MS. LINK: I'm not asking for admission at this time.

CHAIRMAN CHRISTIE: -- I'm not speaking for him. He might say, yeah, I -- I sponsor it. But he doesn't have to. But one of your rebuttal witnesses can -- can sponsor it for admission.

MS. LINK: Absolutely.

CHAIRMAN CHRISTIE: And you could certainly ask him about it as a demonstrative chart, so.

MS. LINK: Right.

CHAIRMAN CHRISTIE: Do you need more time to look at it?

THE WITNESS: I don't need more time. I'm not going to sponsor it, because I haven't reviewed this in detail.

CHAIRMAN CHRISTIE: Well, she can ask you about it, and you can answer as best you can.

THE WITNESS: Okay.

BY MS. LINK:

Q. You said you haven't reviewed it in detail. Have you seen it before? Or pieces -- pieces of it?
A. I have not seen this before, no.

Q. Okay. So -- and when you said part of the scope -- you said it was outside your scope to dissect the PJM load forecast but it was part of the agreement to evaluate?

A. Evaluate what?

Q. The PJM forecast or at least --

A. No, it was just within our scope to put it in the report to compare ours --

Q. Okay.

A. -- graphically to theirs.

Q. Okay. And in terms of the source of your data for all of your charts, where it states PJM, did you get it from somewhere else other than this load forecast report?

A. No. It would most likely come from this. I'm just saying I haven't read the verbiage of this --

Q. Okay.

A. -- document that you're citing.

Q. No problem. No problem. Okay. I'm just putting up page 1 of the executive summary. And on bullet 3, it states that the econo -- economic forecast used was
Moody's Analytics September 2017 release.
Do you see that?
A. I do see that.
Q. So related to our discussion of econometric variables --
A. Um-hum.
Q. -- is Moody's Analytics one such econometric variable?
A. That is my understanding, yes.
Q. Okay. And does this sentence mean to you that PJM uses an economic forecast from Moody's?
A. Yes, I would agree with that.
Q. Okay. All right. So going back to our discussion we just had about your charts on page 31 of the Drilling Info report, turn to the slide that is marked 19 on the bottom. And it's the PJM summer peak load growth rate 2018 to 2028.
Do you see that?
A. Yes.
Q. If you can, from looking at that chart, can you tell us which zone has the highest growth rate in PJM for the summer peak?
A. From this chart, it appears DOM Zone.

Q. DOM Zone. Okay. And that's at .8 percent?

A. Correct.

Q. Okay. So PJM thinks there will be growth in the DOM Zone over this period, correct, in the -- in summer peak?

A. That would appear to be so, yes.

Q. Okay. And turning to slide 20, the PJM winter peak load growth rate, 2018 to 2028, can you review that slide and tell us which zone is the highest growing zone for the winter peak?

A. DOM Zone.

Q. Okay. And that would be at .9 percent?

A. Correct.

Q. So PJM believes there will be growth over this ten-year period in both the summer peak and the winter peak?

A. Yes.

Q. Highest in PJM?

A. It appears to be so from their report.
Q. Okay. All right. I'm -- I'm going to introduce this through my own witness. I presume you're not going to sponsor this for me.
A. I am not, nope.
Q. Okay.
CHAIRMAN CHRISTIE: That's fine. You can introduce it through your own.
MS. LINK: All right. So it's marked for identification. We'll come back to it.
CHAIRMAN CHRISTIE: It's -- yeah, this is Exhibit 34.
MS. LINK: 34, thank you.
BY MS. LINK:
Q. So just to close out this piece, Mr. McBride, on page 32, you've got the summer non-coincident peak load forecasts. And, once again, on the bottom slide, you have compared yourself to PJM, where PJM has an upward slope to their line and you have a more straighter slope to your line, so you're forecasting less growth, so to speak, than PJM?
A. I would agree with that, yes.
Q. That's correct, okay.

Let's talk -- turn to page 38 of your report. This is on the Dominion Energy Virginia data centers. Maybe you could just overview how you all came up -- well, let me ask this.

Did you make any kind of adjustment for data center load growth in your forecast?

A. No. So our methodology considers historical load and identifies patterns in that. So the existence of data centers in that historical load would be picked up, but we would not be able to identify in our forecasts which portion of it is attributable to data centers.

Q. Okay. So then if your forecast is fairly flat or with very minimal growth, it would stand to reason that any of that growth could be data centers, could be not, but you're not adding any increment for data centers?

A. We don't add something specifically attributable to data centers.

Q. Okay. Let me take you back to
Exhibit 34, page 2 of the executive summary.
And I'm just going to let you look at that second bullet, and then I'll ask you a question with the sub-bullets, please.

A. Okay.

Q. All right. So I'm -- I'm focusing on the second sub-bullet that states, "The forecast of the DOM Zone has been adjusted to account for substantial on-going growth in data center construction, which adds 160 to 560 megawatts to the summer peak from 2018 through 2022 before declining to 210 megawatts in 2033."

Do you see that?

A. I see that.

Q. Okay. Do you have any knowledge of the data center growth happening in Virginia?

A. I have knowledge that it's a common theme that's discussed and the evidence is quite broad, which I would also say this statement supports that in a wide range of 160 to 560 and also would draw attention to the fact that it also expects a decline all the way back to 210.
And we requested from the Company information regarding data centers. And the information that was provided us actually showed a decline in growth, which most likely, without any other evidence, is attributable probably to the expectation of efficiency gains.

So I would argue that we would be happy to delve deeper into the contribution of data centers, but we weren't provided that evidence upon request, and would likely argue that the expectation is inconclusive at this stage as to what.

So, yes, there may be significant growth, there may be very little growth, and there may be declining growth due to efficiencies. So I wouldn't speculate myself on what the actual growth will be due to data centers.

