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COMMONWEALTH OF VIRGINIA

STATE CORPORATION COMMISSION

CASE NO. PUR-2024-00184

IN RE: PETITION OF VIRGINIA ELECTRIC AND POWER COMPANY

Integrated Resource Plan filing pursuant to Virginia Code Section 56-597 et seq.

TRANSCRIPT OF PROCEEDINGS BEFORE
THE HONORABLE SAMUEL T. TOWELL
THE HONORABLE JEHMAL T. HUDSON
THE HONORABLE KELSEY A. BAGOT

DAY 4

Thursday, April 17, 2025

10:00 a.m. to 6:55 p.m.

Job No: 559218

Pages: 728 - 1100

Reported By: Scott D. Gregg, RPR

A P P E A R A N C E S

Kiva Bland Pierce, Esquire,
Arlen Bolstad, Esquire,
and
Michael Zielinski, Esquire,
Counsel to the Commission

Vishwa B. Link, Esquire,
Sarah B. Nielsen, Esquire,
Nicholas A. Dantonio, Esquire,
and
Nicole M. Allaband, Esquire,
Counsel to the Applicant

John E. Farmer, Jr., Esquire,
and
Carew S. Bartley, Esquire,
Counsel to the Office
of Attorney General,
Division of Consumer Counsel

Cliona M. Robb, Esquire,
Counsel to Microsoft
Corporation ("Microsoft")

A P P E A R A N C E S C O N T I N U E D

Nathaniel H. Benforado, Esquire,
Rachel M. James, Esquire,
Josephus M. Allmond, Esquire,
Katherine King, Esquire,
and
Emma Clancy, Esquire,
Counsel to Appalachian Voices

Katherine Pollard, Esquire,
and
Gregory Habeeb, Esquire,
Counsel to Advance Energy
United

Evan D. Johns, Esquire,
Dorothy E. Jaffe, Esquire,
and
Claire M. Horan, Esquire,
Counsel to Sierra Club and
Natural Resources Defense
Council ("NRDC")

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A P P E A R A N C E S C O N T I N U E D

William T. Reisinger, Esquire,
Counsel to Clean Virginia

Cody T. Murphey, Esquire,
and
Cassidy C. Galindo, Esquire,
Counsel to Data Center
Coalition ("DCC")

Carrie H. Grundmann, Esquire,
Counsel to Walmart, Inc.

Cale Jaffe, Esquire,
Ryan Carp, 3L
and
Peter Grema, 3L
Counsel to Piedmont Environmental
Council ("PEC")

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A P P E A R A N C E S C O N T I N U E D

Adam B. Winston, Esquire,
Bryan P. MacAvoy, Esquire,
and
Kyle D. Eldridge, Esquire,
Counsel to City of
Alexandria

I N D E X

CITY WITNESS: Page
R. Freed
Direct Examination by Mr. Winston..... 739
Cross-Examination by Ms. Clancy..... 764
By Mr. Reisinger..... 765
By Mr. Farmer..... 772
By Mr. Dantonio..... 777
Redirect Examination by Mr. Winston..... 787

STAFF WITNESSES:
K. Curtis
Direct Examination by Ms. Pierce..... 791
Cross-Examination by Mr. Benforado..... 799
By Mr. Johns..... 811
By Ms. Grundmann..... 815
By Mr. Jaffe..... 818
By Ms. Robb..... 824
By Ms. Allaband..... 827

////
////
////
////
////

I N D E X C O N T I N U E D

STAFF WITNESSES: Page

T. Katsarelis

Direct Examination by Ms. Pierce..... 830

Cross-Examination by Mr. Allmond..... 837

By Mr. Dantonio..... 844

Redirect Examination by Ms. Pierce..... 845

S. Smith

Direct Examination by Ms. Pierce..... 847

Cross-Examination by Ms. Clancy..... 859

By Mr. Reisinger..... 874

By Mr. Murphey..... 876

By Ms. Grundmann..... 878

By Ms. Robb..... 892

By Mr. Winston..... 894

By Mr. Bartley..... 904

By Ms. Link..... 907

Redirect Examination by Ms. Pierce..... 935

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////

////

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I N D E X C O N T I N U E D

STAFF WITNESSES: Page

A. Boehnlein

Direct Examination by Mr. Zielinski..... 946

Cross-Examination by Mr. Benforado..... 948

By Mr. Reisinger..... 963

By Mr. Jaffe..... 966

By Mr. Winston..... 975

By Mr. Bartley..... 980

By Ms. Nielsen..... 981

Redirect Examination by Mr. Zielinski..... 989

S. Welsh

Direct Examination by Mr. Zielinski..... 990

Cross-Examination by Ms. Grundmann..... 995

By Mr. Bartley..... 996

////

////

////

////

////

////

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I N D E X C O N T I N U E D

COMPANY WITNESSES: Page

S. Compton (Reb.)

Direct Examination by Ms. Nielsen..... 999
Cross-Examination by Mr. Benforado..... 1015
By Mr. Jaffe..... 1029
By Mr. Johns..... 1035
By Ms. Robb..... 1060
By Ms. Grundmann..... 1063
By Mr. Winston..... 1069
By Mr. Farmer..... 1072
By Ms. Pierce..... 1077
Redirect Examination by Ms. Nielsen..... 1086

M. Scheller (Reb.)

Direct Examination by Ms. Link..... 1089
Cross-Examination by Mr. Allmond..... 1093
By Mr. Johns..... 1096
By Ms. Pierce..... 1097

E X H I B I T S

No.	Marked for ID	Rec'd
47	740	741
48	762	764
49	792	793
50	799	799
51	832	832
51C	832	833
52	848	849
52C (Withdrawn)	848	--
52ES	848	849
53	852	853
54	871	871
55	915	945
56	944	990
57	945	945
58	947	947
59	964	966
60	975	975
61	982	984
62	992	992
62ES	992	992
63	1000	1000
64	1009	1010
65	1026	1028

E X H I B I T S C O N T I N U E D

No.	Marked for ID	Rec'd
66	1090	1090

P R O C E E D I N G S

COMMISSIONER HUDSON: City of Alexandria, it's your turn.

MR. WINSTON: Thank you, Your Honor.

COMMISSIONER HUDSON: Mr. Freed, is this your first time testifying before the Commission?

MR. FREED: Yes, live.

COMMISSIONER HUDSON: Well, welcome.

RYAN FREED, called as a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. WINSTON:

Q Good morning, Mr. Freed.

A Good morning.

Q Would you please state your full name, position with the City of Alexandria, and full business address for the record?

A Yes. I'm Ryan Freed. I'm the climate action officer for the City of Alexandria, and my business address is 301 King Street, Alexandria, Virginia 22314.

Q And do you have in front of you written testimony entitled, Direct Testimony of Ryan Freed that the City caused to be filed in these

proceedings on February 28th, 2025, consisting of 27 written pages of testimony and five attached schedules?

A I do.

Q And did you prepare those documents, or were they prepared under your supervision?

A Yes.

Q And do you have any corrections that you would like to make to your testimony?

A No.

Q At this time, do you wish to sponsor the testimony filed by the City on February 28th, 2025?

A Yes.

MR. WINSTON: Your Honor, the City would like to mark for identification the prefiled Direct Testimony of Ryan Freed filed by the City in these proceedings on February 28th, 2025, and to admit the same into evidence.

THE BAILIFF: The Direct Testimony of Ryan Freed will be marked as Exhibit 47.

(Exhibit No. 47 was marked for identification.)

COMMISSIONER HUDSON: The testimony marked and described as Exhibit No. 47 is admitted into

the record.

(Exhibit No. 47 was admitted into evidence.)

COMMISSIONER HUDSON: Please proceed.

MR. WINSTON: Thank you, Your Honor.

BY MR. WINSTON:

Q Mr. Freed, do you have any surrebuttal you'd like to offer in response to any rebuttal to the testimony filed by the Company or in response to anything you've heard during the course of these proceedings?

A Yes. I'd like to respond to rebuttal testimony filed by Dominion on March 25th. I'd also like to respond to comments made by several of the other witnesses.

Q Okay. So let's begin with the rebuttal testimony that was sponsored by Mr. Hubbard.

Did you have an opportunity to review that testimony?

A Yes.

Q And do you have anything that you would like to say in response?

A Yeah. In my opinion, Mr. Hubbard's rebuttal testimony didn't engage with the core issues that I raised in mine.

I pointed out that the Potential Study identifies 17 percent energy efficiency targets that can be achieved economically when compared to supply-side alternatives. That same study identified 31 percent in energy efficiency targets that could be achieved, and that's a huge opportunity for generation alternative in Dominion's -- huge opportunity for Dominion that's not included in the IRP.

It's not reasonable to resign ourselves to the 3 percent creeping up to 5 percent savings over the course of the study period.

The levels of energy efficiency and demand-side management would dramatically alter the load forecast, it would reduce the risk of stranded assets and costs, reduce transmission bottlenecking, and would ease the burden on Dominion customers, including those that live in Alexandria. We think. We're not entirely sure because Dominion didn't include it in the IRP.

Q I'm going to walk through, Mr. Freed, some of Mr. Hubbard's rebuttal testimony and get your reactions to specific excerpts.

Starting on page 8 of Mr. Hubbard's rebuttal testimony, Mr. Hubbard commented on your

testimony which stated that the IRP filing fails to model a path to compliance to the Virginia Clean Economy Act. That, quote, the Company will continue to pursue cost-effective programs in the pursuit of these goals, along with the voluntary programs and customer behaviors that support these numbers.

What's your response to that?

A Yeah, I think this misses the point of my testimony. What we're arguing is that it's unreasonable to fail to model demand-side options as -- to fail to model demand-side options as selectable resources when the potential identifies it's such a large opportunity to do that.

It's also such a large disparity between what they are currently achieving and what is potential to achieve in that. So there's a huge opportunity to decrease our load -- to impact our load forecasts here.

It's really -- it's also unreasonable to take -- to fail to take advantage of localities, like Alexandria, who have clearly established targets and commitments to meet energy efficiency, renewable energy, and other climate targets.

Dominion and others know that those are

City policies that have been passed and commitments, including those as partnership in the IRP forecast, is possible.

My testimony suggests that Dominion has plenty of opportunities, like franchise agreements or memorandums of understanding, mutual aid agreements. We can also look municipal aggregation agreements as cities and other touchpoints that we can create -- they can use to identify and quantify demand-side resources.

There's no reason why these commitments can't be captured and memorialized just like PPAs and other vehicles that have been referenced previously.

And the Company has those agreements in hand. There's no reason -- once the Company has those agreements in hand, there's no reason they can't be included in an IRP to model to see how far toward that 34 percent achievable savings we can get to that when it's compared to supply-side generation costs.

I think it's also -- I'm inspired to rely on this idea of voluntary program numbers, customer behaviors. It takes a passive approach to program implementation and design and

particularly toward how we're going to achieve those numbers with ratepayers, residents, customers, however you want to define people in this.

Programs are obviously voluntary, but we know our residents really well as localities in Virginia, and we can help Dominion with the information that we have to get to those customers better.

Q Thank you, Mr. Freed.

Still on page 8. Still on page 8, Mr. Hubbard states that, quote, from a cost-effectiveness perspective, programs are designed at a system level, particularly as all customers fund the programs, and should therefore be able to take advantage of them, end quote.

What's your response to that?

A I -- I think this is a really important point and a distinction that needs to be very clear.

Looking at programs, cost-effectiveness of energy efficiency programs on a program-by-program level is what Mr. Hubbard was describing in his testimony, which is a tried-and-true process for developing energy efficiency programs when you're

trying to achieve those small savings. When you're looking at it as a supply-side generation resource, it's completely different.

So, yes, they have to talk about the total cost of these programs and how they are impacted and who can benefit from those, but if we're looking at energy efficiency as an alternative to generation resources, then we can look at it so it doesn't have to be put across the entire Dominion area. So not everyone has to be able to take advantage of every energy efficiency program that's created.

We have geographically limited generation all the time. We don't spread out our solar everywhere. We have a specific place where it's put. So generation resources are placed in a geographic area, and they are impacting that geographic area.

The same can be true for energy efficiency. But it's also important to understand that those energy efficiency resources benefit the entire system.

The system is benefited by reducing energy demand. It's benefited with great resilience; it's benefited with lower utility costs; it's

benefited with focus -- it focused those programs specifically like state policy asks us to, which is at low-income, multifamily properties, the elderly and disabled.

Then we have other social benefits that come from this generation resource.

Q And those geographically specific supply-side generation projects that you referenced, even though they are geographically limited, they are also socialized across the entire DOM Zone.

Is that your understanding?

A Yeah. That would -- that would be perfectly fine. And the other way -- I mean, this is why we have to coordinate with local governments and the utility. We have the ability to mine for high-yield energy efficiency savings projects. That is something that is unique between the information that we have as the City and the information that Dominion has.

Q And can you elaborate a little bit on how the energy -- the data that's in the possession of the City and the data that's in the possession of Dominion could be synthesized to locate these, as you referred to them, high-yield energy efficiency

projects and targets?

A Yeah. So Dominion's analysis gives generic understanding of what -- how energy is used and where the potential is and buildings and opportunities.

By using the City's information -- we have specific information, so we know -- through our assessments, we know what construction type a building is, we know what systems they have in that building, we know how old the construction is, and how -- what the quality of that construction is. We assess that as the City every year for commercial and residential properties. So we have information that Dominion doesn't have.

Dominion has very granular information about their -- about the energy use of every meter that they own. So that information combined, we can take an energy profile of a customer and understand what the potential is through the building profile of that customer to identify specific building savings in an area.

Virtual power plants were mentioned in previous testimony. I believe Dr. Roumpani mentioned virtual power plants. That can be very well created with cooperation between the utility

and the City to identify where those -- where those projects are, how we would site those projects, permit those projects, and how we would move those projects forward.

So if we're looking for high-yield, high-impact energy efficiency projects that also meet some of the other requirements in statute, then the City and Dominion can cooperatively do that by sharing the information that we have.

I'd also point out that Dominion mentions that some of this information is private, and we understand that. The City understands how to deal with private information. Confidential information we're able to deal with properly and would certainly be able to do so through agreement with Dominion or if ordered by the Commission.

Q And you mentioned that the cooperation or, I guess, the synergy between the City's data and Dominion's data and you explain how that could be beneficial.

But are those potential benefits limited to the City or would they apply equally to other localities and -- what do you have to say to that?

A Certainly, some of the benefits would accrue more directly to residents that are

receiving the energy efficiency improvements, but the system benefits that are modeled as economically achievable would see benefit across Dominion's entire system.

That would delay rate increases later through having to spend money on generation assets, but it also has transmission and reliability improvements across the system. Reducing the load on the grid is valuable to the grid, so any reductions would be good.

What I would say is particularly large reductions are good, and that's why we would ask Dominion to step above its current 2.7, 2.8 percent target or achieve -- what they have achieved and hit that higher target, which is 17 percent or more. Because the larger improvement we can make, the more benefit to the grid.

So if we're aiming for high-yield energy efficiency results, that's where we'd see the system-wide benefits.

Q Speaking of the potential benefits that might accrue to other localities or maybe the level of interest from other localities, are you familiar with this comment that was filed by

Loudoun County in support of the City's proposal on April 8th in these proceedings?

A Yes.

Q And are you familiar as well with this comment that was submitted by Arlington County in these proceedings on April 7th?

A Yes.

Q While it doesn't mention the City's case specifically, it does ask the Commission for substantially similar relief, including heightened engagement with local governments on achieving these policy goals.

A Yes. Arlington County, Loudoun County, and I believe there was one other locality that also provided comment.

Q Is this the letter that you were referring to, Mr. Freed?

A Yes, Charlottesville.

Q And this letter, also from the City of Charlottesville, filed as a public comment in these proceedings on April 8th, again, doesn't reference the City's relief, but it does state that -- and I'm here on the bottom full paragraph -- that Dominion should have worked more closely with, in this case, the City of

Charlottesville and others across the state to capture the most accurate data for its modeling scenarios and to more effectively design, implement, and advertise its energy efficiency and demand-side management programs?

A Yes. And I think the common thread with those localities and the City of Alexandria is that we rely on the Commission and the utility to meet the requirements in state policy. When we set our climate action policies, we assume that state law is going to be met.

So when I have to achieve net-zero carbon reduction targets, GHG reduction targets, and commitments that I've made to the community through our city council decisions, then I have to be able to rely on state law being followed. That means the VCEA, that means the Grid Transformation and Security Act, that means the Commonwealth Clean Energy Policy.

We as cities and counties rely on those policies being met to achieve the commitments that we have made to our residents. Not being able to do that provides us -- puts us in a position of being unable to achieve our goals and not knowing how to move forward.

And that's why we think this IRP is such an important proceeding for us to participate in, not because we think what will come from this is a full, committed clear plan of how we're going to generate electricity in the State of Virginia, but because the Commission and Dominion need to be clear on what we can signal moving forward.

Are we going to meet the commitments under the VCEA? And if not, what is the plan to help achieve, to help get us there so we can reset our plans?

We think there is not a question. The law is the law and it should be followed. We need that law to be followed in order to move forward so all of the cities and counties that are participating in this have opportunities and welcome opportunities to work with Dominion to help them achieve the goals in the VCEA.

But it is imperative that we meet that in order for us to do our job and meet our responsibility to our residents.

MR. WINSTON: Your Honor, is it appropriate to ask that those three comment letters be marked for identification and admitted into the record, or are they already in the record

as submitted public comments?

COMMISSIONER HUDSON: Well, they are a part of the public comments.

Let me ask the bailiff.

THE BAILIFF: Okay. So you want those marked?

MR. WINSTON: Yes.

MS. ROBB: I think that they are in as public comments and should remain as public comments.

COMMISSIONER HUDSON: Any objection?

MS. LINK: I don't believe in our cases we enter public comments that come in through the Commission process as marked exhibits in the record. They are part of the record as something filed, but we don't enter them.

MR. WINSTON: I was trying to adhere to procedure, so if that's the procedure, we're happy with that.

COMMISSIONER HUDSON: Thank you.

BY MR. WINSTON:

Q Mr. Freed, continuing on with Mr. Hubbard's rebuttal testimony, on page 9, Mr. Hubbard states that, quote, the Company has worked with some localities to promote programs to

its residents and businesses and will continue to do so through its general awareness and program-specific offerings, end quote.

In your tenure with the City, has the Company run programs in conjunction with the City to promote the energy efficiency or DSM programs?

A We have not jointly participated in programs to promote them. We have informed customers of Dominion programs and Dominion has participated in events that the City hosts.

I believe they are going to have a booth at our upcoming Eco-City Festival on May 10th, which you're all invited to, but they -- we don't have joint programs to strategically go out and talk to residents about energy efficiency programs.

Q And is it your opinion that the Company's, quote, general awareness in program-specific offerings" are sufficient to satisfy the statutory requirement that Dominion's IRP reflect a diversion offerings of supply-side and demand-side contracts and services?

A No. I think they're a failure to model energy efficiency as a selectable resource and, instead, just making a downward adjustment in the

load forecast is testimony to that.

Q And finally, Mr. Hubbard rebuts your testimony that a mission of the social cost of carbon from the potential studies economically achievable savings estimate is -- he rebuts that by stating that the social cost of carbon information is filed in a separate proceeding.

How do you respond to that?

A Again, I stress the importance of the IRP being a complete proceeding where we discuss all of these issues. Understanding the value of energy efficiency and comparison to supply side is extraordinarily important. We're directed to maximize energy efficiency by the grid transformation -- by the Virginia Commonwealth energy policy.

We're directed to target lower rates and lower costs for specific demographics by the Grid Transformation and Security Act, and the Virginia Clean Economy Act tells us that when energy efficiency is cheaper than supply side, that we should choose energy efficiency. Also references the need to include social cost of carbon in that.

So that has to be calculated as a part of the IRP in order for this Commission to

effectively have a balanced regulatory policy when they are putting together and using the IRP as they move forward.

I'd also say that there are a lot of proceedings in front of this Commission that are -- have been referenced here, I think five or six different proceedings. This is an expensive prospect for cities to participate in, and that's why -- it's probably why there are not very many of us here. And making as much -- getting as much as we can out of the IRP proceeding to use it as what it's intended, an Integrated Resource Plan is important. It's not a technical proceeding. It's not checking a box. It's an important tool that we can use as local jurisdictions that the Commission should use moving forward.

So it is necessary that all costs be considered in the IRP when -- so we can effectively calculate the benefit of energy efficiency over new generation.

Q And speaking to the specific cost-effectiveness -- and I understand that a comprehensive cost-effectiveness analysis of the City's proposal has not been conducted, but just speaking at a high level about the

cost-effectiveness of the City's proposal, what sort of costs can you imagine would be incurred if the Commission were to grant the City's relief as requested and order the formation of local government stakeholder subgroup designed to mine these high-yield energy efficiency targets and resources like you describe?

A I mean, the direct engagement with localities on designing energy efficiency and looking through opportunities, from the local government perspective, would be a minimal cost. I would guess that Dominion would not incur a significant cost either because it is largely using existing staff and existing resources to have these conversations.

Q And were you in the room yesterday, Mr. Freed, when Dr. Laws provided testimony related to GenX public resource planning modeling software?

A Yes.

Q And in your experience working for the City, have you had occasion to engage with or hire third-party vendors that performed modeling services for the City for various purposes?

A Yes.

Q And so in your experience as a procurer of those types of modeling services, is it your understanding -- would you agree that open-source modeling software is noteworthy, in part, because it doesn't come along with an expensive commercial licensing fee?

A Yes. And things that reduce our costs to intervene and participate would be great. And, particularly, my understanding from Dr. Laws was that that was -- that software was able to model all of the pieces that we would want to see.

Q And so what, then, do you say to Mr. Hubbard's rebuttal testimony which seems to suggest that the City's proposal is not cost-effective?

A I think the City's -- what the City is proposing is having deeper conversations to get to what the statute requires. So the cost-effectiveness of what we're asking for, I think, is -- if we're talking about cost-effectiveness tests and whether energy efficiency projects pass that, I think that's a question the Commission has to figure out when they are determining how to value energy efficiency as a selectable resource.

In general, interacting with -- and the way the City has asked for relief in this proceeding is not going to be particularly expensive, so it is certainly cost-effective, especially because the result would be getting us from a current of under 3 percent energy efficiency target up to 17 percent or more of what Dominion defines as economic.

Q And just for the last topic for the surrebuttal, I want to focus on the Potential Study, because Mr. Hubbard focused a lot on the 17 percent and 31 percent figures in his rebuttal.

MR. WINSTON: And I don't know if counsel for the Company can clarify, is the Potential Study in the record anywhere?

It wasn't attached to the filing, was it?

MS. LINK: I don't believe so.

MR. WINSTON: Okay.

MS. LINK: It's routinely part of the annual DSM filing.

MR. WINSTON: Thank you.

BY MR. WINSTON:

Q Mr. Freed, are you familiar with this document?

A Yes, generally.

Q And have you reviewed it?
A Yes.
Q What is the Virginia Energy Efficiency Potential Study?
A Broadly, the study provides an understanding of the level of energy efficiency that can be achieved through various scenarios in Dominion's portfolio.
MR. WINSTON: Your Honor, the City would like to mark for identification the Potential Study and would move to enter it into evidence.
MS. LINK: Do you have copies?
MR. WINSTON: I do.
MS. LINK: Is it the entire study?
MR. WINSTON: No. Thank you. Thank you for -- it's a selection of -- I can read for the record exactly which pages. It's the cover page, pages 1 through 6 and pages 47 through 53.
MS. LINK: And it's more so we can understand the source. Was that from the website?
MR. WINSTON: Yes.
MS. LINK: Where did you gain the --
MR. WINSTON: I pulled this report from the Company's filing in Case No. PUR-2023-00227.
And I can distribute.

THE BAILIFF: The Virginia Energy Efficiency Potential Study 2024 to 2023 excerpt consisting of the cover page, pages 1 through 6, and pages 47 through 53 will be marked as Exhibit 48.

(Exhibit No. 48 was marked for identification.)

COMMISSIONER HUDSON: Please proceed.

MR. WINSTON: Thank you, Your Honor.

BY MR. WINSTON:

Q Mr. Freed, have you seen the graph that's on the projector?

A Yes.

Q And is this graph the source for your testimony that there are 17 percent economically achievable savings and 31 percent technical achievable savings?

A It is.

Q And is this -- is this part of the study breaking down those aggregate potential savings by building type?

A Yes.

Q And these are residential building types?

A Yes.

Q And here we have a breakdown of potential

savings for nonresidential building types?

A Correct.

Q But in the Potential Study, did the evaluators identify where specifically these potential savings could be achieved?

A Not to my knowledge. There were not specific projects or specific building targets that were identified in the Potential Study.

The benefit of working with cities would be that we could verify the veracity of this model by looking at the potential for specific projects. We can question whether or not the estimated savings potential in a single-family home versus a multifamily building, what the actual savings would be there.

And, again, with the more information, specific information that we have about building type, compared with what Dominion has on energy use, we can build a much -- we can craft a much more finely tuned model.

Q And so is it -- are you essentially saying -- please correct me if this is not fair -- that these represent pools of potential savings that have not been specifically identified and differentiated, and the City could help Dominion

and Dominion could help the City to do that, to find the lowest hanging fruit, the highest yield fruit, and the like?

A Correct.

MR. WINSTON: The witness is available for cross, Your Honor.

COMMISSIONER HUDSON: Thank you.

Counsel, I forgot to mark this into the record, so let me just take care of that right now, and then we'll have Appalachian Voices provide cross.

So the document marked and described as Exhibit No. 48 is admitted into the record.

(Exhibit No. 48 was admitted into evidence.)

COMMISSIONER HUDSON: Appalachian Voices, please proceed.

MS. CLANCY: Thank you.

CROSS-EXAMINATION

BY MS. CLANCY:

Q Just one question.

Good morning, Mr. Freed. My name is Emma Clancy, appearing on behalf of Appalachian Voices.

Did you hear Mr. Hubbard's testimony on Tuesday?

A Yes.

Q And so did you hear him mention DSM customer awareness campaign that Dominion is working on?

A Yes.

Q And to your knowledge, have localities been engaged as part of that Dominion customer awareness campaign?

A They may have. I am not currently participating in that, so other localities may have.

Q But Alexandria has not?

A Not to my knowledge.

MS. CLANCY: Thank you.

COMMISSIONER HUDSON: NRDC?

MS. JAFFE: No questions from Sierra Club and NRDC.

COMMISSIONER HUDSON: United?

MS. POLLARD: No questions, Your Honor.

COMMISSIONER HUDSON: Clean Virginia?

MR. REISINGER: Thank you, Your Honor.

CROSS-EXAMINATION

BY MR. REISINGER:

Q Good morning, Mr. Freed. I'm Will Reisinger. I'm representing one of the

respondents in this case, Clean Virginia.

I think I have just one or two questions following up on your discussion of the -- the Dominion Energy Efficiency Potential Study, which I think your counsel said was filed as an attachment to Dominion's recent energy efficiency filing for the Commission; is that correct?

A I'm not sure what the -- which filing he referenced.

Q Okay. And let me ask you about a statement that appears on page 4 of this excerpt of the report, Section 1.1.3, regarding cost-effectiveness.

Do you see that paragraph?

A Yes.

Q So this first line says: The TRC benefit-cost ratios for Dominion Energy's Virginia service territory" -- first of all, "TRC benefit-cost ratios," does that mean total resources cost test ratios?

A That's my understanding.

Q Okay. So it says -- the first line says:

The TRC benefit-cost ratios for Dominion Energy Virginia's service territory are .93 under the 50 percent-plus scenario and 1.0 under the

75 percent scenario.

Do you see that sentence?

A Yes.

Q Okay. And the next sentence says:

TRCs less than 1.0 indicate that the costs of the program exceed the benefits as measured by energy and demand-avoided costs.

So TRCs of 1.0 or greater mean that the programs are cost-effective under this test; is that right?

A Yes.

Q And Dominion's study says that the energy efficiency at a 75 percent-plus scenario are cost-effective; is that right?

A Right, according to the TRC.

Q Okay. And this TRC test does not consider issues like the social cost of carbon, greenhouse gases, or non-energy impacts; is that correct?

A Right, which calling it total resource and not including all of the resources is somewhat of a misnomer.

Q So if you included some of those other factors, it could make more energy efficiency programs cost-effective; is that fair?

A I believe that would be accurate.

Q Okay. And on the next page of this report, there's a table, Table 1-1, which is a summary of achievable potential results.

And do you see here that this table at the bottom includes a TRC ratio for both the 50 percent incentive level and the 75 percent incentive level?

A Yes.

Q So that -- this table is showing that at a 75 percent incentive level, these programs are cost-effective; they have a TRC of 1.0, correct?

A Correct, yes.

Q And I think I want to ask you one more question about a statement in the -- paragraph 1.2, which I have on the screen now.

And the first sentence says:

Dominion Energy -- this Dominion Energy Potential Study shows a lower range of program savings potential or achievable potential as a percentage of base load than other potential studies conducted by DNV. This is mainly driven by Dominion Energy's low-avoided costs.

Do you see that statement?

A I do.

Q So Dominion Energy's low-avoided costs

is -- does that mean that Dominion Energy's rates are relatively low currently?

A I'm not actually sure what they mean when they say that.

Q If Dominion Energy's rates were to go up, would that increase the avoided costs rate?

A It -- I mean, it depends on whose costs are being avoided, but --

Q If Dominion Energy's total rates were to go up, would that make more energy efficiency programs cost-effective for the Company?

A It would make it more cost-effective for both the customers and the Company, yes.

Q And are you aware that Dominion Energy last month filed a base rate increase requesting over $630 million in rate increases?

A Yes. My understanding from their summary was that they would increase monthly costs by $20 for each resident, each household.

Q Okay. And the IRP on page 51 includes a residential bill increase projection chart?

A Right.

Q Which is Figure 4.2.1.1; is that right?

A Yes.

Q And does this generally show that Dominion

Energy expects residential customer bills to increase over the 15-year IRP planning period?

A Yes.

Q And under the Company methodology, Dominion Energy projects that a residential customer bill could increase from $142.77 on October 1st of 2024 to $214.24 on 2039 -- in 2039.

Do you see that?

A I do.

Q And under the directed methodology, which was directed by the Commission, Dominion Energy projects that residential customer bills could increase from $142.77 to $315.25 by year-end 2039; is that correct?

A That's what the chart says.

Q So if this were to happen, if bills were to increase by this magnitude and rates were to increase by this magnitude, it would make a whole lot more energy efficiency cost-effective for the Company, correct?

A It would make more energy efficiency cost-effective in the way that they are currently doing their model. What we -- we are arguing that there is already more energy efficiency that's cost-effective that they are missing out on. This

would make it more.

It would also, importantly, make it more attractive to customers -- I say residents -- but more attractive to ratepayers because they would have -- Dominion would have an easier time achieving that market penetration to get more energy efficiency for customers. More customers will be more interested in energy efficiency projects as a result of that.

So as rates go up, as bills go up, the cooperation between Dominion and localities would be even more effective to achieving those energy efficiency reductions.

Q Okay. And I think you said that Dominion's IRP and its load forecast does not assume compliance with the minimum savings targets in the Code?

A Correct. The VCEA requires a 5 percent achieve -- to achieve 5 percent target by 2025 or in 2025, and Dominion is not set to accomplish that.

Q And your opinion is that Dominion could have assumed compliance with the Code's savings started in its IRP?

A In fact, that they are obligated to. The

law is the law, so Dominion should follow it. Yes, that's the City's position.

Q And Dominion also could have run a scenario where they exceed the Code's minimum savings target, correct?

A Yes. And in the IRP where they reference this, they identify that that's economically achievable at 17 percent rather than the under 3 percent that they have currently achieved.

MR. REISINGER: Okay. Thank you. That's all I have.

COMMISSIONER HUDSON: DCC?

MR. MURPHEY: No questions, Your Honor.

COMMISSIONER HUDSON: Walmart?

MS. GRUNDMANN: No questions, Your Honor.

COMMISSIONER HUDSON: PEC?

MR. GREMA: No questions, Your Honor.

COMMISSIONER HUDSON: Microsoft?

MS. ROBB: No questions, Your Honor.

COMMISSIONER HUDSON: Consumer Counsel?

MR. BARTLEY: Yes, I do believe we have a question.

CROSS-EXAMINATION

BY MR. FARMER:

Q Good morning, Mr. Freed. John Farmer,

with the Office of the Attorney General's Division of Consumer Counsel. And I just wanted to clarify one thing from your written testimony and your oral surrebuttal this morning, and it concerns the nature of the proposed work group between Dominion and localities.

And from reading your prefiled testimony, I understand -- I understood that proposal to largely be focused on data sharing.

Is that -- is that accurate or --

A Yes.

Q Can you describe the scope of that proposal? Can you describe the scope of the proposal for this work group?

A Yeah. I mean, the idea of the stakeholder subgroup would be that Dominion and localities can sit down and talk about what are the profiles of -- what is the information that we have, how can we share that information to build better profiles to get deeper energy efficiency savings.

What could result from that or what should result from that are deeply designed energy efficiency targets and programs that can be achieved together.

We can also from that have specific

agreements. Cities like Alexandria have the opportunity to do franchise agreements with Dominion. Counties do not have franchise agreement authority. But there are other agreements that Dominion can put together to help achieve those.

So Dominion already has targets, so we don't have to have a conversation just to talk about IRPs and how we can set targets and do better modeling. We can be specific in those work groups to get specific programs designed and move forward to help Dominion achieve the goals that they have already committed to and that the state law requires.

Q Okay. And for the -- in terms of the development of potential programs, those would be utility programs that are funded by ratepayers.

Is that what you're referencing?

A I mean, I think there are a number of ways that it can be done. There are -- cities have the funds that they can put into programs that can be -- that can use Dominion's information. Dominion can certainly use ratepayers dollars to develop energy efficiency programs to meet the targets that they are required to do, and Dominion

also has marketing and other funds that they can use to put into projects like this.

Mechanisms like a franchise agreement can create unique opportunities to create new models of funding for energy efficiency or other clean energy targets -- projects.

Q Okay. And in terms of the potential development of utility programs in this process, does the City envision the development of potentially locality-specific program offerings?

A Yes, I mean, locality-specific and narrower.

So Dr. Roumpani's testimony talked about virtual power plants. We could design those throughout Virginia, but they would be designed specifically in a locality or a neighborhood or a block, right. That could be the level of design that we could do to have verifiable, quantifiable data to say, here is what the energy efficiency will be achieved out of these projects that can then be used in later IRPs and better modeling.

Q Okay. And if there were locality-specific programs developed, would the City envision those programs being funded by utility ratepayer dollars?

A So yes. As a part of the IRP and viewing energy efficiency as a selectable resource, those programs need to be -- I mean, we need to achieve energy efficiency somewhere, and being funded and socializing those cost across all ratepayers does not require that every ratepayer participate in those programs. It just requires that everyone be able to benefit from those programs. And those benefits are a myriad, right.

There is the direct benefit of receiving an energy efficiency improvement to my home, but viewing it as a selective generation resource means that I get the benefit of the system improvements that come from that as well, right.

And so we don't have negative externalities from carbon pollution and other things that come from fossil generation. So everyone can benefit from viewing energy efficiency as a selectable resource, no matter where that energy efficiency is done on the grid.

Q Okay. And, Mr. Freed, are you aware of the Company's currently pending demand-side management case, which is Case No. PUR-2024-00222?

A I'm broadly aware of it.

Q Okay. Is the City participating in that

case as a respondent?

A We are not. We are -- we have to be selective in what we can participate in, both because my time is limited and our funds are limited, and these are expensive proceedings for cities to participate.

MR. FARMER: Thank you, Mr. Freed. That's all I have.

