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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 3

Wednesday, April 16, 2025

10:00 a.m. to 5:50 p.m.

Job No: 559217

Pages: 396 - 727

Reported By: Scott D. Gregg, RPR

Transcript of Hearing - Day 3
Conducted on April 16, 2025

397

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Transcript of Hearing - Day 3
Conducted on April 16, 2025

398

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

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and

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Evan D. Johns, Esquire,

Dorothy E. Jaffe, Esquire,

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Natural Resources Defense

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Transcript of Hearing - Day 3
Conducted on April 16, 2025

399

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Counsel to Piedmont Environmental
Council ("PEC")

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Transcript of Hearing - Day 3
Conducted on April 16, 2025

400

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

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3 Adam B. Winston, Esquire,

4 Bryan P. MacAvoy, Esquire,

5 and

6 Kyle D. Eldridge, Esquire,

7 Counsel to City of

8 Alexandria

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Transcript of Hearing - Day 3
Conducted on April 16, 2025

401

I N D E X

APPALACHIAN VOICES WITNESSES: Page

N. Laws

Direct Examination by Mr. Benforado..... 406

Cross-Examination by Mr. Jaffe..... 429

By Ms. Robb..... 433

By Mr. Winston..... 434

By Ms. Pierce..... 434

By Ms. Allaband..... 437

M. Goggin

Direct Examination by Ms. Clancy..... 438

J. Wilson

Direct Examination by Ms. King..... 455

Cross-Examination by Ms. Grundmann..... 499

By Mr. Jaffe..... 503

By Ms. Robb..... 529

By Mr. Winston..... 532

By Ms. Link..... 534

Redirect Examination by Ms. King..... 569

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Transcript of Hearing - Day 3
Conducted on April 16, 2025

402

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

ADVANCED ENERGY WITNESS: Page

M. Roumpani

Direct Examination by Ms. Pollard..... 575

Cross-Examination by Ms. Clancy..... 577

By Ms. Grundmann..... 590

By Mr. Eldridge..... 601

By Ms. Allaband..... 610

MICROSOFT WITNESS:

D. Stover

Direct Examination by Ms. Robb..... 619

Cross-Examination by Mr. Allmond..... 635

By Ms. Jaffe..... 681

By Ms. Grundmann..... 699

By Mr. Jaffe..... 708

By Mr. Winston..... 710

By Ms. Pierce..... 714

By Ms. Link..... 716

Redirect Examination by Ms. Robb..... 723

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Transcript of Hearing - Day 3
Conducted on April 16, 2025

403

1	E X H I B I T S		
2	No.	Marked for ID	Rec'd
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5	26	409	409
6	27	423	425
7	28	439	439
8	29	456	457
9	30	493	497
10	31	517	523
11	32	559	568
12	33	573	573
13	34	574	574
14	35	576	577
15	35ES	576	577
16	36	618	618
17	37	618	619
18	38	622	622
19	39	627	629
20	40	647	678
21	41	647	678
22	42	647	678
23	43	653	679
24	44	660	679
25	45	667	679

Transcript of Hearing - Day 3
Conducted on April 16, 2025

404

1	E X H I B I T S C O N T I N U E D		
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Transcript of Hearing - Day 3
Conducted on April 16, 2025

405

1 P R O C E E D I N G S

2 COMMISSIONER HUDSON: First, before we
3 begin, just to let you know, Judge Bagot will be
4 here. I know that her seat is a little bit empty,
5 but she will be here. She's a little bit late.
6 So unfortunately you guys still have me, so...

7 First, let me just take --

8 CHAIRMAN TOWELL: We're back to the
9 '22-'23 era.

10 COMMISSIONER HUDSON: That's right.
11 That's right, absolutely.

12 So first, let me just take care of one
13 preliminary matter, and that's in regards to
14 exhibits.

15 So for clarity, this is when
16 Appalachian Voices was doing their cross, we did
17 admit Exhibit No. 23 into the record. I did take
18 Exhibit No. 24 under advisement, but I did decide
19 that I did not want to admit Exhibit No. 24 into
20 the record, but do I think that for the purpose on
21 cross, Ms. James' counsel certainly made the point
22 in the record.

23 And for clarity, Exhibit No. 25, I believe
24 was withdrawn; is that correct, Counsel?

25 MR. BENFORADO: Yes, it was.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

406

1 COMMISSIONER HUDSON: Thank you. All
2 right. So let's proceed. Appalachian Voices.

3 Is there any update as far as Mr. Wilson?

4 MS. ROBB: Your Honor, I'm sorry. I just
5 wasn't following you. Is it Exhibit 24 in the
6 record now?

7 COMMISSIONER HUDSON: It's not. It will
8 not be in the record.

9 MS. ROBB: Thank you.

10 MR. BENFORADO: Yes, Your Honor, all three
11 of our witnesses are here in person. Mr. Wilson
12 was able to catch a late flight and took an early
13 drive down here, so we are ready to proceed in
14 person.

15 COMMISSIONER HUDSON: Thank you. Please
16 proceed.

17 MR. BENFORADO: We will call Dr. Laws,
18 Nicholas Laws.

19 NICHOLAS D. LAWS, called as a witness,
20 having been first duly sworn, was examined and
21 testified as follows:

22 DIRECT EXAMINATION

23 BY MR. BENFORADO:

24 Q Good morning.

25 A Good morning.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

407

1 Q Could you, please, state your name,
2 position, and business address?

3 A My name is Nicholas D. Laws. I'm director
4 of modeling and analytics at IdeaSmiths LLC, the
5 business address of which is 8615 Alverstone Way,
6 Austin, Texas 78759.

7 Q Do you have with you a document entitled
8 Direct Testimony of Nicholas D. Laws, consisting
9 of a one-page summary, nine pages of questions and
10 answers on February -- filed on February 28th,
11 2024?

12 A Yes.

13 Q And do you also have with you the three
14 attachments filed with your direct testimony
15 titled Attachment NDL-1, 2, and 3?

16 A Yes.

17 Q And am I correct that the attachment NDL-3
18 is the IdeaSmiths report, which presents
19 alternative modeling scenarios and resource
20 portfolios?

21 A Yes.

22 Q Were these documents prepared by you or
23 under your direct supervision?

24 A Yes, they were.

25 Q And do you have any corrections to these

Transcript of Hearing - Day 3
Conducted on April 16, 2025

408

1 documents?

2 A Yes, I have two corrections to the
3 IdeaSmiths report.

4 Q Okay. And I'm just going to put them on
5 the screen so everyone can see.

6 And the first correction is on page 15; is
7 that right?

8 A Correct. In the third sentence under,
9 Capacity by Technology in 2039 header, the two
10 megawatts should be gigawatts. So 2.4 gigawatts
11 and 5.93 gigawatts.

12 Q Okay. So those two numbers,
13 2.54 megawatts and 5.93 megawatts, those should
14 both be gigawatt, g-w?

15 A Correct.

16 Q And is there any other correction?

17 A In Appendix C, page 70, the final phrase,
18 second-to-last sentence should state: And the
19 average from 2033 to 2039 was about
20 7,305 megawatts. Not 2033 to 2030.

21 Q Thank you. With those corrections, do you
22 wish to sponsor these documents as your direct
23 testimony in this proceeding?

24 A Yes.

25 Q Thank you.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

409

1 MR. BENFORADO: Your Honor, I would ask
2 that Dr. Laws' testimony be marked and admitted
3 into evidence.

4 THE BAILIFF: The direct testimony of
5 Dr. Nicholas Laws, as corrected, will be marked as
6 Exhibit 26.

7 (Exhibit No. 26 was marked for
8 identification.)

9 COMMISSIONER HUDSON: The testimony
10 marked, described, and corrected as Exhibit No. 26
11 is admitted into the record.

12 (Exhibit No. 26 was admitted into
13 evidence.)

14 BY MR. BENFORADO:

15 Q Dr. Laws, did Dominion make any points in
16 its rebuttal testimony that you would like to
17 respond to?

18 A Yes. I'd like to first note a couple
19 items that I think are important that no Dominion
20 witness commented on.

21 First, I'd like to highlight that the
22 IdeaSmiths report presents the only pathways in
23 this docket to meet the VCEA zero carbon target in
24 2045.

25 Second, no mention was made of the social

Transcript of Hearing - Day 3
Conducted on April 16, 2025

410

1 costs of pollutants estimated in the IdeaSmiths
2 report, which vary from \$7.4 billion to
3 \$13.9 billion higher than the total system costs
4 presented in the IRP.

5 It's also important to note that these
6 social costs will drop to essentially zero in 2045
7 when the zero carbon requirements are met.

8 Q Now, you mentioned the 2045 carbon
9 retirement requirements in the Virginia Clean
10 Economy Act.

11 Do you have any response to Dominion
12 Witness Compton's testimony -- and I'll point
13 directly to page 12 where he discusses, you know,
14 his view that a, quote, 15-year planning period is
15 most appropriate and that also -- and I'll just
16 put this up on the screen -- on page 11 that the
17 Company will continue to pursue all available
18 technologies and will update its IRP -- update its
19 IRP each year in order to avoid needing a waiver?

20 Do you have a response to those
21 statements?

22 A Yes. Ignoring the 2045 requirement and
23 the VCEA is shortsighted and likely to result in
24 stranded assets as well as make it impossible to
25 meet the 2045 requirements.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

411

1 Expanding the IRP horizon beyond the PJM
2 requirement of 15 years, in addition to exploring
3 more supply- and demand-side options can create
4 better decisions in the short term and create a
5 glide path to the 2045 VCEA requirements.

6 Q Now, Staff Witness Boehnlein notes that
7 under the IRP -- this is on page 21 of his
8 testimony: The Company's last new fossil fuel
9 resources plan to be deployed around 2037, yet the
10 cost of those resources are amortized over the
11 lifetime of the asset, which could result in
12 significant abandonment costs.

13 What's your response to that testimony?

14 A In light of the 2045 requirement, all
15 fossil resource costs should be amortized from
16 their installation year up to 2045, not beyond it.
17 Not doing so, as Staff Witness Boehnlein correctly
18 asserts, hides the stranded costs that will occur.

19 By tying the 2045 requirement --
20 retirement dates to the amortization schedule of
21 any new fossil resource in the IRP, the Commission
22 will get a more accurate picture of the costs and,
23 therefore, the true least cost plans.

24 Q Turning back to the rebuttal testimony of
25 Company Witness Compton, on page 13 -- I'll put it

Transcript of Hearing - Day 3
Conducted on April 16, 2025

412

1 up on the screen again.

2 At the top of the page, Witness Compton
3 states: Additionally, it is important to note
4 that the model was allowed to select retirements
5 based on reliability and economics of existing
6 units in each of the primary portfolios but chose
7 not to do so.

8 Do you have a response to that?

9 A Yes. If Dominion were to model scenarios
10 that comply with the VCEA, then the results would
11 certainly show retirements by 2045, if not sooner.

12 Q Turning again to Witness Compton's
13 rebuttal testimony, let's go to page 21. This is
14 line 7 to 8.

15 And there he states: Solar resources were
16 forced in for both of these portfolios -- he's
17 talking about the VCEA with EPA portfolio with and
18 without data center.

19 So that was in the supplement that they
20 filed; is that right?

21 A Correct.

22 Q So he states: Solar resources were forced
23 in for both of these portfolios to comply with the
24 VCEA, rather than being economically selected.

25 Did IdeaSmiths force any resources into

Transcript of Hearing - Day 3
Conducted on April 16, 2025

413

1 your modeling scenarios?

2 A No, we did not. While we did adjust
3 constraints to reflect the current law, such as
4 the 2045 requirement, we also increased resource
5 build limits, all portfolios including -- include
6 only economically selected resources.

7 Q Moving on the same page just a further bit
8 down, Witness Compton testifies that: Under this
9 current snapshot in time -- I'm sorry. Not the
10 same page. Page 13.

11 At the end of this paragraph, he states:
12 Under this current snapshot in time, it will take
13 advancements in future technologies in order for
14 the Company to retire all of its fossil generation
15 by 2045 and maintain system reliability.

16 Do you agree with that statement.

17 A I do not. Both of the scenarios in the
18 IdeaSmiths analysis that meet the 2045 zero carbon
19 requirement do so with the same technologies
20 considered by Dominion in the IRP.

21 Therefore, there are at least two pathways
22 for the Company to retire all of its fossil
23 generation by 2045 while maintaining system
24 reliability using technology that Dominion
25 considers available today.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

414

1 Q And you just stated that you believe there
2 are at least two pathways.

3 Why do you say "at least"?

4 A Two reasons. First, as many interveners
5 noted, Dominion excluded a number of available
6 technologies from its model; for example,
7 long-duration energy storage, traditional nuclear
8 reactors, and virtual power plants. Allowing the
9 model to select from these options might result in
10 additional potential lower cost variations on the
11 VCEA-compliant pathways that we identified.

12 Second, because we had to dedicate a
13 significant amount of time to recreate the IRP as
14 our baseline starting point for these
15 sensitivities, there's little time available to
16 test various resources' assumptions. If we had
17 had access to Dominion's PLEXOS model or, in the
18 alternative, Dominion had used an open-source
19 model like the one we used, GenX, in the future,
20 there would be much more time to identify
21 alternative portfolios.

22 Q Thank you.

23 Turning to page 18 of Witness Compton's
24 testimony, he's discussing your recommendation
25 that the Company be directed to use free,

Transcript of Hearing - Day 3
Conducted on April 16, 2025

415

1 open-source planning software or, in the
2 alternative, fund intervenor licenses to use
3 PLEXOS.

4 And specifically I want to point you to
5 his response that -- line 7, he says his belief is
6 PLEXOS is the appropriate tool and that the
7 Company should not be required to fund intervenors
8 who seek to do their own modeling and that two
9 intervenors, Appalachian Voices and
10 Sierra Club/NRDC, were able to conduct their own
11 modeling despite not having a subscription to
12 PLEXOS.

13 Does this address your concerns?

14 A No. To ensure the Commission is presented
15 with consistent analysis and robust alternatives
16 from different parties it would be useful for all
17 parties to have the same model as the same
18 starting point.

19 So developing alternative scenarios is
20 especially important to inform the Commission's
21 review when, as Staff Witness Smith notes,
22 Dominion's IRP essentially presents one portfolio
23 with a sensitivity for the EPA regulations.

24 Q Turning briefly to Staff Witness Smith's
25 testimony, pages 64 to 65 of Staff Witness Smith's

Transcript of Hearing - Day 3
Conducted on April 16, 2025

416

1 testimony raises concerns that the Company's
2 modeling ignores transmission and locational
3 considerations as a single node and recommends
4 that the Commission require Dominion to model at
5 least four nodes in PLEXOS going forward.

6 What's your view of that recommendation
7 from Staff Witness Smith?

8 A I agree with this recommendation and also
9 note that PLEXOS and GenX includes the capability
10 to model transmission nodes or zones. There are
11 many advantages to adapting a zonal analysis,
12 including accounting for land constraints and
13 restrictions on the locations of polluting
14 resources to areas away from population centers.
15 Essentially, you can add a zonal index to every
16 decision and constrain it in that way.

17 And to address Dominion's concerns that an
18 approach with more than one node would require
19 significant work with little value -- that was
20 response from Witness Compton -- a full PowerFlow
21 model as Compton describes is unnecessary. You
22 can do this with a pipe and bubble model, right?
23 The most commonly used approximations, including
24 the one available at GenX, do not add meaningful
25 complexity to the planning models.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

417

1 Furthermore, Mr. Compton's quote from the
2 Lawrence Berkeley National Lab report quote here:
3 While nodal modeling is most accurate, zonal is
4 much less computationally and data intensive and
5 likely sufficient from a resource planning
6 perspective.

7 This statement supports Mr. Smith's
8 request for nodes, which would -- certainly would
9 have to be zones to represent the entire Dominion
10 system -- where I take a zone to mean a collection
11 of nodes.

12 Q Just so the record is clear, you mentioned
13 GenX. GenX is the free open source capacity
14 expansion tool that IdeaSmiths used in their
15 modeling; is that right?

16 A Correct.

17 Q Okay. Coming back to Staff -- or,
18 sorry -- Company Witness Mr. Compton's rebuttal
19 testimony, turn to page 23 at the top there.

20 Mr. Compton states that the IdeaSmiths
21 scenario, the VCEA with EPA RGGI double clean,
22 builds more than 2 gigawatts of storage resources
23 in 2027, which he states is, quote, almost three
24 times the 2027 storage build limits assumed by the
25 Company in its modeling.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

418

1 Is that correct?

2 A No. The double clean portfolio -- I refer
3 to it for short -- increases the maximum capacity
4 limits used in Dominion's model by a factor of
5 two. It builds only 290 megawatts, not
6 2 gigawatts of battery storage in 2028, not 2027,
7 which is less than Dominion's build limit of
8 350 megawatts per year.

9 The portfolio then adds roughly
10 800 megawatts in 2029 and 1 gigawatt in 2030.

11 Q Is there anything else you would like to
12 clarify about the double clean portfolio you were
13 just discussing in response to Mr. Compton's
14 critique?

15 A Yes. While the double clean portfolio
16 does not add as much storage as quickly as
17 Witness Compton suggests, it is noteworthy that
18 just doubling the storage build limit results in a
19 portfolio that when compared to our VCEA with EPA
20 scenario saves ratepayers approximately
21 \$11 billion and builds 3 gigawatts of less solar,
22 thereby reducing land use requirements.

23 The double clean portfolio also chooses to
24 build storage before new gas and, like most of the
25 2039 portfolios that we analyzed, does not build

Transcript of Hearing - Day 3
Conducted on April 16, 2025

419

1 the new 944-megawatt combustion turbine that is
2 built in all of Dominion's scenarios.

3 All that being said, the 2039 portfolios
4 are of limited value, in our opinion, because they
5 do not account for the 2045 requirements.

6 Q And now turning to the 2045 portfolios,
7 Mr. Compton, on the same page beginning at line 4,
8 also critiques those 2045 portfolios, specifically
9 the 2045 EPA RGGI, three times clean, six times
10 BES, which is battery and energy storage, right?

11 A Correct.

12 Q And he notes that: While it precludes the
13 need for new gas, it unjustifiably increases the
14 build limit for renewable generation by three,
15 increases the build limits for energy storage by
16 six, and builds an additional 10 gigawatts of
17 nuclear resources in the year 2045.

18 First off, does this six times battery
19 portfolio add 2 gigawatts of storage in 2027?

20 A No. This scenario does not add this
21 amount in 2027. Instead, it adds roughly
22 1 gigawatt in 2027 and another 500 megawatts in
23 2031, and then continues to add batteries and
24 steadily increasing 2-gigawatt-plus increments
25 over the next 15 years.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

420

1 Q Do you agree with Mr. Compton that
2 increasing the Company's 350-megawatt annual build
3 limit for energy storage by six is unjustifiable?

4 A No. By limiting new storage to
5 350 megawatts per year, the Company is not
6 accounting for trends visible across the US. Over
7 the next five years, CAISO and ERCOT are expected
8 to each add more than 40 gigawatts of storage
9 each, and PJM up to 30 gigawatts, according to
10 projections by Bodo Energi.

