BEFORE THE PUBLIC UTILITIES COMMISSION OF OHIO

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In the Matter of the Application Seeking Approval of Ohio Power Company's Proposal to Enter into an Affiliate Power Purchase Agreement for Inclusion in the Power Purchase Agreement Rider.	:	Case No. 14-1693-EL-RDR
In the Matter of the Application of Ohio Power Company for Approval of Certain Accounting Authority.	:	Case No. 14-1694-EL-AAM

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PROCEEDINGS

before Ms. Greta See and Ms. Sarah Parrot, Attorney Examiners, and Commissioner Asim Haque at the Public Utilities Commission of Ohio, 180 East Broad Street, Room 11-A, Columbus, Ohio, called at 9:30 a.m. on Friday, January 8, 2016.

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(PUBLIC PORTION.)

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CROSS-EXAMINATION (Continued)

By Mr. Kurtz:

Q. Good morning, again. Would you turn to your exhibit, confidential Exhibit 1, Mr. Wilson.

A. Yes.

Q. Okay. All right. This is sort of the non-abridged version of the public Table 1, I guess we were talking about earlier, correct?

A. It's more detailed, yes.

Q. More detailed, okay. Let's use 2016 and I want to walk through and make sure I understand the math. The net generation gigawatt hours of [redacted] that's the same as we were looking at before?

A. Yes.

Q. Okay. And that results in a [redacted] percent capacity factor we established, I believe?

A. I would have to check.

Q. Okay.

A. But sounds right.

Q. Okay. Then you have the next line is the average market energy price, [redacted] a megawatt-hour?

A. Yes.

Q. Okay. And so you multiply that by the generation and you get the energy revenues of [redacted] million?

A. No. I used hourly prices which determine the [redacted] and then I back out the [redacted] if I recall.

Q. Well, when I multiply [redacted] a megawatt-hour times [redacted] megawatt hours, I get [redacted] million,

same as what you have on line 3.

A. Correct. But the calculation was not as you suggest. I used hourly prices. The hourly prices determine the [redacted] energy revenues and then I calculate the [redacted] as the ratio of the [redacted] to the [redacted]

Q. Okay. [redacted] a megawatt-hour, is that the average price for energy in 2016 that these PPA units will earn?

A. During the hours they run, yes.

Q. Okay. So [redacted] times [redacted] equals [redacted] million.

A. Yes, that's -- your arithmetic and I believe it's mine too.

Q. Yeah, okay. Well, I thought that part was fairly straightforward. And then you get into the capacity revenue. You have the RPM and you've updated it to include capacity performance money and you get total capacity market revenues, 2016, of [redacted] is that correct?

A. Yes.

Q. Okay. The total market revenue of [redacted] million, correct? [redacted]

A. Right.

Q. That should be right, shouldn't it?

A. Yes.

Q. Yeah.

A. Ancillary service.

Q. Oh, ancillary, right. Okay, we have to add the [redacted] that's why, so [redacted] plus 5, [redacted] equals [redacted] the total market revenue?

A. Yes.

Q. All right. Then you -- then you get to the question to the cost side of the equation, the capacity cost for the PPA units in 2016 is [redacted]

A. Yes.

Q. Actually, it's kind of interesting, when you look all the way across, it's a fairly consistent capacity cost, indicating that the, at least the capacity portion of this -- of this part of the PPA units is relatively stable, would you agree?

A. Yes. This is a number that I didn't touch, of course.

Q. [redacted]

A. [redacted]

Q. Okay. Let's go back to 2016. Then you

got the energy cost from the PPA units of [redacted] million?

A. Yes.

Q. Okay. And then total cost of [redacted] you got revenue of [redacted]

A. Yes.

Q. Okay. Now, at the very bottom you have output and cost per megawatt-hour, we have the same generation number, [redacted] that you had at the very top; is that correct?

A. Yes.

Q. Now you have got an energy cost per megawatt-hour of [redacted] correct?

A. Yes.

Q. That would simply be -- where is the energy cost? The energy cost of [redacted] million divided by the [redacted]

A. Yes.

Q. Okay. Now, so in 2016, let's go back to the market energy revenue, second line, of [redacted] megawatt-hour, are you back up there?