COMMISSIONER HUDSON: Commission Staff?

MS. PIERCE: No questions, Your Honor.

COMMISSIONER HUDSON: Dominion?

MR. DANTONIO: Yes.

CROSS-EXAMINATION

BY MR. DANTONIO:

Q All right. Good morning, Mr. Freed.

A Good morning.

Q So there is a number of discussions about whether DSM should be included as a selectable supply-side resource in the Company's 2024 IRP and future IRPs.

Do you recall that?

A Yes.

Q Okay. And is it your understanding that the Company includes its DSM as a load modifier?

A Correct.

Q Okay. And generally speaking, is it your understanding that the Company first calculates its load forecast; then, second, it reduces its load forecast based on this DSM; and then, third, it chooses certain supply-side resources to meet the remaining load.

Is that generally your understanding of how the process works?

A Yes.

Q Okay. So what advantages do you see of having DSM be included in that third step of the planning process as opposed to in the second step when it's actually reducing the load that the customer needs to bill to?

A So there's a couple of benefits to this. The first is that Dominion's load adjustments are minuscule in comparison to what even Dominion's analysis says is potential there. So understanding what is economic is more valuable there. So just that alone gives us reason to say we should do that, that we should aim for that.

So my understanding is Dominion only includes what they are committed to through Commission order to achieve as lowering their load adjustments. We believe that they can exceed

that, and when they can exceed that, they ought to. That's -- that is clarified in state policy, right, that Dominion should exceed -- should maximize energy efficiency potential.

So doing that on as a selectable resource allows it to compete specifically with the cost of additional resources as you're going through and making your decisions.

So you can do both, include the mandated requirements of what -- how you use your load potential, you absolutely should manage load properly; but then you should allow energy efficiency as a selectable resource so we can get to the highest potential of energy efficiency as possible.

Virginia -- the Virginia's Commonwealth Clean Energy Policy says we should maximize energy -- the potential of energy efficiency when it's within the public interest. I don't think we can do that unless we're comparing it against the supply-side costs.

Q Got it.

Okay. So are you saying in that second step that the Company should put in the VCEA EE targets, and then -- as a load modifier, and then,

in the third step, they should also include DSM resources as a selectable resource?

Is that generally what you just said?

A I think that's what I said.

Q Okay. Maybe. Check me.

A No. I'm not a modeler. So how the model works out, what I'm saying is that we are missing energy efficiency as a potential by limiting the amount of energy efficiency to the very small amount that has been included in the load adjustment or not competing it against supply side.

Dominion's own analysis, own Potential Study says that there is a much more significant potential from the 2.7 percent or so that has currently been achieved, there is an opportunity for 17 percent. And that's defined as economic, meaning that it is cheaper than supply-side alternatives. That has to be included in the IRP in order for us to have a balanced process.

Q I think you may have preempted one of my questions.

Do you have load forecasting or modeling expertise?

A Nope.

Q Okay. So this is just speaking from your general awareness of the process --

A Yes, I mean --

Q -- and what you've picked up on the job?

A What I've picked up on 25 years of doing energy efficiency work and working on regulatory proceedings and my --

Q Absolutely.

A -- over a decade of work with the Kansas Corporation Commission, yes.

Q Okay. Fair. Thank you.

So you spoke about the VCEA. Are you aware that the VCEA has a required stakeholder process?

A Yes.

Q And did the City participate in that?

A I am not sure which stakeholder process we did and did not participate in. Dominion has a lot of different stakeholder processes for their energy efficiency programs and other pieces.

Q So you're not sure about the IRP stakeholder process, whether the City participated in that one?

A I don't believe we participated in that.

Q Okay. And which ones do you participate

in, if you know?

A We have participated in some of -- Dominion has an energy efficiency group that meets. I don't recall the specific name of it. I've participated in a couple of those, listening to one recently, but that is largely where they are getting ideas from potential bidders on energy efficiency projects.

And, again, that's a very limited scope of energy efficiency and not what we're asking for, which is large-scale, high-yield energy efficiency targets.

Q All right. One quick clarifier and then just have one -- this is related to the final topic.

So at the very beginning of your surrebuttal testimony, I heard that you believe the Company did not engage with one of your core issues about the 17 percent energy efficiency adjustment, but then towards the end of the surrebuttal, I heard your counsel say that Mr. Hubbard speaks a lot about that 17 percent energy efficiency adjustment in his testimony.

So what -- just trying to get clarity on what you think the Company has done to respond to

that comment.

A I think the Company ignores that 17 percent is an economic opportunity that is economically achievable by their own definition or by their Potential Study's definition that they can achieve that.

And I think it's evident in what Dominion has recommended in both their energy efficiency targets of eventually getting to 5 percent of the VCEA, but clearly, outside of the bounds of what the law requires, they are not hitting that 17 percent.

So I think regardless of how much a witness talks about the 17 percent target, Dominion is not achieving and doesn't appear to be attempting to achieve to hit that 17 percent target.

Q Okay. Got it.

So it's discussed but not to the particulars of why you brought it up?

A Right.

Q Okay. I've been hesitating to use this device over here. It's my first time.

So I just wanted to show you quickly -- so regard to that 17 percent energy efficiency

reduction that you mention, are you -- so what I'm putting up here, I think -- okay.

So I'm just showing you the first page of the VCEA that discusses the energy efficiency -- or the energy efficiency targets applicable to the VCEA. And then right here, this is Virginia Code Section 56-596.2B2.

And then are these the -- these are the targets that we were talking about earlier that are the mandated ones, correct?

A Yes.

Q Okay. All right. Then you discussed with your counsel earlier the EE Potential Study, right?

A Yes.

Q Okay. And then, specifically, we spent a good amount of time on this chart.

Can you see that, Mr. Freed?

A Yes.

Q Just to gather your understanding on how this chart and these percentages listed in this chart relate to those VCEA-mandated targets, right?

So you have this technical -- and I drew these blue lines here just to -- they looked like

the -- I think I captured it correctly, but I'm sure your counsel will let me know if I did not.

So this Technical column, how does that relate? What would this be?

A So I believe in the study it defines technical as energy efficiency that is technically achievable though not necessarily economic when compared to supply-side generation assets.

Q Okay. And then the economic?

A That is what they define as economic when compared to supply-side generation.

Q Okay. And this is the 17 percent --

A Correct.

Q -- that you were speaking about before, above the column?

Okay. And then the achievable potential?

A I don't recall what the definition of achievable was, but I think it's -- I think it's referencing what Dominion has already accomplished.

Q Okay. But you're not sure what this --

A I'm not, no.

Q Got it. Okay.

MR. DANTONIO: That's all I have. Thank you.

CHAIRMAN TOWELL: Mr. Freed, just a couple of questions for you.

THE WITNESS: Yeah.

CHAIRMAN TOWELL: Thanks so much for coming and speaking with the Commission during this proceeding.

The City of Alexandria is a nonjurisdictional customer of Dominion; is that correct?

THE WITNESS: Yes, as a city.

CHAIRMAN TOWELL: As a city, right, not as a representative of its constituents.

Has the City as a customer engaged with the Company in any sort of EE programs specific for the City as a municipality?

THE WITNESS: Not that I'm aware of. We acquire through VEPCO, through a purchasing group of other jurisdictions. And, in fact, Mr. Hubbard's testimony says that, as nonjurisdictional customers, we're ineligible to participate in their energy efficiency programs for City facilities.

CHAIRMAN TOWELL: And have you worked through the Virginia Municipal League or any other similar organization in order to kind of advance

some of these issues that you've brought before us here today?

THE WITNESS: Yes. We've worked with -- I mean, we've worked with our state delegation and others to try and talk through how we can advance energy efficiency and renewable energy broadly.

CHAIRMAN TOWELL: Thank you very much.

THE WITNESS: Uh-huh.

COMMISSIONER HUDSON: City, any redirect?

MR. WINSTON: Just a few questions, Your Honor.

REDIRECT EXAMINATION

BY MR. WINSTON:

Q Let the record reflect that this is a depiction on my phone of Virginia Code Section 56-598, which governs IRPs.

And, Mr. Freed, do you think, based on your testimony and based on your review of the Potential Study and the IRP filing, the testimony that you've heard over the last few days, and the rebuttal testimony offered by Mr. Hubbard, that the IRP satisfies the requirement that the IRP should, quote, reflect a diversity of electric generation supply and cost-effective demand reduction contracts and services so as to reduce

the risks associated with an overreliance on any particular fuel or type of generation?

A No. We think that, by leaving out energy efficiency as a selectable resource, it's missing an important and diverse section.

The potential of 17 to 34 percent of load that could be saved through energy efficiency is more than enough to call it part of a diverse set of resources, so I don't think that the IRP represents that.

Q And counsel for the Company intimated that their filing does fully comply with the energy efficiency requirements of the Virginia Clean Economy Act.

But do you think, given the magnitude of the projected load forecast, that Dominion is over-relying on supply-side generation in contravention of the statute?

A Yes. The VCEA requires a 5 percent reduction in 2025, which is not even anticipated in the IRP or in any other filing or proceeding that Dominion has been a part of, so they are in violation of the VCEA with that.

The statute -- the Grid Transformation and Security Act requires us to

lower rates for particular classes of customers. The VCEA requires us to explore energy efficiency where it's cheaper than generation, so when it's economically achievable compared to supply-side alternatives. And the Commonwealth Clean Energy Policy tells us to maximize energy efficiency.

So the IRP should adhere to those portions of state law, regardless of the provisions that are missed, by creating the diversity of resources and the state law that governs how an IRP proceeding -- how an IRP should be handled. It's also not adhering to the other portions of Commonwealth policy that say we have to do -- we have to do those specifically three things.

And by not doing that, the IRP is lacking in achieving what it is intended to achieve, and it's not a tool that's useful for local jurisdictions or the public in making decisions.

Q And how do the economic -- in your experience as a regulatory expert, how does the -- how do the negative economic incentives that inure to the Company when it comes to developing and discovering robust energy efficiency and demand-reduction programs, how does that interact with the Commission's role as a public regulatory

body?

A Yeah, I think -- I believe the reason -- or at least I would argue that the benefit of state policy directing us to do these things where we maximize energy efficiency is because there is an incentive to -- there's incentive to the Company to encourage new generation assets being built. That is an economic incentive for the Company to build assets and then amortize those out through and include them in the rate base. So there's benefit for that being done.

The benefit to residents of focusing on energy efficiency is to reduce those costs over the very long term and the immediate term, so we get immediate benefits of energy efficiency, the increase reliability, the increase resilience and those pieces, and we have reduced costs systemwide because we're not relying on new generation assets to cover load costs, and, instead, we're reducing load to do that.

So there are myriad benefits to preferring energy efficiency, and that would -- I would argue that's what state policy directs us to do that in this proceeding and future...

Q Final question: Do you think that

modeling demand-side options as a selectable resource and engaging with local governments to identify high-yield energy efficiency targets as you've described would bring the IRP more in conformity with the relevant laws?

A Yes, absolutely would.

MR. WINSTON: Thank you, Mr. Freed, for your testimony.

Nothing further from us, Your Honor.

COMMISSIONER HUDSON: Thank you.

The witness is now excused. Thank you so much.

MS. PIERCE: Good morning, Your Honor. Commission Staff would call Kenneth Curtis to the stand.

KENNETH CURTIS, called as a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MS. PIERCE:

Q Good morning. Would you please state your name and position with the Commission?

A Yes. My name is Kenneth Curtis, and I am a director of power markets for Enverus.

Q Do you have with you this morning a

document consisting of a one-page summary, five pages of questions and answers, and a 31-page attached report?

A Yes, I do.

Q And was this document prepared by you or under your supervision?

A Yes, it was.

Q Do you have any corrections to make to that prefiled testimony this morning?

A No, I do not.

Q And if you were asked the same questions today, would your answers be the same or substantially the same?

A Yes, they would.

MS. PIERCE: Your Honor, I ask that Mr. Curtis' prefiled testimony be marked and admitted into the record, subject to cross-examination. It was a public version only.

THE BAILIFF: The prefiled testimony of Kenneth Curtis will be marked as Exhibit 49.

(Exhibit No. 49 was marked for identification.)

COMMISSIONER HUDSON: The testimony marked and described as Exhibit No. 49 is admitted into the record.

(Exhibit No. 49 was admitted into evidence.)

MS. PIERCE: Thank you, Your Honor.

BY MS. PIERCE:

Q Mr. Curtis, did you have a chance to review the rebuttal testimony filed by Dominion on March 25th of this year?

A Yes, I have.

Q On pages 5 and 6 of his rebuttal testimony, Company Witness Bocanegra states that an artificial neural network, also referred to as ANN, is often a suitable forecasting method in the short term but may produce unreliable results for long-term load forecasting.

Do you have any comments?

A Yes, I do. An artificial neural network model works by taking data and datasets and continuously learning from them by using corrective feedback loops to improve their predictive analytics.

Q And what are the advantages of this type of forecasting model?

A The advantage of using artificial neural network is that we capture all of the macro and microeconomic trends that are impacting demand

currently by using actual load, for example, the current demand from data centers.

Adding another layer to our forecast, we weather normalize the historical data and -- to obtain an accurate level of demand growth that is occurring to ensure those forecasts are reasonable.

Enverus has used this methodology for forecasting loads since the early 1990s and is recognized as a leader in the energy industry.

Q Has Enverus provided this type of forecasting on behalf of the Commission Staff before this case?

A Yes. We have provided these forecasts for a number of years on behalf of the Staff.

Q And does Enverus use this neural network model to prepare all of those forecasts in your report?

A Yes, that is correct.

Q Is it true that the only Enverus forecast that isn't in general alignment with the Company's forecast is the capacity price forecast?

A Yes, that is correct.

Q Thank you.

Moving now to Company Witness Scheller's

rebuttal testimony. At pages 8 and 9, she states that she does not find Enverus's long-term price projections for capacity prices to be, quote, a reasonable characterization of the market value for capacity necessary to maintain new and existing capacity resources in the market.

Do you have any response?

A Yes. Between 2012 and 2022, capacity auction prices surged as high as $160 and dropped as low as $16. Over that same period, nearly 70 gigawatts of capacity was built or added to the PJM footprint.

So, in other words, capacity has been added when prices were high, and it's been added when prices were low.

Market participants do not always act in the manner that follows rational economic behavior. This underscores why Enverus believes using historical heat rates is vital to capacity forecast, capacity price forecast, because the forecast captures what clears the market, not what should clear.

Q Can you please explain what you mean by "heat rates"?

A Yes. Heat rate measures the efficiency of

a generating unit. A lower heat rate indicates that a unit is more efficient and, thus, less costly to run.

In general, for the PJM system, lower heat rates mean less generation is needed to meet the next incremental megawatt of demand. And high heat rates mean more generation is needed to meet the next incremental megawatt of demand.

So we incorporate these cleared heat rates from prior capacity market auctions to inform our forecast. And the advantage of using cleared heat rates is that they capture the uncertainty inherent in the PJM capacity market from frequent rule changes that PLEXOS may not be able to capture through its forecasted modeling.

Q Could you give an example of a frequent rule change that affects capacity prices?

A Sure. As has been discussed recently at PJM, PJM is considering a price collar in the base residual auction, which is expected to go into effect for the '26-'27 and '27 and '28 auctions, which sets a price ceiling of $325 a megawatt-hour and a price floor of $175 a megawatt-hour.

The practical effect of this is capacity prices will be higher, as the floor of $175,

excluding the most recent auction, is higher than what we have seen over the prior decade.

Q Is it still your opinion that the Enverus capacity price forecast is appropriate and based on reasonable assumptions?

A Yes.

Q And is it your understanding of Dominion's load forecast that they begin with the PJM load forecast and they scale it down for the DOM LSE?

A Yes, that's correct.

Q And, Mr. Curtis, in your position with Enverus as the director of power markets focusing on PJM, part of your job is to monitor the ongoings of PJM; is that correct?

A Yes, that's correct.

Q Historically, how many years has PJM included in its load forecast?

A A 15-year forecast, historically.

MS. PIERCE: Your Honor, I'd like to pass out a document.

BY MS. PIERCE:

Q And, Mr. Curtis, have you seen this document before?

A Yes, I have.

Q I'm going to direct your attention to the

executive summary, which is on page 4.

Do you see that?

A Yes, I do.

Q And could you read that first bullet point to us, please?

A Yes.

The report includes a 20-year long-term forecast of peak loads, net energy, load management, distributed solar generation, plug-in electric vehicles, and battery storage for each PJM zone, region, locational deliverability area, LDA, and the total RTO.

Q Based on this document, is it your understanding that PJM for 2025 and moving forward is now going to be using a 20-year forecast?

A Yes, that's my understanding.

Q All right. And based on that, is Enverus planning on expanding its planning period in future purposes?

A Yes.

Q All right.

MS. PIERCE: Your Honor, I would ask that this document be marked and admitted into the record, subject to cross-examination.

THE BAILIFF: The 2025 PJM long-term load

forecast report will be marked as Exhibit 50.

(Exhibit No. 50 was marked for identification.)

COMMISSIONER HUDSON: Any objection?

The report marked and described as Exhibit No. 50 is admitted into the record, subject to cross-examination.

(Exhibit No. 50 was admitted into evidence.)

MS. PIERCE: Thank you.

And, Your Honor, the witness is now available for cross-examination.

CROSS-EXAMINATION

BY MR. BENFORADO:

Q Good morning, Mr. Curtis. Nate Benforado, on behalf of Appalachian Voices.

A Good morning.

Q Thank you for being here.

A Thank you.

Q I just have a few areas that I'd like to explore. And you just touched on one of the areas, which is the capacity price forecast. You just touched on that with your counsel a moment ago.

I'm going to put up on the screen, I

believe, page 27 of your testimony. This is the capacity market forecast.

And this is the chart that you were just discussing with your counsel earlier in your live testimony; is that right?

A Yes, that is correct.

Q And I believe this is the area where you agreed that your forecasts were different than Dominion's forecasts?

A Correct.

Q How would you describe the difference between your various scenarios and Dominion's forecast in a qualitative kind of term?

A Sure. And perhaps some context and why we reference back in terms of the last decade, but there's been regular changes in terms of the capacity market construct.

So there's -- if you look -- it's hard to kind of decipher there, but once we get past 2030, it's more difficult for us to make that argument of extended prices being near $600, $400 for an extended period of time.

If you look back at the design -- well, one, you'd have to be able to make an argument that the construct itself is not working correctly

in terms of the BRA, the capacity market.

I think, two, further, you'd have to make an argument that there's supply chain issues extending further from what we have seen currently.

And, thirdly, that there wouldn't be any adjustment from either FERC or PJM in terms of the pricing here.

We don't disagree with, say, one or two years after 2030; there's a continued upward trend. But extended over a long period of time is a more difficult argument to make, in our view, for the reasons that are highlighted.

Q Thank you.

So beyond 2030, say, would you agree that it's -- what Enverus is forecasting for capacity prices is pretty starkly different than what Dominion has forecasted; is that fair?

A Yes, that's fair.

Q And just to understand your reasoning, I'm going to try and put it in my lawyer terms, but I'd love to hear if you'd agree with it, or correct me if you don't.

Essentially, as I read some of the narrative description and what you just said,

essentially, the recent capacity option prices in PJM sent a very high price signal to the market saying PJM is capacity constrained, we need capacity.

With this high price signal, the market will respond. The need will likely be met at some point given some uncertainties about supply chain issues, but it will be met at some point, and the price will come down after this near-term capacity crunch.

Is that fair or would you correct any of those?

A I think that's fair.

And then also, again, once we get out to 2030 -- so what's facing market participants now, the next auction is in July of this year for the next capacity auction, the latest planning parameters were just released in April. So we're up against a truncated schedule in which market participants have to not only understand and digest the rules but then have a strategy in time and really a, call it, 90-day window.

Why I bring that up is that becomes very difficult; it's heavy lift.

Once we get out to 2030, we're supposed to

at least return back to a normal timeline with a three-year forward-looking capacity auction. Whereas now the schedule is somewhat -- what is it? -- four auctions in two years. That makes it very difficult for market participants.

So back to your point, once we get to that timeline, it makes it a little bit easier for supply to respond as well as demand to the price signals, as they have a farther look-ahead.

Q So kind of zooming out to, you know, these, you know 15-, 20-year time frames, would you view the current capacity prices -- you know, the $700 range -- as more of an aberration or more of a sustained this-is-the-new-normal level?

A Well, there's -- you have to take a step back and look at what happened in between the time from the last auction to the record-breaking capacity auction and understand the changes that have taken place in terms of the ELCC, which was mentioned in prior testimony.

So to say that it's -- some of it is by unintended consequences. What PJM is reacting to, and rightly so, is the events of Winter Storm Elliott, so properly accrediting the generation that's online and available.

So in that context, while they continue and it's still in review, finding a way to properly accredit the capacity, there's still some challenges ahead.

If you look back historically, and why we think it's important to look back historically, is, generally, the prices will normalize over time, capital markets respond, generation generally responds.

So, yes, to answer your question, it's hard to make an argument for a long-term, sustained record-breaking prices, in our view.

Q Right.

And at least according to these forecasts, sort of the normalization, you think, will steady much lower than the actual capacity price auction price we just had?

A After -- it's hard, I know, to tell in that chart, but that's -- once you get to 2030.

Another caveat, there's the price collar that's still in effect -- or excuse me -- is still pending. It's, in our view, likely to get approved. That will come in late April.

If that happens, that -- the significant piece is that price floor. Obviously, the price

cap of 325 holds weight, but the price floor, just because -- at $175, that's higher than anything that we saw prior to the record-breaking capacity prices of the last auction.

Once that's in effect, we would ultimately raise our -- much of our price forecast would need to be raised, and that would, effectively, raise our price forecast.

Q Just to understand sort of one of the impacts or potential impacts from a world in which -- you know, whenever we might reach that -- a world in which we have lower capacity prices, would lower capacity prices indicate, generally, a less capacity-constrained PJM system?

A If you look at -- it's hard to -- if you look at the history, when prices cleared $16, the reserve margin increased by 3 percent. In the last decade you also added capacity. So to look at one year individually and one auction individually doesn't necessarily correlate well over time.

It would imply, and you can infer that, yes, there was plenty of supply if you continued to see lower prices. But, again, that's relative, right. If you continue to see -- you know, if we

implement a price floor of 175, if that actually gets implemented, that becomes the new low price, so -- in respect to what we saw over the decade.

So that's why I'm careful about, relatively speaking, low prices and saying it that way.

Q Understood. That's fine.

I'd like to flip forward to page 30. I believe this is the conclusion -- some of the conclusions in your report.

And I think I'm looking at the second bullet point here. And this is -- I'll just read it into the record:

Furthermore, Enverus continues to caution against demand sales forecasts that rely too heavily on one sector of demand, in this case, the commercial sector.

And I just want to make sure I understand sort of the takeaways here.

Commercial sector, that would include data centers; is that correct?

A Yes, that's correct.

Q And is it your understanding that data centers are really the primary driver of growth in the commercial sector?

A Looking at the information from the fed, also some of the information in the IRP, that's our sense, yes.

Q And so your word of caution here, I just want to make sure I understand, you know, why that's important to mention in your report.

So is that because, essentially, relying on one sector in these, you know, big, long-term forecasts, there's a risk that if something happens in that sector, it could have an outside impact on all of the related forecasts?

Is that sort of the point you're trying to get across?

A Yes, I think that's fair. Also, too, to take it one step further, we track load across the country, so we see other areas of growth.

If you look at ERCOT, ERCOT's load growth is derived from many different sectors. So they have had, you know, a large influx of migration over the last few years. You're seeing also the commercial sector grow. You're seeing several of their sectors grow.

So that would be an example where the demand growth is a little bit easier to make an argument for, as it's applied through different

sectors, not just one in particular.

Q So in those examples, there's multiple sectors that are all exhibiting growth?

A Yes.

Q So you essentially have some diversified growth; is that fair?

A Better way to put it, yes.

Q Now, I want to drill down just a little bit deeper on this sort of risk, and I believe this was brought up earlier.

This was attached to Mr. Wilson's -- APV Witness Wilson's testimony. This was a discovery response, and it was asking about -- so this is part of Mr. Wilson's testimony, Exhibit 29. It is Appalachian Voices third set, question 41.

And we were asking about sort of how much of the forecasted demand is within, you know, sort of the largest data center companies.

And the Company responded, you know, the two largest data center companies, at least in 2030, the forecasts show they will account for 52 percent of the Company's data center demand. And, you know, it grows to 59 when you look at the three largest; 67 when you look at the four largest; 71 percent when you look at the five

largest.

Is this also illustrative of this point of relying on one sector? And the way I want to try to understand it is, you have growth in the data center sector, not a lot of growth elsewhere, primarily being driven by data centers, and, in fact, a lot of that growth is concentrated in just a few companies.

So is that another reason why you would caution against relying on forecasts in this -- in this sort of scenario?

A Yes. I think that's a good point.

Q So essentially, if one of these top data center customers in Dominion's territory were to change its business plans, that, too, could have an outside impact on some of these forecasts we've been looking at?

A That could, based off of these numbers, yes.

Q And were you in the courtroom when Microsoft's witness, Dr. Stover, was on the stand?

A Yes.

Q And I -- we don't need to look at these in detail, but there were some exhibits entered, Exhibit 40, 41, 42, that talked about some recent

cancellations from Microsoft.

A Yes.

Q Is this indicative of some of these changes that you might be worried about in terms of forecasting, you know, load forecast, demand forecast?

A Yes, yes. These would be examples.

Q Last area, I think it's the first bullet point here. And you talk about there does not appear to be a transparent way to account for data center entities also applying for service elsewhere in the Dominion load-serving entity territory, DEV LSE, and in other PJM transmission zones, i.e., double-dipping.

So are you talking in this bullet point sort of about a data center entity applying for sort of a single project with Dominion in its load-serving entity, but they are actually shopping that single project somewhere else in the PJM area?

A Yes, that's correct.

Q Is it also possible that that data center -- a data center entity could be shopping, not just within PJM, but anywhere in the US or in the world?

A Yes. And that -- to clarify that, seems to be the pattern, too, as we see it just outside of -- throughout the US.

MR. BENFORADO: That's all I have. Thank you.

CROSS-EXAMINATION

BY MR. JOHNS:

Q Mr. Curtis, Evan Johns, on behalf of Sierra Club and NRDC.

How are you doing today?

A I'm doing well. How are you?

Q Good, good. I will be very brief here.

I don't think you addressed it in your surrebuttal, but in reviewing the Company's rebuttal, did you read Company Witness Shane Compton's rebuttal testimony?

A I may have, if you can remind me.

Q Sure. I think he does respond to you on a few issues. I can actually walk through why I'm asking. Before I do that, though, can I just -- I'm sorry I have to ask this. I think I asked Bernadette Johnson the same question last year.

But in your analysis, you were not looking at what we call "social cost of carbon" at all, were you?

A No, in terms of the load forecasts.

Q And Enverus did make a decision not to include a forecast for national CO2 pricing; is that right?

A Yes. Now, if there's a comparable -- within the statement of work, if there's a comparable forecast that's -- or excuse me -- if there's a forecast that's provided, we will provide a comparable forecast.

Q And so just so I understand, did Enverus make a conscious decision not to include any CO2 tax in any of its analysis?

A If I'm tracking your train of question here, back to the statement of work, if there's a forecast that's provided by the Company, we will then provide a comparable forecast.

Q I see. Okay.

And so because the Company didn't provide a CO2 cost forecast, you-all didn't produce your own?

A Correct.

Q Okay. So the reason I ask -- I'll put Mr. Compton's testimony, which I'm sure will be admitted into the record here, hopefully today. I just want to point your attention to -- this is on

page 16.

He starts here responding to Sierra Club Witness Shobe's criticism for not including a social cost of carbon. And then just this first line references Enverus and your report. It says:

Importantly, Staff Witness Curtis concurs with the Company's decision to not include a forecast for national CO2 pricing.

I take it, based on your testimony today, that's not even really a decision that Enverus made, not to include CO2 pricing?

A Correct. If my understanding of the statement of work is if there was a -- if there was a forecast provided by the Company, we would provide a comparable forecast.

Q And certainly, even if you had provided that forecast, traditionally, Enverus in the past has looked at, essentially, a carbon tax, a cost that would be passed along to ratepayers; is that fair to say?

A I think that's fair to say, yes.

Q Okay. But it is true that you don't see anything in your testimony as having any relevance to social cost of carbon; is that correct?

A In terms of our reporting, we mention it,

and I'll have to go back to the -- we have comments regarding it in terms of broadly what our view is and where it is currently in terms of policy.

But, yeah, in terms of specific comments, nothing to add outside of what we have in those bullet points, if that makes sense.

Q Okay. And just to be clear, in your report do you refer to social cost of carbon, or are you looking at economic costs that might be imposed through a carbon tax?

A I see. Yes, more of an economic -- specifically looking at RGGI and, yeah, more of an economic cost --

Q Okay.

A -- where the market is.

Q Sorry. I didn't mean to talk over you.

A No, no. Pardon me. You're fine. That was it.

MR. JOHNS: Okay. I think that's all I had, Mr. Curtis. Thank you.

COMMISSIONER HUDSON: United?

MS. POLLARD: No questions, Your Honor.

COMMISSIONER HUDSON: Clean Virginia?

MR. REISINGER: No questions.

COMMISSIONER HUDSON: DCC?

MR. MURPHEY: No questions, Your Honor.

COMMISSIONER HUDSON: Walmart?

MS. GRUNDMANN: Yes, Your Honor.

CROSS-EXAMINATION

BY MS. GRUNDMANN:

Q Good morning still.

A Good morning.

Q My name is Carrie Grundmann, here on behalf of Walmart.

I want to -- I want to get your opinion on something, since this is my one opportunity to do so.

You did indicate that you were in the room yesterday when Microsoft Witness Dr. Stover testified. And in response to some questions that I had for him yesterday about the Company's data center load forecast, it's my recollection that he indicated that one of the reasons he believed the load forecast was reasonable was because the Company was forecasting based on meter demand.

Do you happen to remember hearing that?

A I do. It was toward the end of the day, so, yeah, definitely.

Q All of us were dealing with the end of the

day.

Then I notice here in your sort of Conclusion section you indicate in this first bullet point that the Company is, it appears to me, to be relying on some of the data that they are getting from the ESAs and their CLOAs in order to perform that data center load forecasting.

So my question to you is, did you agree with Dr. Stover's statement that the data center load forecasting is -- isn't, or is it only relying on metered demand, or did you believe it encompasses some of the anticipated load that's under contract but not yet metered and taking service?

A Here, let me take apart some of that. So in our view -- and we're slightly more aggressive in terms of our -- at least in the five-year outlook than the Company, and then we tend to get more -- or we are more conservative. The initial starting points is reasonable with what they are showing in metered demand.

Our contention is when we get out of the longer term, outside of the five-year period, we are more conservative in our load forecast -- data center load forecast, if that helps to answer your

question. If I missed the target, let me know.

Q Well, what I guess I'm trying to understand is, is it your understanding that for purposes of the data center load forecast that the Company is extrapolating out based on current metered demand, or is it also adding into its forecast the load that it expects to have as a result of what it has under contract but is not yet providing service?

A It's more, since looking at the load forecast, they are taking the metered demand and then extrapolating from there.

Q Okay. So your real issue is only how valuable that forward extrapolation is as we get further down into the planning period?

A Our view is, once we get out of the five-year period, it's more difficult to make an argument for a larger load growth that we've seen more recently.

Q Okay.

A So that's why we scale back our percentage.

MS. GRUNDMANN: Okay. Thank you for that clarification.

THE WITNESS: Thank you.

COMMISSIONER HUDSON: PEC?

CROSS-EXAMINATION

BY MR. JAFFE:

Q Good morning, Mr. Curtis. Cale Jaffe, here on behalf of Piedmont Environmental Council.

A Good morning.

Q I want to start by just understanding how your data center load forecast differs from the Company's and also, perhaps, differs from the JLARC forecast.

So let me begin. Are you familiar with the JLARC study that's on data centers?

A No, no, I'm not. I can speak to our forecast but not in detail for -- well, not to the JLARC forecast.

Q Have you seen what's been marked as Exhibit 8, the JLARC forecast?

A I think I've scanned it briefly, but, yeah, I haven't --

Q You haven't studied it in detail?

A Correct, correct.

Q So I'll try and stay at a high level to the extent we get into that.

Starting with your forecast, I'm putting on the screen page 22 from the Enverus report.

This is a section titled Enverus 15-year DEV-LSE Data Center Load Forecast.

Do you see that?

A Yes, I do.

Q And you have testified, and you reiterate it on this page, that the Enverus forecast for data centers is less optimistic than the Company's; is that correct?

A That's correct. Again, to clarify, once we get to that initial five years, outside of that five-year period, we're less optimistic.

Q And are part of the reasons that Enverus is less optimistic, you reference here some issues in PJM regarding recurring overloads and some transmission system congestion restraints; is that fair?

A Yes. And to be specific, what was mentioned in those RTEP meetings, PJM's reliability transmission expansion committee, the west-to-east overloads.

Now, some of those are being addressed more recently in the -- trying to remember exactly which RTEP or which MTEP plan is coming out, but there are plans for a 765 kV project, so that's important to note. But, again, that's once we get

out to the 2030s.

Q And so is it fair to label those congestion issues, the east-west congestion issues, as constraints on demand?

A Well, yes, and my apologies. The west to east, so directionally, when you think about it --

Q Sorry, west to east, of course.

A So coming from Illinois flowing into the Dominion footprint or from West Virginia into Dominion.

Q Until CVOW is fully online, it will be west to east, not --

A There you go, yeah.

Q So now I'd like to ask you about -- if those are some of the constraints, the JLARC study -- and I recognize you're not familiar with it in detail -- talks about an unconstrained forecast for data center load.

Do you recall that phrase "unconstrained"?

A Yes.

Q And I'm now putting on the screen page 27 from the JLARC study, and it provides a definition here. It states that:

The unconstrained forecast shows what demand would be before accounting for constraints

like the ability to build enough energy infrastructure to meet demand.

Do you see that?

A I do.

Q So is it fair to say that the distinction between your forecast, the Enverus forecast, and the Company's forecast, it might be a difference between yours is a constrained forecast, taking into account those constraints, and the Company's might be closer to the JLARC unconstrained forecast?

Is that what's happening?

A To be more precise, there's -- you know, there's certain projects. And to Dominion's credit, they've mentioned these.

One that we point out in our testimony is Fredericksburg to Possum Point, that rebuild project. So that's one that's very important to us into the '27-'29 time frame.

And Dominion has stated, too, in our point that is for liability, if we -- you know, those projects get built, it relieves some of the constraints.

Going back to just bigger picture, you have two levers to pull on from a supply side,

right, either transmission or generation. So in our view, that's why we like to focus on these projects in terms of giving us a better view of where the constraints may be precisely, if that adds any clarity.

Q Thank you.

And taking on that point that we have two levers to pull on, the supply side and the demand side essentially; is that right?

A Well, I meant more -- on the supply side, you can raise generation within a load area or you can increase the available transmission capacity.

Q Transmission or generation?

A Yes.

Q And maybe a third lever would be the demand side?

A There you go, yes.

Q So going back to your Enverus report, this is page 30 from your conclusion, and this is the same bullet point that was highlighted by counsel for Appalachian Voices.

You note that Enverus acknowledges that the Company's efforts to vet out new requests by utilizing electric service agreements and construction letters of authorization.

Those contracts influence the Company's data center load forecast; is that right?

A Yes.

Q And so -- and now I'd like to, just so we're all on the same page, bring up Exhibit 11, which is the ESA, the Electric Service Agreement Contract template.

This is the contract that has specific effective dates or meter dates for when electric service would be provided to a data center customer; is that right?

A Yes.