11 By increasing the storage build limit by
12 six, we allowed for an additional 2.1 gigawatts of
13 storage per year. While I acknowledge that ERCOT
14 is unique and quite different from Dominion in
15 many respects, ERCOT added over 4 gigawatts in
16 2024 and expects to install more than 20 gigawatts
17 over the next two years.

18 Furthermore, performing sensitivities on
19 build-limit assumptions is an important exercise
20 to address uncertainties and identify alternative
21 pathways for long-term planning. And unlike gas,
22 battery additions will not make 2045 compliance
23 more difficult and more expensive.

24 Witness Goggin's testimony will address
25 the feasibility of increased battery deployment in

Transcript of Hearing - Day 3
Conducted on April 16, 2025

421

1 more detail, but I'll just add a note on the
2 sensitivities piece. I think it's just important
3 to test our assumptions in general in order to
4 expose those alternative pathways.

5 Q Along those lines, do you agree with
6 Mr. Compton that increasing the build limits and
7 allowing the model to build 10 gigawatts of
8 nuclear resources in 2045 is unjustifiable?

9 A No, I disagree on this point as well.
10 Mr. Flowers notes in his rebuttal testimony that,
11 quote:

12 The Company is also accustomed to managing
13 constructing multiple power generation projects
14 today and has a proven history of successfully
15 managing and constructing large infrastructure
16 projects, end quote.

17 A 20-year timeline to deploy these
18 resources provides two important benefits compared
19 to the timeline of deployment in the Company's
20 portfolios. First, it allows time to meaningfully
21 engage with communities to identify host sites for
22 these new nuclear facilities, sometimes referred
23 to as consent-based siting.

24 Second, a later deployment of nuclear
25 resources helps spare ratepayers from the inflated

Transcript of Hearing - Day 3
Conducted on April 16, 2025

422

1 costs that are typically associated with
2 first-of-a-kind projects. As the Company notes,
3 while there are no SMRs operational in the US
4 today, several have planned operational dates in
5 the early 2030s. These early-stage projects will
6 likely provide the Company with valuable learning
7 and cost-cutting opportunities.

8 Q Other interveners, including
9 Advanced Energy United witness Maria Roumpani and
10 Clean Virginia witness Simon Keys, noted in their
11 testimony the cost assumptions used for battery
12 resources in Dominion's IRP modeling were
13 unreasonably high.

14 Do you agree with those sentiments?

15 A Yes, I do. The overnight cost of a
16 50-megawatt four-hour lithium-ion storage system
17 used by Dominion was \$2,782 per kilowatt. The
18 conservative estimate from the National Renewable
19 Energy Laboratory is approximately \$2,000 per
20 kilowatt and the moderate estimate is \$1,500 per
21 kilowatt.

22 MR. BENFORADO: And, Your Honor, I'd like
23 to have an exhibit marked for identification.

24 Your Honor, may I have the exhibit marked?

25 Oh, yes, sorry. This is the Utility Scale

Transcript of Hearing - Day 3
Conducted on April 16, 2025

423

1 Battery Storage Costs -- NREL Utility Scale
2 Battery Storage Costs.

3 THE BAILIFF: Thank you. The NREL Utility
4 Scale Battery Storage Costs document will be
5 marked as Exhibit 27.

6 (Exhibit No. 27 was marked for
7 identification.)

8 MR. BENFORADO: Thank you.

9 BY MR. BENFORADO:

10 Q Dr. Laws, could you, please, tell us what
11 we are looking at?

12 A Yes. This is a chart from the
13 National Energy Renewable Lab. This shows the
14 overnight capital costs, that's OCC, for four-hour
15 utility scale batteries. Presents three
16 scenarios, conservative, moderate, and advanced.
17 And you can see all the scenarios, even the
18 conservative, is significantly lower than
19 Dominion's assumed costs of approximately \$2,700
20 per kilowatt. The conservative value in 2025, as
21 I mentioned, is approximately \$2,000 per kilowatt
22 or about 39 percent lower.

23 Furthermore, the Company did not account
24 for the expected costs declines that we can see in
25 this chart in future years. From this chart we

Transcript of Hearing - Day 3
Conducted on April 16, 2025

424

1 can see that storage costs will decrease by
2 approximately 20 percent just by 2030, five years
3 from now, and continue to decline after that.

4 Q And just for clarity, you said the Company
5 didn't account for the expected cost declines.

6 Did they hold the battery cost assumption
7 constant throughout the planning period?

8 A That's my understanding. I'd also like to
9 note that my analysis used the same cost
10 assumptions as Dominion. It doesn't reflect
11 agreement with those assumptions; we were just
12 trying to have the same starting point and make
13 comparisons easy with Dominion's IRP. Should the
14 Commission find that the battery costs in
15 Dominion's models are too high, then the cost
16 estimates for each of my scenarios will be
17 significantly lower.

18 In fact, after reviewing Dominion's
19 rebuttal and other respondent testimony, I ran the
20 six X battery scenario using these overnight
21 capital costs for storage from NREL's annual
22 technology baseline, the chart we're looking at
23 here. Compared to the scenario that used
24 Dominion's battery capital cost, if we use the
25 conservative battery cost from the annual

Transcript of Hearing - Day 3
Conducted on April 16, 2025

425

1 technology baseline, the VCEA 2045 requirement can
2 be reached for approximately \$12 billion less than
3 is estimated in that report.

4 Q And for clarity, the conservative cost is
5 the blue line, the highest cost in this NREL
6 chart?

7 A Correct.

8 MR. BENFORADO: Your Honor, I would ask
9 that Exhibit 27 be admitted into evidence.

10 COMMISSIONER HUDSON: Any objection?

11 Exhibit No. 27, marked and described is
12 admitted into the record.

13 (Exhibit No. 27 was admitted into
14 evidence.)

15 BY MR. BENFORADO:

16 Q Now, moving on to last sort of area here,
17 Dominion Witness Flowers notes that the local land
18 use approval process is becoming increasingly
19 challenging in Virginia. This is on page 14 of
20 his rebuttal testimony.

21 And that's, according to Witness Flowers,
22 especially true for solar projects.

23 Commission Staff Witness Boehnlein notes
24 that the land use impacts from the stakeholder
25 input case would build approximately

Transcript of Hearing - Day 3
Conducted on April 16, 2025

426

1 22,000 megawatts of solar PPAs and utility-scale
2 solar -- utility-owned solar.

3 And according to Staff Witness Boehnlein's
4 testimony -- this is page 18 of his testimony --
5 if you use a conversion factor of, I think, about
6 8 acres per megawatt, it would total
7 179,520 acres.

8 What's your response to this? Do you
9 share these concerns about the land use
10 requirements for solar?

11 A Yes. Certainly utility-scale solar
12 impacts a significant amount of land, and local
13 land use approvals are becoming more challenging
14 across the US. However, I would point out that
15 the two compliant portfolios in my analysis build
16 only 12 gigawatts of new utility-scale solar.

17 Using Staff Witness Boehnlein's 8 acres
18 per megawatt conversion, that would impact just
19 96,000 acres or about 53 percent of what
20 Staff Witness Boehnlein estimates for the
21 stakeholder input case.

22 Moreover, the two compliant portfolios
23 that I presented all the way through 2045, whereas
24 the stakeholder sensitivity only models through
25 2039. If extended through 2045, I'd expect the

Transcript of Hearing - Day 3
Conducted on April 16, 2025

427

1 stakeholder portfolio to select even more solar,
2 meaning that the two compliant portfolios that we
3 present could require even less land in relative
4 terms.

5 In fact, several of the scenarios in my
6 report demonstrate how investing in additional
7 storage maximizes the benefits of solar generation
8 and reduces the total solar capacity required to
9 meet the zero carbon requirement.

10 Q Dr. Laws, are there any other remarks,
11 responses you'd like to make here today?

12 A Yes. To put a finer point on that last
13 one, to comply with the VCEA, Dominion will
14 require more battery energy storage than they
15 allowed in the IRP.

16 The analysis performed by IdeaSmiths shows
17 that installing more batteries sooner rather than
18 later brings multiple benefits throughout the
19 planning horizon. This is why we refer to storage
20 as no regrets resource. Unlike gas, it will only
21 improve the Company's ability to meet future
22 demand and clean energy objectives.

23 Furthermore, I believe that the Commission
24 should require more robust scenario analysis in
25 future IRPs to account for uncertainty and to test

Transcript of Hearing - Day 3
Conducted on April 16, 2025

428

1 assumptions, such as limits, on resources for
2 identifying lower cost solutions.

3 I don't pretend that the IdeaSmiths
4 analysis presents the final solution that won't
5 change over time, but it does demonstrate how the
6 IRP process can be improved.

7 By exploring more potential pathways in
8 the future, we can make better decisions today.

9 Q Does that conclude your testimony?

10 A Yes.

11 MR. BENFORADO: The witness is available
12 for cross.

13 COMMISSIONER HUDSON: Thank you.

14 NRDC?

15 MR. JOHNS: No questions, Your Honor.

16 COMMISSIONER HUDSON: United?

17 MS. POLLARD: No questions, Your Honor.

18 COMMISSIONER HUDSON: Clean Virginia?

19 MR. REISINGER: No questions, Your Honor.

20 COMMISSIONER HUDSON: DCC?

21 MR. MURPHEY: No questions.

22 COMMISSIONER HUDSON: Walmart?

23 MS. GRUNDMANN: No questions, Your Honor.

24 COMMISSIONER HUDSON: PEC?

25 MR. JAFFE: Yes, Your Honor.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

429

1 CROSS-EXAMINATION

2 BY MR. JAFFE:

3 Q Good morning, Dr. Laws. Cale Jaffe
4 representing Piedmont Environmental Council.

5 I want to start by talking about your
6 testimony on demand center demand flexibility.
7 This is -- I'm putting on the screen from page 41
8 of your direct testimony. Page 41.

9 And you advise, quote:

10 It would be worth requiring Dominion to
11 assess the ability of these new data centers to
12 participate in demand response programs during
13 critical system peak hours.

14 Is that correct?

15 A Yes.

16 Q All right. And you further advise that
17 the Commission should require Dominion to run a
18 sensitivity in the IRP model, I presume, that
19 incorporates meaningful demand response
20 participation by large loads.

21 Is that correct?

22 A Yes.

23 Q All right. And to try to understand where
24 the data center load is coming from, I want to put
25 back on the screen -- or put on the screen for

Transcript of Hearing - Day 3
Conducted on April 16, 2025

430

1 reference Figure 2.1.7. This is on page 14 of the
2 IRP.

3 And just to make sure that we're talking
4 about the same load that requires some changes in
5 the modeling, this is a chart of Dominion's
6 explanation of contracts executed as of July 2024.
7 And these contracts show that Dominion has
8 executed 8,000 megawatts worth of electric service
9 agreements; is that right?

10 Do you see that, that blue chart here?

11 A I can see it, yes.

12 Q And 5,800 megawatts roughly of
13 construction letters of authorization -- that's
14 the orange bar here.

15 Do you see that?

16 A Yes.

17 Q And then the tan bar above that -- may be
18 hard to see there -- references over
19 7,500 megawatts of substation engineering letters
20 of authorization.

21 Do you see that?

22 A Yes.

23 Q So is this -- all of these contracted data
24 center agreements, is this part of what's driving
25 the modeling on data center load in the IRP?

Transcript of Hearing - Day 3
Conducted on April 16, 2025

431

1 A That would be a question for Dominion. I
2 didn't produce their load forecast. I just used
3 it in our model.

4 Q You used these numbers in your model?

5 A I don't know if Dominion directly
6 incorporated these numbers that we're looking at
7 in this chart into their load forecast or not.

8 Q Okay. Back to -- and your
9 recommendation -- just assume for the sake of
10 argument that these numbers were driving that data
11 center load, this is where you were looking to see
12 some demand response programs that might help
13 manage that load and provide some flexibility; is
14 that correct?

15 A Correct, data centers in general.

16 Q Okay. And then just thinking about how
17 that -- whether that is practicable or realistic
18 to sort of model that kind of flexibility, I want
19 to put on the screen what was entered earlier in
20 this case yesterday as Exhibit 11, which is the
21 Company's response to Appalachian Voices
22 Question 27 from Set 3. And here this is a copy
23 of an electric service agreement.

24 And my question for you relates to a
25 section that begins on page 5 of that contract

Transcript of Hearing - Day 3
Conducted on April 16, 2025

432

1 titled Maximum Demand and Load Ramp.

2 Do you see that?

3 A Yes.

4 Q And this section, as we continue on to
5 page 6, states that if the customer's total
6 measured apparent power demand exceed the maximum
7 allowable amount in the load ramp, it shall
8 promptly reduce its demand to comply with those
9 limits.

10 Is the demand response programs that you
11 reference in your testimony, is that one of the
12 ways a customer might carry out that requirement?

13 A I believe that load ramp is different from
14 demand response, but I would defer to Dominion on
15 that; that's how they define load ramp.

16 Q Well, let me ask you the question this
17 way: If we wanted to see whether your modeling
18 idea could work in the real world, is this
19 electric service agreement contract conceivably
20 the kind of document where you might put in that
21 demand response requirement for your data centers?

22 A Honestly, that's too much in the weeds for
23 me. I can't say for sure.

24 Q Let me ask this question: These data
25 center contracts that the Company is

Transcript of Hearing - Day 3
Conducted on April 16, 2025

433

1 negotiating -- and presumably, like anyone
2 negotiating any contract, they have some ability
3 to -- they have some negotiating power nodes, is
4 there some ability to use these contracts to bring
5 in some of the flexibility that you are
6 recommending in the forecast?

7 A Maybe.

8 MR. JAFFE: All right. No further
9 questions, Your Honor.

10 COMMISSIONER HUDSON: Microsoft, whenever
11 you're ready.

12 CROSS-EXAMINATION

13 BY MS. ROBB:

14 Q Dr. Laws, I'm just going to refer back to
15 the cross you just had with Mr. Jaffe.

16 Are you an expert in ESAs?

17 A No.

18 Q So do you have any basis for your response
19 when you said maybe?

20 A My basis for saying maybe is that a
21 contract is going to require for demand response
22 programs to set a number, I believe, so one
23 contract is another contract to me.

24 Q All right.

25 MS. ROBB: No further questions.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

434

1 COMMISSIONER HUDSON: City of Alexandria?

2 MR. WINSTON: Just a couple questions,
3 Your Honor.

4 CROSS-EXAMINATION

5 BY MR. WINSTON:

6 Q Dr. Laws, do PLEXOS and GenX have the
7 ability to model demand-side options as selectable
8 resources?

9 A My understanding is PLEXOS does not, but
10 GenX does.

11 MR. WINSTON: No further questions,
12 Your Honor.

13 COMMISSIONER HUDSON: Consumer Counsel?

14 MR. BARTLEY: No questions, Your Honor.

15 COMMISSIONER HUDSON: Staff?

16 MS. PIERCE: Just briefly.

17 CROSS-EXAMINATION

18 BY MS. PIERCE:

19 Q Good morning. Kiva Pierce on behalf of
20 Commission Staff.

21 How are you this morning?

22 A Good. How are you?

23 Q I'm doing fine. Thanks.

24 You referenced Staff Witness Smith's
25 testimony in your surrebuttal this morning, and

Transcript of Hearing - Day 3
Conducted on April 16, 2025

435

1 I'm going to put a page of his testimony on the
2 overhead.

3 And this is what you're referring to,
4 correct, about the modeling, the discussion of
5 modeling additional nodes; is that correct?

6 A Yes. I think it was page 13.

7 Q It is, yes. I'll raise it up. Page 13.

8 And you'll see here, Mr. Smith actually
9 presents one, two, three, four -- four options
10 that the Commission could consider for additional
11 modeling nodes or additional information; is that
12 correct?

13 A I see that, yes.

14 Q Okay. And Mr. Smith's preference -- and I
15 believe you're endorsing today -- is this third
16 level where there would be at least four specific
17 regional nodes; is that right?

18 A I'm reviewing the others right now.

19 Q Oh, sure.

20 A The first one is model-specific import
21 nodes, okay.

22 Second, model additional nodes specific to
23 the DOM LSE.

24 Third, regional.

25 And what's the fourth?

Transcript of Hearing - Day 3
Conducted on April 16, 2025

436

1 So this is the full nodal model?

2 Q Right.

3 A Yes, that's correct, the third one that is
4 the --

5 Q The third one is the one you, I believe,
6 have said you supported?

7 A Yes, regional nodes.

8 Q Okay. And your surrebuttal this morning
9 stated that GenX and I believe PLEXOS, it's your
10 understanding, could run this third option; is
11 that your understanding?

12 A Yes.

13 Q Okay. Is it your understanding that --
14 well, can you tell me, can IdeaSmiths and GenX run
15 this more detailed option, number 4?

16 A Yes.

17 Q And it's your understanding that PLEXOS
18 could run that as well?

19 A I believe so, yes.

20 Q Okay. Thank you.

21 And then just briefly on long duration
22 energy storage, it's your position that the
23 Company should include that as a generation
24 resource in future IRP models; is that correct?

25 A Yes.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

437

1 MS. PIERCE: All right. Thank you. No
2 further questions.

3 COMMISSIONER HUDSON: Dominion?

4 MS. ALLABAND: Just briefly, Your Honor.

5 CROSS-EXAMINATION

6 BY MS. ALLABAND:

7 Q Dr. Laws, I'm Nicole Allaband from the
8 Company.

9 Do you recall you were talking with your
10 counsel about the NREL costs for storage, I
11 believe?

12 A Yes.

13 Q Okay. And do you know what NREL relies on
14 for those costs for, say, land permitting or
15 interconnection? Are they national average or
16 state-specific?

17 A I'd have to look it up to be certain.
18 It's likely the chart we're looking at had a
19 national average, but you can zoom in, if you
20 want, and get more regional-specific values.

21 Q Regional, but maybe not state?

22 A I'd have to look it up.

23 MS. ALLABAND: Okay. Thank you.

24 COMMISSIONER HUDSON: Appalachian Voices,
25 any redirect?

Transcript of Hearing - Day 3
Conducted on April 16, 2025

438

1 MR. BENFORADO: No redirect, Your Honor.

2 COMMISSIONER HUDSON: Dr. Laws, thank you
3 very much. You're now excused.

4 MR. BENFORADO: We will now call
5 Appalachian Voices Witness Goggin. And my
6 colleague Emma Clancy will be doing the
7 surrebuttal.

8 MICHAEL GOGGIN, called as a witness,
9 having been first duly sworn, was examined and
10 testified as follows:

11 DIRECT EXAMINATION

12 BY MS. CLANCY:

13 Q Good morning, Mr. Goggin.

14 A Good morning.

15 Q Now, to start, could you, please, state
16 your name, position, and business address for the
17 record?

18 A Sure. My name is Michael Goggin. I'm the
19 vice president at Grid Strategies. We're
20 incorporated in Bethesda, Maryland.

21 Q And do you have with you a document
22 entitled Direct Testimony of Michael Goggin,
23 consisting of a one-page summary and 33 pages of
24 questions and answers, which was filed on
25 February 28, 2025, with the Commission?