A. Yes.

Q. Okay. And then the energy cost of [redacted] correct?

A. Yes.

Q. So these -- these units earned an energy margin of [redacted] per megawatt-hour in 2016; is that correct?

A. It sounds right on average.

Q. Okay. So the more -- because there was a positive energy margin of [redacted] the more these units would run, the more energy margin it would make?

A. During those hours.

Q. Okay. That's -- okay. That's a -- well, okay. Let me -- move on to -- let me just, I want to use these other years 2019, where the generation from the units is [redacted] megawatt-hours, correct?

A. Yes.

Q. Okay. We determined that was a [redacted] percent capacity factor?

A. I'll accept.

Q. Okay. And then we have, in 2019, the average market energy price is [redacted] per megawatt-hour; is that right?

A. Yes.

Q. Let's go back down to the costs, the energy costs is [redacted] per megawatt-hour, correct?

A. Yes.

Q. So in 2019 these units earned an energy

margin of [redacted] per megawatt-hour, correct?

A. Yes.

Q. So they were still earning a large energy margin, but your model has these units running only [redacted] percent of the hours of the year, correct?

A. Yes. I have them running in the hours when they can make a margin. That includes a lot of very high price hours when they make not $10, but 50 or $100.

Q. Is that the way your energy -- is that the way -- you scaled back the AEP energy forecast based upon the futures? Scaled up or modified?

A. Yes.

Q. Okay. So let's go to 2022 where you've got [redacted] megawatt-hours of generation. Do you see that?

A. Again?

Q. 2022, the [redacted]million megawatt of generation for the year?

A. Yes.

Q. [redacted] percent capacity factor?

A. Yes.

Q. Okay. Now, the energy price that they were getting was [redacted] correct?

A. In the hours they ran, yes.

Q. Okay. And the energy cost was [redacted] per megawatt-hour, correct?

A. Yes.

Q. So in this year they earned [redacted] per megawatt-hour in margin, correct?

A. On average in the hours that they ran, correct.

Q. Now, do you -- do you look at power plant financials on kind of a regular basis?

A. No.

Q. These are huge energy margins. These are really -- do you agree, big, [redacted] dollars a megawatt-hour in energy margins?

A. Well, this reflects the fact that these plants don't run very often but they tend to run in the very high-priced hours. And within the scenario I used, there was quite a dispersion of prices including some prices that where they -- some hours where they probably made a margin of $100.

Q. Now, when these run [redacted] percent of the hours of the year, is your model assuming they are going to be up June, July, and August, and then shut down for the rest of the months? How do you -- how do you explain such a low capacity factor coupled with such a very high energy margin?

A. Well, if you recall --

Q. Why wouldn't your model assume these run many more hours if they are making this much money per megawatt-hour?

A. If you recall in my direct testimony, as a sensitivity analysis, I did what I called a "perfect dispatch scenario" where I said let these plants run full out in every hour where they can make any margin at all, okay? So I didn't base it off of the generation that was in the low load case. I just said in every hour when these plants, on a variable cost basis, make anything, let them run full out. And if you recall, that made a very small difference to my result. These results reflect -- these plants running pretty much in all the hours when they can make money and that includes a lot of hours when they make a 50- or 100-dollar margin because they are high-priced hours.

Q. Show me -- show me --

MR. MICHAEL: One moment, Mr. Kurtz. I don't know that Mr. Wilson was done with his answer.

A. Go ahead.

Q. Show me -- show me the $100 megawatt-hour margin, energy margins in your -- where are those hours?

A. If you look in my workpapers, I have 87.60 hourly prices for each year, which are based on the low load case scaled and some of those prices are over $150.

Q. Did you -- do you think in the real world you could actually operate baseload coal plants at [redacted] percent capacity factor?

A. I think that sounds like a -- probably an uneconomic plant.

Q. Why does your model assume that then?

A. My model doesn't assume that. My model says here is the plant. Here is its variable cost. Here are the hourly prices. Let it run whenever it can make money and that's how much money it makes.

Q. But if your model didn't assume it and your model is producing that result, if it is producing an absurd result or unrealistic result, shouldn't you take another look at the model.

MR. MICHAEL: Objection, your Honor, how Mr. Kurtz characterized Mr. Wilson's results. He can ask him a question, but to testify about what he thinks the results are is inappropriate.