Q And so are you aware -- the Company is signing these electric service agreements with specific in-service dates, they are negotiating the timing for the in-service dates, timings that obviously would impact forecast, would impact electricity rates, would impact reliability.

Are you aware if the Company is consulting with the Commission, Commission Staff on those in-service dates; in other words, to ensure that the in-service dates are on a glide path that would protect grid reliability?

A I'm not aware of that. That's not to say that they're not happening, but I'm not aware of

that.

MR. JAFFE: Nothing further, Your Honor.

COMMISSIONER HUDSON: Microsoft?

MS. ROBB: Thank you, Your Honor.

CROSS-EXAMINATION

BY MS. ROBB:

Q Good morning, Mr. Curtis.

A Hi, good morning.

Q Cliona Robb, on behalf of Microsoft.

I just wanted to make sure I understand something: Is it accurate to say that Dominion uses meter demand to inform its load forecast for data center load?

A Yes. Yes, I think so.

Q And is it accurate to say that your five-year load forecast for data center -- for data centers roughly agrees with Dominion's five-year forecast; you don't agree with their data center load forecast for five years out?

A Forgive me. Can you repeat that. I think I missed something.

Q Sure.

So Dominion's data center load forecast for the first five years, do you largely agree with that load forecast for the first five years?

A Well, when you say "agree," I think they are roughly going back, subject to check, it's around three and a half percent by our calculations, and we're closer, I think, to four and a half. So, yes, there's agreement, but we're slightly higher, actually, in the five-year.

Q Okay. And further beyond five years, your load forecast is lower than Dominion. So the first five years is slightly higher, and beyond that, it's slightly lower?

A Yes. And to be precise, we shift back down to close around three and a half. But the weather-normalized -- again, going back to why we think this is important.

Weather-normalized load growth supports around 4 to 5 percent, so that's where we're gauging our numbers.

Q And can you explain to me how you -- can you explain to me more why that -- is it because of the weather -- why is it lower?

What's the difference between your approach and the Company's approach?

A There's a number of reasons why we lower out four of the five years into that ten-year forecast. Namely -- we mention this, the

transmission side, Fredericksburg to Possum Point, if and when that does get built, that would change our forecast; it would become more optimistic.

At this time, we're just -- we're still -- that's an amount of uncertainty that gets built in that we wouldn't continue to forecast even stronger growth, so that's why we're a little bit more conservative.

We've also mentioned just in general the uncertainty, and I think that's highlighted by what we saw -- not that we know -- we knew this at all ahead of time, but what came out with DeepSeek, China's version of artificial intelligence and that testing, their ability to prove that you could do it at a fraction of the cost -- fraction of the cost with older chips.

But it's just a point that highlights to us the uncertainty piece, and that's why we generally, going out of the five years, lower the forecast, less optimistic.

MS. ROBB: Thank you.

COMMISSIONER HUDSON: City of Alexandria?

MR. ELDRIDGE: No questions, Your Honor.

COMMISSIONER HUDSON: Consumer Counsel?

MR. BARTLEY: No questions, Your Honor.

COMMISSIONER HUDSON: Dominion?

MS. ALLABAND: Just briefly, Your Honor.

CROSS-EXAMINATION

BY MS. ALLABAND:

Q Hello, Mr. Curtis. I'm Nicole Allaband, on behalf of the Company. Nice to meet you.

A Nice to meet you.

Q I think you were getting some cross-examination, I believe, from Appalachian Voices' counsel earlier looking at your conclusions in the Enverus report?

A Yes.

Q And it was the second bullet, I think, that -- the caution against relying too heavily on one sector of demand.

A Yes.

Q And your counsel introduced the 2025 PJM Long-Term Load Forecast Report. That was Exhibit 50.

And have you looked over that report?

A Yes, I have.

Q This last page is the Dominion Zone; is that right?

A Yes, that's correct.

Q Okay. And so these charts over here on

the left, they show the 2024 forecast in blue and the 2025 forecast in green; is that right?

A Yes, that is correct.

Q And the 2025 forecast is even higher than the 2024?

A That is correct.

Q And then over here in the chart, it says, zonal 10-, 15-, 20-year load growth, and it has these percentages.

And so this -- the first two for summer and winter, 6.3 percent and 6.0 percent, that's at the 10-year mark?

A Yes, that's correct.

Q 4.9 and 4.7, 15-year mark?

A That's correct.

Q And 4.0 and 3.9 percent at the 20-year mark?

A Yes, that's correct.

Q So continuing to grow significantly?

A My view would be -- well, yes, but actually, you're lowering -- the growth rate is decreasing slightly.

Q As you go out further, it's a little more uncertainty?

A Yes. Not to be difficult, but in my view,

that's one of the things that stood out with this '25 -- this 2025 load forecast versus the 2024. As we got outside of the 10-year, the growth rate was slower, which stood out to me when I looked at this when it was first released.

Q Slower but still relatively high compared to the others --

A Yeah, that's still an aggressive growth rate when you go back and look at where we've been, and the weather normalized out of that, we've seen, so...

MS. ALLABAND: Thank you.

THE WITNESS: Thank you.

COMMISSIONER HUDSON: Staff, any redirect?

MS. PIERCE: No redirect, Your Honor.

COMMISSIONER BAGOT: Can I ask one -- one quick question? Just for my own education, when you were talking about the PJM collar proposal, can you confirm that that proposal -- or that collar as proposed would still apply to zones that separate?

THE WITNESS: And when you mean by -- Your Honor, by "separate," that choose the fixed resource requirement?

COMMISSIONER BAGOT: That are constrained,

so it would separate --

THE WITNESS: My understanding as of the latest -- our sense that is the latest explanation of it is that it would still apply. So that -- the piece that possibly could change -- and this is another example of the moving pieces -- the reference resource that just moved from a combined cycle to a combustion turbine. But the cap is dependent on a multiplier of that, so it may not exactly be 325. There might be some room up or down on that based off of the -- it's a multiplier of the reference resource, if that makes sense.

COMMISSIONER BAGOT: Okay. Thank you.

COMMISSIONER HUDSON: Thank you, Mr. Curtis. You're now excused.

THE WITNESS: Thank you, Your Honor.

MS. PIERCE: Your Honor, Staff next calls Tanner Katsarelis to the stand.

TANNER S. KATSARELIS, called as a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MS. PIERCE:

Q Good morning. Could you please state your name and your position with the Commission?

A My name is Tanner S. Katsarelis. And I'm a utilities analyst with the Commission's Division of Public Utility Regulation.

Q Do you have with you this morning a document consisting of a one-page summary, 31 pages of questions and answers, and 28 pages of attachments collectively entitled the Prefiled Testimony of Tanner S. Katsarelis, filed in this proceeding on March 11th of 2025?

A Yes, I do.

Q And was that document prepared by you or under your supervision?

A Yes, it was.

Q And do you have any corrections to make to that prefiled testimony?

A Yes, I do. I have one correction on page 25 of my testimony.

Q I'm going to place that on the overhead, page 25.

And what is the correction?

A Line 12, "yes. The" should be changed to "no. But the."

Q So that sentence now reads:

No. But the Company states, et cetera.

Is that the correct representation?

A Yes.

Q Okay. And with that correction, if I were to ask you the same questions here today, would your answers be the same or substantially the same?

A Yes, they would.

MS. PIERCE: Your Honors, I ask that Mr. Katsarelis' prefiled testimony be marked and -- as the next exhibit and admitted into the record, subject to cross-examination. It's public and a confidential version.

THE BAILIFF: The public version of the prefiled testimony of Tanner S. Katsarelis will be marked as Exhibit 51.

The confidential version will be marked as Exhibit 51C.

(Exhibit No. 51 was marked for identification.)

(Confidential Exhibit No. 51C was marked for identification.)

COMMISSIONER HUDSON: The testimony marked and described and corrected as Exhibit 51 is admitted into the record.

And 51C is admitted into the record.

(Exhibit No. 51 was admitted into

evidence.)

(Confidential Exhibit No. 51C was admitted into evidence.)

MS. PIERCE: Thank you, Your Honor.

BY MS. PIERCE:

Q Turning to your rebuttal testimony, on page 7, Company Witness Martin, in response to your testimony, discusses the Company's decision to exclude long-duration energy storage in the IRP.

What does he say in response to your testimony?

A Company Witness Martin states that the vast array of technologies and designs under development hinders a valuation of cost and operational considerations which vary significantly across technologies and developers.

He cites uncertainties surrounding cost, technical performance, technology manufacturing, and how these units will be optimized on the electrical system.

Further, he states that long-duration energy storage technologies are very diverse in terms of the type of energy storage and mechanism and could use electrochemical, mechanical, or

thermal technology.

Q Do you agree?

A No. Staff continues to believe long-duration energy storage is further along in the development cycle than SMR technology and that the Company should make longer-duration batteries, such as 10-hour or 100-hour batteries, and additional energy storage types, technology types, available for model selection in future IRPs.

The Company has already received approval in May of 2024 for their battery energy storage systems pilot program in Case No. PUR-2023-00162, which includes long-duration energy storage.

Q Turning to the rebuttal testimony of Mr. Flowers, on pages 9 to 11, he discusses the Company's decision to include SMR in its modeling.

Do you have any comment?

A Yes. Mr. Flowers appears to consider SMRs commercially viable on the basis that there are SMRs currently in various stages of development here in the United States.

Mr. Flowers seems to indicate that through these developing projects, the Company will be able to receive insights and data to help with its own SMR deployment.

Mr. Martin suggests that there are too many different LDES technologies to consider, so they should not be included in the IRP, whereas Mr. Flowers states that having several different SMR projects underway will provide valuable insights and data which will help to refine and optimize future SMR deployments, so they should be included in the IRP.

Q Mr. Flowers provides a description of a number of different SMR projects in his Rebuttal Schedule 1.

Do you have any comments about that listing?

A Yes. Mr. Flowers identifies six different recent SMR project developments in his rebuttal, Schedule 1. These appear to be diverse types of units utilizing various types of coolant technology, such as water-cooled reactors, fluoride salt-cooled high-temperature reactors, and high-temperature gas-cooled reactors.

These units also appear to utilize a variety of fuels, such as uranium dioxide, tri-structural isotropic particle fuel, and high-assay low-enriched uranium.

Q Mr. Martin states that there is cost

uncertainty when it comes to long-duration energy storage.

Do you agree?

A Yes. But there's cost uncertainty for any project. In his Rebuttal Schedule 1, Mr. Flowers cites to the new scale reactor to support his argument.

I would note for the record that the new scale project was canceled in part due to escalating costs associated with that project. In my opinion, cost uncertainty is as relevant a consideration for SMRs as it is for long-duration energy storage.

Q Mr. Katsarelis, what is your takeaway after reviewing both Mr. Martin and Mr. Flowers' rebuttal testimony?

A It appears to me that Mr. Flowers' basis for the inclusion of SMRs into the model is contradictory to Mr. Martin's basis for the exclusion of LDES resources from the model.

It is unclear to Staff why information from new SMR technologies would be included in an IRP but information from new long-duration energy storage technologies would not be included and useful in an IRP.

As such, I maintain my recommendation that the Company make longer-duration batteries, such as 10-hour or 100-hour batteries, and additional energy storage technology types available for model selection in future IRPs.

Q Do you have any further comments this morning?

A No, I do not.

MS. PIERCE: Thank you.

Your Honor, the witness is available for cross-examination.

COMMISSIONER HUDSON: Thank you.

CROSS-EXAMINATION

BY MR. ALLMOND:

Q Good morning, Mr. Katsarelis. How are you today?

A Good morning. I'm doing well. How are you?

Q Good. Thank you.

My name is Josephus Allmond. I'm an attorney with the Southern Environmental Law Center, on behalf of Appalachian Voices. And I'll be referring to your testimony as well as the IdeaSmiths report.

Starting with your testimony on page 20,

line 18, you recommend that the Commission direct the Company to continue to evaluate the inclusion of traditional-scale nuclear-generating units in future IRPs; is that correct?

A Are you able to speak a little bit louder into the mic? I'm having a little difficulty hearing you.

Q Sure thing. On page 20, line 18, you recommend that the Commission direct the Company to continue to evaluate the inclusion of traditional-scale nuclear-generating units in future IRPs; is that right?

A Yes, that's correct.

Q And are you thinking of models like the AP1000, like, was recently built, that plant in Georgia?

A Just any type of traditional nuclear. There's no specific type that we're recommending that they model.

Q So that could include other units that other companies have explored with?

A Sure, certainly.

Q And then on page 18, line 1, you cite a Company discovery response, and then state that it is unknown at what point in the future hydrogen

blending may become a viable fueling strategy for the Company to implement.

Did the Company provide any analysis as to the current level of technology regarding hydrogen blending?

A No, no analysis on if they will be hydrogen blending in the future.

Q Okay. Sticking on page 18 of your testimony, line 8, you note that -- a Company discovery response which states that:

Unit operations supported by the use of No. 2 fuel oil were modeled to have a maximum run time of seven days.

And is that seven days per month or seven days per year? Was that specified?

A I don't believe it was specified, just generally they have seven days of backup fuel.

Q Okay. And I also saw in the Company's IRP that they note that when they were setting capacity factor limits for new incremental CT units, they assume gas availability in the spring, summer, and fall with oil-only operations in the winter when gas is most constrained.

Wouldn't oil-only operations in the winter necessitate more than seven days of run time?

A Would more -- can you repeat that question, please?

Q Sure thing.

The Company notes in -- this is Appendix 5B. When they set capacity factor limits for new incremental CT units, the Company assumed gas availability in the spring, summer, and fall, with oil-only operations in the winter when gas is most constrained.

And so I'm just curious, it seems like if they are going to be oil-only all winter, that that would necessitate more than seven days of run time.

A I guess it certainly could seem like that. That's not really something that I looked into.

As you already stated from my testimony, I say that unit operations supported by the use of No. 2 fuel oil were modeled to have a maximum run time of seven days.

That's kind of the extent to what I talk about regarding any use of fuel oil, so I'm not sure if I would be able to respond to that question.

Q Okay. We can follow up with the Company on that question.

A Okay.

Q And you're Commission Staff's witness on environmental justice; is that correct?

A Yes, that's correct.

Q Did you review the analysis of local harms in the IdeaSmiths report?

A The analysis of global --

Q Local harms. So showing the different harms to local communities from the different plans in the Company's portfolios.

A Was that part of the Company's IRP?

Q Part of the IdeaSmiths report.

A If it was not part of the Company's IRP, then I did not look at that.

Q Oh, okay. Great.

Even though you haven't looked at it, that report showed some different harms for the different portfolios depending on the different resources that are being used in those and sort of quantified on a dollar amount how harmful that those portfolios could be for the communities that they are located in.

As Commission Staff witness on environmental justice, do you think that could be valuable information for the Commission to

consider as they are trying to look at these portfolios and minimize harm?

A I think any additional information regarding environmental justice for Staff would be beneficial. If it would be beneficial for the Commission, I think that they would let you know in an order. I can't really speak to what they would think.

Q Okay. Going to your testimony -- and this is on page 26, line 6, you describe the Company's 2024 EJ study and its conclusion that:

With such a large portion of the Commonwealth defined through the Virginia Environmental Justice Act in 2021 as an environmental justice community, avoidance is not possible.

You also cite their statement that the presence of environmental justice communities should not exclude an area from energy development.

Now, your testimony seems to restate some of Dominion's positions, but I'd like to understand Staff's view.

Does Staff agree with Dominion's contention that avoidance of environmental justice

communities is not possible?

A So as I've stated in my testimony, specifically on page 26, lines 16 through 17, generally, Staff believes that the Company's assessment of environmental justice in its 2024 IRP appears reasonable.

Environmental -- in the context of an IRP, it is -- an IRP is more of a high-level analysis of the Company's generating resources. And so Staff really thinks that environmental justice analysis -- analyses should be conducted on a, like, site-specific level.

Q Okay. But you did state a little bit earlier that it would be helpful for Staff to have additional information about environmental justice in the context of these proceedings?

A Yes. We'll never say "no" to more information.

MR. ALLMOND: Okay. Thank you. That's all I have, Your Honor.

COMMISSIONER HUDSON: NRDC?

MR. JOHNS: No questions, Your Honor.

COMMISSIONER HUDSON: United?

MS. POLLARD: No questions, Your Honor.

COMMISSIONER HUDSON: Clean Virginia?

MR. REISINGER: No questions.
COMMISSIONER HUDSON: DCC?
MR. MURPHEY: No questions, Your Honor.
COMMISSIONER HUDSON: Walmart?
MS. GRUNDMANN: No questions, Your Honor.
COMMISSIONER HUDSON: PEC?
MR. JAFFE: No questions.
COMMISSIONER HUDSON: Microsoft?
MS. ROBB: No questions.
COMMISSIONER HUDSON: City of Alexandria?
MR. ELDRIDGE: No questions.
COMMISSIONER HUDSON: Consumer Counsel?
MR. BARTLEY: No questions, Your Honor.
COMMISSIONER HUDSON: Dominion?
MR. DANTONIO: Yes. Just a couple.

CROSS-EXAMINATION

BY MR. DANTONIO:

Q Officially good afternoon.

A Good afternoon.

Q Just one question potentially for you.

Are you aware of any commercially operable LDES technologies in the United States currently?

A No, I'm not currently aware.

Q You're not.

MR. DANTONIO: Okay. That's all. Thanks.

COMMISSIONER HUDSON: Staff, any redirect?

MS. PIERCE: Just briefly, Your Honor.

REDIRECT EXAMINATION

BY MS. PIERCE:

Q Do you recall a conversation you had about seven-day run time with fuel oil?

A Yes, I do.

Q All right. I'm placing your page 18 up on the screen, and I just want to clarify on the record that you're talking about this in line 7 through 9.

Do you see that?

A Yes, I do.

Q And here you're talking about include backup on-site fuel; is that correct?

A Yes, that's correct.

Q And when you reference the seven days, it's as a backup system?

A Yes, that's correct.

Q Okay. And regarding EJ, is it Staff's position that, for this proceeding as an IRP, the Company has generally looked at environmental justice?

A Yes.

Q Is that fair to say?

A That's fair to say.

Q And that when the Company brings forth other proceedings that includes site-specific information in those proceedings, the Company can get more detail and give more -- and should give more detail about an environmental justice analysis; is that fair?

A Yes, that's fair.

MS. PIERCE: Okay. Thank you.

No further questions, Your Honor.

COMMISSIONER HUDSON: Thank you.

The witness is now excused.

THE WITNESS: Thank you.

COMMISSIONER HUDSON: Staff, before you call your next witness, maybe it's a good time to probably break for lunch, and then you can call your next witness after that?

MS. PIERCE: Yes, Your Honor.

COMMISSIONER HUDSON: Great. So what we'll do is we will stop now and reconvene at 1:10 p.m. We're now in recess.

(A luncheon recess was taken.)

MS. PIERCE: Your Honor, Staff calls Steven Smith to the stand.

COMMISSIONER HUDSON: Thank you.

STEVEN E. SMITH, called as a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MS. PIERCE:

Q Good afternoon. Please state your name and position with the Commission.

A My name is Steven E. Smith. I'm an analyst with the Commission's Division of Public Utility Regulation.

Q Do you have with you today a document consisting of a one-page summary, 69 pages of questions and answers, and six attachments?

A Yes, I do.

Q Was that document prepared by you or under your supervision?

A Yes, it was.

Q Do you have any changes or corrections to make to that prefiled testimony?

A No, I do not.

Q If I were to ask you the same questions today, would your answers be the same or substantially the same?

A Yes, they would.

MS. PIERCE: Your Honor, I'd ask that

Mr. Smith's prefiled testimony be marked as the next exhibit and admitted into the record, subject to cross-examination. There is a public version and then a confidential, slash, ES version.

THE BAILIFF: The public prefiled testimony of Steven E. Smith will be marked as Exhibit 52.

The confidential version will be marked as Exhibit 52C.

And the extraordinarily sensitive will be marked as Exhibit 52ES.

(Exhibit No. 52 was marked for identification.)

(Confidential Exhibit No. 52C was marked for identification.)

(Extraordinarily Sensitive Exhibit No. 52ES was marked for identification.)

MS. PIERCE: So for the record, the confidential and extraordinarily sensitive information are in one document.

The participants in this case who signed the protective agreement for the confidential information also signed it for all the extraordinarily sensitive information, so we just did it as a combined document.

I've not been made aware that we needed a specific one just for confidential, so it's all just combined if you want to label it as one.

THE BAILIFF: Okay. So the modified description for Exhibit 52 will be -- the public as described, it will be Exhibit 52.

And then for the extraordinarily sensitive, that will be Exhibit 52ES. There will be no 52C.

MS. PIERCE: Thank you.

COMMISSIONER HUDSON: The testimony marked and described as 52, Exhibit No. 52, is admitted into the record, subject to cross.

And as well as document that's marked and described as Exhibit No. 52ES, which is admitted into the record.

(Exhibit No. 52 was admitted into evidence.)

(Extraordinarily Sensitive Exhibit No. 52ES was admitted into evidence.)

COMMISSIONER HUDSON: Please proceed.

MS. PIERCE: Thank you, Your Honor.

BY MS. PIERCE:

Q Mr. Smith, on page 6 of Mr. Compton's rebuttal testimony, he comments on Staff's

characterization of the Company's historical load growth as relatively flat and also states that, contrary to Staff Witness Smith's assertion, a capacity expansion model is the correct tool for the job.

Do you have any response?

A Yes. Staff reviewed a number of the Company's IRP filings from 2015 to 2023. In the Company's 2015 IRP, the Company reported a 1.3 average annual growth from 2000 to 2014. In the Company's 2020 IRP, the Company reported a historical average growth rate of .8 percent from 2004 to 2019.

So not only had the Company's load growth been relatively flat, it was actually declining. Staff looked further back in the history than the last four years that Mr. Compton looked at.

Additionally, Staff is not suggesting that the Company no longer use PLEXOS or capacity expansion model, only that the Company should utilize more of the functionality of PLEXOS and model with greater detail.

Q On pages 7 to 8 of his rebuttal testimony, Mr. Compton takes issue with Staff's recommendation that the Company be required to

model the DOM LSE with additional detail and characterizes Staff's recommendation as a, quote, power flow analysis.

Do you have a comment?

A Yes. Staff's recommendation is not for the Company to model all of the nodes in the DOM LSE or to perform a power flow analysis.

In my testimony on pages 64 and 65, I state:

Staff's recommendation is that the Commission should require the Company to model the DOM LSE with additional detail, preferably by modeling at least four nodes for the northern, southern, eastern, and western areas of the DOM LSE.

I go on to state:

New resources selected by the model should be specifically located with the same level of detail required for the modeling.

The Company could model all the way down to the individual nodes, but my primary recommendation is that the Company model its system with a higher level of detail than how it is currently modeled, taking into account geographic characteristics of load and generation.

Q Does Staff consider accounting for historical load and generation patterns to be a good idea when planning a system?

A Yes. And in this discussion of my testimony, Mr. Compton makes reference to a document produced for the Department of Energy entitled Best Practices in Integrated Resource Planning.

MS. PIERCE: And, Your Honor, I'm going to distribute that document.

BY MS. PIERCE:

Q Mr. Smith, is this the document you were referring to that Mr. Compton references in his rebuttal testimony?

A Yes, it is.

MS. PIERCE: Your Honor, I would like to ask that this document be marked as the next exhibit and admitted, subject to cross.

THE BAILIFF: The Best Practices in Integrated Resource Planning document will be marked as Exhibit 53.

(Exhibit No. 53 was marked for identification.)

COMMISSIONER HUDSON: You'd like it to go into the record as well?

So the document marked and described as Exhibit 53 is admitted into the record, subject to cross.

(Exhibit No. 53 was admitted into evidence.)

MS. PIERCE: Thank you, Your Honor.

BY MS. PIERCE:

Q And, Mr. Smith, have you had an opportunity to review this document?

A Yes, I have.

Q Was there anything in the Best Practices guide that you would like to draw attention to today?

A Yes. On page 60 --

Q Give me a second while I turn there.

All right. This is page 60.

A Yes. On page 60, the two paragraphs that follow Mr. Compton's quote from his rebuttal testimony state the following:

A best practice is to study historical load and variable renewable energy generation patterns and then establish a minimum set of zones that are explicitly reflected in the model to capture diversity in these patterns.

The next paragraph goes on to state:

To simulate major transmission connections and limits in the zonal model, planners can create distinct zones for each region. An appropriate spatial scale with reasonable -- will reasonably represent transmission corridors -- in particular, lines that are typically congested -- so that the model can more accurately consider transmission lines for expansion.

Q What does Staff conclude from these recommendations in the Best Practices guide?

A It appears to me that Staff's recommendations are considered best practices by the Department of Energy.

Q Do you have any further comments about Mr. Compton's rebuttal testimony?

A Yes. With respect to Mr. Compton's rebuttal on pages 7 and 8, he seems to also be addressing Staff's recommendation for modeling the import nodes.

Staying on -- sorry. Staying on page 65 of my testimony, I go on to state:

Staff recommends that the Commission should require the Company to assess the likely available level and timing of energy imports and pair that with transmission constraints at the

point where it would enter the DOM LSE.

Q Did the Best Practices guide have anything to say about this recommendation?

A Yes. On page 63 of the Best Practices guide, it states:

Planners will need to carefully analyze the import and export profiles in the production cost model output, particularly if the dispatch in neighboring areas is also being simulated rather than serving as an input to the model.

It goes on to state:

Import and export profiles would ideally approximate the seasonal and daily patterns so that the model adequately reflects the surplus and deficits of power within the planning entity footprint.

Q What does Staff conclude from the recommendations in the Best Practices guide?

A Again, Staff's recommendation appears to be in alignment with the DOE best practices.

Q Moving to page 9 of his rebuttal testimony, Mr. Compton describes the additional information Staff has recommended as irrelevant and not useful to future IRPs.

Do you have any response?

A Yes. My recommendation is that the Company provide information such as congestion charges, curtailments, and generation that continues to produce at zero or negative LMPs. I continue to make this recommendation, and I would refer back to the Best Practices guide referenced by Mr. Compton, again, specifically on page 60, where it states --

Q Page 60?

A -- planners will want to consider including nodes that have historically presented patterns in locational marginal prices that reflect congestion, regardless of the node's voltage levels.

In other words, the kind of data that Staff is recommending that the Company provide is exactly what the Best Practices manual recommends be reviewed in order to identify -- which -- sorry -- identify which specific nodes should be modeled.

I stand by my recommendations in my prefiled testimony and note that they appear in alignment with the Best Practices manual cited by Mr. Compton in his rebuttal.

Q Do you have any other comments, Mr. Smith?

A Yes. Staff's recommendation to model the DOM LSE as multiple nodes or zones, to model the import nodes to better reflect actual availability and timing of imports, and to provide information necessary to identify additional specific nodes to include in the model are all considered best practices according to the DOE.

While Staff's recommendation was the Company model, the DOM LSE with greater detail represented by at least four regional nodes or zones, Staff intends to utilize the information it requested to identify specific nodes to recommend to be modeled in future IRP proceedings.

In light of the fact that this is already considered a best practice identified by the DOE, the Commission could require the Company to identify specific nodes to model and model them along with the four zonal nodes in the Company's next IRP proceeding, thus bringing the Company's IRP more in line with the DOE best practices.

Q Turning to Staff's recommendation that the Company perform an additional model run without the RPS program requirement, Mr. Compton responds in his rebuttal testimony at page 11 that the Company is not opposed to such a run, quote,

assuming this request was incorporated into the current Commission directive to produce a least-cost plan and not in addition to that requirement.

Do you have a response?

A Yes. To clarify, on page 21 of my testimony, I have two footnotes that propose a potential additional model run without some of the VCEA requirements. My recommendation was not intended to replace the Commission's preferred configuration of a least-cost model run but in addition to the least-cost run -- model run.

Q And, Mr. Smith, do you have any other comments this afternoon?

A I think the only other comment I would make is that amongst many of the recommendations that I've heard over the last few days, many of them are supported by the 50 best practices indicated in the guide that Mr. Compton referenced, and I think they would be instructive in guiding the participants in this proceeding generally.

MS. PIERCE: Thank you, Your Honor. Mr. Smith is available for cross-examination.

COMMISSIONER HUDSON: Thank you.

CROSS-EXAMINATION

BY MS. CLANCY:

Q Good afternoon, Mr. Smith. Emma Clancy, on behalf of Appalachian Voices. Nice to see you.

A You too.

Q Now, let's start on page 44 of your testimony. And here you note -- I can pull it up -- that while the Company does not refer to any portfolio as a preferred portfolio, for all practical purposes, the Company only has one portfolio with the sensitivity associated with EPA regulations, correct?

A Yes.

Q And so that's the VCEA with the EPA portfolio?

A Yes.

Q And that's also the only fully legally compliant plan in the Company's IRP, correct?

A I think there was some discussion about whether or not the Company has to propose or build, but that's how the Company describes it, yes.

Q In the Company's four core portfolios --

A Yes.

Q -- that's the only legally compliant one?

A That's the one that they say is -- sorry -- there was some discussion about whether or not the Company has to propose or whether or not they have to build, and so I'm not a hundred percent sure if that distinction makes any difference in whether or not the other would be as well. Sorry.

Q Okay. So in the Company's -- let me rephrase the question, then.

That's the only legally compliant plan as far as, you know, complying with federal regulations and state regulations according to the Company?

A Yeah, that's fair.

Q And so you would consider also the REC RPS scenarios to be basically sensitivities?

A The one is a least-cost plan, but, yeah, with and without the EPA, I think that's a sensitivity. I would assume that the Company would comply. The sensitivity would show, if those rules are adopted, what it would look like to comply, or if they were not adopted. So, yeah, I would consider that a sensitivity.

Q Okay. And would providing additional legally compliant scenarios such as, you know, how

multiple build plans perform under high fuel costs be useful for Staff and the Commission?

A Absolutely. I think additional model runs or additional sensitivities would show sort of -- the model is very constrained by the combination of the capacity and load forecast and the build limits as well as the sizing of things.

And so the -- by doing more model runs to allow more sensitivities to be tested, we would see what the model actually would choose. The more things that are either capped or forced in the model, the less the model is actually optimizing on; there's a smaller space for it to make choices, and so that's part of why all of the portfolios have basically the same result.

Q And so if I'm understanding you correctly, allowing for more varied build plans and then seeing how those varied build plans perform under different sensitivities would be useful?

A Well, the build plan is a result of the model run, so --

Q Correct.

A -- if you change the parameters that you're running the model, it will make different decisions -- be allowed more space to make

different decisions, and then you can see whether or not it actually does make different decisions, and then you could compare under those different scenarios what the portfolios look like.

Q And just briefly, it seems like -- I'm on the introduction of the exhibit you just entered, Exhibit 53, and it seems like that recommendation -- or that sort of approach is consistent with Best Practice 29, correct?

A Yes.

Q And if the Company did present more than one legally compliant plan, would it also be useful for it to select preferred portfolio?

A Yes, that's also a best practice.

Q Correct. That's 44. Is that what you're looking at?

A I wasn't looking; that was memory.

Q Great. We'll take it.

Now, are you aware that APV conducted modeling to develop alternative portfolios?

A I'm not specifically aware, no.

Q From -- did you review -- did you review Dr. Laws' testimony --

A I'm sorry -- I did -- I did read his testimony, but I didn't focus particularly that

much on his testimony in terms of evaluating the validity of his modeling or anything like that, so...

Q Okay. Well, was it, at the very least, useful to see alternative scenarios from interveners from non-Dominion parties?

A I think alternatives -- I think it's useful to have different parameters for model runs to see how the models select.

I think that it would be beneficial if the models -- if the models were run in the same modeling software because there may be differences in the software that caused the differences.

And I'm not an expert on particularly their modeling. I didn't investigate their modeling at all, so...

Q That's fair.

A But, yes, generally speaking, a different approach showing different, possible results I think is a useful mark to compare to.

Q Great.

Now, I'd like to change gears and turn to page 5 through 6 of your testimony. And I can put up where it starts, line 10.

But here you review the Company's

retirement analysis and list three components that the Company has provided in past IRPs and pursuant to Commission directives, correct?

A Yes.

Q And so those components, just really quickly, are, you know, allowing PLEXOS to endogenously retire generating units that emit carbon dioxide, showing a glide path to a cleaner energy fleet, and providing cash flow analyses on certain generating units, correct?

A Yes.

Q And so in Staff's view, Dominion has provided the first and third component that I just listed but not the second, right?

A Correct.

Q And that's because the Company hasn't provided a 2045 scenario; is that right?

A A 2045 -- to provide that other part, the second part, the Company would need to do the modeling out to include the retirement date. Otherwise, it would not be able to provide or perform that analysis.

Q And I understand that you didn't do an in-depth review of the IdeaSmiths report, but are you aware that there was -- there were modeling

runs conducted under a 2039 planning horizon and modeling runs under a 2045 planning horizon in that report?

A Yes.

Q So I'd like to just pull up page 26 of that report. And specifically we're looking at Figure 17, so I'm going to try to zoom in.

And this shows gas capacity trends in the 2045 VCEA-compliant portfolios in the IdeaSmiths report compared to the 2039 VCEA with EPA RGGI portfolio.

And do you see here how both scenarios -- so it's quite hard to see with some of the glare, but the solid lines -- these two solid lines, the blue and the red, are the 2039 portfolios, and the dotted is the 2045.

Do you see here how both scenarios begin by retiring some less-efficient units in the near term, but then the 2039 scenario, this red line brings new gas online when it -- brings new gas online in the 2030s?

A Yes.

Q And so does this graph illustrate one potential, you know, reason why a 2039 horizon can't identify a glide path?

A Yes.

Q And now you also note that Dominion did provide the first component allowing endogenous retirement of carbon-emitting plants, correct?

A Yes.

Q And that basically means letting the model economically select retirements, correct?

A Yes.

Q So let's look at Figure 17 once more.

Do you see here how the 2039 portfolio does not find it economic to retire the gas plants?

A Yes, I see that.

Q And so doesn't leaving 2045 out of the planning horizon also reduce the value of allowing this endogenous retirement in Dominion's model?

A I think the 2045 is whether or not they would -- it would -- okay. So back up.

Economic -- if they have to meet it -- so if they include the 2045, the requirement is to retire, and then the model is going to select when to retire with the assumption that it has to retire.

If you force the model to retire by 2045 and it's deciding on an economic basis, it's not

saying that it was economic to retire them, it's picking when it's going to be economic to retire them based off needing to retire them by 2045. I just want to make that little distinction there.

But without modeling out to 2045, there's no plan that would evaluate what would happen in that scenario. So if it is a possibility, it should be modeled because we need to know what that's going to look like.

Q Thank you for the clarification.

And I think another maybe way to phrase this is: Given the legal constraint in 2045, in order for the model to identify economic retirements, it needs to see that 2045 --

A I would definitely agree with that.

Q Okay. And just briefly, with respect to the third component, the cash flow analyses focused on coal-fired, biomass-fired, and large combined-cycle generation facilities, that analysis was also conducted over a 15-year period, correct?

A Yes.

Q But the results of those analyses might change as well if they included 2045; isn't that right?

A It's possible.

Q And is that why you recommended the Commission consider requiring Dominion to extend that analysis?

A Yes. And, in part, also, in absence of a model run that runs through 2045, it at least gives us another proxy, another way to look at it, so...

Q Great. Thanks.

Now, changing gears, I want to turn to page 46 of your testimony. And here you state -- and I'm just going to actually jump to 47 because it starts on 46.

Here you state that, you know, if the Company's SMR plans don't materialize, the Company would need to increase the model selection of additional CC units.

Do you see that?

A I do.

Q And then on page 48, you also state that -- line 6, that:

Natural gas, the only dispatchable resource that the Company includes in its selection options, also represents the only resource that is not already selected at the build

limit, meaning it is the only resource that the Company believes has the additional availability to be built.