Q. Okay. So you don't have an independent opinion on what the growth in data centers would be in Virginia?

A. I do not.

Q. Okay. And do you have any knowledge of -- we had discussion earlier in
the proceeding about the vast diffusion
model and the regression models used for
forecasts of data center load that the
Company did.

Did you analyze that?
A. I did not analyze that.
Q. You didn't analyze that methodology?
A. I did not.
Q. Okay. Was that in your scope of work?
A. It was not.
Q. But you're not saying that there
won't be any data center growth, are you?
A. I'm not going to speculate on
whether there will or will not be any data
center growth.
Q. Do you think PJM was wrong in
their quantification?
A. I'm not going to speculate on
whether PJM is right or wrong.
Q. Do you have an opinion on whether
there will be data center growth based on
your own expertise?

MS. MACKO: Your Honor, I' going
to object. It has been asked and answered a couple of times.

MS. LINK: I don't believe I asked him -- he has his own opinions.

CHAIRMAN CHRISTIE: Well I'll overrule it. He can answer it. He's -- yeah, he's an expert witness, and -- and I think you got a couple answers, but go ahead and ask this one and --

BY MS. LINK:

Q. Do you have an opinion on whether there will be data center growth in the DOM Zone or DOM LSE based on your expert opinion?

A. I do not have an opinion on whether there will be data center growth specifically in the DOM Zone.

Q. Okay. I'm going to go to page 36 of your report. I think this is a chart we've seen before in this proceeding, DOM LSE Non-Coincident Peak Load Forecast: 2009-2017 DEV Historical IRP Forecasts.

Do you see that?

A. Yes.

Q. Okay. My question is this --
these black bars are — show — are
intending to show actual. Do you see that?

A. I see that, yes.

Q. Did you account for adding back
DSM or behind the meter solar in the actual
bars?

A. We did not. These are the actual
reported values that we --

Q. You did not?

A. Correct.

Q. Okay.

MS. LINK: All right. That's all
I have, Your Honor.

CHAIRMAN CHRISTIE: Okay. Any
redirect?

MS. MACKO: No, Your Honor.

CHAIRMAN CHRISTIE: Thank you, Mr.
McBride.

THE WITNESS: Thank you.

CHAIRMAN CHRISTIE: Let's take a
15-minute break and when we have two Staff
witnesses left, I'm sure we will get a lot of
cross, and then we'll -- and so we'll take a
15-minute break and then we'll come back and
do those two from the Staff.
So let's see. I've got 10:47.

We'll come back at 11:05.

(A recess was taken at
10:48 a.m., after which the hearing resumed
at 11:07 a.m.)

THE BAILIFF: All rise. The

Commission resumes the session. Please be

seated.

CHAIRMAN CHRISTIE: Next Staff

witness?

MS. CARR: The Staff calls Earnest

White.

CHAIRMAN CHRISTIE: Okay.

Whereupon--

ERNEST WHITE, Jr.,

having been first duly sworn by the Bailiff,

was examined and testified as follows:

DIRECT EXAMINATION

BY MS. CARR:

Q. Good morning. Please state your

name and the position you hold with the

Commission.

A. My name is Earnest J. White. I am

a senior utilities analyst with the

Commission's Division of Public Utility
Regulation.

Q. And did you prepare and file testimony in this proceeding on August 24th, 2018?

A. Yes.

Q. Do you have any corrections or updates to your testimony?

A. Yes. On page 13 of my prefiled testimony, in Staff Table 1, in the second row of the column labeled 2018 IRP, insert 16,423.

And on page 14 of my prefiled testimony, in Staff Table 2, in the second row of the column labeled 2018 IRP, strike 16,526 and insert 16,426.

Q. And if I asked you the same questions today as those in your prefiled testimony with this -- these updates you just provided, would your answers be the same or substantially the same?

A. Yes.

MS. CARR: Your Honor, on August 24th, 2018, Mr. White prefiled testimony in a public version only, consisting of a summary page, 32 pages of questions and answers, and
At this time, Staff asks that Mr. White's testimony be marked and admitted into the record subject to cross-examination.

CHAIRMAN CHRISTIE: Okay. White direct will be Exhibit 35. White direct.

(Exhibit 35 was marked for identification.)

CHAIRMAN CHRISTIE: Is there any objection? It is admitted.

(Exhibit Number 35 was received into evidence.)

BY MS. CARR:

Q. Mr. White, have you reviewed the Company's rebuttal testimony in this proceeding?

A. Yes.

Q. And do you have any comments on the Company's rebuttal testimony?

A. Yes. While I have read the Company's rebuttal and have not changed my conclusions as filed in testimony, I would like to briefly clarify some areas of comments in the Company's rebuttal.

My surrebuttal will focus on the
Company's renewable energy credit, or REC, forecast; my comment -- my recommendation for the Company's reserve calculations; and the accuracy of the Company's load forecasts historically.

Q. Company Witness Scheller indicates that the Company's REC price methodology assumes that the market will be driven by economic principle and does not account for non-economic drivers.

Do you believe this methodology is appropriate for REC price forecasts?

A. No, I do not. As was discussed earlier in these proceedings by Company Witness Thomas, the REC projection is a placeholder for a minimum necessary REC price. Staff has little confidence that the Company's results have any predictive value.

The REC price is significant in the Company's PLEXOS modeling. And to the extent that any of the Company's assumptions fail, an unquantified risk would transfer to ratepayers as discussed by Staff Witness Abbott.

As such, Staff agrees with
Ms. Scheller's recommendation to consider alternative drivers and change cases in future IRPs.

Q. Company Witness Thomas states that he is confused by your recommendation for reserve calculations. Will you please clarify your recommendation?