Q. If your model is producing a counterintuitive, uneconomic result, shouldn't you take another look at the model?

A. Well, there is nothing counterintuitive to it. I used the variable costs. I dispatch them according to the prices that are created in the way I described which are consistent with forward prices. The only thing I, perhaps, should have done is to come up with a rule and shut some of the plants down and just plain shut them down. That would have been something I could have done and that would have reduced the impact.

But under the PPA rider, there wouldn't be any incentive to shut any of the plants down because the costs are being passed through. So I assumed that despite being very uneconomic, all the plants would continue to run, would run in every hour where they could make a penny on a variable cost basis, and all the costs and revenues would be passed through. That's what I assumed.

Q. Have you looked at your -- the capacity factors that result from your model compared to actual historical results?

A. I agree they are very low. But this is a new world we are in now with natural gas in the Marcellus and Utica pushing out, driving down forward prices. It's a new world and that's just the way things are right now.

Q. Now, did -- well, this new world didn't just happen today. It's been a new world for several years, hasn't it?

A. No, just a few years where it's sinking in that this isn't a short-term thing. This is a long-term thing.

Q. Well, have you looked, over the last few years, to see if the capacity factors of these plants are in the neighborhood of what your model indicates they will be?

A. Well, those lower factors are in the future years, but.

Q. As early as 2019 you have got the capacity factor dropping [redacted] percent to [redacted] percent, right?

A. Yes.

Q. Did you look at actual historic numbers to see how your model outputs compare to the real world?

A. Well, I am not sure what you are suggesting but, yeah, a plant that runs that infrequently sounds like a reliability, must-run type plant. It's either under some sort of cost support or we would probably be shut down.

Q. Let me ask you to take a look. This is in the record. This is -- was attached to the testimony

of Sierra Club Witness Chernick, Sierra Club Exhibit 37. This is Mr. Chernick's Exhibit 3 which is a data response from AEP.

Mr. Chernick, do you have -- I'm sorry, Mr. Wilson, do you have Mr. Chernick's exhibit?

A. I have something in front of me, yes.

Q. Okay. Let's turn to I guess it's called page 1 of 7 Confidential Attachment 1, Sierra Club, where it has the 2010 plant performance data. Do you have that?

A. Yes.

Q. Okay. Now, availability factor, that's how often the plant is able to run, correct?

A. Yes.

Q. And then the capacity factor is how much it actually does run?

MR. MICHAEL: Your Honor, I am going to object to questions about this document at least at this stage for two reasons. Apparently it was produced in connection with the first phase of this proceeding, and Mr. Wilson testified in the first phase of this proceeding, and Mr. Kurtz had the opportunity to cross-examine him, No. 1.

And then, No. 2, it hasn't been established at all that Mr. Wilson has ever seen this

document before, and I think it's unfair to put it in front of him and ask questions about it when that hasn't been inquired into yet. Thank you.

MR. KURTZ: This is -- do I need to respond?

EXAMINER SEE: Go ahead.

MR. KURTZ: It's already in the record. This is -- this is -- he's changed his capacity factor assumptions from his original case to this -- to this part. He has made the capacity factor even lower so this is the actual capacity factor data of the plants, and I simply want to inquire -- want to compare what really happened to what the witness projects will happen.

EXAMINER SEE: Okay. Well, Mr. Kurtz, let's start with the second part of Mr. Michael's objection first.

MR. KURTZ: Did he ever look at it?

Q. (By Mr. Kurtz) Did you review the discovery in the first part of the case?

A. Some of it, yes.

Q. Did you review the capacity factor data?

A. I don't recall if I saw that or not.

Q. Okay. Do you understand what's being represented on these pages that's already in the

record?

A. People mean different things by some of these terms, but I think I can kind of guess what was probably intended.

Q. Now, come on. You guess or do you understand what capacity factor and plant availability factor and forced outage rates are in the utility industry?

A. Those are used in different -- slightly different ways in different contexts and the question associated with this table is not -- I don't see the question associated with this table.

Q. Do you understand -- you understand what a forced outage rate is, don't you?

A. Yes.

Q. You understand what an availability factor is, don't you?

A. That's a term that can be used in different ways, but I can guess what was probably meant in this context.

Q. And you know what capacity factor is, don't you?

A. That's another term that's used in different ways, but it probably means how much it actually ran as a fraction of its installed or rated

or maximum capacity.