Now, when you say that any future capacity and energy needs that can't be met by SMRs will have to be met with CCs, you're referring to what is available in the Company's model, correct?

A Yes. Based off the model parameters, assuming that the build limits are hard-build limits, if you're already building the maximum amount of everything you can in the plan and something goes wrong in one of those, like the SMRs, and you don't get them online in time to backfill that, what are you going to select if you've already determined that you're at the cap for everything else? The only thing that seems to be left would be natural gas resources.

Q And those build limits and resource options are the Company's assumptions.

Would you agree?

A Yes, I would agree.

Q And would you also agree that Dominion could provide more support in the future for its build limits?

A Yes, it could.

Q And are you also aware that Dominion excluded a number of clean capacity resources, you know, from its model as alternative -- that could serve as alternatives for SMRs or gas?

A Yes, I am.

Q So Staff highlights long-duration energy storage and traditional-scale nuclear, correct?

A Yes.

Q And Dominion also excluded 6-hour, 8-hour, and 10-hour storage from its IRP, correct?

A Yes, I believe so.

Q And have you seen this document before? These are the ELCC class ratings from PJM.

A I have.

Q And you can see here that 4, 6, 8, and 10-hour storage have class ratings, correct?

A I do. I see that.

Q And 10-hour and 8-hour storage, in particular, are quite a bit higher than 4-hour and even comparable to gas combined cycle.

Wouldn't you agree?

A Yes, I would agree.

MS. CLANCY: And, Your Honor, I'd like to go ahead and mark this PJM ELCC class rating as an exhibit.

I think that's all my questions about it, if I could go ahead and enter it into the record.

COMMISSIONER HUDSON: Sure. We'll wait for the bailiff to get to his desk to mark it for identification.

THE BAILIFF: The PJM ELCC document will be marked as Exhibit 54.

(Exhibit No. 54 was marked for identification.)

MS. CLANCY: Could I go ahead and enter it into the record?

COMMISSIONER HUDSON: Please. The document marked and described as Exhibit No. 54 is admitted into the record.

(Exhibit No. 54 was admitted into evidence.)

BY MS. CLANCY:

Q Now, just briefly to close, throughout your testimony, you also include some discussion about potential REC deficiency payments, correct?

A Yes.

Q And you note on -- and I think we saw this earlier -- page 21, Footnote 77, that the 6 gigawatts of new natural gas-fired generation will not generate its own RECs, while the energy

produced from SMRs would reduce the Company's overall REC need, correct?

A Correct.

Q And so relying on some of the clean capacity resources, you know, including traditional nuclear, but also some of the longer duration storage that PJM does have ELCC readings for, those would also help the Company be in a better position to meet its REC needs; is that fair?

A Yes. With battery, it depends on what is generating the energy that goes into the storage, whether or not that -- I don't know that I can talk right now without looking to whether or not the RECs attached to the energy -- the timing, but it would depend on where the energy came from, whether or not that would be -- whether or not the battery itself would net to affecting the RECs.

Obviously, if you generate extra energy by gas to charge the battery, then you would still need the REC.

Q Right. So there would have to be planning to account -- to ensure emissions reductions. But at least batteries could be harnessed to improve the Company's position in meeting its REC

retirements as opposed to 6 gigawatts of gas?

A Yes. And I think, traditionally, it's more commonly paired with solar than it would be with -- obviously with gas, but...

Q Okay. And just one quick final question. Looking at the Best Practice document, Exhibit 53.

Do you also see Best Practice 17 here --

A I do.

Q -- model battery storage options.

And so that would also be consistent with modeling different durations, wouldn't it?

A Yes. There's -- it's a longer discussion about how to treat technologies, treating all emerging technologies similarly, applying the same standards, and not picking and choosing, I think that's actually part of 18, maybe.

But then 17 is more specific to, I believe, to batteries. I think some of the discussion goes on to talking about when the specific profiles and costs are not -- you don't have established numbers, there are ways still to model that, and that should not preclude the modeling.

Q It shouldn't limit the model?

A It should not preclude from modeling.

MS. CLANCY: Thank you, Mr. Smith.

COMMISSIONER HUDSON: NRDC?

MS. JAFFE: No questions.

COMMISSIONER HUDSON: United?

MS. POLLARD: No, Your Honor.

COMMISSIONER HUDSON: Clean Virginia?

MR. REISINGER: Thank you, Your Honor.

CROSS-EXAMINATION

BY MR. REISINGER:

Q Good afternoon, Mr. Smith.

A Good afternoon.

Q I just have a question or two about Exhibit 53, which is the Best Practices in Integrated Resource Plan document that you were discussing with your counsel.

And at the end of your surrebuttal, I think you said that the 50 or so recommendations in this report commissioned by DOE could be useful for the Company in future resource planning; is that correct?

A Something to that effect, yes.

Q Okay. And I just want to ask you about one of the specific best practices, Best Practice No. 2, which is to engage technical stakeholders in IRP modeling.

Do you see that best practice?

A I do.

Q And on this page, which is page 12 of Exhibit 53, it describes some things that are necessary to enable technical interveners to participate in the modeling process.

Do you see that?

A I do.

Q And one of those recommendations is that modeling software licenses paid by the utility are provided to all technically sophisticated stakeholders with the ability to review the modeling files or perform their own modeling runs.

Do you see that statement?

A I do.

Q Okay. And the Commission Staff would certainly be a technically sophisticated stakeholder, correct?

A Whether or not we would have on staff the technical ability to run the model itself, I don't know that I can say that we have. But if the Commission directed us to do so, I'm sure we would make the effort to do that.

Q Okay. And if the Commission Staff had access to the utilities software and the ability

to run it, this would allow Staff to do its own modeling runs with its own assumptions, correct?

A Assuming we had the technical ability to run -- run the model and the expertise to configure the model.

Q Yeah, okay.

MR. REISINGER: Thank you. That's all I have.

COMMISSIONER HUDSON: DCC?

MR. MURPHEY: I have one question.

CROSS-EXAMINATION

BY MR. MURPHEY:

Q Just one clarifying question. I wanted to follow up -- I'm Cody Murphey, here on behalf of DCC.

I wanted to follow up on a line of questions that you had with Ms. Pierce regarding your recommendation to model the four regional nodes.

In your opinion, would modeling those nodes -- those four regional nodes prevent any disconnect between, like, load growth and injections for renewable energy into the grid?

A I'm sorry. Can you state that again?

Q Would it, I guess, prevent any disconnect?

Modeling those four nodes, would it, like, allow to account for more injections of renewable energy into the grid from outside?

A I'm sorry. I'm having a hang-up on the "allow for disconnect."

Q Sorry. Let me try to rephrase.

A I apologize.

Q Would it allow -- not disconnect. Would it allow more renewable energy inputs to be modeled into -- like, included in the model, maybe, or accounted for in the model -- modeling?

A I think that's a complex answer to that. So what it would do, by having the zones and then the transmission connecting those zones, you would identify the transmission constraints that may disallow the energy from where the -- where the solar or -- is located to get to where it's being demanded.

And that's sort of the main sort of crux behind the concern why we would like to see that modeling. I believe in the ERCOT example, they modeled the entire area, and then once they did it with zones, it moved the preferred locations for generation relative to the demand and the transmission constraints that they were seeing.

And whether or not it would allow for more, I can't say because there's an upper limit in terms of land use, and then there's also the transmission constraints themselves. So there's an absolute limit to what they can be added.

That doesn't affect that, but it would -- it would allow you to place it more effectively. So one of the things that the Staff is raising concerns on is curtailments and congestion charges that are a function of the location of resources that are generating and the disconnect between where generation is happening and where a load is growing.

MR. MURPHEY: Thank you. That was all I have.

THE WITNESS: Sorry. Hopefully that answered your question.

MR. MURPHEY: Sure.

CROSS-EXAMINATION

BY MS. GRUNDMANN:

Q Good afternoon, Mr. Smith. My name is Carrie Grundmann, on behalf of Walmart. I want to go over just a couple of things.

Counsel for Appalachian Voices had up this section of your testimony, and I just want to ask

you a question about the statement there on lines 3 to 4.

You say that even under the different price forecasts and regulatory assumptions, the resource selections are unchanged.

And so the way I kind of understand that is that, even when additional sensitivities were imposed, the model kind of produced the same general resources even across the various portfolios.

Is that your assessment as well?

A There's subtle differences. Maybe the year that something gets built is a little different, but -- and like the -- whether or not it -- but that's -- it's very limited.

Q And so is it your opinion that one of the number one reasons for that outcome are the Dominion-selected build limits and resources available for selection in the model?

A That is definitely one of the constraints that are -- that are producing that result.

Q Do you think it's one of the primary constraints that are producing that result?

A I think it's the combination of that and the load growth. With less load growth, there

would be more room to make decisions for the model. But, you know, if it needs almost everything up to the build limits, then there's no room for the model to really make choices.

But, yes, the constraints themselves are an important part of that function and can cause other potential abnormalities or errors.

Assume that -- I believe the capacity limit is 3,300. If the model needed 3,301 in a particular year, it would not be able to select that, and it would have to go back and select a resource, and it can't select resources at that level, so it would have to select a large -- whatever the resource it would select based off of cost, and that would affect all of the future choices that the model makes.

Q One of the only models that had some real differences were the model that was directed by the North Carolina Utilities Commission's staff, correct, and that's where they specifically asked that certain limits on, I believe -- was it solar and storage be relaxed?

Do you agree with that?

A Yes. The only thing I -- I did not ask specifically about that one, whether or not they

forced the model to select those or whether or not they independently let the models select.

So in the case of the VCEA-compliant models runs, they forced the model to select a certain amount. But assuming that they didn't force all that and they allow the model selected shows that as you increase the cap, the model would prefer more solar and battery storage.

Q And I'm not going to ask to admit this, but I do want to put it up. I thought one of the things that you said in response to a question from counsel for Appalachian Voices is that if there had been more runs and more data, that would have been helpful to you; is that correct?

A Yes.

Q And so I have here a copy of the order from the North Carolina Utilities Commission in Docket E-100 Sub 190 that was issued last fall.

And I just want to note that, in that case, Duke Energy conducted 33 separate resource portfolios, 13 portfolio variants, and 10 sensitivity analyses.

Do you think that if you had had that volume of assessment, that that would have been more helpful for you to have analyzed the

reasonableness of the -- of Dominion's plan in this case?

A Absolutely.

Q And, again, I don't know if your counsel knew how often we would talk about this exhibit once she marked it, but I do have a question about Best Practice No. 36. It's on page 63. And for the record, it's Exhibit 53.

This is a model that, essentially, the best practices let the optimization models optimize.

Have you reviewed this particular best practice?

A I have read through it, yes.

Q And, you know, do you agree that, you know, as set forth here in items 1 through 4, that there are certain items that make sense to, what I would say -- maybe a planner would not say, but that I would say are -- make sense to kind of hard code into the model because the model itself lacks the technical ability to assess these four items?

A Just want to make sure I reread them.

Yes.

Q And you'll note at the bottom that the Best Practices document here says that the reason

you do that is that:

These parameters require programming into the model because capacity expansion and production cost models are not designed to endogenously make decisions about most system constraints and resource inputs?

A Yes.

Q But that one of the things that then the best practices indicate these models are particularly good at is resource build decisions and resource retirement decisions.

You agree with that, don't you?

A Yes.

Q And then I direct your attention -- in response to counsel for App Voices, I thought I heard you say that you felt like the Company maybe hadn't given a good enough explanation for some of the build limits and limitations that it imposed in the model.

A I don't think I said that they didn't give a good enough. I was just agreeing that they could have -- that there could be more discussion on the specific build limits. I mean, there's a general supply chain issue and those kinds of things, but in terms of whether it should be 1,200

or 1,250 or 1,275, there's definitely not that level of detail. At some point, a decision is made.

Q So from your perspective, you could say, look, they have identified legitimate issues, supply chain?

A Yep.

Q But they did not, then, use those explanations to justify the specific numbers that they selected?

A Yeah. There's not, like, a calculation that's happening. But I don't know that you would necessarily say that you could -- like, we know it is exactly 1,200 or whatever the number tends to be. It's an estimate and whether or not it falls within a range that is reasonable.

I think, in part, this is an opportunity for sensitivities to raise and lower those limits. I don't expect that anybody could perfectly estimate the exact absolute limit for every year that could be built.

Q So --

A Does that make sense?

Q Yeah. So I think one of the sensitivities that the Company run was like a construction cost,

correct?

A Just a flat construction cost, so it's not specific to a technology or anything. Everything cost more to build by -- I think it was 10 percent and not --

Q But you could -- oh, I'm so sorry. I didn't mean to cut you off.

A But it wasn't, like, if there's an additional cost to solar, what happens? Do we build more nuclear if the cost -- it's not that detailed. It's a general cost increase to the construction portion.

Q And the Company -- did they do anything in the model where they said, let's assume that we can stretch our build limits 25 percent above or hit 25 percent less? That's sort of what you're talking about?

Or could you have --

A Yes.

Q -- pushed on the levers up or down and seen how the other resources responded as a result?

A Exactly.

Q And instead of allowing that kind of flexibility, which PLEXOS does have the

capabilities to perform, it held those static throughout its analysis?

A Yeah. I mean, there's changes to the costs, generally inflation adjustments through the years, but not like -- nothing like a sensitivity.

Q And, you know, looking at this best practice at the bottom where I underlined the language, the best practices actually indicate that sometimes supply chain, interconnection queue, that they may warrant setting a maximum annual build on a given resource.

But it goes on to say that:

The best practice is to be transparent, limit the time frame for applying it, and provide a well-reasoned explanation. Moreover, the best practice is to run scenarios without any caps to determine whether there's a better solution if deployment barriers can be overcome.

And so that statement there kind of goes to the discussion you and I were just having about trying to allow a better understanding of how any particular constraint on given resources might exist?

A Yes.

Q And am I right that -- do you view the

limits on natural gas as very limiting under the Company's model?

A I don't -- I'm sorry.

Q I can re-ask it.

A Yeah, re-ask, please. I'm sorry.

Q My understanding -- I can't put my hands on it very quickly, but my understanding is there was sort of an annual megawatt limit for natural gas.

A Yes.

Q My question is this: At that threshold, the number of megawatts that they were projecting over the period, did you consider that number to be a reasonable limitation?

A Because the model didn't select anywhere near the limit, the limit didn't seem to be affecting the model's choices.

So are you asking that -- should it be lower?

Q Well, I guess I'm just wondering -- it's been somewhat difficult to pick up the news these days. For example, I just saw, I think, yesterday I read an article that somewhere in Pennsylvania is going to build a 4.5-gigawatt gas plant.

I've sort of heard that a lot of companies

have plans to build natural gas plants in the near term. And I'm wondering whether you have any opinion on whether the physical and actual constraints of natural gas, in light of its overwhelming selection around the country, is likely to impact the actual ability of the Company to build the 6,000 megawatts of natural gas that are in its plan.

A I think in my testimony I do raise some concerns about the natural gas availability. That's primarily based off of the Company's own commentary on a prior case that was before the Commission, the LNG case, in which they described concerns about constraints and certain pockets on the gas infrastructure.

Q And so there's --

A It's -- sorry.

Q No, no, no. Go ahead.

A If there's currently constraints or concerns about it at the current level of -- that's being used for natural gas electricity generation, then adding more to that system would only further constrain unless there's appropriate other projects to expand the availability of gas.

Q So it would be helpful, in your opinion,

in a future IRP for -- because obviously, right, when you toggle off one resource availability, it's going to change the others. But if you change too many, it alters sort of too many assumptions at one time to really help identify what the most impactful change is?

A Yeah, so holding multiple variables the same and then changing one and then turning it on and off, yeah, that's a way to explore what the model is going to do under different scenarios.

You're right, if you toggle multiple at the same time, you have an interaction effect of different decisions, so it's a way to explore what the model is doing under those different constraints.

Q And Mr. Reisinger asked you a few questions about modeling. It sounded to me like you would not consider yourself to be an expert in PLEXOS modeling; is that fair?

A I think that's fair.

Q But do you think it would be helpful if someone who came at modeling from Staff's perspective, meaning not on behalf of any one particular group, had the capability to perform alternative modeling for the Commission's

consideration?

A Sorry. Can you state that one more time?

Q I can. I can.

Do you think it would be helpful for the Commission's consideration in future IRPs if someone on behalf of Staff -- and I say that because I took your prior statements to indicate there -- there presently is not anyone within Staff who may be able to do that and you might need to retain an outside expert, but do you think it would be helpful if someone representing Staff could perform alternative modeling under PLEXOS or whatever capacity expansion modeling is used to present a potential alternative portfolio for the Commission's consideration?

A I'll sort of dial it back just a little bit. I think it would be helpful if someone could run the models in PLEXOS. I don't know that it would necessarily have to be someone from Staff, but the -- sorry. If the Commission ordered the Company to perform specific model runs for -- that Staff suggested, certainly that would be useful if these were -- if Staff had input on potential ones that it believed, similar to the no data center load growth in this case.

I don't know that it necessarily has to be done by someone on Staff to perform what Staff would necessarily want to see.

Q So you would be fine if you-all were able to set some of the parameters and then ask the Company's modeling team to produce those results as sort of a -- let's call it a Staff input modeling run or something of that nature?

A I guess I'm reluctant to sort of overcommit to, essentially, having the Staff IRP and the Company IRP and us having to fight about who has the best IRP.

But there may -- I mean, I think it could be useful if there is a particular model run or sensitivity that the Staff would like to see run, to be able to have that run so that we can see the results of that, to the extent that it's outside of what the Company is already doing.

Does that --

Q Absolutely.

MS. GRUNDMANN: Thank you, Mr. Smith.

COMMISSIONER HUDSON: PEC?

MR. GREMA: No questions, Your Honor.

COMMISSIONER HUDSON: Microsoft?

MS. ROBB: Just briefly, Your Honor.

CROSS-EXAMINATION

BY MS. ROBB:

Q Mr. Smith, were you in the courtroom yesterday when Dr. Stover was on the stand?

A I was.

Q Did you hear him talk about his assessment of your geographic nodes?

A Yes, I did.

Q Okay. And did you hear him also address a tweak to that to address transmission constraints?

A Yes. Sorry. Go ahead and ask your question.

Q And did you have any assessment of that?

A Yeah. So maybe a terminology I used maybe wasn't as clear or the way I expressed it.

Staff's recommendation is for the zones -- in his example, these would be the hubs -- and the spokes would be the transmission between the various zones that would capture the transmission constraints on powers moving from one place to the other so that that could be identified. And the effects of that should bear out in the model's results.

So where you place the solar relative to where the demand growth is actually happening

matters in both the cost -- there's sort of nonconstruction costs that are -- the congestion costs, the re-dispatch costs that are a function of these locational differences and the choices that are made.

And then the mod- -- we would need to place -- any new resources would need to be placed within a zone in order to pick the effects of the new -- the next new unit that was added.

So I would concur that his description of what Staff's recommendation is is accurate. We understand them to be the same thing.

Q And did you agree with his using that approach?

A Yes.

Q All right. And just one quick question, one more on the best practices.

Looking at this document that was introduced, the part that's shown in pink, it says -- just wondering if this is consistent with that approach or is it related at all.

It says:

To stimulate major transmission connections and limits in a zonal model, planners can create distinct zones for each region. An

appropriate spatial scale will reasonably represent transmission corridors -- in particular, lines that are typically congested -- so the model can more accurately consider transmission lines for expansion.

Does this best practice relate to that approach?

A Yes.

MS. ROBB: Thank you. No further questions.

COMMISSIONER HUDSON: City of Alexandria?

MR. WINSTON: I'm also going to validate Staff's decision to admit this into evidence.

CROSS-EXAMINATION

BY MR. WINSTON:

Q Good afternoon, Mr. Smith. My name is Adam Winston. I'm here representing the City of Alexandria.

Have you reviewed the demand-side resource inputs best practices that make up part of the IRP best practice that your counsel admitted?

A I've read through the full document. If there's something specific you would like me to comment on, a refresh of my memory would be useful.

Q And is it a correct statement in your estimation that the Best Practices guide lists two model -- two approaches for incorporating demand-side resources into an IRP: one is the load modifier approach, which is the one that the Company uses in its 2024 filing, and the other is the competitive resource approach, which is the selectable resource model that the City and other respondents are advocating?

A I mean, I see that in there. I spend most of the time -- I've read through the full document, but there were certain elements that really spoke to me when I read through it, and I focused typically more on those particular recommendations.

Q But it is accurate that those are two approaches --

A Yes.

Q -- that are used --

A Yes.

Q -- to incorporate demand-side resources into an IRP?

A Correct.

Q And is it an accurate assessment based on this statement right here that begins with

"rather," that rather than prescribe one approach, the following sections provide best practices for implementing each one of the methods, that the Best Practices guide does not adopt either approach to incorporate demand-side resources as a best practice in IRP?

A No. That's what it says.

Q And then here where it says that the best practice for incorporating demand-side resources in an IRP includes developing and using varying adoption rates for demand-side resources, including the maximum achievable adoption scenario based on aggressive historical savings achievements by leading jurisdictions and favorable policy and program scenarios, for example, a 100 percent measure cost compensation or incentive program, do you agree that if Dominion's IRP had included a model that utilized the achievable energy efficiency savings, that that could potentially have provided some insights into how other resource, specifically supply-side resources, would react to that?

A I mean, if you put it in the model, the model will show results of the theoretical increase in energy efficiencies. So it would

reduce the load, and then you would get the result of what is effectively a lower load forecast.

I'm not sure if that was the question you were asking, but...

Q Yeah, I think that will satisfy it.

And we heard -- were you in the room during City Witness Freed's testimony today and for Mr. Hubbard's testimony for the Company, I believe, two days ago?

A I was.

Q And did you hear in their testimony that reference was made to the fact that DSM and energy efficiency programs for the Company at present are approved on a program-by-program basis using program-specific cost-effective analyses?

A Yes.

Q Okay. Would you agree that here, where it describes the best practice for the competitive resource approach, it says:

Demand-side resources are grouped together in a manageable number of bundles as inputs to the capacity expansion model. IRP modelers can develop these bundles to reflect how energy efficiency and demand-response programs are typically designed, implemented, and evaluated for

cost-effectiveness.

Would you agree with the statement that this best practice would allow even for program-by-program DSM and energy efficiency programs to be modeled using the competitive resource approach?

A That it could be? The only caution that I would state about this is you would have to look at the historical performance of the Company's DSM programs to see whether or not you think the Company could accurately describe what it would expect from those particular programs.

So it requires the Company to essentially describe what the expectation would be in terms of costs and energy savings relative to the program. So they determine that based off the projections.

I would be cautious in looking back at the historical performance of those programs and see whether or not you believe that the Company could accurately describe what it expected to receive is those energy savings from those programs.

Because the model is going to take those numbers as given and assume that they -- that the programs actually turn out that way. But I would just -- the DSM case, I think, is before the

Commission. I think there's -- there may be information in there to determine how the Commission should look at that particular modeling suggestion.

Q So related to your most recent answer, here where it says -- I think this is something at least sufficiently -- or substantially related to what you were just talking about -- that it is a key IRP principle that the -- that the model represent the potential of energy efficiency, demand response, and other demand-side resources in a way that's consistent with the scenarios modeled.

And that's because the assumptions made are incredibly important, including the ones on the supply side, electrification and load growth, on the demand side, including load growth, because these can affect the other myriad variables that are taken into account in the IRP.

But this consistency, it says is particularly important in the load modifier approach to DSM modeling because potential studies are typically developed before and in isolation from IRP modeling exercises.

So do you agree with the statement that

there are advantages that are unique to the competitive resource approach that don't inure to the load adjustment approach that the Company is utilizing?

MS. LINK: Your Honor, the only thing I'll say is it doesn't seem like that was an accurate reading of what you were reading. I didn't see "incredibly important."

You seem to have been reading something and you said it was incredibly important, but I don't see "incredibly important" in what's stated. So I just would object that he didn't seem to be reading what was on the screen.

MR. WINSTON: I can rephrase.

BY MR. WINSTON:

Q It's not very important but it is a key principle in IRP modeling?

A I'm sorry, could you just repeat the whole question again. I'm sorry.

Q Yeah.

So my question basically is, here the Best Practices guide says that consistency -- this consistency with IRP scenario -- the IRP scenarios and the assumptions made therein is particularly important when it comes to the load modifier

approach because of the temporal gap between when the market Potential Study is conducted and when the IRP is actually done.

And so, in other words, you had expressed doubt that -- as to some of the accuracy of some of the assumptions that might be used in a competitive resource approach.

And what I'm asking is similar doubts, if not the exact same doubts, also inure to the load adjustment approach, do they not?

A The load adjustment approach is based off of the requirements targets where the costs are not necessarily part of what's deciding what that number is finally going to be.

If the model is allowed to select based off the cost -- the estimated cost of the program and those costs are not accurate, then the selection will be inaccurate. The costs associated with that selection will be inaccurate.

Additionally, if it's based off of the projected energy savings, the projected energy savings, if that estimate is inaccurate, then the load -- then the change to the load forecast would also be inaccurate.

So there's two levels of potential

inaccuracy, both the costs and the actual energy savings that would happen. Because the -- only if it is accurately modeled -- only if the participation, savings, and costs are accurate in the model would it then reflect what you expect to see.

I think -- I would just have to say that Staff did not take issue with the way the Company did it in this case, and I don't think we have a particular position on how the Company would change it in the future.

And I think -- I think that's probably the limit of what I think I can say on that particular subject.

Q I guess one final question.

All of the things that you just stated about the need for cost assumptions to be accurate in order for the model to produce accurate outputs, those are also true equally of supply-side resources that are selected; is that correct?

A That's correct. It's just -- whether or not the Company's ability to estimate the power generation they would expect from a 1,200-megawatt natural gas facility versus what they would expect

to get out of energy efficiency program, I think -- again, I would just direct to the DSM case.

I think that would be a place where the full evidence of that can be evaluated and take those results under advisement in terms of whether or not the Commission would want to adopt that approach in future modeling.

Q I guess I'm going to take personal privilege. One last question.

It says here by the two stars that:

The competitive resource approaches can leverage some avoided costs that are endogenously molded in the IRP, such as transmission costs or emissions costs. However, the load modifier approach typically cannot internalize these costs directly in the IRP, instead using externally produced avoided cost studies.

So I think -- would you agree that this would be the result -- this shortcoming would be the result of allowing the extent of these analyses to be conducted in the DSM-proceeding docket as opposed to the IRP?

A That you would miss some of the other potential savings?

Q That you would be missing out on these avoided costs that can be endogenously modeled using the competitive resource approach.

A Potentially, I believe there are tests for the -- the four tests that incorporates more of the costs associated and savings associated with the particular DSM programs.

MR. WINSTON: Thank you.

Nothing further, Your Honor.

COMMISSIONER HUDSON: Consumer Counsel?

MR. BARTLEY: Yes, Your Honor. Just briefly.

CROSS-EXAMINATION

BY MR. BARTLEY:

Q Good afternoon, Mr. Smith. Carew Bartley with Consumer Counsel.

A Good afternoon.

Q If you can turn to page 55 of your testimony, I wanted to talk briefly about the capacity price forecasts.

Just let me know when you're there.

A I'm there.

Q Okay. As Staff Witness Curtis discussed before, there's sort of a gulf between the Company's capacity price forecast and Staff's; is

that correct?

A Correct.

Q Staff is projecting lower capacity prices out into the future, long term, as compared to the Company, correct?

A Yes.

Q And you mention in your testimony on line 16 that one result of a lower capacity price, as Staff predicts, is that it would reduce the estimated NPVs for the portfolios because the Company's portfolios contain significant market purchases.

That's right?

A Correct.

Q I wanted to ask about some other potential effects of the NPVs. I guess, first, are you generally aware that when the Company is proposing a project or a cost recovery for an update for a project, it provides an NPV analysis of the costs and benefits?

A Yes, I'm generally aware.

Q And are you aware that capacity prices are a significant input for those NPV analyses on the benefits side especially?

A Yes, generally.

Q So is it possible, in your opinion, that if the Company is wrong about capacity prices, if Staff is correct that capacity prices will be lower in the future, that some of the Company's NPV analyses that it's providing recently showing large benefits for its projects, those benefits may not ultimately materialize as fully as the Company is suggesting?

A Yeah, the actual benefits would adjust as the value of capacity was reduced, yes.

Q Right.

MR. BARTLEY: Thank you. That's all I have.

COMMISSIONER HUDSON: Dominion?

MS. LINK: Yes, thank you, Your Honor.

We have a blowup of a map that might be helpful when we talk about Staff's nodal proposal.

May I put it up on the easel?

COMMISSIONER HUDSON: If there's no objection, yes, please do.

MS. LINK: Can you see it?

THE WITNESS: It's at a little bit of an angle, but depends on how much detail we're going to go into here.

MS. PIERCE: Your Honor, I'll just note

this might be challenging if we don't have copies.

MS. LINK: I know. I'm --

MS. PIERCE: Thank you.

(There was a pause in the proceedings.)

MS. LINK: I apologize. Maybe someone has some friends that can print something. I'm out of copies.

We will work on other things while...

MS. GRUNDMANN: Vishwa, just in case, I took a picture and I sent it to the e-mail list from the order of presentation, so I think most counsel, assuming it will send, should get a picture of it in case you're going to use it at all.

MS. LINK: I appreciate you. I believe someone back there will print something for me.

Apologies, Your Honor. At least we got everybody awake. Apologies. Apologies.

CROSS-EXAMINATION

BY MS. LINK:

Q Good afternoon.

A Good afternoon.

Q How are you?

Let's focus on some other things before we get to the nodal proposal. I guess I'm going to

call it a nature of just different discussions you've had with some of the other counsel.

I believe, in a discussion you had with counsel for Appalachian Voices, there was some discussion of sensitivities conducted by the Company.

Do you recall that?

A I do.

Q Okay. And you're aware the Company conducted numerous sensitivities in this case: a high and low-load forecast, high and low DSM, high fuel, low fuel, high capital costs, low capital costs, a North Carolina directed sensitivity?

A Yeah, I'm aware.

Q Okay. So I just wanted to be clear because I believe it was sort of left unclear about whether there was a high and low fuel sensitivity.

And I'm on page 70 of the IRP in Figure 5.3.2. The Company ran the high fuel and low fuel sensitivity on the VCEA with EPA portfolio, correct?

A Correct.

Q Okay. And the results are here in this chart, correct?

A Yes.

Q Okay. And that is the portfolio that I believe counsel for APV was calling the legally compliant portfolio?

A Yes.

Q Okay. So that exists in the record?

A Yes.

Q Okay. Thank you.

Let's then move to Exhibit 54, just, again, the nature of more clarifying questions.

There was some discussion about the affected load carrying capability of different resources for the 2025-2026 delivery year that will be applied to the 2025-2026 third incremental auction, Exhibit 54.

Do you recall that?

A I do.

I apologize. Can you get the microphone a little bit closer? I can hear you, but it's not...

Q Is that better?

A That's better.

Q Sorry about that.

So I was just identifying Exhibit 54 as being the ELCC ratings for what will be applied to

the 2025-2026 third incremental auction.

You remember that discussion?

A Yes.

Q Okay. And then there was some discussion about the storage, ELCC ratings, and then also the ELCC ratings of other resources.

You agree?

A Agree.

Q Okay. And maybe this is just more for education. What is your understanding of what the ELCC rating means? Like, for example, on a 10-hour storage an ELCC rating of 77 percent, what does that mean?

A The ELCC rating is PJM's assessment of being able to call that particular resource at a high-need timing, so whether or not it's available or would be expected to be available.

Q Okay. So a higher percentage means more available --

A More availability, essentially, yes.

Q Okay.

A It also affects how much that resource can bid into the market, so it determines that for covering --

Q Okay. But when we're talking about, say,

a four-hour storage or 10-hour storage, it could be available, say, 77 percent of the time with 10-hour storage, but then it's only available for 10 hours, right?

A That would be, I think, the maximum total duration that it could run continuously.

Q Okay.

A I would agree to that.

Q Okay. But if you have, like, a gas combined cycle with the 78 percent ELCC and, say, it's called as a high-need resource, it's not limited in time for how long it can run, right? Not 10 hours? Not 20 hours? It's unlimited?

A Unless it's a scenario where there's a constraint to the gas supply, and then it would have to switch to backup fuel.

But, yes, generally speaking, it could continuously run for a longer period of time.

Q Okay. So, I mean, when we are looking at these numbers, I mean, when we see a bunch of numbers on a chart and you're told higher is better, you might think all these resources are created equally, but they have very different operating parameters, correct?

A Yeah. Because the percentage is based off

of the timing, when it's likely to be available at a particular critical moment. And so for it to be continuously needed for two weeks based off its ELCC would mean that you were considering, you know, a continuous period of time critical, which I'm not saying does not happen or happens for multiple days. But, yes, there are definitely differences that are not fully expressed by the percentages. I would agree with that.

Q Okay. Thank you. All right.

Well, by the power of magic and an amazing team, I have a copy. It's black and white. I'm told color is coming. And I imagine copies are coming.

And this is not necessarily to be introduced into the record. It is really -- could be just demonstrative.

But your proposal -- I'll call it Staff's proposal for separating the DOM LSE into four nodes. We just wanted to learn more about it and understand it more.

A Uh-huh.

Q So I guess my first question is, the way I understood it and read it, the Staff's proposal is to carve up the DOM LSE into four nodes, a north,

south, east, and west?

A Generally, yes.

Q So my first question is, why four?

A I think the initial to the north and south is going to be a function of the transmission constraints and the load growth in the northern part of Virginia, generally how we're defining northern, and the placement of non-dispatchable inverter-based resources that are accumulating in the south. So that north-south disconnect between load growth and generation growth would be important to have those zones.

I think out east you have Surry, and there's also additional solar that's going there, as well as Offshore Wind, exactly where that ties in in the southeastern part where that would be captured.

And the western, to allow for the portion of the state that's not as involved in those two particular things.

I don't know that I would say that it has to be four. I think at some point there will be a refinement of that. Potentially, subzones could be considered when as -- again, the IRP is an iterative process. More generation will come

online, more data centers will come online.

The information that the Company -- sorry -- we're asking related to the locational marginal prices will help identify particular nodes that are of particular concern.

So is four the absolute number that it has to be? I think we're trying to think generally about the different parts of the DOM LSE, what are the sort of general characteristic differences that you could broadly identify.

Q Okay. So that's very helpful. So I guess what I heard is north, because load growth in the north; south, because a lot of solar in the south; east, because of nuclear plus Offshore Wind; west, because --

A Yeah, I mean, it's -- yeah.

Q Okay. So I guess what I heard is it could be four, could be less, could be more?

A Yeah. And I think, again, with an iterative process, we're going to see, assuming that the Commission adopts Staff's recommendation, you'll see a difference in sort of the patterning of things.

As we look at the information that Staff requested related to -- that will sort of help us

see more broadly the specific transmission constraint issues that the Company is struggling with in terms of its planning, that will inform the next iteration, so yeah.

Q Okay. So it helps now --

MS. LINK: Thank you. I'll hand out copies, Your Honor, at this time. And we'll have it marked for identification. I apologize it's still in black and white.

Your Honor, may we have the Dominion map with transmission and generation marked.

THE BAILIFF: The Dominion map with transmission and generation will be marked as Exhibit 55.

(Exhibit No. 55 was marked for identification.)

COMMISSIONER HUDSON: Thank you. Please proceed.

MS. LINK: Thank you, Your Honor.

BY MS. LINK:

Q Okay. So I have put in front of you the Dominion map with transmission and generation, Exhibit 55.

And I guess you've given us those regional boundaries.