A. Yes. Mr. Thomas states, on page 49, that he "can only assume that Staff Witness White is suggesting using the PJM DOM Zone coincident peak forecast adjusted for the PJM reserve requirement, what is now 15.8 percent."

Simply to clarify, this statement correctly describes my recommendation, and I stand by Staff's recommendation that the Company provide this exact comparison in future IRPs for the Commission's consideration.

Q. Mr. Thomas presents Table 3 and states that it shows that the Company's forecasts for the DOM Zone historically have projected peak demand growth closer to actual than those of PJM. Do you have any comments?
A. Yes. As I state in my prefiled testimony, it is in the year since 2016 that PJM's forecast and the Company's forecast have begun to diverge significantly. The results produced in these forecasts are closer to the Company's observed demand. Staff has commented on this in prior IRPs. I stand by the data and facts in my prefiled testimony and the consistent comparisons therein.

Q. Do you have any comments about Table 3 presenting PJM's unrestricted peak load?

A. Yes. In Table 3, Mr. Thomas presents forecasts of the DOM Zone's non-coincident unrestricted peaks. Setting aside the inconsistencies that Staff discovered during its investigation of the data presented in Table 3, as compared to the data presented in the IRPs, this presentation explicitly ignores Staff's recommendation from prefiled testimony.

Staff's recommendation is that the Company should be forecasting its share of the PJM DOM Zone's coincident peak. In fact,
Staff recommends that the Company provide an analysis in future IRPs based on PJM's DOM Zone's unrestricted coincident peak.

The Company stated in a discovery response that PJM procures capacity to reliably ensure that each zone can meet the total system's coincident peak. This summer, according to PJM's metered demand, which corresponds to the data that's been presented in previous IRPs, was -- occurred at the end of August.

The Company's peak at that time was approximately 16,000 megawatts. This actual peak is 1,400 megawatts below the forecasted peak produced by Company Witness Thomas.

By contrast, Staff's PJM scaled forecast was approximately 600 megawatts from the actual demand. This supports Staff's position that in every year since PJM began re-evaluating its forecasting methodology, while not perfect, PJM's coincident peak forecast proves to be a closer approximation of the Company's projected demand than any of Mr. Thomas's forecasts.
To further clarify Staff's concern, Mr. Thomas's forecast submitted in the 2015 IRP made just three years ago is now more than 2,500 megawatts in excess of the Company's peak experienced this summer.

To put that into perspective, that is a forecasting error nearly equal to the Company's reserve margin. Accurate load forecasting can be a valuable tool. As such, Staff restates its recommendation that the Company should investigate the modeling inputs and assumptions in its load forecast.

MS. CARR: Your Honor, Mr. White relied on the Company's responses to Staff interrogatories set 16, Numbers 167 and 168, for several of these statements.

And I would ask that these responses be marked and admitted into the record.

CHAIRMAN CHRISTIE: Well, you've got to hand them to us.

MS. CARR: I will.

CHAIRMAN CHRISTIE: Everybody see them.

COMMISSIONER JAGDMANN: Mr. White,
while these are being handed out, Judge Christie mentioned yesterday, there's a proceeding going on at the FERC regarding PJM's capacity construct.

THE WITNESS: Yes, Your Honor.

COMMISSIONER JAGDMANN: Is -- is there anything with respect to that, that -- with what's going on there, that you would like to comment on with respect to future load growths?

THE WITNESS: Yes, Your Honor.

While the PJM capacity proposals are currently up in the air, there are two major implications for Virginia's ratepayers, it seems to Staff.

Currently, the Company sells capacity into PJM under its self-supply exemption, which prevents it from being MOPR'ed as we discussed earlier in these proceedings.

The two major implications seem to be right now that the Company could possibly lose its self-supply exemption, in which case the Company would have to bid its resources into the capacity market on an economic
basis. There's the potential, if any of
those resources do not clear that capacity
market, that ratepayers would either have to
double-procure capacity or would not be
receiving the offsetting capacity revenues
from PJM.

COMMISSIONER JAGDMANN: Well,
that's a major concern.

THE WITNESS: Staff is definitely
tracking the issue, Your Honor, and we're
staying -- staying aware of the developments.

MS. CARR: Your Honor, I've
highlighted the statements.

CHAIRMAN CHRISTIE: Right. This
will --

MS. CARR: If you'd like to see --

CHAIRMAN CHRISTIE: This will be
Staff interrogatory 16th set, questions 167
and 168. We'll mark it as Exhibit 36.

(Exhibit 36 was marked for
identification.)

CHAIRMAN CHRISTIE: Any objection?
We'll go ahead and admit it.

(Exhibit Number 36 was received
into evidence.)
BY MS. CARR:

Q. Mr. White, does this conclude your surrebuttal?

A. Yes, it does.

MS. CARR: Your Honor, Mr. White is available for cross-examination.

CHAIRMAN CHRISTIE: Mr. White, let me ask you a couple questions.

And I think Mr. Abbott will probably want to address these too, but I want to -- I want to ask you big picture questions.

THE WITNESS: Yes, Your Honor.

CHAIRMAN CHRISTIE: In the least-cost scenario, you all, Staff, are -- your -- your total capacity requirement is lower than -- certainly than Dominion's.

THE WITNESS: Yes, sir, our projection is quite lower, yes.

CHAIRMAN CHRISTIE: But Mr. White has got a chart -- Mr. Abbott has got a chart that -- that shows how much more Dominion is over the reserve requirement right now required by PJM. The PJM reserve requirement is 15.9 percent, and Mr. Abbott -- and I
always ask -- I'll ask him too, but ask you
in a general sense.

Is Dominion long on capacity right
now? I guess that's the question. By long
on capacity, that's -- I mean what everybody
means, they've got more than is needed for
their reserve -- to meet their reserve
requirement to PJM?