Q. Right. And you understand what heat rate is?

A. Yes.

Q. Okay. So for 2010, let's just look at Cardinal 1, for example.

MR. MICHAEL: I apologize to interrupt, Mr. Kurtz. There was also the first part of my objection. Sorry, your Honor.

EXAMINER SEE: Just a second. Restate the first part of your objection, Mr. Michael.

MR. MICHAEL: Certainly, your Honor. As Mr. Kurtz has acknowledged, this document was part of the record in the first session in this case. Mr. Wilson was available for cross-examination in the first session of this case. Mr. Kurtz had an opportunity to cross-examine Mr. Wilson at that time and we are now in a second and different phase of this case. And your Honors have made it very clear that we should direct our questioning to what is at issue now rather than things that could have been gone over previously, so that was the basis for my objection.

MR. KURTZ: I could not have gone over it previously because he has lowered and changed his

capacity factor assumptions or outputs from the first part to now. So the capacity factors numbers we were talking about earlier are different than the first part of the case. They are lower.

EXAMINER SEE: I'll allow it. Go ahead, Mr. Kurtz.

MR. KURTZ: Thank you, your Honor.

Q. (By Mr. Kurtz) Cardinal 1, in 2010, was available to run 74.73 percent of the time, and it actually ran 69.14, correct?

A. Yes.

Q. Okay. I don't want to go line by line, but you can see that the capacity factor is certainly -- for all these units in 2010 were, let's just say this, nowhere close to [redacted] percent any time, correct?

A. Correct.

Q. Okay.

A. I don't know about "any time." These are annual results.

Q. Well, your result was annual too, the [redacted] percent in 2022, and 22.5 percent in 2019, correct?

A. Okay. But you said "at any time," and we are talking about an annual average.

Q. Yeah. I mean, not on an hour. An hour, it might be out for a planned or forced outage and have zero availability and zero capacity factor, right?

A. Right.

Q. So 2011, I just to go down, let's just pick up, Stuart 1 was available 86.81 percent of the time and it actually had a capacity factor of 75.41 percent, correct?

A. Yes.

Q. Zimmer, 69.73 percent availability, and it actually ran 59.3 percent hours of the year, correct?

A. Yes.

Q. Okay. So, again, these capacity factors, we don't have the fleet average, but are in the [redacted] percent range, would you agree? We probably want to weigh them by the megawatts of the units, but it's certainly -- they are certainly not in the [redacted] percent range or [redacted] percent range.

A. Correct.

Q. Okay. 2012, again, similar results, capacity factors were down. This is -- this is a funny year, because this is the baseline year of the AEP Clean Power Plan, they used a bad coal year, but you can still see that the capacity factors are in

the 40, 50 percent range, correct?

A. Yes.

Q. 2013, kind of similar results, capacity factors have improved and they are in the 50, 60 percent range?

A. Yes.

Q. Okay. And these are when the plants were being operated on a merchant basis, correct? These -- AEPGR owns these plants and they are dispatching them and they're maximizing revenue and so forth, correct?

A. I don't -- I can't testify to that, no.

Q. Okay. Turn to page 5 of 7 and they've got data in 2014. Here is an interesting one, Cardinal 1 in April, you have zero availability and a zero capacity factor. It must have been out for planned outage or something, correct? Forced outage.

A. Correct.

Q. Probably planned in the spring. But, in any event, you can see Cardinal 1 had 100 percent availability in September, '14, and it ran 93.82 percent of the hours of the year, correct?

A. I didn't catch up with you.

Q. In any event, let's just -- my point in looking at these is that in the real world, 2010,

'11, '12, '13, '14, the capacity factors of the baseload coal units was considerably higher than 10 or 20 percent, would you agree with that?

A. Yes, in the historical world, it was.

Q. Now, did you look at the discovery in the new phase of the case?

A. Some of it.

Q. Did you look at the -- did you look at the capacity factor data requests that the PJM Power Providers asked from the company?

A. Probably not.

Q. Well, why didn't you look at it?

A. I don't know if I looked at it or not.

Q. Let me ask you if you have.

MR. KURTZ: I guess I would mark this as OEG Exhibit 4. That's in the record already.