Have you -- I realize it's on the fly, but are you able to sort of tell us what's in each zone as we are here today?

A I couldn't -- I would need -- I think the Company is actually in a much better position to determine the exact contours of what those zones should look like. The Company has historical data. Any information that Staff would have to make that decision would have to first come from the Company, as far as the history of the LMPs, transmission constraints, et cetera, and then their own knowledge of their typical dispatch.

That's the kind of information that would inform the decision of where the exact contours of those zones should be, and I think the Company is definitely in a much better position to make those -- to draw those boundaries.

Q Okay. So the question is, what is the endgame or end purpose of taking the IRP -- which is sort of one load forecast, one look at, you know, generic supply-side resources and demand-side resources to fill a gap -- what is the endgame of, let's say, four exercises like this for -- we'll call them mini IRPs? What does Staff want to achieve?

A I think, generally, I think the locational value of resources, I think, is an important thing to identify.

There are congestion charges, which are pass-through costs to customers; there are re-dispatch costs, which are pass-through costs to customers; there are curtailments, which reduce the benefits of the Company's own resources.

If the Company builds a hundred-megawatt solar facility and expects to have a 22 percent capacity factor for that and it's getting curtailed every July and it's not producing that energy, then the value of that asset is reduced relative to what the expected value is.

And so those are costs to customers. You have to build more to make up for those potential costs. And if the resource was differently located, that may not be the case. It would at least expose that. And it would also identify where maybe the transmission focus would be. It would allow for more information and more understanding of...

Q Okay. So I guess I heard a couple of things. I heard to identify transmission constraints, and then I also heard to perhaps find

optimal siting of generation?

A Understand the cost trade-offs between the decisions to where things are located.

Q Okay. Cost trade-offs. Okay.

So I guess my question is on transition constraints. I'm sure you're very familiar with the PJM process and the RTEP process, Regional Transmission Expansion Plan?

A I'm generally familiar, yes.

Q Okay. And you understand that that process evaluates interconnection of new generators and where constraints might be and where upgrades are needed and reconductors and new lines, correct?

A Yes.

Q Okay. And the Company is a transmission owner in PJM?

A Yes.

Q Okay. And then the Company participates in that process, and there's a five-year review of the results, and that's reported in the IRP, correct?

A Yes.

Q Okay. What would this four zonal process provide that the PJM RTEP doesn't provide?

A I don't know that I could say what it provides.

Are you saying what does it provide to the RTEP or the transmission planning piece itself?

Q Sorry. Let me rephrase.

What does -- I'll call it the four zone -- four nodal process.

What does the four nodal proposal provide this Commission or the parties or anyone that the PJM RTEP doesn't already do with regard to transmission constraints and upgrades?

A I don't know that I would say that it's specific to the transmission plan -- like, the only purpose is not for the transmission planning.

Where a resource is located matters into how it functions. And where it is on the grid -- right now, the Company draws a circle around the DOM LSE and does not model the transmission constraints within the DOM LSE. It doesn't show up in the results.

The results, Staff believes, would be different if the model were allowed to incorporate those constraints. And so whether or not the build plan is an accurate roadmap to where the Company would go partially depends on the

transmission constraints that are in the DOM LSE. And by ignoring the transmission, essentially, we're not seeing the full picture.

Q Okay. So let's just say we are able to split the DOM LSE into four zones.

And I'm going to just mark up my version. Made it up.

So let's say we're in the -- what we're calling the south where the solar -- there's a lot of solar in the lower right portion of the map of Exhibit 55.

And this is where you're saying a lot of solar has been located, correct?

A Generally.

Q Generally?

A I mean, I think there's -- in Greensville and Brunswick, I think there's a couple of large projects that are planned there as well.

Q Okay.

A You know, I couldn't say whether or not that line perfectly divides it from here, but --

Q This is --

A -- but generally south, southeast of Richmond, and obviously there's quite a bit in North Carolina as well.

Q Okay. So let's just focus, say, on solar at Greensville.

So is the purpose of the four nodal proposal to figure out whether more solar should go in this location and, if it does go there, what are the transmission constraints?

A It would -- the model may make different selections if it was taking into consideration the location it was placed.

Q Okay. So in order to get four different nodes -- you know the IRP starts with a load forecast, right?

A Uh-huh.

Q Obviously, we've been talking a lot about the data center load forecast as well.

Would that total load forecast then also have to be split up into four pieces?

A I believe -- I don't want to get out too far in my understanding of exactly how the model uses the load forecast. I know currently it uses the load forecast within the DOM LSE.

I would believe that there would be a subdivision, but I couldn't answer that -- how the model would specifically -- I'm not -- I'm not able to answer whether or not the load forecast is

tied to specific nodes in the way it's currently derived. I think that's where you're going.

Q My question was more that if we're going to split the IRP into four nodes, don't we also have to start with what the IRP starts with, which is a load forecast for DOM LSE?

Wouldn't you have to split that into -- you know, deciding certain amounts --

A I think so.

Q -- nodes?

A Right now what the Company does is it takes the DOM Zone load forecast and then adjusts that to the LSE. So, yeah, I agree, that I think the Company would need to do that as well. Sorry.

Q Okay. So we have to take the DOM LSE and then split it down to four nodes?

A So essentially what the Company already does except for in four places instead of --

Q Okay.

A -- instead of once.

Q Okay. So then we split that down. Then we would also have to say -- we've talked about a lot of energy efficiency, right?

As a load reducer to the forecast, we would have to split the total projections of

energy efficiency into the four zones, right, four nodes?

A I guess, yeah.

Q Okay.

A I mean, the Company implies that as just a -- non-locationally. There could be differences in the amount of energy efficiency that's being applied in different areas.

I know the Company has particular targeted energy efficiency programs for data centers and such, so it would be reasonable to -- if you want a more accurate assessment, to try to assess the energy efficiency per each one.

But the Company just generally assumes that they're going to get to what the limit is. Those aren't specific programs other than the existing programs, which would already be reflected in the forecast as well, so...

Q Okay. I guess what I'm trying to get at is, if the purpose of the nodal proposal is to get more detail and granularity about what's needed in each of the quadrants, wouldn't you have to start with a load forecast, divide it into the four nodes, reduce it by energy efficiency for the four nodes, and then come up with what -- see what

resources you have in the four nodes, what's retiring in the four nodes, and then fill the gap for each of the four nodes, the supply gap?

A Yeah -- yes.

Q So you would kind of do what we do for the DOM LSE times four?

A I don't know that all of it would be times four, but, yes, there would certainly be an increase in the computational time, the solving, and there would be additional work, yes.

Q Okay. And then in terms of -- I know we talked a lot about transmission import, and you're saying there's sort of one big number coming in for a particular point of time on import capacity. There would then have to be numbers figured out for each of the four nodes and then also figured out in between the nodes, right, for transmission --

A Yes.

Q It's all connected?

A Once you have the four zones, the between would be part of the model. The export nodes, currently what the Company does is it determines -- we think there's X amount of import availability -- or based on the transmission, not

necessarily on the availability on the other side of the node, and then it just divides that by four and then treats them equally.

I think some additional -- whether or not that's accurate to what's actually happening is -- is I think -- that's a slightly different -- or another suggestion that the Staff made to study that with more detail because, right now, it's just assumed that there's a 20 percent cap.

If the Company's energy need doubles, then the 20 percent is the same 20 percent, but they just double the expected imports to be able to receive.

So, yeah, I think there's locational -- because we know that we have this constraints of a -- the west-east constraint, is all nodes equally available to import. I think that's unlikely to be true and something that the Company did not necessarily investigate.

Q Okay. So I guess what I heard is we would have to make some sort of assumptions for how much --

A Yes.

Q -- within the nodes?

A Yes.

Q And that's the whole -- part of the purpose, right, is to identify what are the constrained reasons --

A Yes.

Q -- from transmission and what aren't?

A And not just to understand what the constraints are but to understand what the model does under -- when it is allowed to consider the constraints when making resource and dispatch selections, which may be very different from one -- the Company models it as one zone with no constraints.

Q Right.

So then the other question I have is right now -- for the resources, let's just pick on solar -- or pick solar. Pardon me. It's getting late.

Let's pick solar. And right now the Company does sort of generic modeling of solar, right, a total amount. It doesn't pick where it will be in the IRP process, correct?

A Correct.

Q Okay. I understand that's been a bit of your criticism, is that this IRP process should also maybe pick where it goes, correct?

A Correct.

Q Okay. So is your suggestion in sort of the four different zones that then the Company would study the ability of any individual zone to absorb location-specific solar or can it then still be generic in the zone, or how does that work?

A Within the zone generic. So zone 1, 2, 3, 4, it would select solar in one of the four zones if it were selected. So --

Q Well --

A -- that's the level -- when I say model at the same level as the -- that the zones are leveled so -- or modeled.

Q Okay. And then what assumptions should the Company make so -- now picking on the northern piece.

And the availability of land being much less so in the northern region where data centers are locating and land is extremely expensive, what assumptions does the Company make there in terms of availability of land?

Do they have to sort of individually assess what solar costs in Northern Virginia, availability of land, that kind of thing, to make sure it's actually reasonable to put generic solar

in Northern Virginia?

A I mean, some consideration of differences in cost, whether or not those individual costs for any particular -- again, I can't remember the incremental size of the solar -- maybe that's battery. I don't want to say without looking. But they assume an incremental size, right.

Whether or not if it's slightly more expensive or slightly less expensive, I'm not sure how sensitive the model is to that level of difference. I think it would matter on how much it affected the cost and there were trade-offs in the cost. So it depends on how sensitive the model is to slight increases or decreases in the cost.

All of these are cost estimates. At the end of the day, the actual cost of the specific resource will be somewhat different.

And so whether or not the level of difference that would be expected based off of the location is enough to then have the model make a different selection, that's when it would be important to have more -- a more granular cost estimate.

Q Okay. So, for example, in Northern

Virginia, I anecdotally heard that land is $3 million an acre, and, say, in southeast -- I don't know a number, but say it's $100,000 an acre, that's somewhat material, right?

A Yeah, that would be material, yep.

Q I just made that up on the 100,000.

Okay. And so I guess -- moving from there, I guess to sum up this sort of point, would Staff be willing to work with the Company to sort of work through some of these details if this Commission were to order the Company to look at nodal modeling?

Would Staff be willing to meet with the Company and sort of informally work through some of these issues and assumptions to help achieve what Staff is looking for?

A Yeah, if the Commission so ordered, we would certainly do that.

Q We appreciate that because it sounds very complicated to me.

The other thought that has been raised in this proceeding is about the FERC Standards of Conduct.

Are you familiar with those rules?

A Generally.

Q Okay. So my understanding of those rules are they require the transmission function of Dominion Energy Virginia and the generation function of Dominion Energy Virginia to operate separately and to plan separately and that no nonpublic transmission information can go from the transmission function to the generation function.

Does that sound about right?

A Yeah. The part about the public and nonpublic, yes.

Q Right.

A They can't share nonpublic information.

Q Okay.

A I don't know what the rules on what can be or cannot be made public.

Q Okay.

A I don't know what the rules are to what --

Q Okay. So would you accept, subject to check, if the transmission function makes the nonpublic information public to the whole sort of world through a public filing or a bulletin board, then the generation function can see it because all generators are able to see it at the same time.

Does that sound fair?

A That sounds -- I don't know what the -- legally what --

Q That's fine. Fair enough.

A But if it was made public, it sounds like it would not run afoul of the sharing of public information -- or private information.

Q So my question is, in the nodal modeling, in terms of transmission import constraints and things that are nonpublic, what is your understanding of how that would work?

Or do you have an understanding of how the transmission function could do this work and whether the generation function of Virginia Power can be a part of it or Dominion can be a part of that?

A So is your question do I -- do I know all of the information that is and is not public and then whether or not that information would specifically be exposed publicly?

Q No. Let me take it back.

The transmission import constraints --

A Okay.

Q -- do you know that to be public information about what the import constraints are for DOM LSE at any given time?

Do you think that's public or do you think that's transmission information or do you not know?

A I'm not certain.

Q Okay. But you're certainly not suggesting that in doing this nodal proposal -- you understand the Company has to file the FERC standards of conduct --

A Yes.

Q -- while also doing this proposal?

A Yes.

Q Okay. And if that meant either it has to use public transmission information or it is studying all this without giving any of it to the generation portion of the Company in order to follow those rules, you would say that's okay, right, because you have to follow the rules, first and foremost?

A No. That we'd have to follow the rules, yes.

Q Okay. So you're not -- you're not saying that anything --

A I'm not suggesting that the Company break any rules of conduct or laws, no.

Q And you do understand that those rules,

though, create a complexity to an IRP but also to the nodal proposal, right?

A Potentially. I would -- yeah, potentially.

Q Okay. Thank you.

MS. LINK: Your Honor, if it's helpful, I have color copies of Exhibit 55, if it's helpful to Your Honor to introduce it into the record.

COMMISSIONER HUDSON: Sure.

MS. LINK: Okay. We can replace it.

Thank you. I have no further questions.

Thank you, Mr. Smith.

COMMISSIONER BAGOT: Mr. Smith, just a quick question --

THE WITNESS: Sorry. I was about ready to get up now.

COMMISSIONER BAGOT: -- for me based on -- based on the discussion you just had.

Just for my own edification, are you familiar with or are you aware of other utilities that have used this nodal modeling or some form of it that could potentially serve as an example as we potentially wrestle with some of the questions that were raised just now?

THE WITNESS: The only other example that

I'm personally aware of was the ERCOT where they did the zones.

And what they did there -- the main part that I focused on was the fact that they had initially run the model as a single zone, got the results, ran it as -- I can't remember if it was seven or eight zones, and then got different results.

Essentially, instead of putting all of the wind resources into the middle of nowhere where there was no demand, it moved it closer to -- it selected it closer to load centers, made different decisions based off of the transmission constraints between where it was intending to build things and where it was intending to use that energy.

We could look into seeing if there's some other locations, but I'm not personally aware of another instance.

COMMISSIONER BAGOT: Sure. That was my next question is that Staff hasn't done a comprehensive review of other utility commissions or utilities to see whether this has been done.

THE WITNESS: No. I think Staff's general concern is that we have significant load growth.

It's very locational in terms of both generation and where the load is coming in. It's coming in in large amounts, in big chunks.

And that may be a different paradigm than what we've seen. I mean, two decades of 1.3 to .8 percent, roughly, distributed based off the population moving within Virginia, that's a different -- that's a different dynamic. And maybe this calls for a more intensive look at what's actually happening.

COMMISSIONER BAGOT: Thank you.

THE WITNESS: Sorry.

COMMISSIONER HUDSON: Staff, any redirect?

MS. PIERCE: Yes, Your Honor.

REDIRECT EXAMINATION

BY MS. PIERCE:

Q All right. Mr. Smith, you're almost done.

Going to the discussion you just had with Commissioner Bagot, I'm going to -- and I don't have copies of this, but I'll place it on the overhead for your reference.

This is the Company's response to Microsoft -- and generally the question talks about the standards of conduct, which you just had a conversation with Ms. Link as well, and it goes

on to ask about this sharing of information between the -- between the transmission and the generation function.

And I would just like to -- I'd like to point out that if you read through here, there are some examples of other utilities that have begun to incorporate transmission planning within their IRP.

Do you see that, Mr. Smith?

A I do.

Q Okay. So at least from this response, it does appear that there are some other entities that are doing this.

Is that how you read this?

A Yes.

Q Okay. Thank you.

And now I'm going to refer back to what's been marked as Exhibit 53, the Best Practices in IRP Planning.

You had a conversation, I believe with Mr. Reisinger, about this -- the Best Practice No. 2.

Do you recall that?

A I do.

Q And, in particular, you-all were talking

about this first bullet point.

Do you recall that as well?

A I do.

Q And this best practice that's outlined here, this is not singling out any specific group; is that right? Is that how you read this? It says: For all technically sophisticated stakeholders.

Is that how you read that?

A Yes.

Q Okay. So it's not saying just a Commission Staff or one entity; it's saying the best practice is to give it to everybody.

Is that your understanding?

A Yes. All would be what I -- all technically sophisticated stakeholders.

Q Okay. And it's not Staff's position in this case that the Company should be required to give a PLEXOS license to just Staff?

A No, it is not.

Q Okay. And should Commission Staff need to either have its internal staff or external staff be capable of running the PLEXOS model and performing additional and then model runs on that, could there be a cost component to that --

A There certainly -- there certainly would be.

Q Okay. In contrast to the model software licensing mentioned here, would it be useful to Staff if the Company -- to Staff and other parties if when the Company filed its IRP, it provided its modeling and inputs at the time of filing as opposed to going through the discovery process to get all that information?

A Yeah, I would agree. I mean, it's something we're going to want and going to need anyway. It saves time in discovery to go ahead and have that up front and gives us more time and ultimately saves the Company time in doing it through discovery.

Q And this is a statutory -- an IRP proceeding is a statutory nine-month time frame.

Is that your understanding?

A Yes.

Q Okay. Thank you. All right.

Let's talk about nodes. So this is your prefiled testimony on page 13, and you set forth -- going into page 14. You set forth four layers of detail that the -- that you set forth that the Company could provide to give additional

information in their IRP; is that fair?

A That's fair.

Q Okay. And Staff's recommendation is this third regional approach where there would be the four nodes: north, south, east, and west?

A Yes.

Q Staff is not trying to tell the Company exactly how to model those nodes; is that fair?

A That's fair.

Q Okay. Sorry, my papers are in the way.

I'm going to put up page 65 of your prefiled testimony, and, in particular, I'm going to point to Footnote 144.

Do you see that?

A Yes.

Q And this just highlights that the Company models a single node. Is that how they construct their IRP?

A Yes.

Q So if I were to put this on the page on the overhead -- is that the single node?

A Yeah, essentially.

Q And so anything that goes beyond the single node, that's just generic data and information that the Company is relying on.

Is that your understanding?

A I'm sorry. Can you rephrase?

Q The Company is using just generic information?

A For the -- for the new resources?

Q Yes.

A Yes.

Q Okay.

A There's no locational element. It assumes there's no transmission issues.

Q There's no locational modeling so it's just generic modeling?

A Correct.

Q And it's Staff's recommendation -- one of the reasons that Staff's making this recommendation is because there are real world -- there are real issues with new generation coming online depending on where they're located.

Is that fair to say?

A That's fair to say.

Q And to the extent the Company can provide any additional information on four nodes or some method of that, that would be very useful information to Staff and the parties and the Commission.

Do you agree with that?

A Yeah, I think it would be very useful.

Q Okay. And just finally -- almost done -- this is attached to your prefiled testimony. It is the Company's response to Staff, seventh set, Question 153. You may recall it. I'm going to draw your attention to questions F and G.

Do you see that here?

A Yes, I do.

Q And Staff asked the Company if PLEXOS, which it uses to conduct the IRP model, is capable of modeling all nodes within the DOM LSE or DOM Zone as well as associated import and export nodes, and then it goes on to ask: Is there a limit to the node PLEXOS can model in total?

Do you recall that?

A I do.

Q And I'm just going to put up their answer here. And just to summarize, because it is getting late in the day, they said that PLEXOS -- well, they say it wouldn't be well suited, but it could be configured to a nodal model, and that the Company is not aware of a physical limit the number of nodes that PLEXOS can model.

Is that your understanding?

A That's my understanding.

Q So from a modeling perspective, according to the Company, PLEXOS can do indeed what Staff has recommended.

Is that your understanding?

A Yes. Certainly, PLEXOS has significantly more capability than it's currently being used at.

Q And based on this, they can even do the highest level of detail that Staff laid forth in the four options, which was that Option No. 4; is that correct?

A That's correct.

MS. PIERCE: Okay. Thank you.

No further questions, Your Honor.

COMMISSIONER BAGOT: Counsel, could I ask one question?

MS. PIERCE: Yes.

COMMISSIONER BAGOT: Referring back to the discovery response that you referenced at the beginning of your redirect --

MS. PIERCE: Yes.

COMMISSIONER BAGOT: -- is -- just for clarity, is that response in the record?

MS. PIERCE: It is not, I do not believe.

MS. ROBB: No, I don't believe it is.

MS. PIERCE: Yes. And I apologize, I don't have copies. There was massive -- massive discovery, but we would certainly -- we can certainly make copies at a break and provide that to the parties and mark it as an exhibit if you would like.

COMMISSIONER BAGOT: That would be helpful. Thank you.

MS. PIERCE: Okay, sure. Do you want us to go ahead and reserve an exhibit number now? Would that be helpful?

COMMISSIONER HUDSON: Let's do that now.

THE BAILIFF: Description?

MS. PIERCE: So this is -- okay. So I just wanted to clarify, Your Honor. There's a typo right here. So it says the second set and it references the case number, but this should be 00184. So it's the response dated March 21st, 2025, to Question No. 7 of the second set.

THE BAILIFF: Okay.

MS. PIERCE: And so this is Microsoft's response to the Company.

THE BAILIFF: Microsoft's response to the Dominion interrogatories request will be marked as Exhibit 56.

(Exhibit No. 56 was marked for identification.)

MS. PIERCE: And we will provide copies after a break or tomorrow, Your Honor.

COMMISSIONER HUDSON: Sure, sure.

Mr. Smith, you're now excused.

And, Staff, maybe what we can do is we can take Mr. Dodson's stipulated testimony, go to break, and then when we come back, we'll get that exhibit into the record. And then you can start with your next witness, if that works.

MS. PIERCE: That sounds great, Your Honor.

So as Your Honor indicated, Staff's next witness, Jeff Dodson, did not have surrebuttal and was -- agreed to waive cross by the parties.

He is here, available, I will say, if the commissioners have any questions for him, otherwise, we'll just mark his testimony.

COMMISSIONER HUDSON: No questions from the bench.

MS. PIERCE: Okay. Thank you.

So we ask that his refiled direct testimony be marked as the next exhibit. It was filed on March 11th, 2025, consisting of a summary

page, eight pages of questions and answers, and one attachment, and it was in public version only.

THE BAILIFF: The prefiled testimony of Jeff Dodson will be marked as Exhibit 57.

(Exhibit No. 57 was marked for identification.)

COMMISSIONER HUDSON: The testimony marked and described as Exhibit No. 57 is admitted into the record.

And let me also take care of the Dominion map as well, which is marked and described as Exhibit No. 55. And that's also admitted into the record.

(Exhibits No. 55 and 57 were admitted into evidence.)

COMMISSIONER HUDSON: So let's take a 10-minute break and reconvene at 3:20.

So we're now in recess.

MS. PIERCE: Your Honor, if you want the copies after the break, can we have 15 minutes, please?

COMMISSIONER HUDSON: Absolutely. So 3:25.

MS. PIERCE: Thank you.

COMMISSIONER HUDSON: We're now in recess.

(A recess was taken.)

MS. PIERCE: Your Honor, those copies are in the process of being made, I promise that. So if we could just continue, in the next -- after the next witness, I believe it will be present.

COMMISSIONER HUDSON: Sure, thank you.

MS. PIERCE: Thank you.

MR. ZIELINSKI: Your Honor, Staff would like to call Andrew T. Boehnlein to the stand, please.

ANDREW T. BOEHNLEIN, called as a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. ZIELINSKI:

Q Would you please state your name and position with the Commission?

A My name is Andrew T. Boehnlein, and I'm a manager in the Commission's Division of Public Utility Regulation.

Q Do you have with you a document consisting of a one-page summary, 24 pages of questions and answers, and two attachments collectively titled Prefiled Testimony of Andrew T. Boehnlein, which was filed on March 11th, 2025?

A Yes, I do.

Q Was this document prepared by you or under your supervision?

A Yes, it was.

Q Do you have any changes to make to your testimony?

A No, I do not.

Q If asked the same questions today, would your answers be the same or substantially the same?

A Yes, they would.

MR. ZIELINSKI: Your Honors, I ask that Mr. Boehnlein's testimony be marked and admitted into the record, subject to cross. There's a public version only.

THE BAILIFF: The Prefiled Testimony of Andrew T. Boehnlein will be marked as Exhibit 58.

(Exhibit No. 58 was marked for identification.)

COMMISSIONER HUDSON: The testimony marked and described as Exhibit No. 58 is admitted into the record, subject to cross-examination.

(Exhibit No. 58 was admitted into evidence.)

MR. ZIELINSKI: Thank you.

BY MR. ZIELINSKI:

Q Does this conclude your testimony?

A Yes, it does.

MR. ZIELINSKI: Witness is available for cross.

COMMISSIONER HUDSON: Thank you.

CROSS-EXAMINATION

BY MR. BENFORADO:

Q Good afternoon, Mr. Boehnlein.

A Good afternoon.

Q I might just move this easel out of the way.

Again, Nate Benforado on behalf of Appalachian Voices. Good to see you.

A Good to see you.

Q I'd like to start on page 16 of your testimony. Towards the top of the page there you have some discussion of the IRP stakeholder process, and you conclude that paragraph by saying:

In Staff's view, although Dominion represents that it gave due consideration to stakeholders' inputs, the decisions that shaped their modeling used for the four primary portfolios ultimately were left to the Company's

sole discretion.

Is that right?

A Yes.

Q Do you think if the decisions were not left to the sole discretion of the Company there could be more value from the stakeholder process?

A What do you mean by value?

Q I'm just -- I'm trying to understand whether you think the stakeholder process could be improved if stakeholders may have a little bit more control about some of the modeling runs or decisions that the Company ultimately puts into the IRP or into sensitivities?

A I recognize that the stakeholders would prefer more control. Whether or not that would lead to value for whom, the stakeholders, the Commission, the Staff, I don't know.

Q If stakeholders were -- had the ability to -- you know, there's one stakeholder input case; is that right?

A Yes.

Q Do you think having, not necessarily an infinite number of scenarios, but some additional scenarios that are more responsive to stakeholder concerns and inputs, including Staff, could

provide useful information to the Commission?

A It certainly may help contextualize what the Company thinks is feasible versus what stakeholders think is feasible.

Q Now, did you review Appalachian Voices' testimony of Dr. Nicholas Laws in this case?

A Briefly, yes.

Q And I know your colleague, Mr. Smith, has already discussed this idea of, you know, allowing parties to, you know, direct modeling runs, but my question is a little bit different.

Do you think -- do you think it would be helpful in future IRPs for all stakeholders, including Staff, but -- to at least have the option to access modeling software?

A Noting that some number of stakeholders already have access to a modeling software, how many stakeholders? If it's 50 stakeholders, you know, 50 different IRP cases is a lot to sort -- to sort through.

You know, to give credit to the diversity of opinions, yes, I think there is some value in the stakeholders providing, you know, their own modeling runs.

Q Sure.

To recognize your point, there may be some point where, you know, the value maybe start to decrease at some point, but at least as it stands now, do you think increasing access could be a good thing?

A Sure.

Q Moving on to page 10 of your testimony, I think you were talking about some of the sensitivities --

A Yes.

Q -- that were run?

And that was -- am I correct that Staff had to file a motion to compel to get that sensitivity performed by the Company?

A Yes.

Q And the Company obviously opposed that request; is that correct?

A Yes.

Q Okay. I want to just look at the footnote, actually. This is discussing sort of the scenario of VCEA portfolios with EPA regulations sort of with data center load and without; is that right?

A Correct.

Q And in the footnote, you say:

It must be noted, however, that both portfolios are not intended to be compliant with the VCEA requirement to retire existing carbon-emitting resources by 2045 or to meet the 5 percent energy efficiency goal in 2025.

Did I read that correctly?

A Yes.

Q And so would you agree with me that one of your recommendations is to, in future IRPs, ensure that that 2045 requirement is incorporated in some form in the modeling?

A Yes.

Q And would you agree that sort of what is viewed as sort of the base scenarios really should all include that 2045 requirement? Would you agree with that?

A I would agree with that, yes.

Q And is one of the reasons why, you know -- one of the reasons of underlying that recommendation is when you're talking about some generating units that might be affected by that 2045 requirement and those same generating units might have useful lives of, say, 30-plus years, including the 2045 requirement, could directly impact what the model selects to build now, you

know, in year '26 or year 2030 or year 2033; is that accurate?

A Yeah, I believe so.

Q So this year Dominion modeled out 15 years; is that correct?

A Yes, sir.

Q What was -- did Dominion -- in last year's IRP, the 2023 IRP, did they -- did Dominion only model out 15 years?

A No. And I don't recall if it was the preferred portfolio, but there was some sort of sensitivity that expanded the modeling horizon out to 25 years.

Q I believe they -- in prior IRPs, they have distinguished between sort of a 15-year planning period and a 25-year study period.

Does that refresh your recollection as sort of the way they have done it in the past?

A Yes, sir.

Q Do you know whether they used the 15-year period or, you know -- do you know if they used that same 25-year study period in the 2020 IRP, for example?

A I don't, but it wouldn't surprise me if they did.

Q Okay. And I'm going to use, I think just once, Exhibit 53, which your counsel put in previously, the Best Practices in Integrated Resource Planning document. And I'm going to turn to page 50 -- no, I'm sorry -- page 61. I'll put that up on the screen.

And this is -- direct your attention to Best Practice 33, Thoughtfully define the appropriate study period.

And I'll just point you to sort of the sentence at the end of the first paragraph:

As a general best practice, the study period extends far enough into the future to include important differences between scenarios with respect to recovery of investment costs and avoid distortions, as discussed below.

And then the next paragraph talks about this "end effects" idea:

Any optimization that is done for a finite modeling period has the potential to be influenced by end effects, meaning significant costs that would be incurred beyond the study period.

Skipping ahead a little bit, but, you know:

Proposed solutions include adding a

salvage value to any asset and liability or approximating the system's continued operation. In many instances, this is not a significant problem, particularly if the study period is long and the investment scenarios do not have large capital investments whose cost recovery would occur beyond the end year.

On the other hand, in cases where there are large investments made near the end of the modeling period, considering and accounting for end effects can be quite important.

So with all that in mind, this issue we were just talking about, how some of these units that have been selected in the model that only looks to 2039 have useful lives that extend beyond that, is this best practice directly relevant to that issue?

A Yeah, I would agree with that.

Q And would you agree, then, that the scenarios that we've seen from Dominion in this case, the four primary portfolios, are not consistent with some of the statements in this document?

A They are not consistent with many of the statements in this document, correct.

Q Thank you.

Going back to this decision to, in this IRP, only model out 15 years, Staff participated in the stakeholder process, correct?

A Yes.

Q Do you recall when Staff became aware of the Company's decision to only model out 15 years?

A No.

Q Do you believe it was discussed before the IRP was filed?

A I don't recall that being a discussion.

Q And so there were many stakeholder meetings before the IRP, but you don't recall the Company's decision to only model out 15 years being discussed in those meetings?

A I don't recall that, no.

Q Let's turn to page 21 of your testimony.

And I'll point you -- so you're talking, again, about this issue of fossil fuel retirements. And I'll point you to line 15 and 16.

And you state there:

With this planning approach, the Company practically guarantees that such waivers will be required in the future.

And there you're talking about the waiver option under the 2045 requirement in the Virginia Clean Economy Act; is that right?

A Yes.

Q So could you just sort of explain in your own words sort of -- say we're in the world 20- -- you know, a few years before 2045, the Company still has many fossil assets in its portfolio.

What sort of options would the Commission be faced with those sort of units?

A Well, based on this snapshot in time, the Company has a significant need for new resources, right?

They need energy. They need capacity. They apparently, through this IRP, need to build gas resources.

I think it is a fair question to say, at some point in the future, if you're going to make a determination of whether or not to retire one of these units, you're probably still going to need energy and capacity.

Given that there's not a ton of substitute resources out there that sort of provide the production profiles of a big combined cycle unit, right, where are you going to get that energy and

capacity?

And I think it sort of dovetails with my third recommendation on my summary page that says, well, what if we looked at our generating units and we developed a plan to integrate resources, DERs, RECs, or GETs, DSM, solar, wind, storage to try and recreate the production profile of one, some, all of these resources, at least in service of the 2045 retirement date, right.

And you could say in the next IRP, okay, look, Greensville, highly efficient, big combined cycle unit. We don't think we have the non generating assets to recreate that and retire it, something like Low Moor or Rosemary or the Mt. Storm CTs, sort of old, smaller oil-fired CT units. Maybe there is a pathway to sort of wind those down through the integration of nonemitting resources.

That, as opposed to not worrying about 2045 because it's 20 years in the future, I think is a better plan because it sort of allows us that optionality, right, that at some point in the future, we're not forced to apply for this waiver because there are options for the Commission to consider.

We could keep it on, right. Maybe the NPVs in the future show that it's economic and we continue to run it. Maybe it shows that, actually, we could probably turn some of these down. I think it's -- it provides optionality that sort of, by avoiding it, you lose that, right.

You're never going to investigate whether we could do this, and so it sort of forces your hand in a future where you need energy and capacity to keep those units online, assuming that you like to maintain system reliability.

Q So would you agree with me, then, that delaying consideration of that retirement requirement, every year we pass without addressing how we're going to meet this requirement in the law, the Commission is going to lose flexibility and optionality?

A Yes.

Q And so we may get to a point where there is either no choice for the Commission to grant a waiver for potentially numerous fossil assets.

Would you agree with that?

A Yes.

Q Or consider adding significant costs to

convert these to some carbon-free source if that were ever feasible.

Is that another option?

A Agreed.

Q Or retire these units potentially prematurely, if they were just constructed, and replace them with some other technology that, again, will add even more additional costs; is that accurate?

A Yes.

Q Okay. Do you think it would be valuable to direct Dominion -- or to have Dominion in future modeling to incorporate costs associated with accelerated amortization schedules in line with the 2045 retirement date for new carbon-emitting units?

A So now we sort of get in this discussion of is it an IRP or is it a biennial, and I agree with the Company, right, that an IRP is not a biennial case.

What we don't want to have happen is to bring that up in the biennial and say, what if we looked at accelerated depreciation schedules, and them to say, well, we haven't made a retirement decision yet; we can't do that. That's an

Integrated Resource Planning.

And so we're sort of chasing our tails trying to get an answer on this.

Frankly, we know that there's costs associated with retiring these units. I don't see why it's inappropriate to discuss them in the context of an IRP, given that the retirement decision will be made within the IRP.

Q Turning to page 22 of your testimony, you state at the end of this paragraph, beginning line 5:

The current snapshot that Dominion has provided indicates that the Company cannot run its system reliably while supporting the projected quantities of load growth and the injection of high numbers of renewable resources without the continued support from and expansion of the Company's fossil fuel fleet.

Did I read that correctly?

A Yes, sir.

Q And I just want to understand, are you restating what Dominion has stated, or has the Staff taken a position on whether or not that is true?

A I think this is the snapshot that the

Company has provided. It's not to say that there aren't other snapshots that are possible; it's the one in their document.

Q So if we were to have additional modeling that, say, incorporates 2045, the 2045 requirement, there -- we could reach a different conclusion than the one the Company has stated here? It's possible?

A It's possible.

Q I think this is the last area. Your colleague, Mr. Smith, was asked a few questions about ELCC, and this is Exhibit 54. And I just want to understand, to the extent you can, in those questions counsel for the Company was discussing sort of, you know, the idea of a long outage event and the fact that, you know, a gas unit, assuming they don't have fuel supply issues, will still have gas and continue running whereas a battery has sort of a limited duration.

And what I want to understand is, do you have a high-level understanding of sort of how these ELCCs are created and what -- whether they factor in sort of the probabilistic possibilities of these duration events, the frequency of them, the duration of them, the magnitude of them?

Isn't that part of how these ELCCs are generated?

A That's my understanding, yes.

Q So to a certain extent, these ELCCs are factoring in historical sort of loss-of-load events, the probabilities associated with them, and they're assigning, based on the characteristics of their resources, the ability of that resource to meet the sort of -- all the different types of events that could occur?

A Correct.