Transcript of Hearing - Day 3
Conducted on April 16, 2025

439

1 A Yes.

2 Q And do you also have with you the three
3 attachments filed with your direct testimony
4 titled Attachments MG-1, MG-2, and MG-3?

5 A Yes.

6 Q And were these documents prepared by you
7 or under your direct supervision?

8 A Yes.

9 Q Do you have any corrections to those
10 filings?

11 A No.

12 Q And do you wish to sponsor those documents
13 as your direct testimony in this proceeding?

14 A Yes.

15 MS. CLANCY: Your Honor, could I please
16 have the testimony marked and admitted into
17 evidence?

18 THE BAILIFF: The direct testimony of
19 Michael Goggin will be marked as Exhibit 28.

20 (Exhibit No. 28 was marked for
21 identification.)

22 COMMISSIONER HUDSON: The testimony marked
23 and described as Exhibit No. 28 is admitted into
24 the record.

25 (Exhibit No. 28 was admitted into

Transcript of Hearing - Day 3
Conducted on April 16, 2025

440

1 evidence.)

2 MS. CLANCY: Thank you.

3 BY MS. CLANCY:

4 Q Now, Mr. Goggin, a few questions.

5 On page 14 through 15, Witness Compton's
6 rebuttal testimony defends the Company's use of
7 projected ELCC capacity values by suggesting that
8 the Company was required to use these values
9 following Staff's recommendation in the 2023 IRP.

10 How do you respond?

11 A My testimony was simply pointing out that
12 these are projected ELCC values and they appear
13 very low for a number of reasons that I outlined
14 in my direct testimony.

15 And I just want Dominion and the
16 Commission to be aware of that fact that these may
17 be low estimates for the capacity value for
18 renewables and battery storage and that we may see
19 markedly higher capacity values as PJM actually
20 runs the auctions in subsequent years. And so I
21 just wanted the Commission and Dominion to be
22 aware of that.

23 In particular, the assumptions that I
24 think are conservative are PJM has assumed very
25 high penetrations for renewables and battery

Transcript of Hearing - Day 3
Conducted on April 16, 2025

441

1 storage resources, and the capacity value of those
2 resources is inversely proportional to the
3 penetration. So as the penetration -- because
4 PJM's penetration is high, that makes the capacity
5 value accreditation likely low.

6 I also point out that PJM did not account
7 for technological advances that are increasing the
8 capacity value of wind and solar, as well as the
9 inherent geographic diversity benefits from adding
10 new wind and solar plants that also tend to
11 increase their capacity value.

12 So I just wanted to make the Commission
13 and Dominion aware that these assumptions that
14 it's made for capacity value of renewables and
15 storage may be low.

16 I also would note that the Company -- the
17 PJM projections run through 2035. Beyond 2035,
18 the Company has used projections, further very
19 serious declines in the capacity value of these
20 resources that are not driven -- derived from the
21 PJM estimates. And those do have a material
22 impact on the economic modeling and selection of
23 resources because the model is seeing that in
24 those out years, those resources have these, you
25 know, arbitrarily low capacity accreditations.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

442

1 Q Thank you. Now, staying with
2 Witness Compton's testimony on page 34, lines 1
3 through 3, he responds to your recommendation that
4 capacity imports be capped at the capacity import
5 limit by arguing that the assumption that the
6 Company can import capacity from outside of the
7 DOM Zone is problematic considering the zone's
8 market separation.

9 How do you respond?

10 A I would argue that the market separation
11 that we saw actually justifies the capacity -- the
12 use of this physical capacity import limit as the
13 cap in Dominion's modeling.

14 To explain what happened last year is that
15 the Dominion zone, as well as a few other zones,
16 cleared at higher prices because that physical
17 limit was hit. And this is the physical limit
18 that PJM specifies and puts into the market on the
19 capacity market model based on the physical
20 transmission capacity.

21 And the point of my testimony was that
22 that physical limit should be what Dominion is
23 using for its modeling, not this arbitrary import
24 limit that is much lower at 3,300 megawatts.

25 As I documented in my direct testimony,

Transcript of Hearing - Day 3
Conducted on April 16, 2025

443

1 PJM increased the DOM zone's capacity limit from
2 5,164 megawatts to 6,610 megawatts in moving from
3 last year's auction to this year's auction.

4 And as Dominion outlined in its IRP, there
5 are plan transmission upgrades that will be
6 entering service later this decade that are
7 expected to further increase that capacity limit.

8 And using that physical limit and what --
9 the limit that PJM actually uses when it runs its
10 capacity -- when its capacity auction, I think is
11 much more realistic than the arbitrary assumption
12 that Dominion has used.

13 Q Thank you. Now, Witness Scheller also
14 responds to your recommendations regarding how
15 Dominion should model the PJM capacity market on
16 pages 9 through 10 of her rebuttal testimony.

17 What is your response to her critiques?

18 A Yes, she's responding to one idea I had
19 offered that I think is a better solution than
20 PJM's arbitrary cap. PJM expressed concern about
21 price volatility uncertainty in the capacity
22 market, as well as the impact of Dominion
23 purchases on net price. And so I offered that one
24 idea or one solution would be -- that would be
25 better than this arbitrary cap on the imports

Transcript of Hearing - Day 3
Conducted on April 16, 2025

444

1 would be to dynamically model how Dominion's
2 demand and Dominion's purchases of capacity would
3 affect the capacity price in the PJM market.

4 And I agree with this witness that
5 Dominion is relatively small relative to the total
6 pie of PJM and, therefore, the price impact is
7 likely small. And so I think, you know, since
8 we're in agreement there, I think you can do this
9 with a low and a high bookend, saying that if
10 Dominion is buying a large amount of capacity, the
11 price would be slightly higher. If Dominion is
12 buying a low amount of capacity, it would be
13 lower. I think that would be an adequate way to
14 kind of capture this slight market impact that
15 their demand has on the total price.

16 More importantly, the biggest point and
17 the primary point of my testimony was that using
18 this arbitrary cap on purchases is not justified
19 and excused the modeling results. If there are
20 lower cost resources available with PJM as
21 capacity resources, which is, I think, a very
22 likely outcome, then Dominion's modeling by using
23 this arbitrary 3,300-megawatt cap is going to deny
24 ratepayers the access to those resources and
25 Dominion will overbill more expensive resources

Transcript of Hearing - Day 3
Conducted on April 16, 2025

445

1 when it could be obtaining cheaper resources from
2 the market.

3 And Dominion's modeling is, therefore,
4 ignoring one of the primary benefits of their
5 participation in the PJM market. And so this was
6 what I offered as one solution to that. There's a
7 number of other solutions, but the biggest
8 solution is that PJM -- sorry, Dominion should not
9 use an arbitrary cap on imports.

10 Q And on page 10, lines 13 through 21 of
11 Witness Scheller's testimony, she also notes
12 that -- response to some concerns you raised by
13 pointing out that there is price volatility as PJM
14 changes capacity market rules.

15 What's your response?

16 A Yeah, one of the primary points I made in
17 my direct testimony was that as PJM is making
18 these market changes, the trend does seem to be
19 driving prices down. And this is based on the
20 last -- moving from last year's auction to the
21 upcoming auction, PJM has changed the reference
22 technology for setting the cost of new entry.

23 And so, basically, the price caps in the
24 PJM market are driven by the cost of new entry.
25 Both Dominion and I agreed in our testimony and

Transcript of Hearing - Day 3
Conducted on April 16, 2025

446

1 the IRP that the net cost of new entry, which is
2 basically the gross cost of building a new power
3 plant minus the energy and ancillary services
4 market revenues, is the kind of long-term
5 equilibrium that the market price should converge
6 to just because that's basically what you need to
7 pay a resource for it to be economic. You make
8 your energy market value, and then anything that's
9 left over, you need to make up for in the capacity
10 market.

11 And in moving from a combustion turbine as
12 the referenced technology to a combined-cycle
13 plant, PJM is recognizing that those are the
14 primary resources being built.

15 They are also recognizing that those
16 capacity -- I'm sorry, the combined cycles
17 generate a lot more energy and ancillary services
18 revenues. They operate at higher capacity
19 factors, they're more efficient, and, therefore,
20 they can earn more profits in the energy market
21 and need less money in the capacity market.

22 And so that is going to, I think, result
23 in significantly lower PJM market clearing prices
24 and the price cap, as well, which is, you know,
25 set based on this cone.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

447

1 They also are moving to a -- PJM is moving
2 to a forward-looking assessment of energy and
3 ancillary services revenues as opposed to
4 previously using historic. I think this will more
5 accurately reflect that low gas prices and the
6 expectations for low gas prices will continue to
7 make combined cycles profitable and, therefore,
8 have a lower clearing price in the capacity
9 market.

10 I would note just more generally that the
11 value of the PJM capacity market is that it is a
12 market, and it responds to changes in supply and
13 demand.

14 Last year we did see a price spike
15 because -- I think it was a perfect storm of a few
16 things. There was a large increase in expected
17 demand. There was a drastic change in the
18 capacity accreditation for many resources. Most
19 notably, gas generators received a much lower
20 capacity accreditation as PJM moved to its
21 seasonal resource adequacy construct and accounted
22 for the correlated forced outages of gas plants
23 that we have seen during past winter peak events.

24 And so you had both demand increasing and
25 supply decreasing, and surprisingly you saw a

Transcript of Hearing - Day 3
Conducted on April 16, 2025

448

1 large price spike.

2 The market now, however, is responding to
3 those higher prices, as markets do, and that's the
4 value of markets. And we're seeing a lot of
5 interest in new entry. This is being facilitated
6 by the approval of a revised surplus
7 interconnection service process that is strictly
8 valuable for allowing batteries to interconnect at
9 existing generators and use the unused
10 interconnection capacity there.

11 This is particularly valuable, as I note
12 in my direct testimony, their estimates this could
13 allow 26 gigawatts of batteries to interconnect
14 across PJM.

15 There is -- also, PJM has gotten approval
16 for the Reliability Resource Initiative, which
17 allows capacity resources to move through the
18 queue more quickly.

19 And then there's also, obviously, been
20 changes in the expectations for EPA rules that,
21 you know, I think would have -- or as they are
22 written, will force, you know, more fossil
23 retirements as well as impeding the entry of new
24 fossil resources.

25 So all those things taken together, I

Transcript of Hearing - Day 3
Conducted on April 16, 2025

449

1 think, point to the market being able to clear
2 efficiently and for market participants to respond
3 to the higher prices that we saw by bringing in
4 new supply, by delaying retirements. And I think
5 that will, over the time period we're talking
6 about, allow, you know, prices to come down and
7 the market to clear efficiently.

8 Q Now, you mentioned "batteries" there, so I
9 want to turn to Witness Martin's testimony very
10 briefly.

11 He points to low rates of battery storage
12 adoption in PJM in the past as justification for
13 the IRP's cap on battery storage deployment going
14 forward. It sounds like you disagree with that.

15 A I do. You know, I think the short answer
16 is past performance does not indicate future
17 results. And, you know, PJM has historically had
18 a low battery penetration.

19 There are new technology. They have been
20 growing at a hundred percent growth rates for the
21 last five years.

22 As Dr. Laws was testifying, we have seen a
23 massive increase in the last several years in many
24 regions, and the expectations for those regions,
25 as well as PJM, is that there will be large

Transcript of Hearing - Day 3
Conducted on April 16, 2025

450

1 installations going forward.

2 EIA notes that about 10 gigawatts were
3 installed -- batteries were installed nationwide
4 last year. EIA's expectation is there will be
5 20 gigawatts this year. So his hundred percent
6 growth rate seems to be the trajectory.

7 And so using historical installation rates
8 for PJM or Dominion, I think, is not useful for
9 assessing the, you know, installations going
10 forward.

11 More importantly, this is not even a
12 question we're talking about here. The limit on
13 interconnection for batteries should be based on
14 constraints that are affecting the ability to
15 interconnect these. And that was not what was
16 binding the installation of batteries in the past;
17 it was a lack of market interest.

18 But we've seen the industry has taken off
19 as battery costs have come down. As we're now
20 seeing capacity prices increase in PJM, the market
21 is going to respond to that.

22 And so that -- you know, these past
23 indications of a lack of market interest have no
24 bearing on what can be installed going forward,
25 which is the question we're trying to answer; what

Transcript of Hearing - Day 3
Conducted on April 16, 2025

451

1 is the physical limit, the interconnection limit
2 of how many batteries you can add and how quickly
3 can you add them.

4 We don't know what that is for PJM because
5 we haven't tested it. We haven't had the level of
6 market interest we have seen in other regions.

7 That's why in my testimony, my direct
8 testimony, I provided data from ERCOT and
9 California Independent System Operator showing the
10 rates at which they have been able to interconnect
11 batteries.

12 Most notably, they are much higher than
13 what Dominion has assumed. I adjusted further
14 peak load. And if you kind of do that load
15 normalized comparison, the experience in CAISO has
16 been 50 percent higher than the limit that
17 Dominion has proposed. ERCOT's experience in
18 Texas has been 70 percent higher.

19 And these -- more importantly, these
20 numbers are growing every year, roughly doubling
21 in both states.

22 And so, again, I think this shows that the
23 number -- if there is a cap, it should be much
24 higher than what Dominion has proposed, and more
25 importantly, it should not be static. The

Transcript of Hearing - Day 3
Conducted on April 16, 2025

452

1 experience in these other regions has been
2 increasing over time.

3 And so clearly there are a number of
4 solutions that Dominion and PJM can be using to
5 interconnect batteries, and I outline those in my
6 testimony. It includes surplus interconnection
7 service and, you know, energy resource
8 interconnection service and other tools that I
9 think -- in the toolbox to facilitate faster
10 interconnection.

11 And so basically, to sum up, I don't think
12 that past experience has any bearing on what the
13 ability to interconnect batteries in PJM and
14 Dominion is going forward.

15 Q Now, just one last question in response to
16 Witness Vance's testimony. She notes on page 12,
17 lines 3 through 5 that, Well, grid-enhancing
18 technologies, or GETs, are and will continue to be
19 supporting technology. Long-term investments in
20 generation and transmission are still needed to
21 ensure that the DOM Zone and the DOM LSE can meet
22 energy needs in the future.

23 Do you have a response?

24 A And that's consistent with the point I
25 made in my direct testimony. Grid-enhancing

Transcript of Hearing - Day 3
Conducted on April 16, 2025

453

1 technologies are particularly valuable as a
2 complement but not a substitute for long-term
3 transmission expansion.

4 Grid-enhancing technologies can be
5 implemented very quickly, often in a matter of
6 months, whereas new high-voltage transmission has
7 a much longer time frame.

8 So it's a both/and, not an either/or
9 solution. I think Dominion and PJM should be
10 using grid-enhancing technologies to overcome some
11 local reliability concerns that are emerging with
12 load growth, facilitate new load interconnection,
13 facilitate new generator interconnection.

14 And these are things that can be -- these
15 challenges are emerging over the next several
16 years, and so I think it's important for Dominion
17 to be pursuing as many of those near-term
18 solutions as it can to address those near-term
19 concerns, while in parallel it is working on the
20 longer term transmission expansion. And so I
21 think we're in agreement there.

22 MS. CLANCY: Great. Thank you,
23 Mr. Goggin.

24 The witness is available for cross.

25 MR. JOHNS: No questions, Your Honor.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

454

1 COMMISSIONER HUDSON: United?
2 MS. POLLARD: No questions, Your Honor.
3 COMMISSIONER HUDSON: Clean Virginia?
4 MR. REISINGER: No questions, Your Honor.
5 COMMISSIONER HUDSON: DCC?
6 MR. MURPHEY: No questions.
7 COMMISSIONER HUDSON: Walmart?
8 MS. GRUNDMANN: No questions, Your Honor.
9 COMMISSIONER HUDSON: PEC?
10 MR. JAFFE: No questions, Your Honor.
11 COMMISSIONER HUDSON: Microsoft?
12 MS. ROBB: No questions, Your Honor.
13 COMMISSIONER HUDSON: City of Alexandria?
14 MR. WINSTON: No questions, Your Honor.
15 COMMISSIONER HUDSON: Consumer Counsel?
16 MR. BARTLEY: No questions, Your Honor.
17 COMMISSIONER HUDSON: Staff?
18 MS. PIERCE: No questions, Your Honor.
19 COMMISSIONER HUDSON: Dominion?
20 MR. DANTONIO: No questions.
21 COMMISSIONER HUDSON: So I assume no --
22 MS. CLANCY: No redirect. We would ask
23 that the witness be excused.
24 COMMISSIONER HUDSON: Mr. Goggin, you're
25 now excused.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

455

1 THE WITNESS: Great. Thank you.

2 COMMISSIONER HUDSON: Thank you very much.

3 MS. CLANCY: My colleague Ms. King will be
4 putting up Mr. Wilson.

5 COMMISSIONER HUDSON: Before you begin, I
6 just want to thank Mr. Wilson for -- I understand
7 you flew overnight to get here, not personally but
8 you got on that plane. But thank you so much.

9 JAMES F. WILSON, called as a witness,
10 having been first duly sworn, was examined and
11 testified as follows:

12 DIRECT EXAMINATION

13 BY MS. KING:

14 Q Good morning, Mr. Wilson.

15 A Good morning.

16 Q Could you, please, state your name,
17 position, and business address?

18 A James F. Wilson, 4800 Hampden Lane,
19 Bethesda, Maryland 20814. I'm an independent
20 consultant doing business as Wilson Energy
21 Economics.

22 Q Do you have with you a document entitled
23 Direct Testimony of James F. Wilson on Behalf of
24 Appalachian Voices, consisting of a one-page
25 summary and 37 pages of questions and answers

Transcript of Hearing - Day 3
Conducted on April 16, 2025

456

1 submitted in public version only on February 28th,
2 2025?

3 A I do.

4 Q Do you also have with you the two
5 attachments filed with your direct testimony,
6 titled Attachment JFW-1 and Attachment JFW-2?

7 A I believe I do, yes.

8 Q Were these documents prepared by you or
9 under your direct supervision?

10 A Yes, they were.

11 Q Do you have any corrections to these
12 filings?

13 A I do not.

14 Q Do you wish to sponsor these documents as
15 your direct testimony in this proceeding?

16 A Yes, I do.

17 MS. KING: Your Honors, I ask that
18 Mr. Wilson's direct testimony be marked and
19 admitted into evidence in public version only.

20 THE BAILIFF: The direct testimony of
21 James F. Wilson will be marked as Exhibit 29.

22 (Exhibit No. 29 was marked for
23 identification.)

24 COMMISSIONER HUDSON: The testimony marked
25 and described as Exhibit No. 29 is entered into

Transcript of Hearing - Day 3
Conducted on April 16, 2025

457

1 the record.

2 (Exhibit No. 29 was admitted into
3 evidence.)

4 BY MS. KING:

5 Q Did Dominion make any points in its
6 rebuttal testimony that you would like to respond
7 to?

8 A Yes, they did. Primarily, I want to
9 respond to assertions that the Company's data
10 center forecast was validated by other entities
11 and that contracts and other information suggests
12 that it's a very solid and likely forecast, that
13 sort of thing.

14 While data center loads are growing at
15 this time and there's a lot of new capacity that's
16 being put in place, I continue to believe that the
17 actual data center loads in the future are highly
18 uncertain.