THE WITNESS: The Staff's
investigation would suggest the Company right
now has more than enough capacity to meet its
current demand.

CHAIRMAN CHRISTIE: And is PJM
itself long on capacity?

THE WITNESS: PJM right now has
about a 20- to 30-gigawatt excess capacity
position, yes.

CHAIRMAN CHRISTIE: So you've got
a utility that's -- that's long capacity now.
You've got -- and PJM is very long capacity.

Why would the least-cost scenario
include any new generation?

THE WITNESS: Well, Your Honor,
Staff was, you know, quite -- quite confused
by that, honestly. And Staff Witness Abbott
certainly discusses it in more detail.

CHAIRMAN CHRISTIE: Okay.

THE WITNESS: But it is certainly something that we -- we asked the Company about and tried to get a quality answer on before these proceedings.

CHAIRMAN CHRISTIE: Okay. All right. We'll do cross.

Mr. Cleveland?

MR. CLEVELAND: No questions, Your Honor.

CHAIRMAN CHRISTIE: Mr. Johns?

MR. JOHNS: No questions.

CHAIRMAN CHRISTIE: Mr. Burcat?

MR. BURCAT: No questions.

CHAIRMAN CHRISTIE: Mr. Reisinger?

MR. REISINGER: No questions.

CHAIRMAN CHRISTIE: Mr. Browder?

MR. BROWDER: Yes, Your Honor.

CROSS-EXAMINATION

BY MR. BROWDER:

Q. Good morning, Mr. White.

A. Good morning.

Q. Mr. White, just -- first I just want to ask you -- well, both you and Mr.
Abbott in your testimony are critical of the Company's load forecasts, correct?

  A. The results, yes.

Q. Right. Now, in -- is it not correct that in past IRP cases with this Company, the Staff has filed testimony that was -- found that generally the Company's load forecasts were reasonable; is that right?

  A. I think generally Staff has remained consistent that it -- the Company's methodology is certainly reasonable as applied across the industry, but I think Staff has, again, remained consistent here that the results are on the higher end of the range of reasonableness.

Q. Right. And I -- I believe in past -- in past testimonies from Staff, just as you said, reasonable but at the higher end of reasonableness.

  A. Yes.

Q. Your testimony, yours and Mr. Abbott's testimony, this year is -- is different. It's -- what has -- what has changed from what Staff found in past IRPs
or the Staff's -- scope of Staff's review in past IRPs?

A. Again, I believe our testimony here remains consistent. We've just done a more deeper analysis, given that for several past IRPs, Staff Witness Eichenlaub has said consistently the Company's forecasts are on the higher end of the range.

Staff decided to go in and -- and retain independent forecasting, produce our own comparison forecasts, and sort of box that range out for the Commission, so that -- so they can make a more -- a determination.

Q. Okay. So do I understand you're basically saying Staff decided to make a deeper analysis, a more thorough analysis, in this case than it had in the past; is that --

A. Absolutely.

Q. -- is that correct?

A. As, you know, as, you know, Staff witness said, consistently the Company's forecasts are on the higher end of the range, and it -- Staff sees no change in the Company's forecasted projections. And, as
such, you know, Staff decided to investigate the issue much more deeply.

Q. Mr. White, following up a little bit on a question that Judge Jadgmann posed about the PJM reliability pricing model in the capacity market.

A. Yes.

Q. Now, your — your testimony discusses — references the RPM; correct?

A. That's correct.

Q. Now, is the load — is PJM's load forecast, is that used by PJM in the context of the reliability pricing model in the capacity markets?

A. Yes, it's my understanding that PJM uses its forecasts of the unrestricted coincident peak in determining the load obligations to each zone.

Q. Okay. So PJM relies upon -- is it correct that PJM relies upon its own load -- load forecasts for determining a company's resource requirements as opposed to the Company's own forecasts?

A. I would say that's fair. At the end of the day, it will be PJM's
Q. Okay. And could you just elaborate a bit on -- on what would happen if -- if Dominion becomes long on capacity in the eyes of PJM.

I think from what you just said, basically using PJM's own forecasts, what -- what would be the consequences of that in the capacity market, either currently or as -- as potentially under a change to the rule?

A. Sure. Well, again, stating the capacity market is in flux, the way it has worked previously and the way PJM has proposed it to work going forward, they would put a cap on the Company's -- above the Company's requirement for capacity, and above that cap, any new resources the Company has would be submitted to the minimum price offering.

Q. And -- and what does that mean?
What are the -- what are the implications --

A. Sorry. I --

Q. -- of that in kind of layman's terms?

A. Sorry. I've been swimming in the depths of the ocean on this.

Q. Right. Right.

A. What that means is essentially right now the Company, being a vertically integrated utility, PJM presumes that we in this IRP proceeding will vet their resource adequacy claims.

From there, PJM says, we will allow vertically integrated utilities to bid their capacity into the market, essentially as price takers or at zero bid, to ensure they clear.

If the Company were to find itself in a position where it had capacity above PJM's limits, all -- every megawatt of capacity above that limit would be subject -- would not -- would not be able to be bid in at that price taker level. They would have to be bid in on their cost. And, again, there's a possibility they would not be able
to clear on their cost.

Q. So --

COMMISSIONER JAGDMANN: Would it

be their cost or would it be a sort of a

predetermined cost for that unit?

THE WITNESS: Yes, yes, Your

Honor. It would -- it's more of a
categorical cost for each generation
resource.

BY MR. BROWDER:

Q. So -- and, again, just to try to
close the loop on that, so can you explain
in terms of how -- how dollars flow, you
know, to the Company from the PJM market or
-- or from ratepayers? If you can't bid in
those resources, what -- what happens in
terms of --

A. The implications are -- as I -- as
I discussed earlier, the implications would
be that ratepayers will be paying for
capacity resource, which PJM would not
recognize as capacity.