EXAMINER SEE: And this is Sierra Club 39, not 37, the confidential exhibit, as opposed to 37, which what I think you put in the record, Mr. Kurtz.

MR. KURTZ: Thank you. If we could have this marked as OEG Exhibit 4.

EXAMINER SEE: I'm sorry, OEG exhibit?

MR. KURTZ: 4.

(EXHIBIT MARKED FOR IDENTIFICATION.)

Q. Did you look at this capacity factor data?

A. No.

Q. You did not?

EXAMINER SEE: Mr. Kurtz, if you are going to put this in and mark it, could you please describe it in the record.

MR. KURTZ: Yes. This is a PJM Power Providers Group and Electric Power Supply Association discovery request, first set, No. 15. This is the response provided by AEP to that request, showing the capacity factor, availability, heat rate, and forced outage or random outage rate for each of the -- for each of the PPA units on an updated basis through 2015. So this is really the same data we were looking at before, only the most current.

MR. MICHAEL: And, your Honor, I would ask, before any questions are asked of Mr. Wilson about this document, it's apparent that OCC and the company were thinking similar things because the company objects before providing the response to the interrogatory because it is not uniquely related to the phase of this stipulation. So I would reiterate my objection to this document and I assume the company will make the same objection before any questions are asked.

MR. KURTZ: Well, I would say this, that

the capacity factor output from Mr. Wilson's model changed from the first part of the case to the second part of the case here. The capacity factor is obviously important because it shows how many megawatt-hours these units ran and how much energy margins that they made. And this is just simply the most updated current information. I think it's certainly relevant and would be helpful for -- to the Commission when deciding -- when deciding this case. Good, hard data, there's nothing speculative about it.

MR. CONWAY: Your Honor, I would just also point out that the objection was really addressed directed to the data from the 2004 through 2009 period that was requested. That was the focus of the objection and it was not provided.

MR. KURTZ: Oh, I see. This is only 2015. This is only the most current.

MR. MICHAEL: The company can certainly waive the objection that's actually in the document if it chooses, but that mischaracterizes the nature of the objection in response to the interrogatory, and obviously the company can waive that if they want, but I still assert my objection.

MR. CONWAY: The objection was to the

earlier data we provided, not the more current data.

EXAMINER SEE: I see that. Your objection is noted and, Mr. Kurtz, you can continue with your questions.

MR. MICHAEL: Thank you, your Honor.

Q. (By Mr. Kurtz) Let's just look at Cardinal 1 for January through October of 2000 -- yeah, January to October of 2015, Cardinal 1 had a capacity factor of 67.85; is that correct?

A. Yes.

Q. Now --

A. Net.

Q. Yeah, and certainly whenever -- I know gas prices are down in the last couple of months but they have been down for quite a bit. I mean, when you indicated that the new world order in gas is a couple, three years old, et cetera. Even that, even given that, the Cardinal units still ran at a fairly high capacity factor in 2015, wouldn't you agree?

A. Apparently so.

Q. Conesville 4, 45.13 percent capacity, not so good, but still, is that -- how would you characterize that capacity factor?

A. Which --

Q. Conesville 4.

A. Not too good.

Q. Okay. Conesville 5 has got a capacity factor of 39.44 percent, still higher than the [redacted] to [redacted] percent, correct?

A. Correct.

Q. Okay. Conesville 6, I think this is one of the units we want to convert to gas, but it's 30.88 percent. That's probably the worst. That's -- that's not a great capacity factor. Can you characterize it at all or would you care to?

A. Not very good. Agreed.

Q. Stuart in 2015, 51.19 percent, correct?

A. Yes.

Q. Stuart 2, 50.62 percent, correct?

A. Yes.

Q. Stuart 3, 42.48 percent, correct?

A. Yes.

Q. Stuart 4, 49.96 percent, correct?

A. Yes.

Q. And then Zimmer, lowest heat rate, pretty sure, 63.42 percent, correct?

A. Yes.

Q. Okay. So even in today's low gas environment, these units are still dispatching above the [redacted] to [redacted] percent range, would you agree with

that?

A. Yes.

MR. KURTZ: Okay. Your Honors, those are all my questions.