19 Q Now, turning to Company Witness
20 Bocanegra's rebuttal testimony, on page 5 he
21 asserts that there is, quote:

22 General consensus between parties in this
23 proceeding on the PJM-derived load forecast.

24 Do you have a response?

25 A Yeah, it's potentially misleading. I

Transcript of Hearing - Day 3
Conducted on April 16, 2025

458

1 agreed that the forecast for all customers other
2 than data centers falls within a reasonable range,
3 but I did not agree that the single scenario load
4 forecast that's being used in the IRP for planning
5 purposes was -- I called that into question.

6 A lot of uncertainty about that forecast.

7 Q So let's talk about the data center load
8 forecast.

9 On page 7 of his rebuttal testimony,
10 Company Witness Bocanegra claims that PJM did not
11 simply include the Company's data center forecast
12 into its forecast, but instead exercised its own,
13 quote, diligence and judgment, end quote.

14 How do you respond?

15 A Yes, Witness Bocanegra acknowledges that
16 PJM accepts the forecast from Dominion and
17 incorporates it in their forecast. The real issue
18 is to what extent do they review it and critique
19 it and that sort of thing.

20 I've been involved in the PJM Load
21 Analysis Subcommittee for many, many years, since
22 even before data centers. In the early years, PJM
23 took some different approaches to their review of
24 the Dominion data center forecast; there was a
25 time when they only accepted it for five years,

Transcript of Hearing - Day 3
Conducted on April 16, 2025

459

1 and beyond that they thought it was too uncertain
2 and not backed by solid contracts.

3 More recently, they have been accepting
4 these forecasts, and now it's not just Dominion,
5 but it's about 10 other companies -- electric
6 distribution companies -- EDCs -- and PJM that are
7 providing these data center forecasts, primarily.

8 And PJM asks for contracts, they review
9 a lot of information, but ultimately they pretty
10 much include them in their forecast as is.

11 Q On pages 7 to 8 of Company Witness
12 Bocanegra's rebuttal testimony, he states that
13 under PJM's procedure, quote:

14 Particular caution is paid to avoid double
15 counting anticipated load increases or decreases,
16 end quote.

17 Do you wish to comment?

18 A Yes. There are two very different types
19 of double counting that are being discussed in
20 this proceeding and in other context around data
21 centers.

22 PJM is talking about double counting
23 between the forecasts for data centers, that the
24 EDCs are presenting them, and some amount of data
25 center forecast that's embedded in their

Transcript of Hearing - Day 3
Conducted on April 16, 2025

460

1 econometric modeling.

2 The other kind of double counting -- and
3 I'll talk about that again a little bit more in a
4 moment -- the other sort of double counting is
5 multiple entities who are pursuing data centers,
6 pursuing possible projects in multiple locations
7 in Virginia and in other states, possibly with the
8 ultimate intention of only building in the best
9 locations that they can provide, and also possibly
10 putting a lot of data center capacity in place
11 that they may not be ready to spend the billions
12 and fill with chips and servers right away. So
13 that's another form of double counting.

14 Q And that form of double counting you
15 discuss in your direct testimony on pages 14 to
16 15; is that right?

17 A Yes.

18 Q So can you explain in a little bit greater
19 detail the type of double counting that PJM does
20 address?

21 A Yes. So there have been data centers in
22 Dominion's zone for over 10 years, and they have
23 been increasing. So within PJM's econometric
24 modeling, which is based on historical data,
25 there's a certain amount of projection of further

Transcript of Hearing - Day 3
Conducted on April 16, 2025

461

1 expansion of data center loads just naturally
2 comes out of the econometrics. Econometrics takes
3 historical data, along with economic and
4 demographic progressions, and projects forward on
5 that basis. So there's quite a bit of anticipated
6 data center load growth in PJM's forecast just
7 naturally through the econometrics.

8 So to not double count that with
9 Dominion's forecast of data center load that they
10 provide separately, PJM has to essentially remove
11 the embedded amount to not double count the
12 embedded amount. And PJM does that and they have
13 an approach to that, which is pretty sound.

14 Q And so on pages 7 to 8 of
15 Company Witness Bocanegra's rebuttal testimony, he
16 cites the PJM 2024 load forecast supplement, and
17 it's attached as Schedule 1 to his rebuttal
18 testimony.

19 Is that the type of double counting that's
20 addressed by that document?

21 A Yes. PJM describes in the supplement the
22 details of how they go about ensuring there isn't
23 that sort of double counting in their models.

24 Q Now, please comment on the other type of
25 double counting that you mentioned, when entities

Transcript of Hearing - Day 3
Conducted on April 16, 2025

462

1 pursue multiple sites in parallel.

2 A Yeah. And, again, there's a lot of
3 different types of entities and not just the big
4 tech, Amazon, Microsoft, Meta, and Google, but
5 also lots of other entities that are searching for
6 land and searching for power and trying to put
7 projects in place. There's a lot of that going
8 on, and a lot of that is taken forward to
9 construction. And, ultimately, what is going to
10 get built or not is uncertain.

11 These entities themselves don't know
12 really how fast the demand for data center
13 services is going to take off, so there's a lot
14 right now of pursuing of locations and building
15 facilities and all that sort of thing, but how
16 quickly these facilities actually have load and
17 where is highly uncertain, so there's a lot of
18 duplication.

19 And PJM is explicit in the load analysis
20 subcommittee meetings when asked how do they try
21 to make sure that that data center in Ohio and the
22 one in Virginia and the one in New Jersey, that
23 it's not really kind of the same one-one entity;
24 he's going to pick those three locations. And PJM
25 basically admits they have no way really to do

Transcript of Hearing - Day 3
Conducted on April 16, 2025

463

1 that and they don't really attempt to.

2 Q Turning now to Company Witness Blackwell's
3 testimony. On page 7 he asserts that you, quote:

4 Seem to agree that the Company's near-term
5 data center forecast is fairly accurate, end
6 quote.

7 Do you have a response?

8 A Yeah. Again, I make a distinction between
9 data center capacity -- and that's getting the
10 land, getting the connections, building the
11 building -- and ramping it up to its full
12 capacity.

13 Historically it's been three, four, five
14 years for data centers to ramp up to their full
15 connected capacity. With so many data centers
16 being put in place over the next several years,
17 I'm wondering whether that isn't going to be a lot
18 longer in a lot of places because it depends on
19 how fast the demand for the services they provide
20 grows and how fast the production of those
21 services, the software and hardware, the
22 efficiency there, so there's a lot of uncertainty
23 there.

24 So I make a distinction between data
25 center capacity -- and that's the ESAs, that's the

Transcript of Hearing - Day 3
Conducted on April 16, 2025

464

1 contract maximums that the Company is committed
2 to -- and the actual loads, how fast they ramp up.

3 So I suggested in my testimony that the --
4 especially the near-term forecast of the capacity
5 is likely very solid as ESAs and that's happening,
6 but the loads, the ramp up of the loads, in light
7 of the fact that there are so many data centers
8 going in in so many other places, other places
9 that are not overbuilt like Virginia is
10 relatively, that's why that's highly uncertain.

11 Q Now, on page 6 of Company Witness
12 Blackwell's rebuttal testimony, he also says that
13 your critiques about the certainty of the
14 Company's data center forecast, quote: Ignore the
15 evidence the Company has presented in this case
16 demonstrating the reasonableness of the data
17 center forecast, end quote.

18 Do you have a response?

19 A Yes. He makes a number of rebuttal
20 points. I didn't find any of them very
21 convincing. I think we'll take them one by one.

22 Q Okay. So taking them one by one, first,
23 we're still on page 6 of his rebuttal testimony,
24 Company Witness Blackwell states that the Company,
25 quote:

Transcript of Hearing - Day 3
Conducted on April 16, 2025

465

1 Utilized historical data to build
2 statistical forecasts.

3 What is your response?

4 A Yeah, in past IRPs I've been critical of
5 historical data in this situation because it's
6 something new and something changing rapidly, and
7 that's even more so now. For at least two reasons
8 the historical data is really not going to shed
9 very much light on the future.

10 One is the historical data is from a
11 period when Northern Virginia was pretty much the
12 only game in town. As the Company loves to point
13 out, Northern Virginia had more data center
14 capacity than the next five zoned regions put
15 together. That is changing rapidly. I used to
16 keep a list of the states where significant data
17 centers were being built. I don't keep that list
18 anymore because it's almost all of them at this
19 point. So that's the one thing that's very, very
20 different and really calls into question whether
21 projecting historical data makes sense.

22 And, of course the other one is that AI,
23 artificial intelligence, sprung onto the scene in
24 late 2022, and now a lot of this anticipated
25 future demand for data center services is

Transcript of Hearing - Day 3
Conducted on April 16, 2025

466

1 connected to applications of AI. And there's
2 a lot of uncertainty about, as I've mentioned
3 before, both how quickly the AI applications will
4 be adopted and how much power it will take to
5 deliver those, based on software and hardware.

6 Q Thank you. Second, still on page 6,
7 Mr. Blackwell states that the forecast was
8 augmented with specific current and future
9 customer intelligence.

10 How do you respond?

11 A Yeah. And, again, repeating myself, but
12 customers are -- the various entities are wanting
13 to get a lot of data center capacity in place.
14 They don't want there to be constraints. They
15 maybe are very uncertain about what they are going
16 to need, but they don't want to get in a place
17 where their data center capacity and power is
18 constraining them, so they have strong incentive
19 to talk to utilities and give them very optimistic
20 forecasts that are maybe on the high end of their
21 expectations.

22 In some areas they have disincentives that
23 go too far down that road because they are being
24 shown contracts with minimum demand levels and
25 that sort of thing, but at least today in

Transcript of Hearing - Day 3
Conducted on April 16, 2025

467

1 Dominion's zone, those minimum demands are not
2 very high, so there really isn't much disincentive
3 to put big numbers to the Company.

4 Q Third, Company Witness Blackwell states
5 that the forecast was backed by increasing levels
6 of financial commitment.

7 Do you have a response?

8 A Yeah. And we explore this pretty
9 thoroughly through discovery. Yes, financial
10 commitments to recover the costs that Dominion has
11 incurred to connect the customer, all those sorts
12 of things, but really only the direct and indirect
13 costs the Company actually incurred for permitting
14 and construction to connect the customer. But for
15 the very large transmission build, the very large
16 new incremental generation that's needed for these
17 customers, the contracts do not impose the kind of
18 minimum demand levels that would attempt to
19 recover a lot of that cost.

20 Q Now, on pages 14 to 15 of his rebuttal
21 testimony, Company Witness Blackwell deems it
22 reasonable to include quantities associated with
23 executed CLOAs, or construction letters of
24 authorization, in the Company's forecast,
25 asserting that, quote:

Transcript of Hearing - Day 3
Conducted on April 16, 2025

468

1 A CLOA binds the customer to significant
2 financial commitments both to the Company and
3 other entities, end quote.

4 And then at page 16 he says, quote:

5 Once customers reach the CLOA stage, the
6 financial requirements to build a data center
7 indicate future real load.

8 Do you have a response?

9 A Yeah. Again, they want to have a data
10 center capacity in place, but it's the chips and
11 servers that cost the billions. You know, by some
12 estimates it was in my testimony that all the
13 power and everything else is, like, 10 percent.
14 It's the chips -- it's the chips and the servers
15 that are the big investment, so they might put the
16 capacity -- data center capacity in place, but
17 they might take a longer time to actually bring it
18 up to full load.

19 Q Mr. Wilson, are you aware that the Company
20 recently filed new tariffs that would be
21 applicable to data centers beginning in 2027?

22 A I did see that, yes.

23 Q Would those tariffs impose the type of
24 financial commitment that you've suggested other
25 states are increasingly considering for these very

Transcript of Hearing - Day 3
Conducted on April 16, 2025

469

1 large new loads?

2 A Yeah, I didn't study it. I just kind of
3 skimmed the filing. There's definitely that
4 possibility; the devil is always in the details.

5 Q And so if tariffs generally were to be
6 approved and did impose a much higher level of
7 financial commitment on large new loads, what
8 impacts would you anticipate from that as a
9 general matter?

10 A Yeah, two very, very good impacts. The
11 first being that it would protect customers much
12 better from the possibility of cost shifting and
13 stranded costs should those data centers not --
14 loads not come up to the levels anticipated as
15 fast as anticipated. That's one.

16 But really I think the more important one
17 is those financial commitments would probably lead
18 the various entities to get a lot more realistic
19 about what they were really likely to be doing in
20 the future. It might really cause the load
21 forecast to shrink a lot and become a lot more
22 solid.

23 Q In your direct testimony at page 11, you
24 testified that the first-generation data centers
25 were relatively small compared to the data centers

Transcript of Hearing - Day 3
Conducted on April 16, 2025

470

1 now being constructed in Virginia and elsewhere.

2 On page 18 of his rebuttal testimony,
3 Company Witness Blackwell counters that the size
4 of the accounts has no bearing on continued data
5 center growth in Virginia because some accounts
6 are individually metered components of larger
7 campuses.

8 Do you have any response?

9 A Yes. The original request was actually
10 about facilities, not accounts. We followed up in
11 discovery and asked, okay, tell us about the
12 campuses. And there was a response to that; it's
13 confidential, but just briefly looking at the
14 campuses, the same comments -- I make the same
15 comments that the majority of the data centers in
16 Dominion's service territory are quite small by
17 modern, and modern being 2024, 2025 perspective.

18 Q Company Witness Blackwell also seems to
19 suggest that the sizes of data centers or campuses
20 are not very relevant or important.

21 Do you agree?

22 A No. The main point here is that now they
23 are building very, very large new data centers.
24 They are going to be a lot more efficient than the
25 older ones in a number of ways; the technology is

Transcript of Hearing - Day 3
Conducted on April 16, 2025

471

1 really changing. And I would expect that if we go
2 into a period, which I think is likely, where
3 there's a lot more data center capacity, then the
4 load, the server demand and the chips to fill
5 them, it will be those new, more efficient data
6 centers that are running at higher capacity, and
7 older ones may be running at lower capacity.

8 Q Now, back on page 6 of his rebuttal
9 testimony, Company Witness Blackwell claims that
10 the forecast was validated by two independent
11 entities.

12 Now, we have already spent some time
13 talking about the PJM process, but could you
14 comment on the second independent entity, the
15 JLARC and its report?

16 A Yes. He refers to the forecast that was
17 done by faculty of the University of Virginia
18 within the JLARC. And that forecast, the report
19 is -- clearly states at page 98 that the
20 projection was based only on a statistical
21 approach using historical data.

22 And I've already spoken to that. And the
23 report acknowledges at page 98 that, quote:

24 Historical data does not fully capture
25 some of the trends that are likely to drive future

Transcript of Hearing - Day 3
Conducted on April 16, 2025

472

1 data center demand growth.

2 So as such, the authors didn't struggle
3 with the many questions and uncertainties about
4 how fast AI will be adopted, how fast the chips
5 will be more efficient, how fast the software will
6 get more efficient. They didn't wrestle with all
7 of that.

8 And they also -- again, as I mentioned
9 before, the historical data reflects a period when
10 Northern Virginia was really the only game in town
11 and now data centers are being built everywhere,
12 and that also really calls into question whether
13 projecting based on historical data makes sense at
14 this time.

15 Q On page 7 of his rebuttal testimony,
16 Company Witness Blackwell states that no other
17 party offered a different forecast for the
18 Commission's consideration.

19 Do you have a response?

20 A Yeah. Yeah, I've made recommendations
21 about how this ought to be done. I don't really
22 think the parties in the proceedings have the
23 wherewithal to do the kind of data center forecast
24 that I think you need and that would warrant your
25 confidence.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

473

1 My main recommendation was for the
2 Commission to ensure that a qualified outside firm
3 is engaged to prepare a detailed study with a
4 broad geographic area so you can capture or try to
5 capture double counting. I recommended that the
6 study should be based on forward-looking research
7 and analysis, have multiple long-run scenarios,
8 and the retained firm should have, you know, a
9 deep understanding and research about the
10 underlying drivers of the demand for data center
11 services and of the supply chain to deliver those
12 services, which is the software and the hardware
13 and everything. That's what I think really needs
14 to be done.

15 Q Let's talk about one possible example of
16 such a forecast.

17 Mr. Wilson, have you seen the
18 International Energy Agency's report entitled
19 Energy and AI?

20 A Yes, I have.

21 MS. KING: And I'd like to have an exhibit
22 marked at this time.

23 MS. ROBB: Your Honor, at this point I'll
24 object. Counsel has been kind enough to hand this
25 out in advance. My concern about this is that

Transcript of Hearing - Day 3
Conducted on April 16, 2025

474

1 it's 300 -- over 300 pages long. We got it on the
2 eve of the commencement of the evidentiary
3 hearing. It far exceeds Mr. Wilson's direct
4 testimony to have what I would think to be
5 300 pages of surrebuttal testimony added into the
6 record at this point. It creates a prejudice for
7 three reasons.

8 One, parties do not have an opportunity to
9 cross-examine the authors of the report; two, they
10 don't have an opportunity to conduct discovery on
11 those authors; and, therefore, to me it seems like
12 hearsay in the sense that Mr. Wilson didn't author
13 this report himself and it's highly prejudicial to
14 get 300 pages of what seems to be new surrebuttal
15 testimony into the record at this point.

16 COMMISSIONER HUDSON: Counsel.

17 MS. LINK: Your Honor, I join in the
18 objection. It's not clear why this report wasn't
19 provided with Mr. Wilson's direct testimony, other
20 than perhaps it wasn't put out until after
21 Mr. Wilson's direct testimony, so clearly he
22 cannot be relying on it. And I join Ms. Robb in
23 the objections of the prejudice and question the
24 value of it for the record.

25 COMMISSIONER HUDSON: Thank you.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

475

1 Counsel.

2 MS. KING: Your Honors, first to
3 Ms. Link's question as to why it was not included
4 in Mr. Wilson's testimony; it just came out last
5 week, so we were not able to attach it to his
6 direct testimony.

7 We can explain why we're planning to cite
8 it. It's mostly illustrative of an example of the
9 sort of forecasting exercise and the range of
10 scenario-based outcomes that Mr. Wilson has
11 indicated he thinks would be prudent for this
12 Commission.

13 In this proceeding, and to the extent that
14 the entire report is too voluminous with too
15 little notice for the rest of counsel, we would be
16 happy to perhaps offer just the exhibit that we're
17 about to talk through into evidence for your
18 consideration.

19 But if the Commission wanted to have this
20 report in the evidence for its review, we would
21 defer to the Commission on its decision there.

22 COMMISSIONER HUDSON: And how many pages
23 are you referring to when it comes to the exhibits
24 that you're wanting to --

25 MS. KING: It's one page that we're going

Transcript of Hearing - Day 3
Conducted on April 16, 2025

476

1 to talk through, and there may be a couple of
2 pages that explain what each case is in detail, so
3 I would guess perhaps five pages.

4 COMMISSIONER HUDSON: Yes, Counsel?

5 MR. JAFFE: Your Honor, Cale Jaffe for
6 Piedmont Environmental Council. I wanted to speak
7 in opposition to the objection. And I want to say
8 this, in part, because we have another report that
9 we've circulated to counsel ahead of the hearing
10 that we intend to ask Mr. Wilson about.