MR. BENFORADO: Okay. That's all I have. Thank you.

MR. JOHNS: Sierra Club and NRDC have no questions, Your Honor.

COMMISSIONER HUDSON: Thank you.

United?

MS. POLLARD: No questions, Your Honor.

COMMISSIONER HUDSON: Clean Virginia?

MR. REISINGER: Thank you, Your Honor.

CROSS-EXAMINATION

BY MR. REISINGER:

Q Good afternoon, Mr. Boehnlein.

A Good afternoon.

Q I think Mr. Benforado and I were thinking along the same lines, so I want to ask just a

couple follow-up questions regarding your recommendation that going forward the Commission should direct the Company to expand the planning period for future IRPs to be inclusive of at least the 2045 retirement date for all carbon-emitting generation resources.

And I believe you said, in talking with Mr. Benforado, that the Company used to include a longer study period in prior IRPs?

A Correct.

MR. REISINGER: And, Your Honor, I would like to hand out a document and have that marked.

And, Your Honor, this is an excerpt from Dominion Energy's 2020 IRP filed in Case No. PUR-2020-00035, filed on May 1st, 2020.

Could I have this marked as an exhibit?

THE BAILIFF: Sure. Give me one second.

The excerpt from Dominion's IRP filing in Case No. PUR-2020-00035 will be marked as Exhibit 59.

(Exhibit No. 59 was marked for identification.)

COMMISSIONER HUDSON: Thank you. Please proceed.

BY MR. REISINGER:

Q And, Mr. Boehnlein, flipping over on the table of contents on this document, do you see that the table of contents defines study period as a 25-year period of 2021 to 2045?

A I see that.

Q And flipping over to page 5 of this document, which is a portion of the executive summary for the 2020 IRP, do you see that there's an executive summary table that includes both a 15-year result and a 25-year result for the modeled portfolios?

A Yes.

Q And do you see this highlighted portion there where the IRP states that:

While all alternative plans in this 2020 plan incorporate only known, proven technologies, the Company fully expects that new technologies could take the place of today's technologies over the study period?

A Yes.

Q Okay. And would you agree with that, that new technologies could take the place of today's technologies over a longer-term planning period?

A Sure.

Q So a study period of 20 or 25 years as

presented in the 2020 IRP, that would be consistent with your recommendations in this case?

A Yes.

Q Okay.

MR. REISINGER: That's all I have. And, Your Honor, could I have this Exhibit 59 admitted?

COMMISSIONER HUDSON: The document marked and described as No. 59 is admitted into the record.

(Exhibit No. 59 was admitted into evidence.)

MR. REISINGER: Thank you.

COMMISSIONER HUDSON: Thank you.

DCC?

MR. MURPHEY: No questions, Your Honor.

COMMISSIONER HUDSON: Walmart?

MS. GRUNDMANN: No questions, Your Honor.

COMMISSIONER HUDSON: PEC?

MR. JAFFE: Yes, Your Honor.

CROSS-EXAMINATION

BY MR. JAFFE:

Q Good afternoon, Mr. Boehnlein.

A Good afternoon.

Q I want to start on page 8 of your prefiled testimony, and I will put that on the screen here.

This is your response talking about the data center load, and you note on page 8, lines 2 and 3, that based on the information provided by the Company, data centers account for about 87 percent of future sales growth in gigawatt-hours by 2039.

Is that your testimony?

A Yes.

Q All right. And in trying to sort of understand why it's important to model that, is it -- is there a concern about impacts to system reliability by bringing all that power online or serving that much load?

A Serving that much load.

Q Serving that much load?

A Yes.

Q Is there -- are there concerns about impacts to system reliability or impacts on customers' electricity rates?

A There are now. There were not at the time I wrote this testimony.

Q Okay. And then on page 4 of your testimony, sort of on the same theme, you reference a Dominion Energy Q4 earnings conference call.

Do you recall that portion of your testimony?

A Yes.

Q And you note that, on February 12th, 2025, the Company released -- reported an increase in substation engineering letters of authorization executed with data centers, representing approximately 19 gigawatts of demand. And you noted this was in addition to the 7.6 gigawatts attributed to substation engineering letters of authorization that is already in the IRP; is that correct?

A Yes.

Q All right. And you seemed concerned that this 19 gigawatts would be coming on, as you state on the top of page 5, so rapidly that it would -- that the Company's future demand forecast could increase by as much as 19 gigawatts in less time than the statutory deadline required to litigate the next IRP in two years; is that correct?

A So let's just talk about this for a second.

One, it's "could increase" as much as 19 gigawatts.

And Mr. Blackwell with the Company has

been very patient in explaining how exactly he develops his forecast for data centers. And so I understand that it is not inclusive of substation engineering letters of authorization.

What it does raise the question is the attrition as you move from that SELOA position down to a CLOA down to an ESA. And if it's a hundred percent from CLOA to ESA, I am curious about the position from SELOA to CLOA because of that 100 percent conversion that Mr. Blackwell notes in his rebuttal.

So that's not to say that this 19 gigawatts is coming to the system. It could, depending on sort of how it moves through that contractual process.

And again, 19 gigawatts -- and I think in his rebuttal testimony he cites a higher number -- it does seem to be an awful lot of demand letters to be coming in to the Company.

Q And those three tiers of documents, just to be clear, those -- the templates for those kinds of contracts have been admitted as exhibits. I think it's Exhibit 9, 10, and 11. And it's that last, the Electric Service Agreement, Exhibit 11, that has the meter date; is that right?

A Yes.

Q That sort of tells us when we need to provide power to that data center?

A Correct.

Q All right. And in defense of its projections on this load increase, you referenced the rebuttal testimony of Mr. Blackwell.

Mr. Compton, I think, also responds in part to your testimony; is that correct?

A Yes.

Q All right. And part of Mr. Compton's rebuttal testimony is to emphasize that, well, Dominion has a statutory obligation to serve all load in its service territory, including data center load.

Do you recall that?

A Yes.

Q And he seems to be referencing Virginia Code 56-234, which talks about the Company's obligation to furnish reasonably adequate service.

Is that your understanding?

A Yes.

Q So I want to ask a little bit about that, because as you note on page 4 of your testimony, we're looking at a lot of data center load that

has been negotiate -- that is coming in through contracts that the Company is negotiating; is that right?

A That's my understanding.

Q So it's not as if the Company is this just passive recipient of new load, it's negotiating these contracts with data center companies.

And so to finish this -- to give you a more pointed question, it has the ability to negotiate the timing, the glide path for when those data centers might come online; is that fair?

A They may or may not.

Q Well, presumably, they have some negotiating power. They wouldn't sign any contract no matter how unreasonable the terms.

A Sure, that's fair.

Q And in thinking about negotiating that glide path using the Company's negotiating power, I want to refer you to the JLARC study on data centers.

Are you generally familiar with that?

A Yes.

Q And I've raised this earlier in the hearing this week. I'm looking at page 36 of the

JLARC study where it references: One of the main ways to protect grid reliability would be by delaying the addition of new large-load customers until there is adequate generation and transmission capacity.

Do you see that?

A I see that.

Q Would it be reasonable to model delaying that additional new large-load customer demand in an IRP?

A That seems tricky for the reason that, you know, it takes two to tango, right? Dominion would want to delay you, and you would also have to accept being delayed. I'm not sure what would happen if Dominion said, sorry, we can't serve you right now, maybe in six months, you know. Is there legal recourse that somebody could take to force them to serve them? Possibly. I don't know.

It seems like you would have to do that on a customer-by-customer basis. And to the extent that the Company doesn't know who their customers are going to be in 2035, I don't know that they could make the argument that we just assume that a future 2035 data center will allow us to delay

their interconnection by a year or two years, five years.

Q Well, again, that goes to a question of negotiating power. I mean, if a data center company were to say, we want 19 gigawatts in two years and, oh, by the way, we want free electricity for the first 30 years we're in service, presumably, the Company would say, we don't have to sign that contract?

A Presumably.

Q And so getting back to this question under 56-234 of furnishing reasonably adequate service, trying to understand what is reasonable, I want to ask you, has the Company ever come to the Commission, Staff, as these contracts are being negotiated to say, hey, what do you-all think would be a reasonable glide path here? Before we commit to this load, we'd like the Commission Staff's input on what is a reasonable way to plan for this new demand.

Have they come to you for that?

A If they have, I'm not aware.

Q One more question. I'm putting on the screen here a printout of a web archive, and I'm not going to mark it right now. Well, I'll pass

out copies, but I don't mark it just yet.

MR. JAFFE: You need six; is that right, Jabari?

THE BAILIFF: Please.

THE WITNESS: Thank you, sir.

BY MR. JAFFE:

Q Mr. Boehnlein, I've put on the screen a web archive printout of a Dominion Energy web page from calendar year 2021 on the data center load.

And on this page, the Company stated: Dominion Energy is not just the electric utility, we are a true partner in growing your data center footprint.

Is the Company's obligation to provide reasonably adequate service at just and reasonable rates to all customers, or is it to be a partner in growing one particular group of customers' footprint?

A I mean, this is just ad copy, right? Yeah, presumably, the Code of Virginia supersedes this.

MR. JAFFE: No further questions, Your Honor.

And I will go ahead and mark this and have this ad copy from the 2021 Dominion web page moved

into evidence.

THE BAILIFF: The 2021 web archive printout of Dominion data center load growth printout will be marked as Exhibit 60.

(Exhibit No. 60 was marked for identification.)

MR. JAFFE: No further question.

COMMISSIONER HUDSON: The document marked and described as Exhibit No. 60 is admitted into the record.

(Exhibit No. 60 was admitted into evidence.)

MR. JAFFE: No further questions, Your Honor.

COMMISSIONER HUDSON: Thank you.

Microsoft?

MS. ROBB: I'm sorry. No questions.

COMMISSIONER HUDSON: Thank you.

City of Alexandria?

MR. WINSTON: Thank you, Your Honor. Just a few.

CROSS-EXAMINATION

BY MR. WINSTON:

Q Good afternoon, Mr. Boehnlein.

A Good afternoon.

Q You mentioned in your conversation with Mr. Jaffe that by the end of the study period for the current IRP 2039, around 87 percent of the load forecast will be constituted by future sales to data centers; is that correct?

A 87 percent of the sales will be associated with data centers.

Q Right. Thank you for the correction.

And so consistent with your recommendations to the Commission in your testimony, if there are -- and we can just stipulate the possibility that there are technologies that are capable of reducing the energy consumption for data centers significantly, either by advancing the control of certain cooling systems, whatever mechanism they use to reduce the energy efficiency, if those technologies existed, do you believe then modeling those technologies as a demand side selectable resource would support the optionality that you support for the Commission moving forward in the IRPs?

A So, again, to get back to Staff Witness Smith's concerns, you'd sort of have to make a projection that the customer is going to adopt that technology. I don't know how good the

intelligence is that the Company has as to what data centers might do in the energy efficiency space.

You know, given how much energy a data center uses, it seems to introduce some uncertainty in the model, and potentially a lot, right, if you were to say, okay, energy efficiency widget reduces data center load by 50 percent. And we think 50 data centers are going to use this, and then one data center uses it, then we'd be stuck.

Q Well, let me ask you this, Mr. Boehnlein, because then I -- you know, my understanding of the nature of the IRP is that it's a planning document from a very high level and one of its chief functions is that it's instructive to policymakers.

So if you're a lawmaker in Virginia and you're considering whether or not to mandate the implementation of certain energy efficiency mechanisms inside data centers, don't you think it would be useful to have an IRP profile that actually implements those technologies to see what it does to the rest of the load forecast?

A I cannot speak for lawmakers, but, you

know, effectively, this would be a sensitivity on how many sales you're going to have in the future.

And, yes, if there was a lower sensitivity for whatever reason, energy efficiency, widgets, data centers don't ever come, sure, that would be -- that could provide some helpful context on what you need to do to build your system.

Q And if you were the Company and you were trying to formulate sort of a panoply of electric service agreements that you could offer to your data center customers with various incentive levels, do you think it might be helpful to model some of those contract options and those incentive profiles within those various templates to see whether or not electric service agreements that incorporate these types of mechanisms would be beneficial?

A Are you asking would the Company do modeling to pitch data centers on DSM to induce them to adopt DSM, i.e., hey, you know, if you did all this stuff, your costs would be, you know, X compared to Y?

Q Yes.

And I actually appreciate you asking me questions back because I think I can -- I'll

combine something that Mr. Jaffe said.

You know, if in an electrical service agreement you can -- he described it as the glide path, you can extend or shorten the glide path to bring on the load, well, what if you incentivized the shorter glide path in exchange for better and more efficient energy technologies, and then you could model those different contracts, you could model how likely it would be that certain customers -- again, it's all theoretical, I understand that.

But do you agree that it would be consistent with your recommendations in your testimony, that it would increase this optionality?

A The Company, my understanding is that they don't use their contracts in their data center load forecast. So if you had a contract with a structure with the decreased glide path but ultimately less usage if the model is based -- or if the forecast is based on the historical meter demand, it would take a while for that historical meter demand to appear.

I don't know if we're both talking about the same thing, but, you know, as an academic

exercise, I could see, you know, the Company filing a data center forecast that assumed, you know, a variety of levels of usage for data centers over the next 25 years.

Q And do you agree that if there was some way to move towards universal adoption of some of these energy efficiency technologies in data centers, that that would increase compliance with the VCEA in future IRPs and beyond?

A It's certainly possible.

MR. WINSTON: No further questions.

COMMISSIONER HUDSON: Consumer Counsel?

MR. BARTLEY: Yes, briefly, Your Honor.

CROSS-EXAMINATION

BY MR. BARTLEY:

Q Good afternoon, Mr. Boehnlein.

A Good afternoon.

Q Looking at page 22 of your testimony, several recommendations are listed about the 2045 retirement date for fossil fuel generation resources.

And they're originally from the RPS proceeding but you've adopted them here as well, correct?

A Yes.

Q And I just want to be clear for the record, when we look at the recommendations, expanding the planning period to be inclusive of the 2045 retirement date and including at least one model run that contemplates the retirements of the fossil fuel resources by 2045, those will include -- you're contemplating those will include not just potential generation resources that might be needed, but that those modeling runs would include net present value analyses and customer bill analyses based on probably the increased costs from early retirements?

A Yeah, I think that would be useful context.

MR. BARTLEY: Okay. Thank you. Just making that clear.

THE WITNESS: Okay.

MR. BARTLEY: Yes, that's all.

COMMISSIONER HUDSON: Dominion?

MS. NIELSEN: Yes, Your Honor.

CROSS-EXAMINATION

BY MS. NIELSEN:

Q Good afternoon, Mr. Boehnlein. My name is Sarah Nielsen, and I represent the Company. I hope you're well.

A I am, thank you.
Q Good.
I believe I heard you testify moments ago that you don't recall when Staff became aware of the Company's intention to use a 15-year planning period for the 2024 IRP?
Did I hear that correctly?
A Yeah, I do not remember if we discussed that last summer.
Q Okay. So it sounds like you do recall some discussion of it with the Company in the summer of 2024?
A There may have been. It was last year. I don't remember.
Q I understand. There's a lot of moving parts.
MS. NIELSEN: I'm going to mark an exhibit. Your Honor, I would like to mark what is a cover page of a PowerPoint presentation from a stakeholder review process meeting on August 23rd, 2024.
THE BAILIFF: The cover page from the stakeholder PowerPoint presentation will be marked as Exhibit 61.
(Exhibit No. 61 was marked for

identification.)

COMMISSIONER HUDSON: Thank you. Please proceed.

BY MS. NIELSEN:

Q And, Mr. Boehnlein, this may help refresh your recollection of when the discussion occurred.

What I have here is the cover page from the presentation from an August 23rd, 2024 stakeholder input meeting.

And if you'll flip to the second page, there's a slide with the planning horizon listed as 15 years across scenarios.

Does that look familiar?

A Yes.

Q Okay. So subject to check, at least on August 23rd, 2024, the Company presented its intent to use 15 years for a planning period for the 2024 IRP?

A Yes.

Q Thank you.

MS. NIELSEN: Your Honor, I would ask that the exhibit be admitted into evidence.

COMMISSIONER HUDSON: The document marked and described as Exhibit No. 61 is admitted into the record.

(Exhibit No. 61 was and admitted into evidence.)

BY MS. NIELSEN:

Q Mr. Boehnlein, the only other thing I want to discuss with you is Staff's recommendation that the Commission should direct the Company to expand the planning period for future IRPs to be inclusive of the 2045 retirement date.

Are you familiar with the Virginia Code 56-599 requiring the Company to file an Integrated Resource Plan?

A Yes.

Q So I have a version up here on the screen, and the section I want to talk about is on the next page. But I wanted you to familiarize yourself and know that we're both talking about the same statute.

Does that sound fair?

A Yes.

Q Okay. So the highlighted language here says: All updated integrated resource plans shall comply with the provisions of any relevant order of the Commission establishing guidelines for the format and contents of updated and revised integrated resource plans.

Are you familiar with that language?

A Yes.

Q Are you familiar with what are currently the Commission-established guidelines for IRPs?

A There's many.

Q So what I'm going to show you now is the order from December 23rd, 2008, establishing the guidelines for the integrated resource plans.

Does that look familiar?

A I recognize this as a Commission order.

Q Okay. Understood and fair.

So at that time, the Commission adopted what are the current guidelines for developing IRPs.

Does that sound fair?

A Yes.

Q So what I'm showing you now is a copy of certain excerpts of the current integrated resource planning guidelines.

Do these look familiar to you?

A Yes.

Q Great. Okay.

So if we start under subsection A where it talks about the purpose, what you see here is a reference to a 15-year period.

Does that look familiar?

A Yes.

Q Okay. And then turning to subpart C, it references a 15-year forecast.

Does that look familiar?

A Yes.

Q Okay. And then turning to page 4, which is subsection E, it references an ensuring 15-year planning period.

Do you see that?

A Yes.

Q Does that look familiar?

A Yes.

Q Okay. And then if we continue on to page 5, Section F, it also references a 15-year forecast of energy sales and a 15-year forecast of the utility's peak load and expected load obligation.

Do both of those look familiar?

A Yes, they do.

Q And that may be our last reference.

But in that list, I count that there are a total of six references to a 15-year forecast.

Does that sound right?

A Yes.

Q Okay.

MS. GRUNDMANN: Your Honor, I do have some level of an objection to what I view as a misstatement of the record here.

I don't have any problem with her citing what's in the Code and asking the witness if he's seen it, but this Commission's prior history recognizes multiple instances after the implementing regulations in 2008 or 2009 where the Company has voluntarily modeled more than 15 years.

So I'm somewhat confused as to the nature of these questions where it's attempting to imply that there is some sort of a legal requirement that it can only be a 15-year IRP and yet the Company has picked and chosen in prior IRPs to model more than a 15-year planning period.

My objection is to sort of misstating the record and attempting to create a legal requirement that the Company is and has itself disregarded in prior IRPs.

MS. NIELSEN: Your Honor, if I may, with all due respect to Ms. Grundmann, that's not the point of this discussion at all. And if I were allowed to continue with my questions, I believe

it will be abundantly clear the direction we're going.

COMMISSIONER HUDSON: Please proceed.

MS. NIELSEN: Thank you, Your Honor.

BY MS. NIELSEN:

Q Mr. Boehnlein, I believe that you also, when we were initially talking about the guidelines, referenced sort of an expansion over the years. Is that fair?

A An expansion of?

Q Of additional requirements through past Commission orders, through past IRPs --

A Yes.

Q -- is that right?

A Yes.

Q Great. Okay.

So given the amount of time that has passed and the expansion of the guidelines with additional requirements through past Commission orders, would you say that it's fair that the IRP guidelines may be due for an update?

A I don't see anything wrong with annually updating your standard operating procedures.

Q So in this instance, would Staff be amenable to revisiting the guidelines in an IRP

guideline proceeding?

A If the Commission directed an IRP guideline proceeding, we would certainly be happy to participate.

MS. NIELSEN: Thank you, Mr. Boehnlein. It's been a pleasure. I appreciate your time. And I have no further questions.

THE WITNESS: Yes, ma'am.

COMMISSIONER HUDSON: Staff, any redirect?

MR. ZIELINSKI: Yes, Your Honor, briefly.

REDIRECT EXAMINATION

BY MR. ZIELINSKI:

Q Mr. Boehnlein, do you recall, was there another stakeholder meeting after that August 23rd, 2024, meeting but before the IRP was filed in October?

A So this is from August 23rd, 2024, and it's Phase IV review of collective stakeholder input and recommendations.

I would wager that this was the last stakeholder meeting.

Q So there wasn't really an opportunity after this stakeholder meeting to discuss Dominion's decision to only model out 15 years?

A I don't believe there was.

MR. ZIELINSKI: No further questions.

COMMISSIONER HUDSON: Thank you, Mr. Boehnlein. You're now excused.

THE WITNESS: Thank you.

MS. PIERCE: Your Honor, as Mr. Boehnlein is exiting the stand, I do have copies of Exhibit 56 to pass out and distribute.

COMMISSIONER HUDSON: Counsel, before you call your next witness, you'd like this moved in the record, correct?

MS. PIERCE: Yes, Your Honor.

COMMISSIONER HUDSON: The document marked and described as Exhibit No. 56 is admitted into the record.

(Exhibit No. 56 was admitted into evidence.)

MR. ZIELINSKI: Your Honor, Staff would like to call Sean Welsh.

SEAN M. WELSH, called as a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. ZIELINSKI:

Q Can you please state your name and position with the Commission?

A My name is Sean Welsh, and I'm a senior manager with the Commission's Division of Utility Accounting and Finance.

Q In the course of your duties with the Commission, did you prepare and file testimony in this proceeding on March 11th, 2025?

A Yes, I did.

Q Do you have any corrections to make to your prefiled direct testimony at this time?

A No, I do not.

Q If you were asked the same questions today, would you provide the same or substantially the same answers?

A Yes, I would.

Q Would you like to sponsor this document as your testimony in this proceeding?

A Yes, I would.

MR. ZIELINSKI: Your Honors, at this time I would ask that Mr. Welsh's testimony, consisting of a one-page summary, 11 pages of questions and answers, and two attached statements and appendix be marked and admitted into the record, subject to cross. This testimony was filed in public and extraordinarily sensitive versions.

THE BAILIFF: The public version of the

prefiled testimony of Sean Welsh will be marked as Exhibit 62.

The extraordinarily sensitive version of his testimony will be marked as Exhibit 62ES.

(Exhibit No. 62 was marked for identification.)

(Extraordinarily Sensitive Exhibit No. 62ES was marked for identification.)

COMMISSIONER HUDSON: The testimony marked and described as Exhibit No. 62 is entered into the record, subject to cross.

And 62ES is admitted into the record, subject to cross.

(Exhibit No. 62 was admitted into evidence.)

(Extraordinarily Sensitive Exhibit No. 62ES was admitted into evidence.)

COMMISSIONER HUDSON: Please proceed.

BY MR. ZIELINSKI:

Q Mr. Welsh, have you reviewed the rebuttal testimony of Company Witness Sunkins?

A Yes, I have.

Q Do you have any comments?

A Yes. I continue to stand by my recommendation that future bill impact analyses

should include a projection of base rate changes.

As of December 2024, base rates are 43 percent of -- approximately 43 percent of a typical residential customer's bills, according to the bill analysis filed in this case.

The assumption that such a large portion of a customer's bill will remain fixed throughout the planning period can have a significantly distorting effect on the bill impact analysis.

Furthermore, many of the critical costs under consideration in an IRP proceeding are recovered through base rates, including certain generating plant costs, that could be subject to changing retirement dates or distribution costs related to data center or other customer growth.

Excluding an estimate of these key inputs on customer bills reduces the value of the bill impact analysis provided in the IRP.

Q Ms. Sunkins states that base rates include too many factors to adequately consider over an IRP planning period.

Do you agree?

A No. There are certainly complexities involved in base rate cases that may make them more difficult to estimate or project than

isolated rate adjustment clauses.

Base rates have more cost-of-service elements and are not subject to the annual dollar-for-dollar true-up mechanism present in rate adjustment clauses, but there are critical elements of the IRP portfolio for which the costs or benefits are in base rates.

At a minimum, future bill -- IRP bill impact analyses should predict impacts of the following items: capacity and purchases or sales recovered through base rates, projected distribution infrastructure costs associated with customer growth, impacts of additions or retirements of generating units recovered through base rates.

Without those elements, it is extremely difficult for the bill impact analysis to reflect the true impacts to customers of the Company's IRP plan.

Q Does this conclude your surrebuttal?

A Yes.

MR. ZIELINSKI: Witness is available for cross.

COMMISSIONER HUDSON: Appalachian Voices?

MR. BENFORADO: No questions, Your Honor.

COMMISSIONER HUDSON: NRDC?

MR. JOHNS: No questions, Your Honor.

COMMISSIONER HUDSON: United?

MS. POLLARD: No questions, Your Honor.

COMMISSIONER HUDSON: Clean Virginia?

MR. REISINGER: No questions.

COMMISSIONER HUDSON: DCC?

MR. MURPHEY: No questions.

COMMISSIONER HUDSON: Walmart?

MS. GRUNDMANN: One question.

CROSS-EXAMINATION

BY MS. GRUNDMANN:

Q Does Staff think it would be helpful if the Company were to provide bill impacts for some of the other rate classes?

A As in, like, a GS-3 or so?

Q Uh-huh, yes.

A Yes, that could be helpful.

Q Would Staff -- well, let me back up.

Are you aware that in the context of this case, the Company refused to provide billing impacts for GS-3 because it would require original work?

A I am not aware of where that specific objection was made.

MS. GRUNDMANN: That's all the questions I have.

COMMISSIONER HUDSON: PEC?

MR. GREMA: No questions, Your Honor.

COMMISSIONER HUDSON: Microsoft?

MS. ROBB: No questions, Your Honor.

COMMISSIONER HUDSON: City?

MR. WINSTON: None from us, Your Honor.

COMMISSIONER HUDSON: Consumer Counsel?

MR. BARTLEY: Yes, just a few.

CROSS-EXAMINATION

BY MR. BARTLEY:

Q Good afternoon.

A Good afternoon.

Q I wanted to turn to page 8 of your testimony. And that's where you're talking about the main differences between -- the bill impact differences between the portfolios. And you note on line 10 that none of the portfolios include the costs of accelerated retirements of the coal or natural gas units.

So just to be clear for the record, you -- based on that, Staff believes that the Company's portfolios are understating the costs that ratepayers will pay under their portfolios,

correct?

A I'm sorry. I'm not -- could you maybe rephrase?

Q Sure. Since none of the portfolios include the costs the accelerated retirements would require, it's Staff's position that the portfolios are understating the costs that ratepayers will ultimately pay based on those retirements?

A The Company doesn't forecast any retirements through 2039, so I -- the bill impact is consistent with that projection.

Q Sorry, yes. Because the portfolios don't include the 2045 mandated retirements, we may be looking at understated costs?

A Yeah, if there were a retirement in 2045, that would start impacting the bills earlier than that, and that is not being picked up here, correct.

Q And going to page 10, you had noted a question that I had asked Staff Witness Boehnlein, that if the Commission orders a different time period than the current 15-year planning period, Staff recommends that the bill impact analysis period be adjusted to align with the IRP planning

horizon.

And that would include the net present value analyses as well, right, not just the customer bill impact?

A I am not the witness for a net present value analyses, so I don't know that I would respond to that.

MR. BARTLEY: Okay. That's all the questions I have. Thank you.

COMMISSIONER HUDSON: Dominion?

MS. NIELSEN: No questions, Your Honor.

COMMISSIONER HUDSON: Staff, any redirect?

MR. ZIELINSKI: No, Your Honor.

COMMISSIONER HUDSON: Thank you very much, Mr. Welsh. You're now excused.

Dominion, whenever you're ready for your rebuttal.

MS. NIELSEN: Thank you, Your Honor. The Company would call Shane T. Compton.

COMMISSIONER HUDSON: Mr. Compton, let me just remind you you're still under oath.

MR. COMPTON: Thank you.

SHANE T. COMPTON, recalled as a rebuttal witness, having been previously duly sworn, was examined and testified as follows:

DIRECT EXAMINATION (Reb.)

BY MS. NIELSEN:

Q Good afternoon, Mr. Compton.

A Good afternoon.

Q Are you the same Mr. Compton who offered direct testimony in this proceeding earlier this week?

A Yes.

Q Do you have with you a document entitled Rebuttal Testimony of Shane T. Compton, consisting of a one-page summary, 36 typed pages of questions and answers that was filed in public version only in this proceeding on March 25th, 2025?

A Yes.

Q Was that document prepared by you or under your supervision?

A Yes.

Q Do you have any corrections or additions to that document?

A No.

Q If you were asked the questions appearing there, would you provide the same or substantially similar answers?

A Yes.

Q Do you wish to sponsor the document as

your rebuttal testimony in this proceeding?

A Yes.

MS. NIELSEN: I'd ask that the rebuttal testimony of Shane T. Compton in public version only be marked for identification and admitted into the record.

THE BAILIFF: The rebuttal testimony of Shane T. Compton will be marked as Exhibit 63.

(Exhibit No. 63 was marked for identification.)

COMMISSIONER HUDSON: The rebuttal testimony marked and described as Exhibit No. 63 is admitted into the record.

(Exhibit No. 63 was admitted into evidence.)

BY MS. NIELSEN:

Q Mr. Compton, during opening statements, counsel for Appalachian Voices stated that, in rebuttal, Dominion does not respond to either of the compliant portfolios that Dr. Laws submits.

Do you have a response to that statement?

A Yes. And I disagree. Pages 22 and 23 of my rebuttal testimony specifically address the alternative portfolios offered by Sierra Club Witness Glick and Appalachian Voices Witness Laws,

explaining generally that both Sierra Club Witness Glick and Appalachian Voice Witness Laws rely on build limits for renewable and energy storage resources that are unreasonable.

For example, Witness Laws added 25 gigawatts of solar in a single year, 2045, in his VCEA compliant portfolio, which he calls VCEA with EPA RGGI double-clean.

To put this figure into context, the most solar the Company has placed into service in a single year is 380 megawatts. That is approximately 1.5 percent of the solar added in a single year in Witness Laws' VCEA with EPA RGGI double-clean portfolio.

As another example, Witness Laws' portfolio labeled VCEA 2045 EPA RGGI 3X clean, 6X BESS adds 10 gigawatts of new nuclear in a single year, also in 2045. That is 37 times larger than the build limit the Company used in the 2024 IRP.

Q Were you also present in the hearing room when Appalachian Voices Witness Laws testified that his IdeaSmiths report presents the only pathways in this docket to meet the VCEA zero carbon target in 2045?

A Yes.

Q Do you have a response to that statement?

A Yes. Again, I disagree. The Company presented two primary portfolios that are VCEA compliant over the planning period. There are also multiple sensitivities that are VCEA compliant over the planning period.

Q Do you have a comment in relation to Appalachian Voices Witness Laws' testimony that his VCEA with EPA RGGI double-clean does not build more than 2 gigawatts of new storage resources in 2027?

A Yes. After hearing Witness Laws' testimony, I took another look at the chart, and the Company agrees that it does not build more than 2 gigawatts of new storage in 2027.

Q I want to switch gears now to Appalachian Voices Goggin. He testified yesterday that the Company should use the physical transmission capability as calculated by PJM for the capacity purchase limit.

Do you agree with that assessment?

A I do not. The physical transmission capability as calculated by PJM is for the entire DOM Zone. While the Company's 2024 IRP is planning for the DOM LSE, other load-serving

entities within the DOM Zone also depend on that physical transmission capability for their capacity purchases.

Additionally, the Integrated Resource Planning guidelines adopted by the Commission in Case No. PUE-2008-00099 require the Company to consider energy independence when developing an IRP.

Simply using the physical transmission capability as calculated by PJM for the capacity purchase limit would be counter to the Company considering energy independence when developing an IRP.

Q Thank you, Mr. Compton.

Switching gears now to Advanced Energy United Witness Roumpani.

Dr. Roumpani was discussing certain modeling assumptions with counsel for Appalachian Voices, specifically the gas infrastructure costs, including the costs of LNG storage, stating that they're not included in the 2024 IRP plan modeling.

Do you have a response to that exchange?

A Yes. And I disagree.

First, pages 25 through 26 of my rebuttal

testimony explain that new gas-fired resources will not necessarily require greenfield pipeline infrastructure.

Fueling arrangements will depend on specific resource locations which have not yet been determined, and specific resource locations will not be decided or determined as part of an IRP.

Further, those specific resource locations, once determined, could take advantage of existing pipelines by increasing pressure or other means such as fuel storage.

Further, only combine cycle units require firm transmission. In contrast, CTs do not.

Finally, the cost of the recently approved LNG storage facility were factored into the 2024 IRP modeling. Its costs have been split between the Brunswick and Greensville power stations that the LNG storage facility will support.

Q Do you agree with Dr. Roumpani that the Company defends retaining fossil units on the basis of net present value?

A I disagree with Dr. Roumpani to the extent her testimony suggests that the Company solely relies on positive NPV to defend continued

operation of fossil units.

Resource adequacy is another very crucial consideration for keeping the thermal units online during the planning period. As stated in my rebuttal testimony on page 31, lines 4 through 10, the model was allowed to select unit retirements of existing fossil-generating units based on economics and reliability need, and the model chose to not retire any units.

Q Do you agree with Dr. Roumpani that a model that appears cost-effective during the planning period could actually be creating future liabilities and long-term risks?

A No, I do not.

The IRP is a 15-year plan taken as a snapshot in time and refreshed every year. Any concerns or, quote, liabilities would be identified in any future snapshots and, accordingly, will be analyzed in future IRPs with appropriate and necessary course correction actions taken at that time.

Q We're going to switch gears again now, Mr. Compton, to locational modeling.

Georgia Power has come up several times over the course of this proceeding, namely, in

relation to modeling DSM as a selectable resource.

Do you have any comments?

A Yes. I reviewed Georgia Power's 2025 IRP filed in January of 2025 on this point. I found the discussion of their Commission-ordered requirement to model DSM as a supply-side resource in one scenario -- it's at pages 57 through 58 -- where they state that comparisons of generation resources on a net present value basis to traditional DSM cost-effectiveness tests are not applicable.

For that and other reasons, Georgia Power did not recommend approval of that particular scenario.

MS. NIELSEN: And, Your Honor, I'd like to mark an exhibit. It is the cover page and pages 57 and 58 of Georgia Power's 2025 IRP that Mr. Compton just discussed.

BY MS. NIELSEN:

Q Mr. Compton, is this a copy of the cover page and the two pages related to DSM that you reviewed from the Georgia Power Integrated Resource Plan?

A Yes.

Q And it's the same document that you just

discussed as part of your surrebuttal testimony?

A That's correct.

MS. NIELSEN: Your Honor, we would ask that the exhibit, I believe No. 64, be admitted into evidence.

MS. GRUNDMANN: Your Honor, I do have a few questions about this exhibit.

It looks like 7.6.2 is midway through Section 7.6, so it looks like it's cut off.

Moreover, I assume Georgia Power, much like Dominion, is subject to a Commission decision, and I have no knowledge as to what position the Commission may have taken with respect to the utilities recommendation on this particular issue.

And while I have no dispute that the utility is certainly capable of making a recommendation for Georgia Power, as Dominion has done in this case, I certainly think it would be more relevant to know whether or not the Georgia Commission has made any decision on this issue.

But I also have some concerns as to whether we are missing some pieces since there is -- I see, like, the top line on page 57 mentions the TRC, which is the total resource cost

test, which clearly reflects that we're dealing with DSM.

So I have some concerns that this is a partial exhibit and some concerns as to how full a picture it gives as to how Georgia is dealing with this particular issue.