The implications of that are that
either ratepayers would have to procure extra
capacity in PJM's markets or ratepayers would
be paying for these assets without receiving
the offsetting capacity revenues for PJM.
  
  Q. And would that --
  
  A. That would essentially increase,
increase, the cost to ratepayers compared to
the projections at the time of approval for
that resource.

  Q. All right. Thank you, Mr. White.
  
  There's another thing I wanted to
ask you about at page -- I'll put it on the
overhead -- page 14 of your testimony. This
Table 2. This is -- am I correct that this
shows PJM's load forecasts for a ten-year
period; is that -- is that correct?

  A. I believe it's 15 and -- yes.

  Q. Okay. This growth forecast here
of 0.8 percent in 2018, is that the -- well,
let me ask you, were you in the courtroom
when Company counsel was cross-examining
Staff Witness McBride and there was -- with
-- with this chart?

  A. Yes, I was here for that.

  Q. And this 0.8 growth from what was
represented this -- as being a PJM load
forecast report, is that the same as what
you presented -- presented right here? Is that --
A. Yes, it is.
Q. -- the same -- same data?
A. Yes, it is.
Q. Okay. And what was the purpose of your including that table in your testimony?
A. It was to provide a comparison between what the Company's forecast was projecting and what a PJM-scale forecast would project. Also it was to demonstrate that since 2016, PJM's projections have decreased dramatically. You know, the third purpose was to demonstrate that while PJM is projecting growth which Staff may think is still too optimistic, PJM has been reducing that outlook to reflect what's been happening in actuality.
Q. Okay. And do you have any information on what -- what has been happening in actuality in terms of PJM's recent forecasts, how they compare to what actually has -- has panned out?
A. I'm sorry, if you could restate that again. Are you asking -- if I
understand your question, you're asking does Staff have a -- an error percentage for PJM's historical forecast, more or less?

Q. Yeah, so the last several years or X number of years.

A. I believe -- I don't. I will say that answer. We do not, yes.

Q. Thank you, Mr. White. That's all I have.

CHAIRMAN CHRISTIE: Ms. Link?

MS. LINK: Yes.

CROSS-EXAMINATION

BY MS. LINK:

Q. Good morning, Mr. White.

A. Greetings and salutations.

Q. Nice to see you again. So I want to follow up on some of the questions that Mr. Browder had.

I believe he was asking about the Staff's position in prior IRP proceedings, and essentially had asked what had changed.

Do you recall that?

A. I recall the question, yes.

Q. Okay. And I believe what you said is we -- the Staff has been consistent with
its prior recommendations, but we did a
deeper analysis this go-around, we hired an
outside consultant, and the efforts were to
box that range out.

A. Yes.

Q. Fair -- fair summary?

A. I'll accept that, yes.

Q. Okay. It's all subject to check,
we know that.

Okay. So I am showing you, Mr.
Eichenlaub's testimony from the 2013 IRP
proceeding. And here on page 6 -- focus --
line 11, starting at line 11, it -- it
states, "Although it may be argued that the
Company's forecasts higher or lower than
someone else may expect, the load forecast
appears reasonable and within acceptable
bounds, reflecting market conditions and
trends at the time of the development of the
forecast."

Do you see that?

A. I do.

Q. So where it says higher or lower
and then here on line 15 says "although
generally higher," that's what you're
transcript of hearing - day 3
conducted on september 26, 2018
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1 talking about when you said at the higher
2 end of the range?
3 A. That's correct. And, remember,
4 this is 2013. And it really has been since
5 2016 that Staff has even had a -- an
6 objective benchmark to even judge that range,
7 yes.
8 Q. Okay.
9 CHAIRMAN CHRISTIE: Ms. Link,
10 before you leave that, put that back up,
11 please.
12 MS. LINK: Sure.
13 CHAIRMAN CHRISTIE: Because I
14 think if you read the first sentence in that
15 paragraph, you get probably the -- the best
16 sentence that has ever been uttered under
17 oath, which is: "The only certainty about
18 any forecast is that it will not exactly
19 match what actually occurs." Okay?
20 MS. LINK: You might see that
21 sentence again.
22 THE WITNESS: Well, Staff is
23 focused on what actually has occurred here.
24 MS. LINK: As is the Company.
25 CHAIRMAN CHRISTIE: We've seen in

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the last ten years so many gas price forecasts, you could just pick whatever you want. Not from you, but from everybody who ever came in front of this Commission has got a gas price forecast, and they -- none of them have nailed it. But one thing is for sure, it has been a lot lower than usually what ended up being predicted. And that's everybody's, not yours.

BY MS. LINK:

Q. And you stated, starting in 2016, you started to see -- I'm sorry, can you repeat what you said about 2016?

A. Yes. As I say in prefiled testimony and my surrebuttal today, it has been since 2016 that there has been such a significant divergence between the Company and PJM that we needed to investigate why that was happening.

Q. Okay. So I've put on the screen Mr. Eichenlaub's testimony from the 2016 IRP. And there we're on page 8, line 1. It states, "Although the Company's forecasts may be higher or lower than others might project, the load forecast appears
reasonable and within acceptable bounds."

Do you see that?

A. I do.

Q. Then on line 4, "However, the
Company's projected demand is within a
reasonable range of its actual demand."

A. Again, those PJM results would not
have been released until December, which
would have occurred after this -- after this
hearing. So I think Mr. Eichenlaub is being
consistent there, given the information he
had at the time.