11 In my view, Mr. Wilson can speak to
12 whether this report, which has just come out, is
13 relevant to his testimony, whether it informs or
14 buttresses his findings or whether he feels it
15 undermines his findings.

16 Parties can refer to it in their
17 post-hearing briefs, and we'll all have plenty of
18 time to review it if we find this report either
19 helps us understand whether the Company's analysis
20 of the data center issue is in the public interest
21 and is reasonable.

22 To the extent that this report helps
23 inform Mr. Wilson's analysis, I think it would be
24 helpful to have the entire report in the record.

25 I would also add the Commission routinely

Transcript of Hearing - Day 3
Conducted on April 16, 2025

477

1 accepts as evidence at hearings entire reports
2 without the authors of those reports here. I can
3 think of a myriad of demand-side management
4 dockets where an American Council for an
5 Energy-Efficient Economy report, their utility
6 scorecard, for example, is brought in,
7 authenticated as an exhibit by a witness who read
8 the report, it comes into evidence even though no
9 one from the American Council for an
10 Energy-Efficient Economy is in the hearing.

11 And so I would oppose the objection and
12 ask that the entire report be included in the
13 record.

14 COMMISSIONER HUDSON: Yes?

15 MS. ROBB: Your Honor, a similar issue
16 occurred recently during an evidentiary hearing
17 conducted on July 31st, 2024, in Commission
18 Case No. PUR-2024-000110. This involved a
19 completely different issue. It was petitions of
20 Appalachian Power and Virginia Electric Power
21 Company for the treatment of renewable energy
22 customers' renewable certificates for purposes of
23 each utility's RPS compliance.

24 However, Hearing Examiner Roussy, during
25 that hearing, rejected new written materials that

Transcript of Hearing - Day 3
Conducted on April 16, 2025

478

1 a respondent sought to enter into the record on
2 the grounds that the other parties did not have
3 the opportunity to cross-examine what looked
4 like -- a lot like expert testimony, nor did
5 parties have the opportunity to serve discovery.

6 I would stress that this Commission has
7 set deadlines for written testimony, and those
8 deadlines are based on fundamental matters of
9 fairness where everybody gets to speak their piece
10 and everybody gets to conduct discovery and
11 cross-examine the actual authors of that
12 testimony.

13 This violates that principle. The more
14 that it seems important to buttress Mr. Wilson's
15 testimony, that makes it even more prejudicial to
16 having it entered at the last minute -- this
17 voluminous material at the last minute.

18 MS. LINK: Your Honor, just one final
19 point. We were e-mailed this 300-page document, I
20 guess, Monday before the evidentiary hearing
21 began, but now counsel is saying there's one page
22 or maybe two pages or three pages that are
23 important. We were never told what pages those
24 are.

25 And now we stand here to try and -- we'll

Transcript of Hearing - Day 3
Conducted on April 16, 2025

479

1 respond live to the extent whatever you-all
2 decide, but if counsel is really trying to give us
3 a heads-up, the heads-up could have been "and
4 we're only focusing on these three pages." That
5 would have been super helpful.

6 MS. GRUNDMANN: Your Honor, can I just be
7 heard very briefly?

8 You know, this is a public policy body
9 that's seeking to wrestle with a very complicated
10 issue. And without casting any judgment on the
11 subject, the title, the dispute over data centers
12 or anything, I do have some concerns if the
13 Commission is considering saying that a report
14 that was issued after the date by which a party
15 had to submit testimony and thus could not have
16 physically been identified at the time the
17 testimony was submitted, that that is not somehow
18 different than sitting here and saying, oh, my
19 mistake, I should have done this because it was
20 available to me and I did not.

21 I do think that the timing of the
22 submission of this document is relevant to the
23 Commission's consideration. And I do believe
24 that, you know, this body has, as it has done with
25 other documents in this record, is able to give it

Transcript of Hearing - Day 3
Conducted on April 16, 2025

480

1 the appropriate weight.

2 MR. REISINGER: Your Honor, I would also
3 like to be heard since we covered this objection
4 in detail.

5 We haven't had a question from counsel
6 yet, so we don't know how she intends to use this
7 during her direct examination, so I think the
8 appropriate time for an objection would be after
9 counsel asks her questions and asks for this
10 document to be admitted into the record.

11 COMMISSIONER HUDSON: Counsel?

12 MS. KING: I'm happy to proceed with my
13 questions, and the other counsel can either
14 sustain or withdraw their objections at that time.

15 I would also posit, you know, for -- this
16 is ultimately, I think, a question for the
17 Commission. I think the report is interesting and
18 informative to these cutting-edge issues.

19 I do think Mr. Wilson's testimony stands
20 on its own. I do not think this is needed to
21 buttress his testimony in any way. It's just
22 meant to offer for the Commission an example of
23 what we think good looks like.

24 I'm happy to walk through those questions
25 and then defer to the Commission for a final

Transcript of Hearing - Day 3
Conducted on April 16, 2025

481

1 determination.

2 COMMISSIONER HUDSON: And can you also
3 focus on the relevant pages?

4 MS. KING: Yes, I will identify the
5 relevant pages as we go.

6 COMMISSIONER HUDSON: Thank you.

7 BY MS. KING:

8 Q So, Mr. Wilson, are you generally familiar
9 with the contents of this report?

10 A Yes, I am.

11 Q And does this report illustrate the kind
12 of forecast that you recommend in future IRP
13 proceedings?

14 A It does in some respects. It's really an
15 interesting report. This is the
16 International Energy Agency. I think it's a
17 largely European organization that forecasts all
18 the different forms of energy around the world and
19 has for many years.

20 It's called Energy and AI. The authors
21 are very bullish on AI. And it talks in great
22 detail about what AI is, why it takes power, the
23 whole supply chain. It's a very interesting
24 report.

25 And it works both -- it works backward

Transcript of Hearing - Day 3
Conducted on April 16, 2025

482

1 from kind of ideas of how AI adoption is going to
2 develop and what that means for power, talking
3 about the chips, talking about the software, both
4 the training and inference of AI and everything
5 like that. So it's really a very thoughtful and
6 interesting report.

7 The key thing is that they have got four
8 scenarios; a base case and three other scenarios.
9 That's the main thing we want to call attention
10 to.

11 Q So is there a particular graphic within
12 the report that would be useful for this
13 discussion?

14 A Yeah. It's Figure 2.14 on page 67. And
15 the discussion is, what, sort of page 60 to 68 or
16 something like that.

17 Q Can you describe, please, Figure 2.14,
18 which is up on the screen?

19 A Yes. So this is forecasts of global data
20 center electricity consumption, terawatt hours.
21 They are showing to 2035. This is global,
22 electricity total consumption, yeah.

23 So in this graph, the second from the top
24 line is blue, and that's their base case. And
25 they have got several pages where they talk about

Transcript of Hearing - Day 3
Conducted on April 16, 2025

483

1 what they have assumed in the base case.

2 Q I'll just jump in for the record --

3 MS. ROBB: Your Honor, if I may, this
4 establishes what I feared would happen. This is a
5 document that buttresses the position that he's
6 taken.

7 We've had an opportunity to address his
8 pre-filed testimony, but we really have not had an
9 opportunity to address these 300 pages. And now
10 that we're focusing on this one graph, I agree
11 with Ms. Link's observation that if we had been
12 told what the focus of the -- bringing this
13 document in, we would have had more opportunity.

14 But finding this focus right now, again --
15 again, I would posit this as hearsay. Mr. Wilson
16 has his own testimony, but bringing this in to
17 support his testimony seems to me he's relying on
18 hearsay.

19 COMMISSIONER HUDSON: Counsel?

20 MS. KING: I would reiterate the same
21 points that we've already discussed. I think this
22 is illustrative of the possibility of
23 scenario-based modeling.

24 Mr. Wilson is preparing to explain how
25 each of these lines has an underlying set of

Transcript of Hearing - Day 3
Conducted on April 16, 2025

484

1 narrative assumptions about what happens in the
2 future and how that changes the forecast that we
3 see for data center load growth, which is relevant
4 in this case to the extent that Dominion has
5 presented just a single line for the Commission's
6 consideration.

7 I do apologize to counsel for not
8 identifying the specific graph that I had in mind.
9 I'm hoping that we're doing it here now and we
10 have the opportunity for post-hearing briefs in
11 order for counsel to raise any issues with this
12 particular graph that they may have.

13 And it looks like Mr. Jaffe has stood up,
14 but I would point the Commission to his prior
15 comments about the practice of admitting reports
16 authored by individuals who are not in the room
17 with the Commission previously.

18 MR. JAFFE: My apologies, Your Honor.
19 Again, because we have another report that we'll
20 bring up momentarily, the Commission, as
21 commissioners are well aware, has both legislative
22 and adjudicative functions and, in that
23 legislative capacity, often takes in matters of
24 public interest.

25 Reports like this when they are of the

Transcript of Hearing - Day 3
Conducted on April 16, 2025

485

1 moment and they are fresh and they have routinely
2 come in without the authors of the reports present
3 in past Commission proceedings so long as there is
4 a witness who can authenticate it, who can review
5 it, and verify that it's a true and accurate copy.

6 Likewise, when reports are older, they
7 routinely come in as attachments to testimony
8 without any author of that report present. They
9 are just included as attachments to testimony.

10 I don't see how Microsoft or any other
11 intervener or the Company or Commission Staff are
12 prejudiced when we all have ample time to review
13 the report and trust that the Commission will give
14 any of these documents the -- their due weight,
15 either less or more, as merits.

16 MS. GRUNDMANN: Your Honor, just one
17 additional point. Obviously, I can't speak to the
18 authors of this report with respect to the
19 Company, but I would note that on page 7 of the
20 PDF, an individual on behalf of Microsoft is an
21 author of this report and noted as a peer reviewer
22 of the information contained in it.

23 So I think that that bears upon the
24 authenticity of the report and to any concerns
25 about prejudice that may flow from the report.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

486

1 But, again, I happen to just incidentally have
2 Mr. Wilson's testimony up on page 26, and he
3 mentions the JLARC report. And if the concept
4 that an expert witness cannot cite another report
5 means that it's hearsay, then we lose a lot of the
6 substance in our experts' reports. As Mr. Jaffe
7 indicated, we do routinely cite to reports.

8 I do understand the parties' concerns
9 about it being identified in surrebuttal, but,
10 again, as back to my earlier position, how would
11 that have been resolved based upon its publication
12 date? And I think that that raises the particular
13 concern about how to address it.

14 MS. ROBB: If I may, I think the JLARC
15 report can be distinguished because a number of
16 witnesses cited it in their testimony. So
17 everyone had advanced notice that that report was
18 being relied on. And it was also available when
19 the prefiled testimony was. So I would strongly
20 distinguish between a report that's attached to a
21 witness' testimony, which everyone can take a look
22 at and submit discovery on, as to one that's being
23 introduced now during oral surrebuttal.

24 MS. LINK: Your Honor, I'm sorry to pile
25 on. The one point I would note is if counsel is

Transcript of Hearing - Day 3
Conducted on April 16, 2025

487

1 now saying that this page 67 is the only page she
2 may move for admission of the larger report, and
3 it sounds like what Mr. Wilson is saying is the
4 reason he's pointing to this study is this is the
5 kind of study that would be acceptable to him in
6 terms of a load forecast study, if that's the sole
7 reason why this page is going into the record, to
8 support, like, what kind of agency could do a load
9 forecast that would be acceptable to Mr. Wilson,
10 we won't object if that's the limited purpose for
11 which this one page would be entered into the
12 record.

13 MS. ROBB: I would agree with Dominion
14 counsel on that point.

15 COMMISSIONER HUDSON: Counsel for the
16 City?

17 MR. WINSTON: Yes, Your Honor, just
18 briefly. I would just point out that these
19 proceedings under the Commission Rules of Practice
20 and Procedure, the rules of evidence are not
21 supposed to be so stringently adhered to that they
22 restrict the admission of probative evidence. And
23 the load forecast is the bedrock of Dominion's
24 filing. And so I think the probative impact of
25 the report is -- speaks for itself. And all

Transcript of Hearing - Day 3
Conducted on April 16, 2025

488

1 parties are going to have an opportunity to cross
2 Mr. Wilson.

3 So I understand that it was a large report
4 and it was only received a little while ago, but
5 the gravamen of the report is -- are these
6 scenarios, and so if anyone looked at the report,
7 it was something like this that was going to be
8 spoken about.

9 So I think it's a little bit overstated,
10 the prejudice that the parties are referencing.

11 COMMISSIONER HUDSON: I saw counsel for
12 Clean Virginia was about to stand up.

13 MR. REISINGER: Thank you, Your Honor.
14 Mr. Winston said what I wanted to say much better
15 than I would have been able to say it.

16 COMMISSIONER HUDSON: Thank you.

17 So counsel for PEC, you're going to be
18 using the exact same document as well?

19 MR. JAFFE: No, Your Honor. We have
20 another report that recently came out that we
21 circulated to parties, and authored by the
22 Harvard Law School's Environmental & Energy Law
23 Program, which I would ask Mr. Wilson if he is
24 able to authenticate it, whether he has any
25 familiarity with the report, when I have my

Transcript of Hearing - Day 3
Conducted on April 16, 2025

489

1 opportunity for cross-examination.

2 COMMISSIONER HUDSON: Okay. Thank you.

3 MR. JAFFE: I would add that there are
4 some dockets where the Commission has asked
5 parties to provide notice of exhibits that will be
6 used in advance of the hearing. This is not one
7 of those dockets. We were not given a deadline by
8 which we had to submit exhibits that would be used
9 at the hearing.

10 And so to the extent counsel for Microsoft
11 raises an objection question, I would say -- or a
12 prejudice question -- my view is that in a docket
13 where we were not required to prenotify our
14 exhibits, that prejudice is -- is one that maybe
15 to take up with the Commission but not with how
16 the parties have conducted themselves in the case.

17 COMMISSIONER HUDSON: So here's what I'm
18 going to do, so I'm certainly going to take this
19 document under advisement and definitely make a
20 ruling when I return, either from break or lunch,
21 whichever comes first. But I'll allow you to
22 proceed. Definitely keep it limited to the pages
23 that you're going to refer to.

24 MS. KING: Yes. And I'll just -- since
25 Ms. Link had represented that she was okay with

Transcript of Hearing - Day 3
Conducted on April 16, 2025

490

1 just this one page, I'd ask if she'd be interested
2 in the section that includes the definitions that
3 we're about to talk to as well, just because they
4 define what the lines are that you're looking at.

5 MS. LINK: That is really up to you. I
6 don't want to tell you how to litigate your case.
7 If you also want to move for those pages as well,
8 if you can identify those for me, we can consider
9 it.

10 MS. KING: I think it will be helpful for
11 everyone so I'll plan to do that.

12 COMMISSIONER HUDSON: Okay.

13 BY MS. KING:

14 Q Mr. Wilson, you were beginning to tell us
15 about the base case in this report.

16 Would you, please, proceed?

17 A Yes. We're looking at the Figure 2.14.
18 It has four cases. They describe the base case as
19 AI adoption, alongside continuously deepening
20 digitalization, drives the expansion of the data
21 center sector. And this comes after a long
22 discussion, as I mentioned before, in the report
23 of AI, what it is, where it's being adopted,
24 how -- all the uncertainties about how it's going
25 to be adopted and about the whole supply chain to

Transcript of Hearing - Day 3
Conducted on April 16, 2025

491

1 deliver it. And then they come to these four
2 cases.

3 The report notes, in introducing the three
4 additional cases, quote:

5 It's crucial to consider the wide range of
6 uncertainties, including the scale of AI adoption
7 and the efficiency with which this additional
8 service demand will be met.

9 And that's kind of their introduction to
10 the high case there in yellow, called Lift-Off.
11 They describe that as stronger AI adoption and
12 increased demand for digital services, and there's
13 a longer description in the report of that
14 scenario.

15 There's one called High Efficiency case,
16 that's green, the one a little below the base
17 case, which they describe as efficiency
18 initiatives somewhat counterbalance the demand in
19 the base case, lowering the total outlook
20 slightly.

21 And then they have a Headwinds case in
22 orange, the lower one, which assumes some
23 combination of slower service demand growth,
24 difficulties in monetization of AI leading to a
25 pullback in investment, and stronger local

Transcript of Hearing - Day 3
Conducted on April 16, 2025

492

1 constraints and other limitations which cause
2 delay in data center development.

3 So it's four very different and very
4 plausible scenarios that end up with very
5 different projections. I mean, if you look at
6 this graph, it looks like the low case in 2030 is
7 under 700, while the high case in 2030 is over
8 1,300 -- over 1,200, almost twice as much. And
9 then that gap only the gets larger when you go out
10 to 2035.

11 So I found it a fascinating report and a
12 great example, I think, of the kind of really
13 thoughtful discussion of everything around AI and
14 digital services that is driving the demand for
15 data centers, and then recognizing the
16 uncertainties and providing these sorts of
17 scenarios. I just bring it up as an example of
18 that.

19 Q One last question, and just especially
20 given the discussion in the room today, the figure
21 shows global electricity demand for data centers,
22 but the scenarios did not include details at a
23 more granular geographic level, and don't purport
24 to be commenting on load growth forecasts in
25 Dominion's service territory specifically; is that

Transcript of Hearing - Day 3
Conducted on April 16, 2025

493

1 correct?

2 A Yes. In the base case, they talked about
3 different countries -- or maybe regions -- I think
4 it was just countries, to some extent. But in
5 these three other cases, there wasn't any
6 geographic detail at all. So this is all global
7 level. And, of course, the questions about where
8 those data centers will be put, which countries,
9 which states, which EDC service territories, is an
10 entire additional level of uncertainty about
11 future data center load growth.

12 MS. KING: Your Honors, I'm going to move
13 just for the admission of the section that
14 includes that figure, so that Section 2.3.1 of the
15 report entitled Outlook in the Base Case.

16 THE BAILIFF: The Energy and AI document
17 excerpt will be marked as Exhibit 30.

18 (Exhibit No. 30 was marked for
19 identification.)

20 MS. KING: And apologies, also Section
21 2.3.2, Outlook in the Sensitivity Cases. And I
22 think that should cover all that Mr. Wilson has
23 commented on.

24 COMMISSIONER HUDSON: And that's all part
25 of Exhibit 30?

Transcript of Hearing - Day 3
Conducted on April 16, 2025

494

1 MS. KING: Yes, all part of a single
2 exhibit.

3 MS. ROBB: Clarification. Can I ask for
4 page numbers?

5 MS. KING: Yes. So 2.3.1 begins on
6 page 62 of the report. And 2.3.2 concludes on
7 page 70.

8 MS. ROBB: Thank you.

9 MS. KING: I would move for the admission
10 of that section of the report.

11 COMMISSIONER HUDSON: I'll take it under
12 advisement. Are we going to move it into
13 evidence?

14 CHAIRMAN TOWELL: We'll have to wait until
15 after we take it under advisement.

16 COMMISSIONER HUDSON: Yeah, I was going to
17 wait until after I take it under advisement.

18 MS. KING: That's fine.

19 MS. LINK: Your Honor, just for clarity of
20 the record now that the ask is official to move
21 Exhibit 30, pages 62 to 70 into the record, the
22 Company will not object to that admission into the
23 record so long as the purpose for which the
24 information is used is to support Mr. Wilson's
25 request on how a particular kind of data center

Transcript of Hearing - Day 3
Conducted on April 16, 2025

495

1 forecast should be done.