MS. NIELSEN: And, Your Honor, the purpose of this exhibit is strictly related to the concept of whether or not utilities are modeling DSM as a selectable resource.

So that's why we're relying on the Georgia Power Integrated Resource Plan and not the ultimate Commission order on the issue, which is the question of whether the utility is doing this type of modeling. So that's the reason for the exhibit itself as opposed to the Commission order.

And the pages that were provided were the pages that were reviewed by Mr. Compton.

COMMISSIONER HUDSON: So what I'll do is allow it and give it its proper due weight.

MS. NIELSEN: Thank you, Your Honor.

MR. WINSTON: Your Honor, can I ask a question. I don't know if it's an objection or just a point of inquiry, but counsel mentioned that the party had -- that Georgia Power had come

up several times. I guess the implication was that they had come up in the context of claims that they are doing this type of modeling.

The City of Alexandria never made such claims and are not -- I know I've heard the name Georgia Power in these proceedings, but I don't recall anyone claiming that they have done this type of modeling. And so I don't know that this would be appropriate for admission, if that's the case.

MS. NIELSEN: And I believe -- Mr. Compton can correct me if I'm wrong, but I believe it was Dr. Stover's testimony that we were reviewing that specifically referenced Georgia Power?

THE WITNESS: That's my recollection of his testimony yesterday.

COMMISSIONER HUDSON: Thank you.

So we'll definitely allow it and just give it its proper weight.

THE BAILIFF: Your Honor, I need to mark it.

COMMISSIONER HUDSON: Yes.

THE BAILIFF: The 2025 IRP plan excerpt from Georgia Power will be marked as Exhibit 64.

(Exhibit No. 64 was marked for

identification.)

COMMISSIONER HUDSON: Please proceed.

MS. NIELSEN: And, I'm sorry, Your Honor, marked or admitted with the proper weight.

COMMISSIONER HUDSON: You'd like to admit it into the record?

MS. NIELSEN: Yes, Your Honor.

COMMISSIONER HUDSON: So the document marked and described as Exhibit No. 64 is admitted into the record.

(Exhibit No. 64 was admitted into evidence.)

MS. GRUNDMANN: Your Honor, can counsel please just identify specifically where in these two pages the aforementioned applicable language is that references the point that Mr. Compton was making?

MS. NIELSEN: I believe it was Mr. Compton's summary of his understanding on pages 57 and 58, but I'll allow Mr. Compton to correct me if I'm wrong on that point.

THE WITNESS: Yes, more directly or more specifically, it's the Section 7.6.3, supply-side case, which appears at the bottom of page 57 and continues over to page 58.

BY MS. NIELSEN:

Q Thank you, Mr. Compton.

There's been some discussion in this proceeding about locational modeling.

What are your thoughts on locational modeling in an IRP?

A I have a lot. As other witnesses have mentioned, locational modeling in an IRP is a very new and extremely complicated concept, and it is not currently the industry standard.

My team and myself network with other IRP modelers at conferences, et cetera, and we've yet to meet anyone that does locational modeling in an IRP.

In this proceeding, there have been suggestions that the Company model its service territory in four separate zones. I have a lot of significant concerns with trying to model the IRP in four separate zones. Such an undertaking would be extremely complex and nuanced.

Using this hearing as an example, over the course of several days, we've talked about many of the inputs and assumptions that go into the IRP, almost all of which have been debated extensively. Some parties have stated that the build limits are

too high; others have stated that they are too low.

We've heard similar disagreement on the load forecast. The levels of energy efficiency, capacity, and energy import limits and selectable resources, just to name a few.

If the Company were to model four separate zones, that would be essentially taking one already complicated undertaking, an IRP, and breaking it into four separate IRPs. That means four separate sets of inputs and assumptions for the four separate zones. That, in turn, means four times the discussion and debate of inputs and assumptions. Instead of debating inputs and assumptions for one zone, we'd now be debating them for four zones.

Further, all four analyses would have to be conducted under the umbrella of the FERC Standards of Conduct.

Company Witness Vance will speak to this issue further, but pursuant to the FERC Standards of Conduct, transmission import limits, as one example, cannot be shared with generation or business development team members until that information becomes available to the larger

public.

That issue would be compounded with analyzing four separate zones, adding time and additional complexity to an already complex process.

Even putting aside inputs, assumptions, and code of conduct issues, the Company must meet over 160 requirements for its IRPs that stem from statute, IRP guidelines, and prior orders. So, again, with four zones, we would have over 160 requirements having to be met four times, one time for each of the four zones.

Separately, the Company is concerned that the locational modeling requested cannot be performed in the way that Staff and respondents have described. To extend the full length of the planning period, most of the data simply is not at that granular of a level.

With these complexities and concerns in mind, however, the Company has heard the recommendations presented by Staff, and should the Commission ultimately decide that locational modeling would be feasible and an improvement to the IRP process, the Company is willing to study locational modeling, work with Staff, and present

a status report on the Company's analysis to be filed in the 2025 IRP update.

On a related note, the recommendations related to locational modeling presented by Staff highlight the potential need for a reevaluation of the IRP guidelines, which are now 16 years old.

As I noted before, through the passage of time, the IRP requirements have expanded beyond statute and guidelines and many also come from prior Commission orders, resulting in the over 160 requirements.

With each passing Commission order, new requirements are added and antiquated or perhaps even obsolete requirements remain. Due to the passage of time, changes in technology and lessons learned over 16 years of IRPs, a reassessment should be considered.

In light of these facts, I would also respectfully request the Commission direct the review of the IRP guidelines and subsequent Commission-ordered requirements.

Q Thank you, Mr. Compton.

MS. NIELSEN: The witness is available for cross-examination.

COMMISSIONER HUDSON: Thank you.

CROSS-EXAMINATION (Reb.)

BY MR. BENFORADO:

Q Good afternoon, Mr. Compton.

A Good afternoon.

Q Again, Nate Benforado, for Appalachian Voices. Good to see you again.

A You as well.

Q It means we're in the last stage here, the rebuttal case.

Let's -- you know, I appreciate your surrebuttal on Dr. Laws' testimony. But I think, at this point, the record is clear in sort of the disagreements and the approaches to modeling, so I think we can, at least from my perspective, leave that where it is.

I'd like to turn to page 4 of your rebuttal. At line 9, you state that:

Although Staff identifies some concerns with the 2024 IRP, Staff generally does not oppose many of the Company's modeling assumptions.

And I just want to understand sort of the basis for that.

It's correct that Staff filed a motion to compel a separate modeling scenario to remove data center load growth; is that accurate?

A Yes.

Q And then I'll just read from Staff Witness Smith's testimony, the very first page in the summary page.

This is Summary Point No. 4. Staff Witness Smith says:

Staff has concerns with the Company's modeling outputs and assumptions. All of the primary portfolios include five small modular reactors -- I'm sorry, did I say five? It's No. 4.

All of the primary portfolios include five small modular reactors, and it is unclear if SMRs would be commercially viable by the year the portfolios select them.

There are also concerns with the portfolio's assumptions related to solar, gas, wind, and energy and capacity imports and how the model ignores locational and transmission elements.

So your testimony states that, generally, your view of Staff does not oppose many of the Company's modeling assumptions. But here, Staff Witness Smith expresses concerns with Company's modeling outputs and assumptions.

So is it your statement that these concerns that are reflected in Staff Witness Smith's testimony and Boehnlein's testimony and Curtis's modeling forecast -- or, sorry -- forecasts, they just don't rise to the level of many? There are just some concerns? Is that fair?

A That's fair.

Q Okay. Coming back to your rebuttal testimony, let's go to page 11. And you're here discussing Staff Witness Boehnlein's recommendation about the 2045 requirement and incorporating that in modeling; is that correct?

A Yes.

Q And your response, you state -- at the end of this paragraph in your discussion, you state: In other words, it's simply too soon to presume a waiver is a foregone conclusion; is that right?

A Yes.

Q So I just want to put up on the screen Appendix 3K of the IRP -- sorry 3K-3. Just give me one moment.

Can you see that, Mr. Compton?

A Yes.

Q So these are the busbar assumptions for

the various resources. I believe -- these are the resources that were allowed to be selected by the model; is that right?

A Not all of them.

Q Okay. But for these ones -- all of the ones at least listed were allowed to be selected by the model?

A No, they were not. These were the resources that were -- that list of build limits we looked at yesterday was an exhaustive list. This is a similar list to that.

Q Understood.

Let's look at the 2X Advanced CT.

That was allowed to be selected by the model; is that correct?

A That's correct.

Q And the book life for that one is 20 years; is that correct?

A For a 2X Advanced CT book life, that seems low.

Q Okay. So are you saying this chart in the appendix is not accurate, or are you saying you can't -- is it hard to see?

A It does say 20, but I'm not sure. There were a number of erratas filed. I'm not sure if

that was one of them.

Q Okay. Perhaps if there was a change, your counsel can address that in redirect.

A Yep.

Q It's not critical to my questions, but sitting here today, you think that number might actually be higher for the 2X Advanced CT?

A I would think so.

Q And the other gas units, they are all sort of listed at the top, they all have book lives of 36 years, at least in this appendix; is that right?

A That's correct.

Q Am I correct that the model selected three Advanced CTs; is that correct?

A That sounds correct.

Q And is it also correct that currently there are no commercially operating Advanced CTs in the US?

A My understanding is that there is one in test phase.

Q Understood.

But going back to this issue with the book lives, you know, with the exception of the advanced CTs, all of those gas units had book

lives listed in Appendix 3K-3 as 36 years; is that right?

A That's correct.

Q And in the Company's primary portfolios, the first gas units don't get built until the 2030s; is that correct?

A That's correct.

Q So all of these units' book lives will extend beyond the 2045, correct -- or the 2045 year, at least modeled, based on these book lives?

A That's correct.

Q And I think this has already been discussed, but the Company has already filed the CPCN for -- a CPCN for a Chesterfield CT; is that correct?

A Yes.

Q And the Company in that request -- it's a pending proceeding. There's been no decision. But in the request, the Company isn't seeking to have that plan amortized by 2045, is it?

MS. NIELSEN: Your Honor, I would object. That is a separate proceeding, and that issue would be factually important for that proceeding, but I don't see how it's relevant here.

MR. BENFORADO: Your Honor, I think it's been made abundantly clear how it's relevant here. We're trying to understand how the Company is modeling to inform real-world decisions.

This is a real-world example of a gas unit being constructed, and I'm simply asking whether the Company has requested it to be fully amortized by 2045, so I do not believe that's a proper objection.

MS. NIELSEN: If I may, Your Honor, Mr. Compton can certainly speak to how it's modeled; that would be relevant for purposes of the IRP.

MR. BENFORADO: I don't think it needs to be limited in that way. This is something that's been discussed in this proceeding. I'm not asking for sort of a decision on it. I'm simply asking if he's aware whether the Company has requested it to be fully amortized or not.

COMMISSIONER HUDSON: Counsel, please proceed.

And if you are unable to answer, just say you are unable to answer, but please answer to the best of your ability.

THE WITNESS: I'm not aware.

BY MR. BENFORADO:

Q Okay. Thank you.

Let's turn back to your rebuttal testimony. This is page 12. And here you're discussing this, you know, 15-year planning period; is that correct?

And you state that the Company continues to believe that a 15-year planning period is most appropriate.

Is that -- is that your testimony?

A Yes.

Q And I'm not asking about what is required of the Company; I'm simply asking what the Company has done in the past. And I don't want to belabor the point, but I think this is important.

So am I correct that, in the 2023 IRP, the Company used a study period of 25 years?

A I believe that's correct.

Q Was that also the case in the 2022 update filed with the Commission?

A Not as sure on that one.

Q This is the 2022 IRP update, an excerpt. And I don't need this marked or admitted. Just see if this can refresh your recollection. This is the 2022 update.

And here it says:

In certain instances, the Company evaluates the longer 25-year period of 2023 to 2047.

They call it the study period.

Does that refresh your recollection that, at least as to certain aspects, there was a 25-year study period?

A It reads in certain instances. I'm still not sure if that applied to the 2022 IRP. If there's a build plan table or a summary, I would be better able to answer that.

Q Sure. Here's a summary. And you can see some of the numbers, you know, show out both 15- and 25-year; is that correct?

A Yes. Thank you.

Q And can you recall whether there was something similar for the 2021 update?

A The further we go back, the more help I'm going to need.

Q Okay. We'll try to just go very quickly.

So this is the 2021 update. And, again, this is similar language, is it not, Mr. Compton, about the 25-year study period used in certain instances; is that correct?

A Same language.

Q And here's another chart, little bit different, but, again, it includes 15 and 25-year results?

A Yes.

Q Thank you.

I have them all printed, but in the interest of time, I'll just go back to -- let's go to 20 -- this is the IRP from Case No. PUE-2016-0049. And I'll turn --

Here the Company primarily used the Strategist model, utility modeling and resource optimization tool, to develop this 2016 plan over a 25-year period, beginning in 2017 and continuing through 2041 study period using 2016 as the base year.

Did I read that accurately?

A Yes.

Q So is it fair to say, based on reviewing some of these documents, that looking only at 15 years represents a departure from the Company's past practice for a number of years to include some results from the 25-year study period?

A I think that's accurate.

Q Okay. Coming back to your rebuttal

testimony on page 12, at the top here, the first question on the top of the page, you discuss several parties intervening in this case had recommendations related to virtual power plant pilots and cost allocation across customer segments. And you say those issues are being addressed in pending or recently signed legislation and need not be addressed by the Commission in this proceeding; is that correct?

A Yes.

Q And the IdeaSmiths report included a critique that the Company didn't include virtual power plans -- virtual power plants as a selectable resource; is that accurate?

A I seem to recall that.

Q Am I correct that the Company has a -- I think you discussed this, perhaps on direct, but the Company has a pilot program that it's working on now for a virtual pilot plant; is that correct?

A I'm not sure.

Q Okay. Let me just -- I'd like to mark an exhibit, and hopefully you're aware of it. But, obviously, answer to the best of your ability.

MR. BENFORADO: And I'll get those handed out and wait to mark it for identification.

THE WITNESS: Thank you.

MR. BENFORADO: So, Your Honor, I would ask that this be marked for identification. This is Company's Response to Appalachian Voices, second set, Question 7.

THE BAILIFF: The Dominion Response to Appalachian Voices Request 2-7 will be marked as Exhibit 65.

(Exhibit No. 65 was marked for identification.)

BY MR. BENFORADO:

Q So I'll just point you to the response here. And the response talks about the Company's proposed project, the grid integration, and demonstration of flexible energy resources.

And it states that it was selected for award negotiation with the DOE. There's a project demonstration area that's been identified, and the Company's initial analysis shows it will serve over 10,000 residential homes and 1,300 commercial and industry customers.

Does this refresh your recollection at all about the Company's virtual pilot program that it is working on?

A It does not, but this might be better for

Company Witness Hubbard.

Q Okay. But let me just ask sort of the modeling question in more general terms.

Is this the sort of information that the Company -- a pilot program such as this, is this the sort of information that the Company could incorporate in future IRPs, you know, information it learns about from this pilot program, information it learns from other programs around the country, in order to enable virtual pilot plants to be modeled as selectable resources?

A I agree that we always learn from pilot projects. You know, I do not model virtual power plants. That would be better for Company Witness Hubbard as the DSM witness.

Q But pilot programs generally are one way in which the Company can get the information it needs to model them as -- model something as a selectable resource?

A Sure.

Q Okay.

MR. BENFORADO: I think that's it. Thank you, Mr. Compton.

THE WITNESS: Thank you.

MR. BENFORADO: And, Your Honor, I would

ask that this be moved into the record.

COMMISSIONER HUDSON: The document marked and described as Exhibit 65 is admitted into the record.

(Exhibit No. 65 was admitted into evidence.)

MR. JOHNS: Your Honor, I've spoken with Mr. Jaffe of PEC. I think he has an engagement he needs to get to later this evening, so we are willing to --

MR. JAFFE: Tomorrow, actually.

MR. JOHNS: My mistake. We're willing to let PEC skip line in front of us in the order, if the Commission will allow it.

COMMISSIONER HUDSON: Absolutely, if you need to -- you can go right now if you'd like.

MR. JAFFE: Thank you, Your Honor. I wasn't quite sure when the Commission was planning to adjourn for today.

I, unfortunately, am cohosting a symposium at the University of Virginia School of Law all day tomorrow, and I've invited speakers in. And someone that I was chatting with earlier said it's like hosting a wedding and then just not showing up and having all your guests there without you.

And so I appreciate Sierra Club's willingness to let me jump the cue.

CROSS-EXAMINATION (Reb.)

BY MR. JAFFE:

Q Good afternoon, Mr. Compton.

I want to start with page 15 of your rebuttal testimony where you state that -- and I'm on page 15, lines 8 and 9 -- Dominion Energy Virginia has a statutory obligation to serve all load in its service territory, including data center load.

Is that an accurate summary of your testimony here?

A Yes.

Q And are you referencing there Virginia Code 56-234, the Company's obligation to furnish reasonably adequate service?

A I'm not sure of the exact code number. I just know there's a statutory obligation.

Q A statutory obligation to provide reasonably adequate service at reasonable and just rates; is that correct?

A Yes.

Q And I want to ask you a little bit about this -- the phrase that's in that -- the statutory

obligation about reasonably adequate service.

With respect to these electric service agreements that have come in to the discussion over the course of this hearing, I take it the Company would not sign a contract that had patently unreasonable terms; is that right?

A I would not think so.

Q And if there isn't -- so, in other words, if there isn't reasonably adequate service available to serve a data center load in that specific time frame, the Company would not be obligated to sign that contract, right?

If it couldn't provide the service, it wouldn't sign a contract for something it could not do?

MS. NIELSEN: And, Your Honor, I would object. Mr. Compton's statement is not in any relation to a contract signed by data center customers, so this line of questioning would be outside of the scope of his rebuttal testimony.

MR. JAFFE: Well, I'm trying, Your Honors, to get a sense of -- the Company has -- is leaning here on Mr. Compton's rebuttal testimony on the idea that it has a statutory obligation to serve all load, including the data centers.

And what I want to understand is the give-and-take, in other words, how much of that is passively, it's coming to the Company, and they just have to find a way to meet it, and how much of it is the Company is proactively seeking out that load.

And that gets to whether this statutory obligation is as firm as Mr. Compton has alleged in his testimony.

MS. NIELSEN: Your Honor, Company Witness Blackwell, who sponsored the discovery that was admitted related to the contractual obligations, would be the witness to speak to the issue. He is a witness on rebuttal and he can speak to the contract negotiations.

MR. JAFFE: Your Honors, I can stay out of the specific contract language as Mr. Blackwell has sponsored those interrogatory responses.

I still would like to ask about Mr. Compton's statement here regarding a statutory obligation to serve data center load.

COMMISSIONER HUDSON: Again, if you are able to answer, please do so. If you're unable to...

THE WITNESS: Yeah, I would say my

expertise on this doesn't go much beyond what's on paper here. The statutory obligation, that would be a better question for Company Witness Blackwell.

BY MR. JAFFE:

Q Were you listening -- and again, I'm referencing your statement here on data center load.

Were you listening to opening statements on Monday?

A Yes.

Q Did you hear counsel for the Data Center Coalition reference that the coalition had been working proactively with utilities?

A I do not recall that specifically, but...

Q Do you think that's a fair statement, that the Company has been working proactively with the Data Center Coalition and other parties?

A That's probably better for Witness Blackwell.

Q And, again, on your statement regarding an obligation to serve data center load -- I'm putting up on the screen Exhibit 60, which is the archived printout of the Company's web page on data centers from 2021 where the Company stated

that it was not just an electric utility, but a true partner in growing your data center footprint.

Is that a fair summary of how the Company sees its obligation to serve data center load?

A Again, Witness Blackwell's intimately familiar with the data center practice.

Q Let me ask you this in terms of a modeling question.

The Piedmont Environmental Council in this proceeding is asking the Commission to require the Company to run a sensitivity that incorporates pausing or delaying the in-service dates for data center businesses until we can be assured that the transmission and clean VCEA-compliant generation assets are available to protect system reliability.

That's PEC's request in this proceeding.

Is the Company willing to agree to run that sensitivity, do that modeling, on pausing the in-service dates for these data center loads?

A We will follow any Commission order. I don't know that I see the value in that because the purpose of this IRP is to make sure that that reliable service exists and that we're able to

meet the load that is embedded in all customer load forecasts.

MR. JAFFE: Thank you, Your Honor. No further questions.

COMMISSIONER HUDSON: Thank you.

And, Counsel, you will not be here tomorrow, but will there be PEC representation tomorrow?

MR. JAFFE: So, of course, Mr. Grema is here on the third-year practice certificate under my supervision, so it's my understanding that he would also not be here.

We've conferred during the day with our client, Piedmont Environmental Council. They are fine with waiving cross on remaining witnesses so long as we have the opportunity to file a post-hearing brief.

And we look forward to reviewing the transcript for the portions that we'll miss and look forward to filing a post-hearing brief.

COMMISSIONER HUDSON: Great. Thank you.

CHAIRMAN TOWELL: Speaking of transcripts, how are we reading the transcript from the rest of the day? I apologize. I can stay as late as you-all want on Friday.

(There was a pause in the proceedings.)

COMMISSIONER HUDSON: Let's take a quick 10-minute recess and see what we need to do to fix this. Let's reconvene at 5:30.

(A recess was taken.)

MR. JOHNS: All right.

CROSS-EXAMINATION (Reb.)

BY MR. JOHNS:

Q Good evening, Mr. Compton. I'm Evan Johns, with Sierra Club and NRDC.

How are you today?

A Good. How are you?

Q I'm doing well.

I want to ask you first about a question Ms. Nielsen asked you, actually, when she was on redirect in your direct testimony.

You had mentioned a presidential exception to the MATS Rule.

Do you recall that?

A Yes.

Q And while that's referred to as an exception, and, you know, in fairness, it's really only a two-year delay of the compliance date from MATS; is that correct?

A It's very new. My understanding is that

it's a two-year exemption with potential additional exemptions.

Q Potential. But as far as the executive action that's been taken, I believe it's a proclamation and not technically an EO.

That only applies for two years, correct?

A I'll take your word for that.

Q Okay. So assuming, then, subject to check, that it is just a two-year delay, Mt. Storm will still have to achieve MATS compliance within this planning period, correct?

A Yes.

Q Okay. And well before, say, 2045?

A Yes.

Q In your surrebuttal, Mr. Compton, you've mentioned the term "energy independence."

Are you able to provide us sort of a concise idea of what you mean by energy independence?

A I don't know how concise it will be. You know, it's very complicated. I can tell you that, for the year 2023, Virginia was the number one importer of energy in the country. That, to me, probably does not signal energy independence.

Q Okay. Fair enough.

And that term "energy independence," that appeared in the Commission's 2009 IRP guidelines; is that correct?

A I believe so.

Q And do you know whether that came from a, sort of, statutory language that may have existed in the Code at that time?

A I'm not sure.

Q Okay. But you would agree with me, and you did say it's complicated, that there could be different ways to define energy independence.

It could, for example, also include not relying on firm pipeline capacity from West Virginia for natural gas, correct?

A Yeah, I think if you take it outside the context of electric power, it could mean all types of energy.

Q Okay. I want to turn to your prefiled rebuttal testimony. I just want to start generally.

This is on page 5. You mention that the Company requests the Commission to find the 2024 IRP reasonable and in the public interest for the specific and limited purpose of filing the planning document mandated by the Code of

Virginia.

Is that language that's taken from a prior Commission order on an IRP proceeding?

A I don't think necessarily it was.

Q So are you then suggesting that you think the Commission should be applying a different standard than it's applied in past IRP proceedings?

A I am not.

Q Okay. In fact, let me just unbinder your testimony here. It will make things easier.

I want to turn to page 21 of your rebuttal testimony.

So on this page you are responding to Ms. Glick's conclusion regarding the economics of adding new solar resources, and you explain that the Company actually hard-coded solar resources into the model for purposes of VCEA compliance.

Do you see that testimony?

A Sorry. Can you point me to the --

Q Yeah --

A -- line.

Q -- I guess -- to be fair, I guess you didn't use the word "hard-coded," but I think you say:

Solar resources were forced in for both of these portfolios to comply with the VCEA rather than being economically selected.

A That's correct.

Q And I just want to clarify on that.

You're not testifying that the Company uneconomically forced solar into the mix; is that correct?

A When I think about modeling, you know, there's two ways, really, to get a resource into the build plan: one would be to force it in, which is not really based on economics, the other is to let the model economically optimize.

And in this case, it would have been the former.

Q But you didn't run a counterfactual where those resources, you know, were subject to all the constraints of the VCEA and other laws and the model actually optimized for a different resource in place of that solar that was hard coded?

A Maybe -- can you restate that?

Q Sure.

Is your testimony that without those forced additions of solar, the Company would have found a cheaper mix of resources that were capable

of meeting demand while staying within the bounds of the law, including the VCEA?

A So the best example of that would probably be the RPS-only plans which were completely optimized with no resources forced in.

Q And did those comply with the VCEA?

A They did not comply with the VCEA development targets for solar, wind, and storage.

Q Okay. But just the RPS requirements?

A Correct.

Q I want to go to page 11. And really I just wanted to make sure I understood your testimony here.

You're responding to Witness Boehnlein's concern that your decision to meet demand pre-2045 with fossil fuel units places the Company on a path where it's practically guaranteed that reliability waivers will be required once 2045 comes around.

Is that kind of a fair characterization of what you're responding to from Witness Boehnlein?

A I think so.

Q Okay. And I just want to ask about this last sentence, and I think Mr. Benforado also asked you about this.

When you say: In other words, it's simply too soon to presume a waiver is a foregone conclusion, are you saying that it's too soon to presume that the Company will need a waiver in 2045?

A I think what I'm really getting at there that starts that response is that the IRP is a snapshot in time. We update it every year for new load forecast, new build plans.

So at this time in IRP planning in 2024, you know, not -- I just did not agree with the approach that, as stated, practically guarantees that waivers will be required.

Q So you're saying it's not a foregone conclusion that waivers will be required come 2045 if the Company follows its current path?

A I'm sorry. Can you restate that? It's late.

Q I completely understand.

I just wanted to see -- you know, I suppose there are two ways to read that. One would be whether or not the Company can receive a waiver is -- you know, it's too soon to determine if that's a foregone conclusion.

The other is it's too soon to determine

whether the Company will need to come and ask for a waiver in order to maintain reliability if it stays on the current path.

A Again, I mentioned here, 2045 is a long way away.

Q I think that will have to suffice.

You talked with Mr. Benforado about -- he had mentioned the prospect of an accelerated depreciation schedule where fossil fuel units would be fully depreciated by 2045.

Do you recall that?

A I do.

Q There could possibly be other options for dealing with the potential for stranded assets.

Would you agree that the Company could also include with new fossil units the capital upgrade costs if they were to switch to a zero carbon, say, hydrogen fuel?

MS. NIELSEN: Your Honor, I would object. This is outside the scope of Mr. Compton's rebuttal.

COMMISSIONER HUDSON: Response, Counsel.

MR. JOHNS: I believe it's just an extension of the statements he made in response to Mr. Benforado's question about accelerated

depreciation. If it's controversial, I'm happy to move on.

MS. NIELSEN: Yeah.

COMMISSIONER HUDSON: Let's move on.

BY MR. JOHNS:

Q Turning then to page 13. So I can put the question that elicited this response up, but presuming you're familiar with your testimony, you're here talking about the positive net present value results that your cash flow analysis of the existing fossil units gave back to you?

A That's part of this response, yes.

Q And I do just want to understand that that is different from the cash flow analysis that the Company's presented in prior IRPs.

I think maybe, for example, in the 2023 IRP, VCHEC showed, you know, hundreds of millions of dollars in negative net present value.

Does that sound right?

A I don't remember the number.

Q But subject to check, you would -- that sounds plausible?

A Subject to check.

Q And I do just want to be clear that the issue here isn't that the costs to operate the

plant have gone down, right?

It's that the cost of alternatives and the Company's capacity value projections have gone up?

A I think that's a -- that would be an assumption, I guess. The retirement analysis factors in operating costs, as well as revenues as well, so we would have to look into both sides, costs and revenues.

Q And you're not able to say whether that analysis found that there were significantly lower operating costs or that power was cheaper from those resources?

A I do not recall offhand, but it's in the details of the retirement analysis.

Q And it is true, though, on the other side of the equation that this IRP does have higher projections for capacity -- you know, the price of capacity as well as, you know, higher demand that needs to be met, correct?

A Correct.

Q Okay. So that could be one explanation for why those are different?

A That's what I was trying to say.

Q That's fair.

I don't think I need to show you anything

in the document, but I did notice that in your rebuttal testimony, you do cite to the Best Practices in Integrated Resource Planning which has been admitted as Exhibit 53.

I believe Staff Witness Smith said that there was a lot of helpful information in there and that it could assist the Commission and the parties in analyzing these issues.

Given that you cite to it in your testimony, do you agree with that?

A I do. You know, there are 50 recommendations in that document. I chose to cite one of them just to respond to Staff Witness -- I believe it was Smith.

You know, that document has been quoted a lot here today. I would just caution, you know, that there are 50 recommendations, you know, probably some that are good, probably some that are not so good. And I would caution that -- further caution that it was probably developed by people that do not put IRPs together.

Q Well, I think one of the authors was actually Sierra Club Witness Glick.

Is that your recollection?

A That is my recollection.

Q Okay. Who has at least prepared modeling in this docket, correct?

A I was referring to preparing an IRP.

Q Sure. Sure. Fair enough.

I want to move to just briefly talk about RGGI. I think -- yeah, the discussion spans two pages, but I think the important part is you do say that, Future RGGI-related modeling will depend on the legal status of Virginia's participation in the initiative at the time of modeling.

I just kind of want to understand how the Company looks at what the legal status of RGGI is. I mean, if the Company were preparing an IRP today given the court ruling granted that's been stayed, would the Company be modeling RGGI compliance in its IRP?

A So I'm not an attorney. I understand RGGI is very complicated in the legal system right now. In my position, we try to model current law. And if a law is challenged, you know, certainly want to try to provide that as at least a sensitivity.

Q You do recognize that the IRP statute requires an analysis of both current and pending laws and regulations; is that correct?

A Yes.

Q And you would agree with me that given the court ruling, RGGI is at least pending currently?

A Again, I'm not an attorney, but seems to be in question.

Q Okay. So you are unable to say whether or not as a modeler you would include RGGI as a scenario in future modeling?

A Not being intimately familiar with where RGGI stands right now, I could just say that, you know, with the next IRP, the 2025 IRP update, you know, again, we've mentioned that snapshot in time, a certain date when we'll need to lock down assumptions, whether that's May 1st, June 1st for all assumptions, you know, we'll clearly take a look at where RGGI stands at that point for the next IRP.

Q Okay. I believe Mr. Jaffe might have already asked you some questions about this, and so I think mine will be fairly targeted.

I did hear earlier today Mr. Dantonio describing the IRP process as sort of a three-step process.

You first determine what the demand is going to be through your load forecast. You then subtract out the DSM. And then the third step,

you know, after those two are locked in, the only question left is just how do we meet that demand, correct?

A Sure.

Q That's a fair characterization, obviously oversimplification --

A Yes.

Q Yes.

I wanted to ask you about one of the recommendations in the JLARC study that's been marked as Exhibit 8.

And do you see where it says: The General Assembly may wish to consider amending the Code of Virginia to clarify that electric utilities have the authority to delay, but not deny, service to customers when the addition of customer load cannot be supported by the transmission system or available generation capacity?

Do you see that?

A I do.

Q And I think the report is clear that reasonable minds could differ as to whether or not that's an accurate statement of the law, whether that would be a clarification or change of the law.

Really my question is just that when you're in that first step of sort of seeing how tall you need to build your tower of resources, you are not building it under the assumption that the Company has any authority to delay for purposes of transmission or generation capacity.

Is that a fair statement?

A It's probably a little bit beyond my expertise. My team receives the load forecast, and then we take on all the rest of the steps. So I look at it as here's the load forecast, and then we do all of our steps to produce the IRP.

Q That's fair.

In sort of those -- I guess we're really kind of looking at the third step there that you maybe are more familiar with.

At that point in time, the load forecast is -- that's set in stone. You know, there's no play in the joints there. Your only job as the modeler is to find out what resources are most cost-effective to meet -- I described it as a tower earlier -- that's been given to you.

A I would say that's fair. You know, we do conduct sensitivities on the load forecast, so higher, lower, that might take into account some

of what you're describing.

Q And the answer may very well be no. I was just curious.

Is that sort of built into the PLEXOS model that, you know, once you're to this phase where you're selecting resources, there's no way to delay any of the demand that you're already accounting for, you know, that you've provided as an input into the system?

A That's probably better for Witness Bocanegra of load forecasting because his work is an input to the PLEXOS model.

Q I guess, needless to say, at your stage where you're more involved in Stage 3, there's no going back to Stage 1; that's already set?

A I would agree with that, you know, other than the sensitivities.

Q Okay.

A If there were, you know, something like what's highlighted here, that would happen on Witness Bocanegra's team.

Q Understood. Thank you, Mr. Compton.

I just have one more area I wanted to ask about, and that's social cost of carbon.

And that's another area that you address

in your testimony, correct?

A Yes.

Q And on page 16 of your testimony here, you describe multiple federal carbon reduction policies being considered such as estimates for calculating a social cost of carbon and social cost of greenhouse gases.

While I realize that that could be a reference to these attempts by the federal government to reach an estimate, you do realize that there was testimony in this case about Virginia law's requirement for considering social cost of carbon in certain circumstances?

A Yes.

Q Okay. So I want to flip over to page 17, sort of just to set our foundation here.

You recognize that social cost of carbon is not a direct cost to consumers, and you say, therefore, it's not appropriate to consider the NPV calculation.

That's still your understanding of social cost of carbon?

A It is.

Q Okay. And were you in the courtroom earlier today when I was speaking with

Staff Witness Curtis?

A I believe -- I believe so. I'm try -- do you happen to remember what number in the order Staff Witness Curtis was?

Q I believe he was up front?

MS. PIERCE: He was first.

THE WITNESS: Yes.

BY MR. JOHNS:

Q He is the gentleman from Enverus.

A Oh, yes, I was. Thank you.

Q And you would agree, right, that when you say here that Staff Witness Curtis concurs with the Company's decision to not include a forecast for national CO2 pricing, what he was referring to was a direct cost to consumers, a different concept than social cost of carbon, correct?

A Yes.

Q Okay. And then when you say:

Additionally, Sierra Club Witness Glick appears to contradict Mr. Shobe stating carbon regulation is uncertain and that the scenarios in the 2024 IRP that include -- I think maybe should be Section 111 rather than Roman III -- those serve as a proxy for the future policy landscape.

You understand Ms. Glick was also talking

about costs that ultimately get passed through to consumers through their bills, correct?

A As far as direct cost, not the social cost of carbon, right?

Q Correct.

A Correct.

Q Yes.

And then going to the third one, the IFC forecast further supports the Company's federal carbon tax assumptions.

Now, I haven't had a chance to talk to Ms. Scheller, and maybe I won't, but you would recognize that any estimates that ICF provides as to a federal carbon tax, those are costs that are actually passed on to consumers, correct?

A Correct.

Q Okay. And it's your testimony, though, that social cost of carbon is a different concept than that?

A Yes.

Q Okay. I think you also mention in your testimony -- in fact, it might be on the -- yes, it's on the previous page -- that the estimates for calculating the social cost of carbon have been extremely volatile.

Virginia Code 56-585.1 A 6, though, that allows the Commission itself to set a social cost of carbon if it wants to?

A Again, I'm not an attorney, but I'll take your word for it.