Q. All right. Would that information
have been available for the 2017 case?

A. I believe it should have been.

Q. All right.

A. And I believe that's when you
start to see Mr. Eichenlaub qualify his
statements.

Q. All right. I'm showing you Mr.
Eichenlaub's testimony from the 2017 IRP.

A. Yes, indeed.

Q. There are no lines, but somewhat
in the middle of page 8, it says, "Although
the Company's forecast may be higher than
others might project, DEV's load forecast is not unreasonable or outside acceptable bounds. As seen in the table above, the Company's projected LSE peak demand is commonly higher than its actual LSE peak demand. Although perhaps in the upper range, the Company's projected demand is within an acceptable range of its actual demand."

Do you see that?

A. I do. And I think Staff has proved emphatically here that the Company's projected LSE peak demand is commonly higher than its actual LSE peak demand.

Q. Okay. And so you're saying, although we can't seem to find this language in the Staff testimony this go-around, you're saying for consistency's sake, you found, again, at the higher end of the range. And my question is, in all of the Staff testimony since we started doing these IRPs, the Staff found it is within acceptable -- within acceptable bounds?

A. And as you'll see in the sentence in between those two, Staff Witness
Eichenlaub said the Company's projected LSE peak demand, that's the Company's peak, is commonly higher than its actual peak demand. And that is exactly what Staff investigated here and proved empirically.

Q. Okay. And my question is are we within acceptable bounds again, since you're being consistent with your testimony from -- with the testimony from the last IRPs?

A. I -- I would no longer make that statement. PJM's forecast has changed dramatically now, and the results and the errors are so dramatic, that I would have a hard time saying they're still in the acceptable range.

Q. Okay. So -- so not consistent with the prior testimony in the IRPs?

A. I believe that's still consistent.

Q. All right.

A. Yeah.

Q. Let's go to page 15 of your report. So I've put on the screen figure 4 from page 15.

A. Do you see that?

A. I do.
Q. So it would help us if you -- I believe you've talked about the scaled PJM forecast and you talked about it being Staff's scaled PJM forecast.

What exactly did Staff do to get its scaled PJM forecast?

A. So we investigated Company Witness Thomas's forecasting methodology as it was described in the IRP. Essentially, all Staff did was change our starting point from the Company's forecast to PJM's forecast and then conducted our methodology essentially the same as the Company has.

The purpose there to show you get a much lower result, much -- a result much closer to what we're actually observing simply by switching to PJM's forecast. To emphasize the point that it's not methodology here the Staff is concerned about; it's the results.

Q. So where this is a green line, Staff methodology, you're saying the start point is -- is the same as PJM's start point?

A. Well, this is the LSE forecast.
So that -- PJM does not produce an LSE forecast.

Q. Right.

A. But if you go back to the Zone comparisons, which are probably a page or two behind that, you will -- that will correspond to PJM's numbers in its load forecast report.

Q. Do you have a table that I could put up? Figure 2?

A. That sounds right. That would be it, yes.

Q. Okay. So what you're saying -- well, so this doesn't have Staff's on it, so I'm not able to follow.

A. Well, as I said, there's no publicly available LSE forecast. So the way Staff arrived at one was to use these publicly available PJM data.

Q. Okay.

A. And then scale that down to the Company's load as the Company did in its IRP. And we used the same exact data the Company used to derive that percentage and projected it forward over these forecasts here.

Q. Okay. So did you take the DOM
Zone coincident summer peak or the DOM Zone non-coincident summer peak?

A. As I stated in my prefiled testimony and surrebuttal here, Staff's analysis is based on the coincident summer peak.

Q. Okay. So just to help us, you took the 18,903 and times'd it -- and made an LSE number?

A. That's correct.

Q. Is that point -- times .87?

A. The approximation of the -- the ratio changed somewhat, but it approximated around an average of 87 percent, but it moved between 86.5 and 88.

Q. Okay. And then that became your start point when you did Staff's methodology?

A. That's correct. That -- this number here, Staff's methodology represents that coincident summer peak multiplied by that ratio.

Q. Okay. So that's your start point?

A. That's my start point, yes.

Q. And then how -- how did you come
up with your slope?
A. I simply extracted -- I simply
moved that percentage across the coincident
peak in PJM's load forecast report.
Q. Okay. So you just took -- did you
do it on an annual basis?
A. I'm sorry?
Q. Annual basis? I'm just trying to
understand your methodology.
You took the green line here
(indicating) from figure 2?
A. Right. Those are annual numbers.
Q. Right.
A. They're only reported annually.
Q. Okay. And -- and just for each
year, did you then apply it by that, what
you said, .86, .87?
A. Again --
Q. I'm just trying to understand your
methodology.
A. Like I said, it changes based on
the Company's report of its peak and the
zone's peak, but, yeah, it's roughly
87 percent multiplied across this range from
18 -- 18.9 to 21.2.
Q. Okay.
A. And that's in my prefilled testimony as well.

Q. Okay. So -- got it.

So all the way through. So all you did in your view is take PJM's coincident peak forecast and scale it down to the LSE?

A. And that's exactly what the Company did. They just used their non-coincident peak forecast, yes.

Q. Okay. And you made no other changes to get your green line here on figure 4?

A. No. Again, the entire purpose was simply to show the difference in forecasts, the results they produce, not to make a methodological argument.

Q. Okay. But the -- the main difference just being whether you used the non-coincident peak to start or the coincident peak; is that fair enough?

A. Could you maybe specify that question?

Q. Sure. Figure 4 --
A. Are you talking about between me or between myself and the Company?

Q. Between you and the Company.

A. So the major difference between me and the Company, as stated in prefilled testimony and the surrebuttal here again today, is that the Company is using its own forecast of the non-coincident peak. What we're demonstrating here is that the Company's forecast, first of all, they're forecasting to the wrong peak. They should be forecasting to the coincident peak.