2 COMMISSIONER HUDSON: Thank you. Thank
3 you, Counsel.

4 CHAIRMAN TOWELL: Real quick, so are there
5 no objections to the admission of this testimony
6 at this time?

7 MS. ROBB: May I ask if counsel agrees to
8 that purpose?

9 MS. KING: I'm amenable to that purpose,
10 yes.

11 MS. GRUNDMANN: Let me ask --

12 CHAIRMAN TOWELL: Just real clear: This
13 is an IRP hearing and we can give evidence to the
14 weight to which it's deserved. We recognize that
15 this report did not come out until a few days ago,
16 so for the limited purpose of determining whether
17 or not the IRP is reasonable or prudent, I'd have
18 to say that we can certainly take this evidence
19 in; it does not seem to be a reason not to take it
20 in, but it would seem uncommon for it to have so
21 much value that it ends up tipping the scale one
22 way or the other with respect to the Integrated
23 Resource Plan, which is really all we're here for
24 today. So if that changes anybody's perspective
25 on the relative merits or importance of this

Transcript of Hearing - Day 3
Conducted on April 16, 2025

496

1 document --

2 MS. ROBB: If counsel's agreeing to what
3 Ms. Link had said was the purpose, I also withdraw
4 my objection.

5 CHAIRMAN TOWELL: Okay.

6 MR. BENFORADO: Your Honor, from
7 Appalachian Voices' perspective, I'm confused by
8 the purpose statement. I mean, we heard what
9 Mr. Wilson testified about it, so I think it's up
10 to the Commission to determine the weight, as
11 Commissioner Towell just mentioned. So I'm a
12 little bit confused by this purpose statement if
13 there's an objection to the pages in Mr. Wilson's
14 testimony being lodged.

15 But again, I think the Commission is
16 certainly entitled to afford whatever
17 discretionary weight it should, but the document
18 is the document, it's been authenticated, his
19 testimony has been provided, the parties can
20 cross-examine him however they wish.

21 MS. LINK: Your Honor, I'm now confused
22 because I thought Appalachian Voices agreed.

23 MS. KING: To clarify, I agreed because
24 that does accurately reflect the reason why we
25 have offered it in Mr. Wilson's testimony. I

Transcript of Hearing - Day 3
Conducted on April 16, 2025

497

1 think Mr. Benforado is exactly right that the
2 Commission can use it however they wish, counsel
3 can use it however they wish in their opportunity
4 for cross-examination and post-hearing briefs. I
5 don't know that I can control what other parties
6 do, but I can confirm, Ms. Link, that is the
7 purpose for which we have offered it here today.

8 COMMISSIONER HUDSON: Thank you.

9 MS. ROBB: With that clarification, I do
10 withdraw my objection.

11 COMMISSIONER HUDSON: Thank you. Thank
12 you, Counsel.

13 BY MS. KING:

14 Q Mr. Wilson, does --

15 COMMISSIONER HUDSON: Let me admit it into
16 the record.

17 MS. KING: Great.

18 COMMISSIONER HUDSON: The document marked
19 and described as Exhibit No. 30 is admitted into
20 the record.

21 (Exhibit No. 30 was admitted into
22 evidence.)

23 BY MS. KING:

24 Q Mr. Wilson, does that conclude your
25 surrebuttal testimony?

Transcript of Hearing - Day 3
Conducted on April 16, 2025

498

1 A Yes, it does.

2 MS. KING: The witness is available for
3 cross.

4 MR. JOHNS: No questions from Sierra Club
5 and NRDC.

6 COMMISSIONER HUDSON: United.

7 MS. POLLARD: No questions, Your Honor.

8 COMMISSIONER HUDSON: Clean Virginia.

9 MR. REISINGER: No questions, Your Honor.

10 COMMISSIONER HUDSON: DCC.

11 MR. MURPHEY: No questions, Your Honor.

12 COMMISSIONER HUDSON: Walmart.

13 MS. GRUNDMANN: Yes, Your Honor.

14 MS. LINK: And, Your Honor, just to be
15 clear as Ms. Grundmann is going up, was the
16 document Exhibit 30 admitted pages -- just pages
17 62 through 70? I believe you said the document as
18 marked as Exhibit 30 is admitted.

19 COMMISSIONER HUDSON: I'm sorry. Yes.
20 I'll wait for the bailiff to get back and we'll
21 amend it to pages 62 to 70.

22 MS. GRUNDMANN: Your Honor, just for
23 clarity of the record, would it be helpful to put
24 page 1 as the title of the report and then the
25 pages, or just pages 62 to 70?

Transcript of Hearing - Day 3
Conducted on April 16, 2025

499

1 MS. LINK: Ms. Grundmann, that is up to
2 the counsel trying to admit the document.

3 MS. KING: I'll amend my motion to also
4 include the title page of the report.

5 COMMISSIONER HUDSON: Thank you.

6 THE BAILIFF: The amended description for
7 Exhibit 30 will be marked as Energy and AI
8 document, excerpted pages 62 through 70; is that
9 correct?

10 COMMISSIONER HUDSON: And the title page,
11 correct.

12 MS. KING: And the title page, thank you.

13 THE BAILIFF: Energy and AI. Am I missing
14 something?

15 MS. GRUNDMANN: Just that page.

16 THE BAILIFF: So the World Energy Outlook
17 Special Report, excerpted pages 62 through 70.

18 COMMISSIONER HUDSON: Thank you. So the
19 document as amended is admitted into the record.

20 CROSS-EXAMINATION

21 BY MS. GRUNDMANN:

22 Q Good morning, Mr. Wilson. My name is
23 Carrie Grundmann, I'm here on behalf of Walmart.
24 I just had a couple of questions, give me just...

25 In some of your surrebuttal comments with

Transcript of Hearing - Day 3
Conducted on April 16, 2025

500

1 your counsel, you discussed this broader concept
2 of data centers potentially choosing where to
3 locate and being subject to more stringent
4 contract terms in some locations versus others?

5 Do you recall that general discussion?

6 A Yes.

7 Q And if I look at Question 33 on page 25 of
8 your testimony, you mention some approaches that
9 have been taken by AEP Ohio and Georgia?

10 A Yes.

11 Q And what I wanted to ask is: Are you
12 aware that AEP Ohio is a distribution-only
13 utility?

14 A Yes.

15 Q Whereas in Virginia, Dominion is a fully
16 vertically integrated utility that owns its
17 generation?

18 A Yes. AEP has done the fixed resource
19 requirement thing in PJM where they procure their
20 own capacity, which is, you know, a little bit
21 like being vertically integrated. But, yes.

22 Q Are you familiar with Docket U-37425
23 currently pending before the Louisiana Public
24 Service Commission?

25 A Is that the Entergy Meta?

Transcript of Hearing - Day 3
Conducted on April 16, 2025

501

1 Q It is.

2 A I haven't followed the docket. I'm aware
3 that there is that happening there.

4 Q Are you generally aware -- and if you
5 don't know, that's fine, but are you generally
6 aware that in that docket, Entergy has proposed
7 and sought approval of 2 gigawatts of new natural
8 gas and is proposing to build approximately
9 1.5 gigawatts of renewable energy to allow Meta to
10 build a multi-gigawatt data center in Louisiana?

11 A That's my understanding, yes.

12 Q And are you aware that the -- that there
13 are contractual terms that have been agreed upon
14 between Meta and the Company that would have Meta,
15 over an approximately 15-year contract, pay for
16 the incremental costs of the facilities being
17 built to serve them?

18 A I haven't seen the details, but that's my
19 understanding is that the data center and the
20 resource are very much matched and connected.

21 Q So when you talk about having a situation
22 that would essentially, as I view it, as having --
23 the data center having more skin in the game, is
24 the Entergy example an example of how data centers
25 can have more skin in the game?

Transcript of Hearing - Day 3
Conducted on April 16, 2025

502

1 A Yes, that is an example. Sometimes
2 nowadays it's called additionality where a data
3 center is going to be constructed and it has plans
4 to come up with the capacity that will serve it,
5 and that's one example. There's a number of other
6 examples.

7 And especially where a very, very large
8 data center is in a somewhat remote area where
9 there's not a lot of generation already there,
10 this is more and more getting to be the approach.
11 The data center is planning to have generation to
12 serve it.

13 Q And, Mr. Wilson, I'd like to confirm that
14 not only is your testimony, but all the exhibits
15 attached to it, are in public version only; is
16 that correct?

17 MS. KING: That's correct.

18 BY MS. GRUNDMANN:

19 Q And so I want to provide you with one of
20 the responses that was attached -- I'm just going
21 to put it up on the screen. I didn't want to put
22 anything up on the screen until I confirmed its
23 confidentiality, but it's one of the exhibits, one
24 of the enclosed discovery responses. And it
25 related to -- it's from Appalachian Voices' third

Transcript of Hearing - Day 3
Conducted on April 16, 2025

503

1 set, Question No. 41. And it just asked about
2 sort of the size, in a megawatt, of the largest
3 data center demand, you know, as of 2030.

4 And if you see here at the bottom, the two
5 largest are 3,562 megawatts or just over
6 3.5 gigawatts, correct?

7 A Yes.

8 Q And so that's reflective of the fact that
9 the smaller data centers of the immediate past are
10 not precisely what we are seeing moving forward
11 when it comes to the size of these data centers?

12 A This is about customers here.

13 Q Okay.

14 A So the two largest customers are
15 52 percent, 3,500 and on from there. So this
16 isn't about the size of the facility.

17 Q Of an individual site?

18 A Right.

19 Q Okay. Thank you.

20 MS. GRUNDMANN: Thank you, Mr. Wilson.

21 Those are all the questions that I have.

22 MR. JAFFE: Thank you, Your Honors.

23 CROSS-EXAMINATION

24 BY MR. JAFFE:

25 Q Good morning, Mr. Wilson. Cale Jaffe,

Transcript of Hearing - Day 3
Conducted on April 16, 2025

504

1 here for Piedmont Environmental Council.

2 Before we get to the Harvard study, I just
3 want to start with your testimony and your
4 discussion with some of the contracts that drive
5 the data center load.

6 So you testified on page 29 of your
7 prefiled testimony sort of laying out the process
8 for how this data center load comes on to the
9 system, and you discussed a three- to seven-year
10 period and a series of agreements. First, a
11 substation engineering letter of authorization,
12 then a construction letter of authorization, and
13 then finally an electric service agreement.

14 Is that correct?

15 A Yes.

16 Q And then you reference at the end of this
17 section that the 2024 plan has the Company
18 contracting with data center customers through
19 electric service agreements for a little more than
20 8,000 megawatts; is that right?

21 A Yes.

22 Q And that just -- to orient ourselves,
23 pulling -- I'm now putting on the screen page 14
24 from the IRP, Figure 2.1.7.

25 This is where that 8000-megawatt figure

Transcript of Hearing - Day 3
Conducted on April 16, 2025

505

1 comes from; is that right?

2 A Yes.

3 Q All right. And just to understand those
4 contracts, yesterday in the case we had moved into
5 evidence Exhibits 9, 10, and 11, which are
6 templates for those contracts provided by the
7 Company. And I just -- to briefly understand how
8 they work.

9 So this is the first of those contracts
10 you reference, the substation engineering letter
11 of authorization, that is this document, correct?
12 This is Exhibit 9.

13 A Okay.

14 Q Did you have a chance to review that
15 discovery response from the Company?

16 A Well, you're showing me little pieces of
17 it. I'll have to trust that that's...

18 Q I'll try to zoom out so you can see more
19 of the document.

20 A Yeah.

21 Q I'll direct you to one specific section of
22 it. I'm now looking at the second-to-last page of
23 the Company's discovery response here.

24 I've highlighted the relevant language,
25 which says here on Exhibit 9:

Transcript of Hearing - Day 3
Conducted on April 16, 2025

506

1 If you determine you are going to move
2 forward with needing electric service and Dominion
3 Energy is given authorization to proceed, the
4 engineering plan will be payable, and so forth.

5 Do you see that section?

6 A Yes.

7 Q And so this, essentially, is sort of the
8 way to initiate the project. The substation
9 engineering letter of authorization just sort of
10 gets the ball rolling; is that fair?

11 A I think that's fair.

12 Q And then that then leads to, as you
13 mentioned in your testimony, construction letters
14 of authorization. This is Exhibit 10. And that
15 gets a little more specific in terms of sections
16 on, for example, engineering and procurement,
17 potential delays in the facility and the like; is
18 that right?

19 A Yes.

20 Q So we're getting a little more real but
21 still not yet in service.

22 And then the last exhibit, 11, which is
23 the electric service agreement, this is the
24 document that includes, for example, the actual
25 service effective dates anticipated -- the meter

Transcript of Hearing - Day 3
Conducted on April 16, 2025

507

1 date, as it's referred to in this contract; is
2 that right?

3 A Yes.

4 Q So that's when that power then becomes
5 part of the load; is that right?

6 A That's --

7 Q Or anticipated. Once this contract
8 anticipates that next step.

9 A That next step -- say your full question
10 again, please.

11 Q Thank you, Mr. Wilson.

12 This contract then sets the date, the
13 meter date by which the data center would actually
14 come into service; is that correct?

15 A Okay. Yes.

16 Q And the Company has presumably some
17 negotiating power in entering into these bilateral
18 contracts that could -- in terms of managing the
19 load, managing the in-service dates, other terms
20 of the contract, the Company has whatever
21 negotiating power it might have in any contract
22 situation; is that right?

23 A Yes.

24 Q All right. Let me turn now to the Harvard
25 study that we've referenced. I wanted to walk

Transcript of Hearing - Day 3
Conducted on April 16, 2025

508

1 through those documents just so we understand --
2 actually, let me ask you one more question about
3 that.

4 The Piedmont Environmental Council, in its
5 opening statement, referenced the data center load
6 as a crisis by contract, meaning the Company has
7 signed these contracts that you referenced and
8 sort of forced this data center load upon all of
9 us to try to figure out how to manage.

10 Do you think that is a fair critique of
11 the -- that crisis-by-contract phrasing, how would
12 you respond to that as a critique of the situation
13 that we're in here in terms of the data center
14 load?

15 A I don't really have any response to that.

16 Q Fair enough.

17 Let me turn now to -- of course, much of
18 your testimony discusses data center load, load
19 growth, cost allocation and the like; is that
20 correct?

21 A Not so much cost allocation, but I discuss
22 the uncertainties and the risks.

23 MS. ROBB: Your Honor, at this point I'd
24 like to rise because if the purpose of getting
25 this in is for cost allocation, and Mr. Wilson has

Transcript of Hearing - Day 3
Conducted on April 16, 2025

509

1 just testified that cost allocation is not what he
2 focused on, I would object to it on probative
3 grounds as well as all the grounds that I cited
4 for objecting to the previous report. And I can
5 repeat those grounds if you would find that
6 helpful.

7 MR. JAFFE: Your Honor, if I can -- this
8 is page 7 of Mr. Wilson's direct testimony. I
9 highlighted the relevant language.

10 BY MR. JAFFE:

11 Q Mr. Wilson, is this correct? You state:

12 There is a risk that under current rules
13 in many regions, including in Virginia and PJM,
14 the cost of these investments will largely be
15 borne by other customers whose loads have
16 generally been flat and do not cause these
17 investments.

18 Is that your testimony?

19 A Yes.

20 MR. JAFFE: Your Honor, I'd like to
21 introduce the report in response to Mr. Wilson's
22 testimony on that point.

23 MS. ROBB: I'm again going to object
24 because cost allocation has been discussed
25 previously in this proceeding as being addressed

Transcript of Hearing - Day 3
Conducted on April 16, 2025

510

1 in Dominion's biennial review. We talked
2 yesterday about how that speaks to impacts on
3 GS-1, GS-2, GS-3, GS-4.

4 So, again, I don't think this is relevant
5 for the purposes of this testimony, and I don't
6 think -- I think the fact that there are costs is
7 relevant to the proceeding. Cost allocation, I
8 think, is for the biennial review proceeding.

9 COMMISSIONER HUDSON: Counsel?

10 MS. LINK: Your Honor, we join in the
11 objection that the document is outside the scope
12 of this proceeding. This Commission has been very
13 clear this is not a cost recovery proceeding.
14 We've already kept some information out with
15 regard to any kind of cost allocation proposal
16 that's pending in the biennial review, and this is
17 just simply outside the scope of this proceeding.

18 MR. JAFFE: Your Honor, I'm intending to
19 cross Mr. Wilson on his pre-filed written
20 testimony, the exact sentence that I have
21 highlighted and is on the screen right now.

22 If the Company or Ms. Robb had a problem
23 with that sentence, they had weeks which they
24 could have filed a motion to strike that testimony
25 as outside the scope of this proceeding. They

Transcript of Hearing - Day 3
Conducted on April 16, 2025

511

1 didn't move to strike it. The testimony has been
2 entered into the record. I should be able to
3 cross-examine the witness on the testimony that is
4 now in the record in this proceeding.

5 MS. ROBB: To clarify, no objection to
6 that sentence in Mr. Wilson's testimony. I would
7 distinguish between costs versus cost allocation.
8 I believe that we're venturing into cost
9 allocation and that is not part of this case.

10 MS. LINK: I agree, no one is saying
11 Mr. Jaffe can't cross him on the statement. We're
12 objecting to the document you're trying to put
13 into the record on cost allocation.

14 MR. MURPHEY: DCC joins in with both
15 Dominion and Microsoft's objections of this
16 document.

17 COMMISSIONER HUDSON: So, Counsel, you're
18 going to be crossing him on these
19 particular statements?

20 MR. JAFFE: Yes, Your Honor, I'm going to
21 cross him on this particular sentence.

22 And with respect to the opposition to the
23 record -- or to the report, it directly speaks to
24 the issue raised in that sentence. It could not
25 be more on point.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

512

1 MR. WINSTON: Your Honor, may I speak?

2 COMMISSIONER HUDSON: Yes.

3 MR. WINSTON: The City just wants to join
4 Mr. Jaffe in supporting the probative and
5 relevance of the report.

6 Again, the standard by which the
7 Commission reviews the IRP is, is it reasonable
8 and is it in the public interest. Cost
9 allocations, while may be not the focus of this
10 proceeding, certainly goes to the question of
11 whether the load forecast is in the public
12 interest, if it's reasonable, and so I think all
13 of these issues are probative.

14 And as Commissioner Towell said, the
15 Commission is capable of giving the due weight to
16 the reports and evidence that's admitted, and I
17 think the Commission is also capable of doing that
18 here.

19 COMMISSIONER HUDSON: So, Counsel, if it's
20 going to be in response to the particular sentence
21 here, please proceed.

22 MR. JAFFE: Thank you, Your Honor.

23 BY MR. JAFFE:

24 Q All right. Just to -- for the purposes of
25 a clean transcript, let me ask you to read the

Transcript of Hearing - Day 3
Conducted on April 16, 2025

513

1 highlighted sentence from page 7 of your pre-filed
2 testimony, Mr. Wilson.