EXAMINER SEE: Mr. Conway.

MR. CONWAY: Thank you, your Honor.

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CROSS-EXAMINATION (Continued)

By Mr. Conway:

Q. Could you turn to Exhibit JFW-2 to your supplemental direct testimony.

A. Yes.

Q. And the the curve or the line you have displayed on JFW-2 for the AD hub peak forwards, do you see that?

A. Yes.

Q. Now, first of all this draft shows annual averages of peak hour price, correct?

A. Yes.

Q. So the data points that compose the curves, for example, the AD Hub peak forwards curve is a series of data points of averages, right?

A. Yes, 12 consecutive months.

Q. So is it -- are the data points based on rolling 12-month averages?

A. Yes.

Q. Okay. And I notice that the data points in the curve stops at, it looks like, 2019. Do you see that?

A. Yes.

Q. And is that related to the point that we established earlier in the cross which is that you stopped using the forwards after October of 2020?

A. Correct.

Q. Okay. And then with regard to if you could turn your attention to, again, to Exhibit JFW-1, I believe that in your conversations with Mr. Kurtz you established that for 2019 the capacity factor that's implied by the results that you've predicted would be in the [redacted] percent area; is that right?

MR. MICHAEL: Objection. Asked and answered.

MR. CONWAY: This is foundational, your Honor.

A. I think that's correct.

Q. And then I think we also established that for 2022, the capacity factor based on the results that you've provided would be [redacted] percent?

A. Yes.

Q. In the course of your analysis, did you apply your forecasted prices for wholesale energy as you did to the PPA units, did you try to apply those prices to the entire PJM generation fleet to see what the results would have been?

A. No.

Q. So you don't know whether, when you take your approach and apply it on a more macro level, what those results look like, correct, as far as the operation of the units?

A. Correct.

Q. And so would it be fair to say that you did not conduct that type of a check or sanity check for your work?

A. Well, it's not a sanity check. My price assumptions are consistent with forward prices. So the sanity check would be to the forward price assumptions, to the forward prices which reflect the consensus of market participants.

Q. What you did is -- what you did with the forward prices was develop a new set of wholesale market energy prices, correct?

A. Correct.

Q. And the prices that AEP Ohio relied upon that you adjusted, they were prices that applied

throughout the market area, not just to the PPA units, correct?

A. Throughout some region. I don't remember how granular the prices were within the model.

Q. So you don't know whether Mr. Bletzacker's wholesale energy prices were designed to project prices on a national level or regional level?

A. I believe they would have been different from point to point. So I don't remember quite the geographic extent of those particular prices but, I would hope they wouldn't be over a very large area because -- because PJM uses locational pricing and prices vary by node.

Q. But you didn't apply your adjustments to the wholesale prices that Mr. Bletzacker generated for the wider area and then look to see how your adjusted prices would have affected the operation of the generation fleet in the wider area, did you?

A. No. These plants are all AH hub location and I used AH hub forwards. It wouldn't really be appropriate to apply them to the broader region or to a constrained region where prices are higher.

Q. In any event the point is you didn't look to see whether if your methodology was applied on a much broader scale what the results would be?

MR. MICHAEL: Objection. Asked and answered.

A. No.

Q. Okay.

MR. MICHAEL: Wait for a ruling, Mr. Wilson, when I object.

THE WITNESS: I'm sorry.

MR. CONWAY: Your Honor, no further questions.

EXAMINER SEE: Any redirect for this witness?

MR. MICHAEL: May I have a moment with the witness, your Honor?

EXAMINER SEE: Yes, you may.

MR. MICHAEL: Thank you very much.

EXAMINER SEE: Let's go off the record.

(Discussion off the record.)

EXAMINER SEE: Let's go back on the record.

Mr. Michael?

MR. MICHAEL: Thank you, your Honor.

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REDIRECT EXAMINATION

By Mr. Michael:

Q. Mr. Wilson, do you recall your discussion

with Mr. Kurtz regarding the historical capacity factor and the capacity factor produced by your model?

A. Yes.

Q. Could you please explain why your model produced a lower capacity factor than the historical data that you talked to Mr. Kurtz about?

A. Yes. As I explain in my direct, in my analysis I call for the plants to run only in those individual hours when, on a variable cost basis, they can make some money.