Q. Right.

A. Separate and aside from that, their own forecast is so high that it produces these dramatic differences.

Q. Got it. So you took -- you took -- the -- the differences are using coincident peak versus non-coincident peak, and also PJM versus the Company? Those are the two differences that are illustrated in figure 4? I know I'm trying --

A. Yes, I would accept that. Yes.

Q. -- to sum it up --

A. Sure, sure.
Q. Okay. So, Mr. McBride -- the Staff retained Drilling Info, correct?

A. That's right.

Q. Okay. And Mr. McBride did a -- another analysis; he didn't analyze PJM. You heard that this morning, right?

A. That's correct. He produced his own forecast based on the Company's provided data, yes.

Q. Okay. And you said that what you were trying to do in the exercise this year was to box that range out?

A. Yes. As I say in prefiled testimony, you know, we -- Staff wanted to give a metric. We wanted to go out and get an independent party that wasn't the Company or PJM and see what -- see what the market thinks as well about the Company's forecasted peak.

Q. Okay. So what then are -- is the range that the Commission -- in Staff's opinion, that the Commission should consider? What are the acceptable bounds? Because it sounds like what we have -- just to sum it up, it sounds like we have the
Dominion methodology, we have PJM's methodology, we have Staff's modified or scaled PJM methodology, and then we have Mr. McBride. It seems like we have four.

A. No, we have three here, unless you're counting Dr. Wilson's. But Staff has only presented three. We presented the Company's. We presented Staff's forecast, which is scaled down from PJM. And then Staff Witness McBride's independent forecast.

Staff would argue that those three forecasts represent three data points for the Commission to consider, and, you know, as a former forecaster, what I do is I collect a range of forecasts, and I try to see where are the outliers and where is the -- where are the forecasts trending in at.

And I think what we've shown here if you -- even if you add Dr. Wilson's forecast, that the majority of the forecasts tend to be projecting somewhere between Staff's, PJM scaled forecast, and Staff Witness McBride's independent forecast.

The Company's forecast looks somewhat like an outlier, given that
Q. All right. You've said several times that you ultimately -- and you say it in your testimony at page 15. You say at line 7, "In the end, a forecaster may employ any number of acceptable and reasonable methodologies. However, what Staff must consider ultimately is the result that any methodology produces."

I've not seen that from the Staff before, so --

A. Okay. Well, I'm new here.

(Laughter.)

BY MS. LINK:

Q. And I am not. So welcome. But my question is, when you're -- when you're saying that you have to consider the result, what exactly does that mean? Because, obviously, there are many models to run.

There are many --

A. Sure.

Q. -- assumptions to be made.

A. Sure.

Q. It's only as good as the assumptions you put in.
A. Absolutely.

Q. And then the results seem to be they are what they are.

A. Well, I think what we're conflating here is -- I think -- I believe your question is referencing the results of the forecast. What I'm referencing are the actual results. And there's only one actual thing that happens.

And so what Staff is saying, what ultimately matters is the result comparing the forecast projection with the actual demand that we observed. And as I say in my surrebuttal here today, and as I say in my prefiled testimony, comparing the Company's projections to the actual demand that we observed, PJM's results have been closer and the Company's results have been further away from that number.

Q. And when we are observing actual demand -- I had an entertaining colloquy yesterday with Mr. Wilson about what "actual" means.

A. Yes.

Q. Do you believe it means weather
normalized?

A. No, from what -- when I say actual demand, what I mean is the actual metered demand.

Q. Okay.

A. When the Company or PJM sums up and settles all of its metered data and comes up with a sum total of demand for each hour.

Q. So I don't have it in front of me, but Table 3 of Mr. --

A. Well aware of it, yes.

Q. Okay. And that's metered demands?

A. No, that's unrestricted. Unlike the IRP, which referenced metered demand.

Q. And what is your understanding of the difference between metered demand and unrestricted?

A. Well, metered demand is essentially what actually happens on the meters.

Q. Okay.

A. Unrestricted demand goes back, it looks back, and it does some estimations and comes up with some estimates of how much distributed solar generation was occurring at
the time, how many -- how many demand
response events happened, how many load
management events happened, and adds those
back into that metered demand forecast.

But, again, you know, as -- as
I'll reiterate once again, Table 3 presents
the non-coincident unrestricted peak, and
that's fine, if that's what the Company wants
to present, but that's not what Staff is
recommending here. And -- and Staff doesn't
really see that table as informing our
analysis here.

Q. So -- so in Staff's chart -- and I
believe I put it up for Mr. McBride. I can
put it up for you. It's on page 36 of the
Drilling Info report. And it's the summer
peak load DOM LSE non-coincident peak load
forecast.

Do you see that?

A. I do.

Q. Okay. And so I asked him the
difference between the black bars and where
it appears that, you know, many of the lines
for the IRP load forecast begin.

A. Sure.
Q. And I asked whether they added back distributed energy resources or demand response events. And he said they did not.

A. I heard that.

Q. And you agree?

A. Well, I don't think it matters. I think that's kind of a methodological issue. And it becomes empirical here.

Essentially, what you would be arguing, if you want to argue that it should be the unrestricted peak, you would be arguing that approximately -- there was approximately 2,000 megawatts of distributed solar and demand response in the Company's service territory that year.

And that would be significantly above any reported data of the amount of demand response in distributed solar in the Company's system at the moment.