3 A Okay. My testimony there says the
4 following:

5 There is risk that under current rules in
6 many regions, including in Virginia and PJM, the
7 cost of these investments -- by context, to meet
8 future data center loads -- will largely be borne
9 by other customers whose loads have generally been
10 flat and who do not cause these investments.

11 Q Mr. Wilson, with respect to that
12 statement, I would like to put on the screen now a
13 document entitled Extracting Profits from the
14 Public: How Utility Ratepayers are Paying for Big
15 Tech's Power.

16 This is a report authored by the
17 Environmental & Energy Law Program at Harvard Law
18 School, and it just came out last month,
19 March 2025.

20 Do you see that document?

21 A Yes.

22 Q All right. I'd like to now pass out that
23 document.

24 And while I'm doing that, Mr. Wilson, can
25 you say whether you're familiar with this report?

Transcript of Hearing - Day 3
Conducted on April 16, 2025

514

1 A Yes, I am familiar.

2 Q And let me give you a copy of it to review
3 and see if you can authenticate it as a true and
4 accurate copy of the report.

5 Mr. Wilson, whenever you're ready, you can
6 let me know if --

7 A Yes.

8 Q Are you familiar with the copy of the
9 report that I've put before you?

10 A Yes.

11 MR. JAFFE: Your Honors, I'd like to have
12 this document marked as the next exhibit in the
13 proceeding. And after crossing Mr. Wilson on the
14 document, I would move its admission into
15 evidence.

16 MS. ROBB: I'm just going to renew my
17 objection. This is hearsay. It's not
18 Mr. Wilson's document. Again, we're not able to
19 submit discovery.

20 This was available apparently in March.
21 It's only been made available to us a few days
22 ago, so I consider this highly prejudicial and
23 hearsay and inappropriate.

24 MS. LINK: And I'll note my objection for
25 the record, in addition to the reasons stated by

Transcript of Hearing - Day 3
Conducted on April 16, 2025

515

1 Ms. Robb, the relevance. As we have noted, that
2 the cost allocation for data centers is pending in
3 another docket.

4 MS. GRUNDMANN: Your Honor, from a
5 procedural standpoint, I have concerns -- again,
6 without the subject of this -- with an argument by
7 a party that they are prejudiced by virtue of a
8 fact that a party did not provide them a
9 cross-examination exhibit before a hearing when
10 the Commission has not set a deadline for the
11 pre-disclosure of cross-examination exhibits.

12 Moreover, it's hearsay if it's in
13 testimony if it's not authored by the author, and
14 it's hearsay if it's handed out at a hearing.

15 So I don't -- I have an issue with both of
16 those objections. I take no position on the
17 substance of this report, but in terms of the
18 fundamental nature of a report being used, whether
19 in a witness' testimony or as a cross-examination,
20 I view those as one and the same, and common
21 practice before this Commission.

22 COMMISSIONER BAGOT: It seems to me like
23 the witness can be asked the questions and then
24 either agree or disagree with the statements being
25 made as opposed to us -- and we can take

Transcript of Hearing - Day 3
Conducted on April 16, 2025

516

1 whatever -- give whatever proper weight we want to
2 Mr. Wilson's responses to the questions regarding
3 the statements in this report.

4 MS. ROBB: Would it be possible, after
5 Mr. Jaffe finishes his discussion with Mr. Wilson
6 of this report, to take a break to allow parties
7 to consider how to address that discussion?

8 COMMISSIONER HUDSON: Absolutely.

9 MS. ROBB: Thank you.

10 COMMISSIONER HUDSON: We'll mark it at
11 this time.

12 MR. JAFFE: Thank you, Your Honor. I'm
13 sorry, just procedurally, are you asking me to
14 respond to the objection or proceed with the
15 cross-examination?

16 COMMISSIONER HUDSON: You can respond.

17 MR. JAFFE: Thank you, Your Honor. So as
18 counsel for Walmart stated, there are many dockets
19 where we are given a date by which we have to
20 circulate exhibits to be used at a hearing. This
21 was not such a proceeding, so I think providing
22 the document a few days in advance was a courtesy,
23 not a requirement.

24 I would say on the cost allocation
25 question, I'm not seeking to bring in an actual

Transcript of Hearing - Day 3
Conducted on April 16, 2025

517

1 accounting of how to manage the cost allocation,
2 simply raising the cost allocation issue that is
3 raised by Mr. Wilson's direct testimony for the
4 precise reason that counsel for the City of
5 Alexandria raised, which is it goes to the
6 question of whether the IRP is reasonable and in
7 the public interest.

8 COMMISSIONER HUDSON: Thank you. So at
9 this time we can actually mark it for
10 identification purposes.

11 THE BAILIFF: The article entitled
12 Extracting Profits From the Public: How Utility
13 Ratepayers Are Paying For Big Tech's Power, will
14 be marked as Exhibit 31.

15 (Exhibit No. 31 was marked for
16 identification.)

17 BY MR. JAFFE:

18 Q All right. Mr. Wilson, just -- you
19 testified just a minute ago that -- about the
20 question of that the cost of these investments --
21 meaning the data center investments -- will
22 largely be borne by other customers, whose loads
23 have generally been flat and who do not cause
24 these investments; is that correct?

25 A I'm not sure that was quite correct. The

Transcript of Hearing - Day 3
Conducted on April 16, 2025

518

1 risk is.

2 Q The risk is that under current rules --

3 A Yes.

4 Q -- in many regions, including in Virginia
5 and PJM, the cost of these investments will
6 largely be borne by other customers whose loads
7 have generally been flat and who do not cause
8 these investments.

9 Is that correct?

10 A There is risk, yes.

11 Q And I'm now putting on the screen page 10
12 from the Harvard report, which has been marked as
13 Exhibit 31, and the highlighted language here, if
14 PUCs allow utilities to follow the conventional
15 approach of socializing system expansion,
16 utilities will impose data centers' energy costs
17 on the public.

18 Do you see that?

19 A Yes.

20 Q Is that largely consistent with your
21 testimony on that point?

22 A Yes, I'm raising the risk that if we
23 follow the usual approaches for generation
24 expansion, for transmission expansion, then the
25 incremental costs are not following cost

Transcript of Hearing - Day 3
Conducted on April 16, 2025

519

1 causation, they are not being imposed on the
2 parties, the need, the incremental generation
3 transmission. Instead, we're following the
4 traditional approach of spreading them broadly,
5 yes. And this report goes into that in great
6 detail.

7 Q And you reference both Virginia and PJM in
8 your testimony, as we just recited on page 7; is
9 that correct?

10 A Yes.

11 Q And as an example of that I'm now putting
12 on the screen page 15 from the Harvard study. It
13 notes:

14 In December 2023, the PJM RTO approved
15 \$5 billion of transmission projects, and that PJM
16 assigned approximately half of the total cost to
17 Virginia utilities.

18 Do you see that?

19 A I see that.

20 Q Is that an example of the kind of concern
21 that you raise on page 7 of your testimony?

22 A Yes, that's an example of the kind of
23 concern. I haven't, obviously, verified these
24 numbers, but yes, through PJM's transmission
25 process, the cost of transmission build can be

Transcript of Hearing - Day 3
Conducted on April 16, 2025

520

1 spread widely.

2 Q And then one last page from the Harvard
3 study, and then I'm done with that document, on
4 page -- now I'm putting on the screen page 16 from
5 the Harvard study. It provides:

6 If a utility's data center growth
7 projections fail to materialize, ratepayers could
8 be left paying for transmission that the utility
9 constructed in anticipation of data center
10 development, claiming that it was addressing --
11 and referenced this as a stranded cost issue.

12 Do you see that piece of the report?

13 A Yes.

14 Q And is that also consistent with the
15 testimony you've provided both in your prefiled
16 direct testimony and in live surrebuttal today?

17 A Yes.

18 MR. JAFFE: With that, Your Honors, I'd
19 move the admission of Exhibit 31.

20 MS. ROBB: I would propose the same
21 compromise that we reached for the last exhibit,
22 which was to admit those pages which were
23 discussed -- which were discussed during
24 cross-examination.

25 MR. JAFFE: Your Honor, I would like the

Transcript of Hearing - Day 3
Conducted on April 16, 2025

521

1 entirety of the report into the record. I think
2 taking -- and the Commission, of course, can give
3 it the due weight that it merits, but having the
4 entirety of the report to be able to put the
5 sections that we've cross-examined Mr. Wilson on
6 into context in our post-hearing briefs may be
7 useful for the Commission. You know, in the
8 interest of time, it does not make sense for me to
9 walk through every single page of the report and
10 ask Mr. Wilson a question about it; I'm trying to
11 focus on the most relevant sections, but I think
12 the entirety of the report may be useful to the
13 Commission, again, the weight that it merits.

14 MS. ROBB: I would just submit that
15 parties are permitted, during this portion of the
16 hearing, respondents to have oral surrebuttal.
17 This goes well beyond oral surrebuttal into a
18 party that did not even have a witness putting in
19 what I consider written testimony into the record.
20 So I renew my objection.

21 COMMISSIONER HUDSON: Thank you.

22 And counsel, you did say at some point you
23 would like to review this report?

24 MS. ROBB: Yes, if it's possible to have a
25 recess now --

Transcript of Hearing - Day 3
Conducted on April 16, 2025

522

1 CHAIRMAN TOWELL: We can have a lunch.

2 COMMISSIONER HUDSON: Let's do that, we
3 can actually have --

4 MS. ROBB: I know it's unusual.
5 Thank you.

6 COMMISSIONER HUDSON: Let's actually take
7 a lunch break right now and return at 1:30.

8 MS. LINK: Your Honor, just for the
9 record, I just base my objection on relevance to
10 the report.

11 COMMISSIONER HUDSON: Let's reconvene at
12 1:30. We're now in recess.

13 (A luncheon recess was taken.)

14 COMMISSIONER HUDSON: All right. So have
15 all counsel got a chance to look at the article,
16 review it?

17 And I think the next step was to -- you
18 were about to actually move it into the record or
19 do you need a ruling from the bench?

20 MR. JAFFE: Yes, Your Honor, I would move
21 admission of, I believe it was Exhibit 31, I would
22 renew that motion.

23 COMMISSIONER HUDSON: Sure. And what I
24 will say is that we'll admit it into the record
25 and the Commission will definitely give it its

Transcript of Hearing - Day 3
Conducted on April 16, 2025

523

1 proper due weight.

2 MR. JAFFE: Thank you, Your Honor.

3 COMMISSIONER HUDSON: Thank you. So this
4 is on the article from Harvard and it was marked
5 and described as Exhibit No. 31 and it's admitted
6 into the record.

7 (Exhibit No. 31 was admitted into
8 evidence.)

9 MR. JAFFE: Thank you, Your Honor. And
10 I'd like to continue with cross-examination of
11 Mr. Wilson, if I might.

12 COMMISSIONER HUDSON: Proceed.

13 BY MR. JAFFE:

14 Q Mr. Wilson, I would like to turn now to
15 the JLARC study, which has been already admitted
16 as Exhibit 8 in this docket.

17 And I want to sort of -- you cite to the
18 JLARC study a few times in your prefiled
19 testimony; is that right?

20 A That's right.

21 Q So I take it you're familiar with it?

22 A Yes.

23 Q And you cite -- or you make the
24 observation in your testimony -- this is page 19
25 of 37 -- you note that the high concentration of

Transcript of Hearing - Day 3
Conducted on April 16, 2025

524

1 first-generation data centers in Northern Virginia
2 means that Virginia is now enormously overbuilt
3 from a regional perspective.

4 Is that your testimony?

5 A Yes.

6 Q And the JLARC report, similarly, on
7 page 7 -- and I'm curious if this is consistent,
8 if this is what you're referencing when you talk
9 about Northern Virginia being overbuilt.

10 I'm looking at page 7 of the JLARC report,
11 Figure 1-3. It notes that Virginia has
12 4,000 megawatts -- a little more than 4,000
13 megawatts of operational capacity dedicated to
14 data centers; is that right?

15 A Yeah, this is citing to a 2024
16 Cushman & Wakefield report, and I presume these
17 numbers are from there. I haven't checked those.

18 Q And just to put the Virginia number in
19 perspective, if we were to take the data center
20 build-out in Tokyo, in London, and the
21 San Francisco Bay Area, it would appear that the
22 Northern Virginia operational capacity dedicated
23 to data centers is larger than all -- than those
24 three combined; is that right?

25 A That arithmetic looks correct based on

Transcript of Hearing - Day 3
Conducted on April 16, 2025

525

1 this source.

2 Q And so to address that concern -- and
3 that's a concern, as we just noted you raise on
4 page 19 of your testimony; is that right? In
5 terms of the data center concentration being
6 overbuilt in Northern Virginia.

7 A What's the question?

8 Q That these two -- that the JLARC study's
9 data on this point in your observation seem to
10 relate to the same point; would you agree?

11 A Yes.

12 Q And then I'd like -- the JLARC study makes
13 a recommend responding to that and I'm curious to
14 get whether that's consistent with your testimony.
15 This is on page 36 of the JLARC study. It
16 provides:

17 One of the main ways that can protect grid
18 reliability is by delaying the addition of new
19 large-load customers.

20 Do you think that would be a reasonable
21 means of managing the data center load?

22 A Well, the new loads data centers and a few
23 other types have gotten so much larger just in the
24 last couple of years. It used to be that 25 and
25 50 megawatts was huge. Now the numbers are in the

Transcript of Hearing - Day 3
Conducted on April 16, 2025

526

1 hundreds and even sometimes thousands of
2 megawatts, so a lot of different areas are
3 considering that they need a large load
4 interconnection process. So rather than just lots
5 and lots of the loads, the customers come, the
6 utility says, sure, when do you need it and how
7 much; when they were small, that was the process.

8 When it's really, really big, then it's
9 like a new generator. You have to do a study to
10 see what's going to happen if you put that huge
11 load in that location.

12 So a lot of areas are moving towards a
13 much more formal and deliberate, large load
14 interconnection process, and that can involve
15 studying. And Dominion did this, you know, one
16 time looking at the new loads and concluding that
17 you're not going to be able to serve them as soon
18 as they seem to want to be served and so they
19 might be delayed, yes.

20 Q And you mentioned, then, sort of a process
21 for sort of managing that data load in your answer
22 just now. This excerpt from page 36 that
23 currently appears on the screen from the JLARC
24 study states that:

25 Utilities appear to have the authority to

Transcript of Hearing - Day 3
Conducted on April 16, 2025

527

1 delay large load additions for
2 transmission-related concerns.

3 And then it says:

4 It is less clear if utilities are allowed
5 to delay adding new load because of generation
6 concerns.

7 Do you see that?

8 A Yes.

9 Q So are those the kinds of questions, those
10 uncertainties that you would -- a process would
11 help determine? A process for managing data
12 center load.

13 A Yes. Typically for the utilities, number
14 one is reliability; number two is connect all the
15 customers. So when those are in competition,
16 reliability comes first and the new load might
17 have to be delayed.

18 Q And one last section of the JLARC report
19 for -- to ask you about as it relates to your
20 testimony, this is from page 51 of the report, and
21 it is Recommendation No. 5 from the report. It
22 references directing Dominion Energy to develop a
23 plan for addressing the risk of generation and
24 transmission infrastructure costs being stranded
25 with existing customers and to file that plan with

Transcript of Hearing - Day 3
Conducted on April 16, 2025

528

1 the State Corporation Commission.

2 Now, this specific reference suggested
3 that the General Assembly might require a data
4 center-specific plan by legislation, but would you
5 agree that an Integrated Resource Plan, an IRP,
6 might be a perfect vehicle for developing exactly
7 this kind of plan? To address the risk of
8 generation and transmission infrastructure costs
9 being stranded with existing customers.

10 A Well, I think that language is a little
11 odd because to me being stranded means the utility
12 shareholders -- that's what it always used to
13 mean. Stranded costs are costs that the utility
14 isn't able to collect from customers. Stranded
15 with existing customers.

16 But this gets to the issues I've raised
17 that if you build -- if you make huge investments
18 to serve anticipated very large new loads and they
19 don't show up, then you have some very large costs
20 that you don't have a customer to recover them
21 from. And I agree that that's something Dominion
22 should address.

23 I mean AEP and other utilities have
24 addressed that voluntarily because they perceive
25 the risk to their shareholders. But, yeah, I

Transcript of Hearing - Day 3
Conducted on April 16, 2025

529

1 agree that's something that ought to happen one
2 way or another.

3 MR. JAFFE: No further questions,
4 Your Honor.

5 COMMISSIONER HUDSON: Thank you.
6 Microsoft?

7 MS. ROBB: Thank you, Your Honor.

8 CROSS-EXAMINATION

9 BY MS. ROBB:

10 Q Good afternoon, Mr. Wilson. I'm just
11 going to follow-up on that conversation you had
12 with Mr. Jaffe on the JLARC Recommendation No. 5
13 about -- and I want to clarify.

14 Is it your testimony that in this IRP
15 proceeding, the Commission should address
16 generation and transmission costs possibly being
17 stranded with existing customers, or would it be
18 more appropriate in the ongoing biennial review
19 proceeding?

20 A I think it's relevant to the planning
21 purpose of an IRP to consider whether the load
22 forecast and capacity requirements that flow from
23 them might create substantial risk of there being
24 stranded costs. To me, that sounds like a
25 relevant consideration in the context of the IRP.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

530

1 But I'm not an attorney, but that seems important.

2 Q All right. Are you aware that there is a
3 biennial review proceeding?

4 A I am.

5 Q Are you aware of the tariff being proposed
6 in that proceeding for large-load customers?

7 A I am.

8 Q Do you disagree that -- do you think that
9 tariff should, instead, be considered in this
10 proceeding?

11 A That's not for me to decide.

12 Q Mr. Jaffe, early before lunch, was asking
13 you questions about the template substation LOAs,
14 the construction LOAs, and the ESAs which were in
15 the record as Exhibits 9, 10, and 11.

16 Do you recall that question?

17 A Yes.

18 Q Have you ever worked on one of these
19 agreements as it was executed by a data center? I
20 mean, have you seen -- have you reviewed one of
21 these agreements that was actually executed by a
22 data center?

23 A I think I've seen executed versions --
24 redacted executed versions in other venues, not
25 here. Here we -- we asked for that, I think we

Transcript of Hearing - Day 3
Conducted on April 16, 2025

531

1 asked for that twice, and all we've gotten are
2 templates.

3 Q Okay. So not in Virginia.

4 And I want to make sure I understand
5 something -- something you said earlier.

6 Did you state in response to Mr. Jaffe
7 that -- sorry.

8 Would you consider yourself an expert on
9 cost allocation?

10 A It's one of the topics that comes up in my
11 work. I'm an economist with 40 years of
12 experience. It's not something I do a lot of,
13 but, you know, I've testified on cost causation
14 and rate design and some of those topics.

15 Q Did you address cost allocation in your
16 prefiled direct testimony in this proceeding?

17 A My testimony speaks for itself. I raised
18 concerns about what might happen to some of the
19 costs that might be incurred based on the load
20 forecasts that I'm reviewing and questioning.

