincerely yours,
20	
21	•
22	Michelle Subia
23	Registered Professional Reporter
24	Enclosures (Errata sheet and transcript.)

STATE OF FLORIDA

COUNTY OF PALM BEACH

CERTIFICATE OF OATH