Q. I -- let me try and ask my question again.

A. Sure.

Q. Mr. McBride said that these black bars --

A. Yeah.
Q. -- were the metered demand. Do you agree with that?
A. I do.
Q. Okay. And that they did not add back the distributed energy resources or the demand response events. That would make it what you call unrestricted demand?
A. Yes, and --
Q. Do you agree that that is true?
A. Do I agree that adding back distributed solar and load response?
Q. No, sir.
A. Okay.
Q. I'm asking you, do you agree what is in the chart and what is not in the chart, do you agree with my statement that the black bars are the metered demand?
A. I agree with that.
Q. And they do not add back -- I'm not asking if you agree it should be added back. I'm asking you they do not add back the distributed energy resources and demand responses?
A. That's -- that's my understanding.
Q. Okay. Thank you. I'm turning to
page 16 of your testimony. And you say on line 21, "Staff points to page 124 of the IRP where the Company appears to recognize that PJM's forecasts have performed better over the past two years" -- excuse me -- "two years as compared to the Company's forecasts. As such, the Company conducted an analysis using PJM's load forecast released in its most recent load forecast report."

Do you see that?

A. I do.

Q. Okay. And this is the chart from page 124, correct?

A. Yes, it is.

Q. And I presume the yellow is because --

A. Yellow --

Q. -- of where the changes are?

A. Absolutely.

Q. Okay. So six years in, both Company's -- the Company's Plan A NO CO2 and PJM's sort of low load NO CO2 are producing identical build plans for the first six years, correct?
A. Well, as I say in my prefiling testimony further on, this was the Company's analysis. Staff doesn't know how they did it, which -- for which PJM forecast they used, but even still, Staff believes it's informative to demonstrate what happens when you use a different load forecast input.

Q. Okay. But did you not dig into this one? This chart?

A. Dig into the chart? I'm sorry, I don't understand.

Q. Figure out if the Company was right or wrong? You said you don't -- you didn't -- you don't have any reason to believe this was done correctly. I mean --

A. I didn't say that.

Q. -- Did you not look at it?

A. I just said I can't verify how it was done. Therefore, you know, I don't want to make factual statements on what it may or may not say.

The Company presented it. Staff certainly thinks it's informative. But Staff stands by its recommendation that we would like to see the coincident peak PJM forecast
presented in future IRPs the way -- the way
Staff has outlined that.

Q. Okay. And I just -- I'm keying
off of, you say the Company appears to
recognize that PJM -- PJM's forecast have
performed better over the past two years.

A. They certainly have been lower.
And that's been closer to the actual peaks.

Q. And I'm just asking you to point
to me where in -- where in page 124/125, the
Company is recognizing that PJM has
performed better?

A. Well, I interpreted lower to mean
better as lower has been closer to actual,
but I agree they did not use the actual term
"better."

Q. Okay. So you -- okay. It could
be possible that the Company just presented
the lower load forecast because their
counsel said that they would?

A. I definitely would be speculating
on that.

Q. Okay. All right. Turning to page
30. I'm sorry, I'm going to go to -- the
sentence begins on page 29.
Page 29, line 21, you say, "Given that the Company is planning to retire a significant amount of dispatchable generation and largely fill its anticipated capacity deficit with intermittent generation and CTs, Staff believes that the Company should plan to ensure that the capacity resources it chooses are producing -- are able to produce reliably, especially during times of high system demand."

Do you see that?

A. I do.

Q. Okay. Is that high system demand time the metered demand, the actual metered demand?

A. Yes.

Q. Okay.

A. Yes.

Q. Is that high system demand time the coincident peak or non-coincident peak?

A. Again, it would be the coincident peak, where these are all referencing the Company's role within the PJM region. And, actually, high system demand can occur really any time. It's more of a
general statement. Any time there is high
system demand, yes.

Q. And I guess my question is does
that time of high system demand --
sometimes, is that the non-coincident peak?
A. No, it couldn't be, by definition.
The highest peak -- the highest peak the
Company would experience in the paradigm of
PJM is when it is meeting PJM's coincident
peak.

The Company's -- the Company's
peak, which would be the non-coincident peak,
that's when the Company has the option to go
to PJM and procure the energy without paying
for the capacity. There's lots of free
capacity out at PJM at that time. And that's
really the main benefit of belonging to PJM,
is that you don't have to build these
capacity resources; the energy will be free
when you're on your non-coincident peak. I
mean, the capacity will be free. You will
just have to pay for the energy.

Q. Okay. I have nothing further.

CHAIRMAN CHRISTIE: Any redirect?

MS. CARR: I just have one
question.

REDIRECT EXAMINATION

BY MS. CARR:

Q. Mr. White, both Mr. Browder and Ms. Link were talking to you about Staff's investigation this year and how -- Ms. Link was asserting that it was different from last year.

Is one of the reasons the fact that Staff hired consultants in this proceeding, the fact that the Company will no longer be submitting IRPs every year due to new legislation?

A. Absolutely. I think the -- the new time horizon made it important that Staff did a very thorough analysis as well.

And -- however, one of the silver linings of the new time frame is that, you know, coming in every two or three years -- and I'm not quite sure, I'll defer to my -- my lawyer on that one, but coming in on a more widened time frame now, we won't be arguing about snapshots in time.

From here on out, we'll be arguing about, you know, picture books. We'll have
trends to analyze. So it won't be -- we
won't have to deal with maybe PJM got it
right this year, maybe the Company got it
right this year. We'll have two or three
actual data to make some definitive
statements and conclusions on.

MS. CARR: Thank you. That's all
I have.

CHAIRMAN CHRISTIE: Thank you, Mr.
White.

THE WITNESS: Thank you.

CHAIRMAN CHRISTIE: Now we'll do
Mr. Abbott.

MS. MACKO: Your Honor, Staff
calls Mr. Gregory Abbott.

Whereupon--

GREGORY ABBOTT,
having been first duly sworn by the Bailiff,
was examined and testified as follows:

THE BAILIFF: Thank you.

DIRECT EXAMINATION

BY MS. MACKO:

Q. I believe it's still good morning,
just --

A. Okay.