Q Okay. Well, maybe we should just put the language up so I can -- while I do that, I'll ask you, because you also note on the next page -- well, let me first ask you, in the meantime, until the Commission is able to set a social cost of carbon estimate, the law does name check the Intergovernmental Working Group -- or Interagency Working Group, excuse me; is that correct?

A Yes.

Q Okay. And so then I wanted to ask you, I think on probably the page I literally just covered up, you had mentioned that Executive Order 14154 disbanded that Interagency Working Group.

But you would agree that the statute doesn't tell the Commission to just follow whatever that group might happen to publish at any time in its existence, correct? It's a specific document?

MS. NIELSEN: Your Honor, I would object;

the question asks the witness for a legal opinion.

MR. JOHNS: I actually think that it's just a question of what the law says, I mean, that it cites a specific document. I don't really think that's a legal opinion.

COMMISSIONER HUDSON: Are you able to answer the question?

THE WITNESS: Not much more than what's on the page.

BY MR. JOHNS:

Q Right. But on the page, we do see that it's referring to a technical support document that was published on August 2016, correct?

A I see that.

Q So for purposes of Virginia's social cost of carbon requirement, it really doesn't matter what happens with the Interagency Working Group; the General Assembly has already specified a document that exists and can be relied on, correct?

A I think that's probably a -- probably a legal opinion. Just for purposes of this IRP, you know, we were ordered by the Commission to not include the social cost of carbon as a dispatch adder in our modeling, so that's the path we took.

Q The Commission never ordered Dominion to not include a social cost of carbon adder in its IRP modeling, did it?

A That's my understanding.

Q And what is the case where the Commission would have issued that directive?

A It was a 2022 RPS filing.

Q So in an RPS filing, the Commission was making rules about filings in an IRP case?

A Those filings have -- the modeling for those cases have become very interrelated, I would say. And, I mean, throughout the discovery and this filing, as well as the 2024 filing, you know, cross -- discovery across the cases, the modeling has to be very similar.

Q Okay. Well, I think the Commission's records will speak for themselves.

I do just want to ask you straight, though, it is the Company's position that the Commission has ordered that it not include social cost of carbon in its IRPs?

A Again, there's a lot of overlap between RPS modeling and IRP modeling.

Q Okay.

A You need IRP modeling -- sorry. You need

IRP modeling to inform the RPS. And I think most parties in this case understand that.

Q Well, let me ask you, then, in your testimony you had mentioned that the Commission guidelines which govern the contents of an IRP -- I'll read it in context -- do not require the Company to include a social cost of carbon.

Do you see that?

A I do.

Q And those guidelines that you're referring to, those are the same 2009 guidelines that, I believe, maybe you talked a little bit about in your sur- -- or sur-surrebuttal?

A Yes.

Q Okay. And I want to just put up some language from those. I'm going to borrow a trick from City of Alexandria here.

Do you see under paragraph D here that for the evaluation of resource options, a utility should analyze potential resource options and combinations of resource options to serve system needs.

And then taking into account -- and we'll skip some things that are irrelevant -- and other significant assumptions, including, but not

limited to -- skip a few more -- environmental impacts and compliance costs.

Do you see that language?

A I do.

Q And is that your understanding that that's a fair and accurate restatement of the guidelines you're referring to in your testimony?

A Yep. That's what's on the screen.

Q Okay. And so the Company's position is that an environmental impact, which, again, is separate from a compliance cost, that is mentioned in the CPCN statute as a relevant consideration, that's not appropriate to include in the modeling for an IRP?

A Again, really, following that 2022 RPS order from the Commission to not include it as a dispatch adder, which I think sort of delineated between a dispatch adder versus an estimate of a cost or a benefit for a specific resource in a CPCN filing.

Q Okay. And actually, Mr. Compton, in that case what the Company did was it had an adder to its dispatch model. It was, I believe, a blend of the social cost of carbon and an actual federal carbon tax that was projected by, I believe, ICF

in that case; is that right?

A I'm not sure exactly what was modeled in that case. We have done that in prior -- you know, maybe in the 2020 IRP that was done. I'm not sure about the 2022 RPS case.

Q And, you know, I don't think it would be productive for us to discuss what the law requires, but I do just want to make sure, having read Dr. Shobe's testimony, you acknowledge that what Dr. Shobe is suggesting the Company do in modeling social cost of carbon is very different from what the Company did in the 2022 RPS?

A I don't know. I'm not sure if I would characterize it that way.

Q Okay. But you did read Dr. Shobe's testimony?

A I did.

Q And he does include a discussion of the 2022 case, correct?

A Yes.

Q Okay. But you aren't able to distinguish his methodology from what happened in the 2022 RPS case?

A I don't recall the exact details of his methodology.

Q Are you willing to revisit that and looking into future IRPs?

A Well, again, we'll follow any Commission order.

Q Okay.

MR. JOHNS: I believe that's all I have for you. Thanks, Mr. Compton.

THE WITNESS: Thank you.

MR. JOHNS: Thank you.

MS. ROBB: Your Honor, I have asked if I can go out of order for some of the respondents, but I don't know if everyone -- okay. Thank you. I just have a few.

COMMISSIONER HUDSON: Sure.

CROSS-EXAMINATION (Reb.)

BY MS. ROBB:

Q Mr. Compton, Cliona Robb, with Microsoft.

Do you recall talking to your counsel at the beginning of this process about locational modeling and your views on that?

A Yes.

Q Okay. And you were in the hearing room when Dr. Stover -- for Dr. Stover's testimony yesterday?

A I was.

Q All right. I've just got some questions to see if I can clear up -- I think there may be some confusion about using a zonal approach versus a nodal approach for load forecasting, so that's where I'm going with this.

So did you hear Dr. Stover when he said he approved of Dr. -- of Mr. Smith's suggestion to use four zones and then Dr. Stover further discussed a hub-and-spoke approach?

A Yes.

Q All right. And my understanding is that you do not agree with using the hub-and-spoke approach; is that correct?

A That's correct.

Q All right. But with that understanding, could you tell me whether a hub-and-spoke approach would be less complex than a nodal approach?

A I believe the hub-and-spoke would be less complex, while still a complex nodal would be another level of complexity.

Q Fair enough. And then just one more question and I'm out of here. I promise.

You had mentioned in your discussion with your counsel at the beginning of today that, if Dominion would consider -- you know, if locational

modeling was something that the Commission was interested in, that Dominion would consider meeting with Staff and having those meetings result in an update of the 2025 RFP and have that -- the fruits of that included in the 2025 RFP update?

A Yes, a summary of that -- or those findings.

Q Okay. And you also mentioned that you and your staff go to various conferences and you've not run into someone who uses locational modeling in IRPs; is that correct?

A That's correct.

Q All right. Would Dominion be willing to entertain, if there were a technical expert in addition to Staff -- and right now I'm thinking of Dr. Stover, who had familiarity with locational modeling in IRPs -- would you be willing to contemplate having a technical expert like that perhaps participate in those discussions between Dominion and Staff?

A I think so, as long as Staff would agree to that as well.

Q Fair enough.

MS. ROBB: Thank you. No further

questions.

COMMISSIONER HUDSON: United?

MS. POLLARD: No questions, Your Honor.

COMMISSIONER HUDSON: Clean Virginia?

MR. REISINGER: No questions, Your Honor.

COMMISSIONER HUDSON: DCC?

MR. MURPHEY: No questions, Your Honor.

COMMISSIONER HUDSON: Walmart?

MS. GRUNDMANN: Yes, Your Honor.

CROSS-EXAMINATION (Reb.)

BY MS. GRUNDMANN:

Q Good evening, Mr. Compton. I'll try to be pretty quick. Okay?

A Good afternoon.

Q In response to Mr. Johns with respect to discussions of modeling, you-all were talking about the social costs of carbon --

THE COURT REPORTER: Slow down. Slow down.

MS. GRUNDMANN: You're right. I did say I was going to be quick, but maybe not that quick.

BY MS. GRUNDMANN:

Q You mentioned how there has become sort of an overlap between modeling for the RPS and the IRP?

A Yes.

Q And I know we've all been spending a lot of quality time together this week in this room, but are you aware that the Commission has recently issued its order in the Company's most recent RPS case?

A I was aware of that.

Q And so there's a couple of recommendations or, I guess, orders from the Commission with respect to future RPS modeling with respect to monitoring energy storage and refining modeling in the future RPS and then evaluating the inclusion of traditional-scale nuclear-generating units.

Based upon your statement about the overlap between RPS modeling and IRP modeling, does that mean that the Company agrees that in future IRP updates it will also assess modeling energy storage and the inclusion of traditional-scale nuclear-generating facilities in future IRP modeling?

Or does the Company believe it would also be helpful for the Commission to state in an IRP order that it also expects that level of modeling to be done in IRPs?

A So I haven't had a chance to read through

the order yet. I was aware that it was out, so, really, the first time seeing some of the details. That being said, you know --

Q I'll leave it up where -- just in case you're still reading it.

A Thank you.

I would just say, in my position, there is a lot of confusion, I guess, around separation between IRP and RPS filings because the modeling for the IRP and -- feeds the RPS in certain parts of the RPS like the underlying modeling. Obviously, in the RPS, we also file CPCNs as part of that case. They're all filed on the same day, but --

Q So it sounds like, to avoid any confusion as to how the Company may view what has been ordered in the RPS and its impact on IRP modeling, it would be helpful for a final order from the Commission, this IRP, to express whether or not some of these requirements set forth in the RPS order, whether those apply as well to IRP modeling.

Would you agree?

A I think so.

Q Okay. Going back to Exhibit 64, which is

an excerpt of Georgia Power's 2025 Integrated Resource Plan, I just want to make sure that the record is clear.

You agree that, in the 2025 IRP, Georgia Power modeled supply-side resources as a selectable resource?

A Supply side --

Q I'm sorry. I apologize. I'll ask it again.

The DSM programs were modeled alongside supply-side resources such that the most cost-effective combination of supply-side resources in DSM are identified to reliably meet load.

You agree that they've conducted that modeling as part of the 2025 IRP?

A My read on this is that they only modeled it in this particular case.

Q That's right.

And are you aware that that's a result of the settlement that was reached in the 2022 IRP?

A Yes.

Q Okay. And I'm just going to put up for the Commission, this is an excerpt from the Georgia Power order reflecting approval of the

settlement in that case.

And in that case, the Company agreed that it will include an additional sensitivity in its 2025 IRP development and resource optimization process.

In this additional sensitivity case, DSM resources, including demand response and energy efficiency, will be allowed to compete head-to-head with supply-side options in the Company's IRP model as a selectable resource.

Did I read that correctly?

A You did.

Q The portion of that that I read?

A You did.

Q And then with respect to the Company's reasons, you haven't spoken to anyone from Georgia Power about why they set forth here that the Company does not recommend approval of the supply-side case, did you?

A I have not personally, but when I read this -- you know, I think at the top of this page it says, you know: More often selected commercial programs and residential programs as being cost-effective.

And in this MGO scenario, no

income-qualified programs were selected by the supply-side system in the years '26 through '28. The Company does not recommend approval of the supply-side case.

So I took that -- I take that to mean that because of those reasons, that they do not recommend approval.

Q And the reason being that very few residential programs were selected as cost-effective and no income-qualified programs were selected; is that correct?

A That's the way I read it, yeah.

Q But they didn't indicate that the results of this modeling was helpful to compare demand response and energy efficiency as against supply-side options, did it?

A I didn't find that in the reading.

Q And do you happen to know whether the IRP process in Georgia also includes approval of proposed demand-side management programs as part of the same case?

A I do not know that.

Q Okay. When I spoke with Company Witness Hubbard on direct -- I'm sure you were in the room -- and he and I had quite the back-and-forth

on the difference between inputs for specific DSM programs and the modeling that was conducted.

A Yes.

Q So if you're not the right person, I'm kind of on my last shot here in rebuttal, so I need to understand who I should ask.

What I'm trying to understand -- and I'm going to take a step back. You received inputs on existing DSM programs and currently proposed DSM programs from Company Witness Hubbard and his team; is that correct?

A So I received them from Company Witness Bocanegra, and he is prepared to clear up any confusion on the DSL modeling process.

Q So I'm not going to ask questions of Mr. Bocanegra in here that I should have asked Mr. Compton?

A That's correct.

MS. GRUNDMANN: Thank you, Mr. Compton. Those are all my questions.

THE WITNESS: Thank you.

COMMISSIONER HUDSON: City of Alexandria.

CROSS-EXAMINATION (Reb.)

BY MR. WINSTON:

Q Good evening, Mr. Compton.

A Good evening.

Q I will be very brief.

You said that you have some familiarity with the Best Practices in Integrated Resource Planning that was admitted as Exhibit 53; is that correct?

A Correct.

Q And do you agree that that document does not make a determination as to whether the load adjustment approach or the competitive resource approach to modeling demand-side resources, that this guide does not make a determination as to which of those is the best practice?

A That's my recollection.

Q And do you see there are three asterisks on the screen? I'm on page 42 of the Best Practice guide.

A Yes, I see that.

Q And that the best practice -- and I take it from context that this means the best practice either for load adjustment or competitive resource approaches, that the best practice includes developing and using varying adoption rates for demand-side resources, including the maximum achievable adoption scenario based on aggressive

historical savings achievements by leading jurisdictions and favorable policy and program scenarios.

Did I read that correctly?

A Yes.

Q Do you agree that that is a best practice for modeling demand-side management and energy efficiency programs?

A I would say my opinion is that the best practice is the practice that we use, which is the load modifier.

Witness Bocanegra could probably give you more detail, as he's more involved in this process.

Q That's fine.

I'm actually focusing -- even if we accept without deciding that the load adjustment approach is the best practice, even within that approach, isn't it true that this document says that the best practice is to model an adjustment that includes the maximum achievable adoption scenario based on aggressive historical savings achievements by leading jurisdictions?

Did I read that correctly?

A You did.

Q And do you agree that within the load adjustment approach to modeling DSM and energy efficiency, that that is a best practice?

A That's probably outside of my expertise. Maybe more so for Witness Bocanegra.

MR. WINSTON: Nothing further, Your Honor.

COMMISSIONER HUDSON: Consumer Counsel?

CROSS-EXAMINATION (Reb.)

BY MR. FARMER:

Q Good evening, Mr. Compton.

A Good evening.

Q John Farmer, with Consumer Counsel. I don't have very much for you, but just a couple of areas.

I want to start on page 12 of your testimony. And up here at the top, lines 3 through 6, you say:

Several parties intervening in this case have recommendations related to -- line 4 -- cost allocation across customer segments and that these issues are currently addressed and pending or recently signed legislation, correct?

A Correct.

Q Okay. And I won't get too much into all the bill and all that, but I think we've discussed

this during the course of the hearing.

The Company has proposed a separate rate class in its biennial review application, correct?

A That's my understanding.

Q Okay. And I don't believe you prepared testimony in that case, did you?

A I did not.

Q Okay. But to the extent you can answer this, in your opinion, is there any aspect of the determinations the Commission would be making in this case that might tie the Commission's hands in addressing that issue in the biennial review?

A Not that I'm aware of.

Q Okay. Thank you.

The second thing I want to talk about is the nodal modeling. And I won't get too much into the weeds here.

But go to page 7 of your testimony, and at line 21 -- and this goes over to page 8 -- you say:

The Company uses PLEXOS, a capacity expansion model purpose built for long-term system modeling like the modeling performed in this case. By contrast, a nodal model, which I would refer to as a PowerFlow model, would not be an appropriate

tool for long-term generation resource planning.

And I just want to clarify something, because there's been testimony as well as discovery responses from the Company, that PLEXOS can do the nodal modeling.

Is your testimony here that when you say "by contrast, a nodal model," that you are referring to something other than PLEXOS, or are you referring to a different process that PLEXOS would do?

A So here, when I mention a PowerFlow model, that's something different than PLEXOS. So my understanding is that PLEXOS can, you know, accept nodes as an input to actually perform modeling on that. For a system like ours, it would not be an appropriate tool for that.

Q Okay. And then sticking with that topic but in regards to your surrebuttal comments, and I just want to make sure I heard you correctly.

I think you said that the Company would be willing to undertake with Staff the sort of modeling and provide an update in the 2025 IRP update, which is not litigated, correct?

A That's correct. And what I meant behind that about studying -- studying this with Staff

would be sort of like similar to the discussion earlier today.

You know, I think there's a lot of things that we haven't fully thought through when we say model four zones, such as splitting the load forecast into four zones, splitting DSM into four zones, splitting generator cost into four zones, and what does that look like.

That's the type of study that I think would absolutely need to happen before there's a commitment or a decision to move to locational modeling in an IRP.

Q Okay. I think the point I wanted to clarify was much less in the weeds.

A Sorry.

Q I think you said -- I think you said, correct me if I'm wrong, if the Commission is interested in that.

Is that what you said or -- I'm trying to understand --

A I think I said -- actually, I have it right here.

Q Okay.

A What I said was:

Should the Commission ultimately decide

that locational modeling would be feasible and an improvement to the IRP process.

Q You said, Should the Commission decide.

Is that what you said?

A Yes.

Q Okay. So the Company's willingness to do this is contingent upon a Commission directive to do so.

Is that what you mean?

A I cannot imagine a utility planner proactively signing up to locational model an IRP.

Q And then turning to page 4 of your testimony, starting at line 22, you say:

The Company remains committed to additional analysis and process improvements in future integrated resource plans and updated filings.

Do you see that?

A I do.

Q In your rebuttal testimony, is there any additional analysis that was recommended by another party in this case that you agreed to on behalf of the Company?

A I don't specifically recall anything in my rebuttal. You know, what I can add is I've been

doing this for about five years, and every year we make 10s and 10s, 20, 30 improvements to the process, either proactively through stakeholder feedback or through Commission orders.

If I go back and look, the first time I did an IRP was in 2020, and looking at that IRP compared to this IRP, just really four years later when we filed it, it is quite, quite different because of all those improvements that we've made.

MR. FARMER: Thank you, Mr. Compton. That's all I have.

THE WITNESS: Thank you.

CROSS-EXAMINATION (Reb.)

BY MS. PIERCE:

Q Good evening, Mr. Compton.

A Good evening.

Q I will try and parse through this as quickly as possible.

I first want to go back to the discussion you had about the requirement in the 20- -- or in the prior RPS order about societal cost of carbon, and I believe you reference the 2022 RPS case.

Do you recall that?

A I do.

Q Would you agree, subject to check, that

that case number was PUR-2022-00124?

A Subject to check.

Q Okay. Thank you.

Do you recall in the following year's RPS case, which would have been Case No. PUR-2023-00147, that in that Commission order regarding societal cost of carbon, it stated that the Company should separate out in the -- the societal cost of carbon and the net NPV analysis.

Does that ring a bell?

A That sounds familiar.

Q Okay. All right. Thank you for that.

A I'll caveat that with I'm not sure exactly which case that was, but I remember something like that.

Q Okay. I believe it was the case -- the RPS case that was filed in 2023, but subject to check myself.

All right. In your prefiled rebuttal testimony, you stated that the 15-year planning period is the most appropriate.

And I take it that, despite all the time we spent talking about the various years in the planning horizon, the Company's position is it's still a 15-year period is what should be used

going forward?

A That's correct.

Q Okay. And my understanding of the modeling, the load forecast that it's the -- you start with PJM load forecast and then you scale it down to the DOM LSE; is that correct?

A Yes.

Q And traditionally, that DOM -- I mean that PJM load forecast has been 15 years; is that correct?

A Yes.

Q And are you aware what's been -- that this year -- and it's noted in Exhibit 50. There was some discussion about this earlier today. And I'll point to this first bullet point -- that as of this year, PJM is now doing a 20-year load forecast?

A I have heard that.

Q Okay. So because of that, does the Company intend to include -- so your starting point now, what you get from PJM, is going to be 20 years.

So the does Company intend to, then, scale down on that 20-year basis going forward?

A Probably a question better for

Witness Bocanegra.

Q Okay. Would you agree with me, though, that since PJM is going to -- the starting point is 20 years, it would make it easier for the Company to scale it down to 20 years to the DOM LSE? Would you agree with that?

A Again, probably better for Witness Bocanegra.

Q Okay.

A He's the load forecast expert.

Q All right. Fair enough.

And going back to the discussion you had about the RPS, the interconnection of the RPS and the IRP modeling, you offered some discussion on that today.

And I wrote down, and might be paraphrasing a little bit, that the modeling in those two cases have become very interrelated, they are very similar, and generally the IRP modeling supports the RPS modeling.

Do I have that generally correct?

A Yes.

Q Okay. And Ms. Grundmann already placed a little bit of the order from the current RPS case on the overhead. I'm going to do the same.

And I understand you haven't had -- you know, you're generally aware of this; you haven't gotten into the details. So what I'm going to be asking is specifically about the general modeling connect between the two cases.

And I should step back and say that, would you agree with me, based on your rebuttal testimony, that two of the big differences between Staff and the Company has to do with locational modeling and the modeling out to 2045 time period?

Would you agree with that assessment?

A Yes.

Q Okay. Thank you.

And so on page 2 of the order in the RPS case, the Commission finds that Dominion's future RPS modeling should -- and I'm going to be asking you about No. 2 here. It says, plan, where all carbon-emitting generation is retired by 2045.

Do you see that?

A I do.

Q Okay. And then in the next paragraph, it goes on to say that:

The Commission further directs the Company to model, to the extent practicable, the locational values of future RPS resources,

including solar, wind, and storage resources.

Do you see that?

A I do.

Q So going back to the interplay of the modeling between the IRP and the RPS, if the Company is now required to do that going forward for RPS, your starting point, again, for the IRP is you have already done at least some of that work; is that fair?

A I think that's fair.

Q Okay. Thank you.

I'm actually -- were you in the courtroom when I had questions for Mr. Flowers on direct?

A Yes.

Q Okay. And I asked him a number of questions, and I'm going to put up some pages in a minute for your reference. But some of those were referenced to Dr. Vance, and some may have been better appropriate for you as the modeling witness.

So I'm going to start with you, and if you need to, you know, move on to -- say it's appropriate for Dr. Vance, just please let me know.

A Okay.

Q All right. So first -- all right. So this is the first page of Appendix 2E from the IRP, and it discusses specifically renewable energy and interconnection and integration cost.

And what I'm -- one of the things I'm trying to understand from a modeling standpoint is -- so my understanding that these costs, these energy interconnection and integration costs, are not included in the generation resource like on the front end, that they are -- they come in on the back end; is that fair?

A That's correct.

Q Okay. So these costs that are described here don't impact the model selection of a certain resource; is that correct?

A That's correct.

Q Okay. And is the purpose of these costs basically -- it talks about intermittent resource and interconnection and integration costs, that when that resource is connected to the grid, does that generally cover what these costs are talking about?

A Probably should defer to Witness Vance.

Q Okay. Fair enough.

And then I'll just briefly flip to the

second page. It's Figure 1. And it talks about -- there's actual numbers here, and I'm assuming Dr. Vance would be the better person to talk to about where these numbers come from?

A Yes.

Q Okay. Great.

So in this section, I will say it talks a lot about solar, and it gives the numbers for solar.

I did not see -- so please correct me if I missed it. I did not see where similar interconnection and integration costs for wind were discussed in the IRP.

Can you -- can you clarify that for me?

A So definitely want to talk to Dr. Vance. What little I do know about transmission integration cost is that, you know, on the solar side, there's, in any given plan, maybe 12,000 megawatts.

At 60 megawatts a project, that's roughly 200 projects being interconnected to the system. Whereas the wind, we have, I believe, three distinct projects in the IRP.

So my understanding -- again, you'll want to follow up with Dr. Vance on this.

Q Okay.
A But it's a volume thing, number of projects.
Q Okay. So that might be why it's not -- wind is not specifically addressed here?
A That's my understanding, but confirm -- please confirm --
Q Okay. I can confirm that with Dr. Vance.
But you'd agree with me that wind is an intermittent resource, would you not?
A Yes.
Q Okay. And so because of that, it would potentially also have interconnection and integration costs?
A That's for Dr. Vance.
Q Okay. All right. Fair enough.
MS. PIERCE: All right. That is actually all the questions I have.
THE WITNESS: All right. Thank you.
MS. PIERCE: Thank you.
COMMISSIONER HUDSON: Any redirect, Dominion?
MS. NIELSEN: Yes, Your Honor, understanding that's not the answer that I think anyone wanted to hear right now.

So, Mr. Compton, we have the weight here together on our shoulders.

I would just start, to clarify the record, start by saying I'm impressed with Ms. Pierce's ability to remember case numbers. That is not my forte, but I was advised that the CE-3 case is PUR-2023-00142, I believe. So just clarify that for the record.

REDIRECT EXAMINATION (Reb.)

BY MS. NIELSEN:

Q Mr. Compton, do you recall when Mr. Benforado asked you whether any advanced class CTs are in commercial operation?

A Yes.

Q Is there a distinction between advanced class CTs functioning in simple-cycle format versus advanced class CTs functioning in combined-cycle format?

A There is. So I was asked about advanced class CTs in a simple-cycle configuration that -- you know, that's how I responded to that question.

But there are advanced class CTs operating in the combined-cycle configuration like Brunswick and Greensville.

Q Okay. So not just operating in the United

States, but actually operating in the Company's fleet?

A Correct.

Q In the RPS case, do you -- you have specific resources at issue or generic resources?

A In the RPS filing?

Q Yes.

A There's both.

Q Okay. And to the extent that -- in the IRP, do you model specific or generic resources?

A There's both.

Q Okay. And so when I say specific versus generic, is there any distinction between site-specific nature of what is modeled in the RPS versus in the IRP?

A Yes. I would say RPS modeling like for the RPS plan on how, you know, we'll meet the RPS targets, that modeling is really considered, like, systemwide modeling, similar to what's done in the IRP.

Also, as part of the RPS filing, we file for CPCNs typically for specific resources. That would be the difference between the RPS filing and the IRP.

Q And when you say "the difference," the IRP

is not seeking approval of any specific resource, and that would differ from the RPS case?

A That's correct.

MS. NIELSEN: Thank you. No further questions.

COMMISSIONER HUDSON: Mr. Compton, thank you so much. You're now excused.

THE WITNESS: Thank you.

MS. LINK: Your Honor, I know it's late, and I don't know how long the Commission would like to go. We have one witness who is an out-of-town witness who would -- if she could be taken out of order -- has very brief surrebuttal and I understand not a lot of cross-examination. Is it possible to take her?

COMMISSIONER HUDSON: Which witness is this?

MS. LINK: Ms. Scheller, Ms. Maria Scheller.

COMMISSIONER HUDSON: Does anyone have any cross for --

MR. BENFORADO: My colleague, Mr. Allmond, I think has very brief cross. It should be five minutes. I'm not sure how long the surrebuttal --

MS. LINK: Surrebuttal should be one

question.

COMMISSIONER HUDSON: Yeah, let's do that now, then.

MS. LINK: Thank you.

The Company calls Maria Scheller.

MARIA F. SCHELLER, called as a rebuttal witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION (Reb.)

BY MS. LINK:

Q Well, we've had good morning, good afternoon, and now good evening, Ms. Scheller.

Would you please state your name, position of employment, and business address?

A Yes. My name is Maria Scheller. I am a vice president with ICF. And the address -- the business address is 1902 Reston Metro Plaza, Reston, Virginia 20190.

Q Do you have with you a document entitled Rebuttal Testimony of Maria F. Scheller, consisting of a one-page summary, 11 typed pages of questions and answers, and an Appendix A which was filed in public version only in this proceeding on March 25th, 2025?

A I do.

Q Was that document prepared by you or under your supervision?

A Yes, it was.

Q Do you have any additions or corrections to that document?

A I do not.

Q If I were to ask you the questions appearing there, would your answers be substantially the same today?

A Yes.

Q Do you wish to sponsor that document as your rebuttal testimony in this proceeding?

A Yes.

MS. LINK: Your Honor, we'd ask that the rebuttal testimony of Ms. Maria F. Scheller in public version only be marked for identification and admitted into the record.

THE BAILIFF: The rebuttal testimony of Maria F. Scheller will be marked as Exhibit 66.

(Exhibit No. 66 was marked for identification.)

COMMISSIONER HUDSON: The rebuttal testimony marked and described as Exhibit No. 66 is admitted into the record.

(Exhibit No. 66 was admitted into

evidence.)

BY MS. LINK:

Q Ms. Scheller, were you in the courtroom when I had my discussions with Mr. Smith for the Commission Staff?

A I was, yes.

Q And we obtained some additional information about the Staff's what I was calling the four zonal proposal.

Could you comment, based on your experience, the value of such a proposal to an IRP proceeding?

A Yes, I'd be happy to.

So in my experience -- and I've been doing resource planning for roughly 30 years in the electric sector -- the accuracy of the model, and particularly the intent and the use of the model, is very important to keep in mind when you're designing the planning exercise.

And the suggestion, as I see it, for an IRP, which is a system-level plan, would be to break the system into four sub zones and would potentially add precision in the information that's modeled but no accuracy in the outputs that would be produced.

So, you know, I believe that -- I mean, the Staff emphasized that it adds more visibility. I think that really comes more in the information preparation. And a lot of that information is, I would say, collectible or visible through information that PJM already provides.

Hourly marginal prices are nodal. Those are available to anyone and can be pretty readily analyzed and do not require the special training and expertise and experience that comes from resource using capacity expansion models, using power flow models, but, yet, it provides that information about locational value.

Similarly, the planning committees at PJM, transmission expansion planning, the resource adequacy committees have narrative information that they share regularly that illustrate that zonal or sub-zonal difference and highlight points and issues of concern.

So I think that a lot of the detail that the -- Mr. Compton discussed, the need to go to that level of precision, could really be satisfied through more review of data that's already available rather than adding extra modeling exercises that would really make interpretation

more challenging.

Q And you had mentioned that you have 30 years of experience in modeling.

Isn't it true that you have been involved with the DSM -- I mean, the IRP modeling for the Company for all of its IRPs over the last 16 years?

A Yes, yes, I have.

Q Okay. And this would be the 10th litigated IRP that you've participated in?

A It is, yes.

MS. LINK: Thank you.

Your Honor, we have no further surrebuttal.

COMMISSIONER HUDSON: Thank you.

Appalachian Voices.

CROSS-EXAMINATION (Reb.)

BY MR. ALLMOND:

Q Good evening, Ms. Scheller. How are you?

A Good evening. Well, thank you.

Q Hopefully very brief.

I just wanted to look -- so looking at your rebuttal testimony, page 5, line 18, you note that it does not appear that Enverus recognizes the difficulty of adding significant thermal

capacity to the grid given both supply chain concerns and order backlogs and equipment manufacturers, such as GE and Mitsubishi, nor any further constraints, such as permitting and interconnection of renewables to support the generation requirements and the development of transmission to enable delivery of generation to load.

I just want to focus on the first part about thermal capacity.

And when you say order backlogs at GE and Mitsubishi, are you referring to the turbines themselves?

A Yes, that is correct.

Q Okay. And how long are the order backlogs these days for those turbines?

A I don't have exact information, but, you know, general industry hearsay has indicated that new orders, new equipment orders, could be up to five years.

Q And do these delays also extend to transmission infrastructure, like transformers and switch gear, that would be associated with that kind of development?

A There's certainly been issues and time

delays, I would say, you know, versus issues in obtaining that type of transmission equipment. I don't think the delays are as long as I've heard for the turbines, though.

Q So more on the order of two to three years for that kind of stuff?

A That -- again, I don't have exact numbers on that.

Q Okay. And then you also mention supply chain concerns. And in your phrasing, you say: Given both supply chain concerns and order backlogs. So it seems like the supply chain concerns are separate from the order backlogs.

Could you elaborate a little bit on what those separate supply chain issues might be?

A Yeah, I think I probably should have said including order backlogs. I believe that is part of a supply chain concern.

Some of the concerns might include the delivery of equipment, the ability to transport the equipment and receive equipment as well as just the manufacturing.

Q Okay. Great. Now, you note that you're worried that Enverus doesn't recognize the difficulty of adding significant thermal

generation capacity to the grid.

Do you share the same concerns regarding Dominion's portfolios, all of which add just under 6 gigawatts of new gas generation in the next 12 years?

A I believe what Dominion does is look at the resource limits to guide their development, and what they would assume in those resource limits would include their assumptions about, you know, the availability of equipment.

Q So for the Company's plans, which put a CT online by 2030 or 2031 based on sort of the backlog you just discussed, they would need to be ordering that pretty much now or next year in order to have that come in and make that on-time installation?

A Yeah. Well, I think Dominion actually has direct development experience versus the hearsay that I'm quoting, so it would be better to respond to that.

MR. ALLMOND: Okay. Great.

No further questions, Your Honor.

COMMISSIONER HUDSON: NRDC?

CROSS-EXAMINATION (Reb.)

BY MR. JOHNS:

Q Ms. Scheller, ICF doesn't provide the Company with any estimation or analysis of social cost of carbon, correct?

A We do not.

MR. JOHNS: All right. Thank you.

COMMISSIONER HUDSON: United?

MS. POLLARD: No questions, Your Honor.

COMMISSIONER HUDSON: I see Clean Virginia actually has left.

Let's move on. DCC?

MR. MURPHEY: No questions.

COMMISSIONER HUDSON: Walmart?

MS. GRUNDMANN: No questions.

COMMISSIONER HUDSON: Microsoft has left as well, as well as PEC.

The City?

MR. WINSTON: No questions, Your Honor.

COMMISSIONER HUDSON: Consumer Counsel?

MR. FARMER: No questions, Your Honor.

COMMISSIONER HUDSON: SCC Staff?

MS. PIERCE: Just, I think, one question.

CROSS-EXAMINATION (Reb.)

BY MS. PIERCE:

Q Good evening. Thank you for being here so late in the day.

Would you agree with me that it's the Company's burden to prove and present the IRP and that it's -- it meets the reasonable and in the public interest language from the Code of Virginia? Would you agree with that?

A I'm sorry, I missed the last part.

Q Sorry. So is the -- so the Code requires that an IRP -- the Commission determine if the IRP is reasonable and in the public interest.

So my question to you is: Do you agree that it is the Company's burden to prove that?

A If that's how the Code is written. I'm not aware of the Code specifically.

Q Sure. Okay.

MS. PIERCE: Thank you.

No further questions.

COMMISSIONER HUDSON: Any redirect?

MS. LINK: No redirect. Your Honor, thank you for the accommodation.

COMMISSIONER HUDSON: Thank you. You're now excused.

THE WITNESS: Thank you.

COMMISSIONER HUDSON: All right. So let's -- what we'll do tomorrow is reconvene at 9:00 a.m. So that's 9:00 o'clock tomorrow here in

Courtroom C.

And so right now we're in recess.

MR. WINSTON: Your Honor, just --

COMMISSIONER HUDSON: Yes.

MR. WINSTON: -- one -- has the Commission ruled on whether we'll only be filing a post-hearing brief or delivering closing arguments?

COMMISSIONER HUDSON: Well, we have not ruled, but I did mention that we will actually have an issues matrices as well as post-hearing briefs. So no closing arguments tomorrow.

MR. WINSTON: Okay. Thank you, Your Honor.

COMMISSIONER HUDSON: We're now in recess.

(The proceedings adjourned at 6:55 p.m., to be reconvened on April 18, 2025, at 9:00 a.m.)

COURT REPORTER'S CERTIFICATE

I, Scott D. Gregg, Registered Professional Reporter, certify that I recorded verbatim by stenotype the proceedings in the captioned cause before the HONORABLE COMMISSIONERS of the State Corporation Commission, Richmond, Virginia, on the 17th day of April 2025.

I further certify that to the best of my knowledge and belief, the foregoing transcript constitutes a true and correct transcript of the said proceedings.

Given under my hand this 21st day of April, 2025, at Norfolk, Virginia.

Scott D. Gregg, RPR

Notary Public

Notary Registration No. 215323