Now, a more realistic dispatch would reflect the fact that coal plants are slow ramping and they typically can't catch hour by hour. They can't be running one hour when the price is high and be off the system entirely when the price is low.

So a more realistic dispatch would have them running in a lot of hours when they probably lose a little bit on a variable cost basis but have to be there in order to capture adjacent profitable hours. So I didn't do that sensitivity analysis but I could easily do a sensitivity analysis that would have much higher capacity factors but slightly greater losses.

And my goal was to make a conservative

analysis with respect to estimating the cost to customers of the PPA, and because of that I made the very generous assumption that the plants could get off entirely whenever they would even lose 10 cents on a variable cost basis.

I could run a sensitivity analysis that would probably get those capacity factors up much higher by running them in many, many hours when they would lose a dollar or two because there are a lot of hours clustered around their variable cost levels as you would expect because there are other coal plants running at that level. I haven't done that, but I could.

And all this focus on capacity factor, you know, I could probably do another case with much more -- much closer capacity factors to historical, but they would have slightly greater cost to customers of the -- of the PPA.

MR. MICHAEL: Thank you, Mr. Wilson.

Nothing further, your Honor.

EXAMINER SEE: Mr. Kurtz?

MR. KURTZ: Yeah.

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RECROSS-EXAMINATION

By Mr. Kurtz:

Q. Mr. Wilson, I understand what you just said. Here is what I still am really puzzled about under the outputs of your -- when you show that the plants are making 10, 11 dollars a megawatt-hour on the energy side, how -- how can they not run more? How can the capacity factor not be higher in your modeling? Those are -- that's what I still, I just fail to understand.

A. What you are not visualizing is that the prices that I used based on the low load case are hourly prices that vary hour by hour and some of those prices are very high. I mean, they are a realistic set of prices that have a lot of dispersion reflecting, you know, heat waves, cold periods, and all the things that affect energy prices.

And some of those prices are well over $100. The $10 is an average of many hours when the plants made 1 or 2 or 3, quite a few hours when they made 5 or 6 and a few hours when they made 100 or $150 on a variable cost basis.

Q. The futures don't reflect the realtime variability that you are talking about. The futures are by month and they are on average and they don't reflect that type of realtime variability. I don't understand how you can -- how you can say that.

Explain -- explain that to me.

A. Okay. I used the hourly prices from Mr. Allen's analysis in the low load case and from the PPA rider estimate. Those prices varied by hour, okay? I used the forward prices to adjust those hourly prices so that they would average the forward prices. So I still used prices that vary by hour and are all over the place.

Q. Even Mr. Bletzacker's model, surely the prices are higher in the summer peak months versus the spring off-peak hours. But they don't have the type of realtime variability, $150 a megawatt-hour, that you are talking about, either their numbers or your -- your forward extrapolated numbers.

A. That's not correct. The prices that I used are as high as $200 a megawatt-hour and they vary all over the place. There's a couple of zeros in there, but there are some as high as $200 per megawatt hour. They were hourly -- a realistic set of hourly prices that reflect some heat waves and other things that go on.

Q. That was in Mr. Bletzacker's analysis?

A. In the source prices that I used from the low load case varied between 0 to, if I recall, a few of them were over $200 a megawatt-hour.

Q. Well, they certainly didn't go down to zero. The energy pricing went to zero?

A. I believe there were some very low prices. These sort of things happen when there are nuclear plants overnight and wind that won't get off the system.

Q. I understand that as well. But you say there was zero hour -- zero energy pricing in your analysis as well?

A. I believe there may have been some hour -- I believe there was some hours in the input data when prices hit zero.

Q. Okay. And you haven't done that sort of alternative sensitivity analysis you described with your attorney, did you?

A. No, I haven't.

MR. KURTZ: Okay. All right. Thank you, Mr. Wilson.

EXAMINER SEE: Mr. Conway?

MR. CONWAY: No further questions. Thank you, your Honor.

EXAMINER SEE: I believe OCC has already moved for the admission. Let's go back to the public portion of the transcript.

(OPEN RECORD.)

Summary: Transcript of Proceedings Volume XXII Redacted Public Version electronically filed by Mr. Steven T Nourse on behalf of Ohio Power Company