21 MS. ROBB: No further questions.

22 Thank you.

23 COMMISSIONER HUDSON: Thank you.

24 City of Alexandria.

25 MR. WINSTON: Just a few questions,

Transcript of Hearing - Day 3
Conducted on April 16, 2025

532

1 Your Honor.

2 CROSS-EXAMINATION

3 BY MR. WINSTON:

4 Q Mr. Wilson, would you agree that in
5 addition to all of the risk factors that you cite
6 in your testimony which lead to your conclusion
7 that the load forecasts that Dominion includes in
8 its filings is uncertain and not as -- not as
9 ironclad as the filing would illustrate? Would
10 you agree that another risk factor is the
11 potential development of more efficient energy
12 systems, such as AI-optimized energy usage systems
13 and those type of technology advances?

14 A I think the answer is yes, but I'm not
15 sure I understand what you're talking about by AI.

16 Could you state your question again?

17 Q Sure. So while the consumption levels --
18 energy consumption from data customers is
19 currently very large, are you aware that there are
20 systems being developed right now that would use
21 AI to optimize energy timing and uses and peaks so
22 that demand reduction might go down even if the
23 build-out happens as scheduled; you could see
24 massive reductions in energy demand even if every
25 data center that is currently contracted for is

Transcript of Hearing - Day 3
Conducted on April 16, 2025

533

1 actually built?

2 A Well, I think I do make that point or
3 maybe I express it differently, but, yes, there's
4 enormous potential for the whole supply chain of
5 delivering the services that data centers provide
6 to get more efficient. And AI is definitely
7 something that's going to help with realizing --
8 finding those opportunities and realizing those
9 efficiencies.

10 Q And in your experience as an economist
11 focused on the energy sector, are data center
12 developers doing cost-benefit analyses when they
13 decide whether or not to implement an energy
14 efficiency system versus simply paying the cost of
15 consuming additional energy? Is that generally
16 the calculus that they make?

17 A Well, I don't know. I don't interview
18 them. But I'm guessing that they're -- as an
19 economist, they like to do more and incur less
20 cost to do it, so I would guess that they are
21 trying to realize all those opportunities, yes.

22 Q And in your decades of experience, have
23 you examined a lot of electrical service
24 agreements like the template that was admitted as
25 Exhibit 13, I believe?

Transcript of Hearing - Day 3
Conducted on April 16, 2025

534

1 A Not a lot. Several.

2 Q To your knowledge, is there anything
3 restricting Dominion from including energy
4 efficiency provisions in an electrical service
5 agreement like that?

6 A I think anything like that could
7 probably -- that could probably go in there, yes.

8 MR. WINSTON: No further questions,
9 Your Honor.

10 COMMISSIONER HUDSON: Thank you.
11 Consumer Counsel.

12 MR. BARTLEY: No questions, Your Honor.

13 COMMISSIONER HUDSON: Staff.

14 MS. PIERCE: No questions, Your Honor.

15 COMMISSIONER HUDSON: Dominion.

16 MS. LINK: Yes, Your Honor. Thank you.

17 CROSS-EXAMINATION

18 BY MS. LINK:

19 Q Good afternoon, Mr. Wilson. Nice to see
20 you again.

21 A Good afternoon.

22 Q I'd like to begin with something I believe
23 I heard you say in your surrebuttal with your
24 counsel, and it was with regard to the rebuttal
25 testimony of Company Witness Bocanegra. And on

Transcript of Hearing - Day 3
Conducted on April 16, 2025

535

1 page 5 of his testimony -- his rebuttal testimony
2 there's a question: Is there general consensus
3 between parties in this proceeding on the
4 PJM-derived load forecast.

5 And I believe you said that you thought
6 that that was misleading because what you had
7 noted is that you had concluded that the forecast
8 for all customers other than data centers was
9 within the range of reasonableness.

10 Did I hear you correctly?

11 A Yes.

12 Q Okay. So you thought what Mr. Bocanegra
13 had said in his writing was misleading?

14 A It was potentially misleading.

15 Q Okay.

16 A Especially out of context, perhaps.

17 Q Well, yes.

18 So I'm putting on the screen -- it's yet
19 to be introduced into the record because the
20 Company hasn't come up for rebuttal testimony yet.

21 So this is page 5 of Mr. Bocanegra's
22 rebuttal testimony where the question that I just
23 repeated is here.

24 And in the answer, the Company notes your
25 exact phraseology: That APV Witness Wilson

Transcript of Hearing - Day 3
Conducted on April 16, 2025

536

1 concluded the DOM LSE peak load forecast for all
2 customers other than data centers used in the 2024
3 IRP falls within a range of reasonableness.

4 So Mr. Bocanegra reflects your exact
5 comment, correct?

6 A Yes, he does.

7 Q Okay.

8 A If he answered "yes, comma," and included
9 that, then I wouldn't have felt any need to
10 respond to it, yes.

11 Q But he said "yes," but then two sentences
12 later he quotes your exact language.

13 A Okay.

14 Q So is it still misleading when you read
15 the whole paragraph together, the question and the
16 whole answer?

17 A Well, I grow accustomed to assuming that
18 things are going to be pulled out of context.

19 Q Understood. But there's a full answer
20 from line 6 to 12.

21 I presume you read the full answer, right?
22 You didn't just read "yes" and move on?

23 A Yes.

24 Q Now reading the full answer, do you think
25 it's misleading?

Transcript of Hearing - Day 3
Conducted on April 16, 2025

537

1 A Again, things get pulled out of context.
2 If you stop on line 6, that's potentially
3 misleading, yes.

4 Q Did your counsel stop at line 6 and not
5 read the full answer? I'm just confused because
6 we were very clear to point out exactly what you
7 said.

8 A Okay. I would not have answered that way
9 "yes, period," because "yes, period," is not
10 correct.

11 Q "Yes, comma"?

12 A "Yes, semicolon" or something, yes.

13 Q Okay. Well, we'll set aside the grammar
14 lesson. Thank you.

15 A Uh-huh.

16 Q Let's move on to page 6 of your testimony.

17 Here on the bottom of page 6:

18 Please summarize your conclusions with
19 regard to the Company's data center load forecast.

20 You say:

21 With respect to new data center capacity
22 in the near term, 2025 to 2028, the Company's
23 projections are based on facilities far along in
24 the process, and these projections of new data
25 center facilities in the near term are likely to

Transcript of Hearing - Day 3
Conducted on April 16, 2025

538

1 be fairly accurate.

2 Do you see that?

3 A Yes.

4 Q Okay. And I think I also heard you say in
5 your surrebuttal that the near term is fairly
6 accurate and it's based on facilities being far
7 along in the process.

8 Do you recall that?

9 A That's what it says, yes.

10 Q Okay. And I think I also heard you say
11 the near term is solid based on the ESAs,
12 electrical service agreements.

13 Do you agree?

14 A The testimony is right here.

15 Q Okay. And you agree that in your
16 surrebuttal, you said the near term is solid based
17 on the ESAs?

18 A You're not giving the full sentence.
19 You're taking it out of context.

20 Q Okay. What's the full sentence?

21 A It's exactly like here, with respect to
22 capacity in the near term.

23 Q Okay. I'm focusing on what being far
24 along in the process means.

25 A Okay.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

539

1 Q Does "far along in the process" mean
2 having an electric service agreement?

3 A I wasn't being specific.

4 Q What does "far along in the process" mean
5 to you?

6 A There's -- yes, there's -- I didn't have a
7 particular notion in mind. It was more that 2028
8 is not that far away, in addition, but yes.

9 Q So it is not that the facilities are far
10 along in the process; it is that 2028 is close in
11 time?

12 A It's both, yes.

13 Q Okay. So I guess my question is: What is
14 a marker that this Commission can rely on to
15 support what you believe "far along in the
16 process" means?

17 Is that having iron in the ground? Is
18 that having a CLOA? Is it having an SELOA? Is it
19 having an ESA?

20 A It's a process that goes step by step, and
21 each step is further along, and then they energize
22 at some point, and then they are ramping. Not a
23 particular stake in the ground in terms of --
24 yeah.

25 Q No? You don't...

Transcript of Hearing - Day 3
Conducted on April 16, 2025

540

1 A I don't have a specific --

2 Q No marker?

3 A I don't want to make a specific marker on
4 that necessarily.

5 Q Okay. Putting on the screen --

6 MS. LINK: And, Your Honor, a few folks
7 had used this Figure 2.1.7. I just note for the
8 record it was corrected on November 27th, 2024.
9 It's on page 14 of 81 of the original plan.

10 COMMISSIONER HUDSON: Thank you. Duly
11 noted.

12 MS. LINK: Thank you.

13 BY MS. LINK:

14 Q So I'm putting on the screen, Mr. Wilson,
15 Figure 2.1.7 as corrected. I wanted to focus on
16 your near term, your 2025 to 2028.

17 So here on the chart, 2025 through 2028,
18 and in that time frame, the Company has electric
19 service agreements from 7,575 megawatts to about
20 8,012 megawatts.

21 Do you see that?

22 A Yes.

23 Q Okay. And during that time frame, the
24 metered load is projected to be between 4,256 --
25 4,296 to 6,006 megawatts.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

541

1 Do you see that?

2 A Yes.

3 Q Okay. So the metered load from 2025 to
4 2028 is below the total blue bars here for the
5 amount of electric service agreements that the
6 Company has executed for that time frame, correct?

7 A Yes.

8 Q Okay. So as we go a little bit further
9 along for 2029 and 2030 and 2031, the metered load
10 is still below the total blue bar of electric
11 services agreements, correct?

12 A Yes.

13 Q Okay. So if being far along in the
14 process mean -- meant having electric service
15 agreement, which means you are -- have a meter and
16 you're drawing power -- you understand that to be
17 true, right?

18 A Okay.

19 Q Okay. So if being far enough along -- far
20 along in the process means having a meter and
21 drawing power, the Company has through 2031 more
22 megawatts of contracted demand than it has metered
23 load, correct, projected?

24 A Yes.

25 Q Okay. So it could be that electric

Transcript of Hearing - Day 3
Conducted on April 16, 2025

542

1 service agreements is far along in the process,
2 correct?

3 A Yes.

4 Q Okay.

5 A But the point I've made is it's one thing
6 to have a facility in place and to have the right
7 under your contract to draw 8,000 megawatts; it's
8 another thing to spend billions to put the chips
9 and servers and everything in there to actually
10 demand that power.

11 So the main thing I've questioned isn't
12 the 8,000; it's the ramping. I think the ramping
13 might be a lot slower than the Company is
14 assuming.

15 Q Okay. But you think the ramping for '25
16 to '28 -- 2025 to 2028 of basically 4,296 to
17 6,006 megawatts is reasonable, correct?

18 A No.

19 Q You said fairly accurate?

20 A No. Fairly accurate was about the
21 capacity.

22 Q This chart is in capacity, megawatts.

23 A When I'm talking about capacity, I'm
24 talking about the size of the data center and the
25 size of its electrical connection.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

543

1 So if you have a 500-megawatt data center,
2 it can consume 500 megawatts. It can also consume
3 100 megawatts. So the capacity is the 500; the
4 load forecast ought to be the 100. That's the
5 distinction I'm making over and over and that
6 Mr. Blackwell doesn't really talk about.

7 Q Okay. Well, maybe I'm misunderstanding.

8 This is in demand, right? Capacity --
9 contracted capacity versus metered coincident
10 demand; that's capacity, right? Megawatts?

11 A Capacity is how big of a data center it
12 is. Metered demand is how much the data center is
13 actually drawing.

14 Q Okay. So I'm just trying to understand,
15 when you say:

16 The near term, company projections are
17 based on facilities far along in the process and
18 these projections of new data center facilities in
19 the near term are likely to be fairly accurate?

20 A You dropped the first part of the
21 sentence.

22 Q With respect to new data center capacity?

23 A Yes.

24 Q Okay. So help me out. What I hear from
25 reading that is that what the Company has done

Transcript of Hearing - Day 3
Conducted on April 16, 2025

544

1 here from 2025 to 2028, you find to be fairly
2 accurate?

3 A With respect to capacity.

4 CHAIRMAN TOWELL: If I may, perhaps, clear
5 a little bit of this up.

6 My understanding from the witness'
7 testimony is that the red line on Figure 2.1.7 may
8 be flatter in the future than is presented in the
9 Company's diagram.

10 Is that accurate?

11 THE WITNESS: Yes, that's what I'm
12 questioning.

13 CHAIRMAN TOWELL: Okay.

14 THE WITNESS: The ramping up, that red
15 line, the load consumed by these facilities may
16 ramp up much slower.

17 BY MS. LINK:

18 Q Okay.

19 A And when I say the capacity is probably
20 fairly accurate, that's more the blue line, yes.

21 Q Okay. So -- but the red line is the
22 forecast.

23 A It's the load forecast.

24 Q Right. And are you saying --

25 MS. LINK: And I appreciate it.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

545

1 CHAIRMAN TOWELL: Yes. Sorry to
2 interrupt, Counsel.

3 MS. LINK: No. I appreciate your help.
4 BY MS. LINK:

5 Q Are you saying that for 2025 to 2028, you
6 think the blue line is what's fairly accurate?

7 A The forecast of the amount of data center
8 capacity, yes.

9 Q You're saying the blue pieces here?

10 A Yeah.

11 Q Not the red -- from '25 to '28, the red
12 line is not fairly accurate?

13 A I'm questioning the rate at which the
14 actual load will ramp up, yes.

15 Q Okay. So -- okay. Well, that's fair. I
16 took it a different way. Thank you.

17 I believe I heard you talk about -- and
18 this is changing topics -- sort of historically --
19 and I know you've been in several of these IRP
20 proceedings on the load forecast -- historically,
21 I think you said, in terms of data center load,
22 that Northern Virginia was sort of the only game
23 in town?

24 A Yes.

25 Q Okay. And --

Transcript of Hearing - Day 3
Conducted on April 16, 2025

546

1 A Not quite the only game in town, but far
2 ahead, yes.

3 Q Far ahead, okay. And then I think you
4 said, I used to keep a list of other states but
5 now there's so many other states I no longer keep
6 a list? Okay.

7 So you're aware, are you not, that it's
8 not just the growth of the data center industry in
9 Northern Virginia, correct? There's other parts
10 of Virginia where they are --

11 A Yes.

12 Q -- growing data center facilities?

13 A Yes.

14 Q You are aware of that, right?

15 And so I'm just showing you -- it's
16 Exhibit 8 of the JLARC report where it says:

17 The data center industry is growing
18 rapidly in Virginia, both in established markets
19 and newer ones. Significant new market growth is
20 expected in counties outside of Northern Virginia
21 and along the I-95 corridor to Central Virginia.

22 A Yes.

23 Q Okay. So it's not just that data center
24 growth is in other states; it's also in other
25 parts of Virginia, correct?

Transcript of Hearing - Day 3
Conducted on April 16, 2025

547

1 A Yes, and it's in my testimony in my last
2 graphic.

3 Q Okay. Thank you. Let's switch gears a
4 bit and talk about who did load forecast in this
5 proceeding.

6 So you're aware that Staff contracted
7 through Enverus to do a load forecast, correct?

8 A Yes.

9 Q And you're aware the Company did its own
10 load forecast but also then provided a data center
11 load forecast to PJM, correct?

12 A Yes.

13 Q And you're aware that PJM's load forecast
14 is required by this Commission to be used as the
15 basis for the load forecast for the DOM LSE,
16 correct?

17 A Yes.

18 Q Okay. And then we also talked about JLARC
19 having done their own load forecast that's sort of
20 been brought in with this JLARC report.

21 And that was done by folks at UVA; is that
22 what I heard you say?

23 A Some faculty at UVA, yes.

24 Q Okay. So we have four different entities
25 sort of actually doing load forecasts, correct?

Transcript of Hearing - Day 3
Conducted on April 16, 2025

548

1 A I guess.

2 Q Okay.

3 A Well, I don't know. We have --

4 Q Staff --

5 A -- doing something --

6 Q -- Company, PJM?

7 A -- along those lines -- yes.

8 Q Okay. JLARC?

9 A Uh-huh.

10 Q Did you do your own load forecast?

11 A I didn't.

12 Q Did not?

13 A I did not.

14 Q Okay. I think I also heard you say that
15 some of these -- you were being critical, I
16 believe I heard, about JLARC using historical
17 information, and questioned entities' -- I think
18 you said wherewithal -- to do a load forecast?

19 A I described what I think the forecasting
20 effort ought to look like.

21 Q Okay.

22 A And we talked about that with the example
23 of the IEA report, which is probably the closest
24 thing I've seen.

25 And I've talked about it should be a

Transcript of Hearing - Day 3
Conducted on April 16, 2025

549

1 firm -- probably, you know, S&P Global or somebody
2 like that -- with a lot of different experts
3 within the firm. Because I believe it should look
4 very carefully at starting with the final demand
5 for the services that data centers provide, and
6 looking at the whole supply chain of delivering
7 those services, the software, the training and
8 inference, the chips, the servers, everything. I
9 think it needs to all be looked at carefully and
10 with a broad geographic scope. None of those
11 entities have done that, and I don't think any of
12 them have the wherewithal to do it. I think
13 that's what ought to be done.

14 So to the extent I'm critical, they all
15 did what they did and they probably did it
16 reasonably well. But what I'm describing that
17 needs to be done is much bigger.

18 Q Okay. Fair enough.

19 So when you filed your testimony on
20 February 28th of 2025, that IEA study that you
21 talk about, the global study, it didn't exist,
22 right?

23 A What didn't exist?

24 Q The Energy and AI study, Exhibit 30.

25 A Yeah, that just showed up last week.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

550

1 Q So when you filed your testimony, no one
2 did it the right way until this --

3 A I have not seen it done. And I think I
4 would have seen it done. And I'm not necessarily
5 saying they did it the right way, but that's the
6 closest I've seen. But I think it needs to be
7 done.

8 Q Okay. But talking high level about that
9 Energy and AI study, I mean, it had no geographic
10 detail, correct?

11 A Correct.

12 Q And --

13 A Very little. There was some geographic
14 detail in the base case, but the side cases did
15 not.

16 Q Okay. It doesn't show where individual
17 data centers would go, correct?

18 A No.

19 Q And so then you couldn't calculate from it
20 an individual load of any particular state,
21 region, load serving entity, RTO, correct?

22 A That's what I said, yes.

23 Q Okay. So how would a utility be able to
24 use that type of study that has no geographic
25 detail, no locational specifics, no individual

Transcript of Hearing - Day 3
Conducted on April 16, 2025

551

1 load? How could the utility use that study to
2 plan its system?

3 A My point is, to end up with a load
4 forecast for a particular geography, I believe you
5 have to start with the big picture of the final
6 demand for the services data centers provide. You
7 need to look at that broadly, because you have the
8 risk of double counting, you have to look at the
9 supply chain, because that determines how much
10 power it takes to deliver those services.

11 You have to look at all those things, even
12 if you're going to try to work it back to a
13 particular utility service territory.

14 You don't necessarily have to go a lot --
15 have a lot of detail globally and other regions.
16 You know, you can have it be largely focused on
17 whatever your final objective is, in this case
18 DOM LSE.

19 But I think to understand that, to come up
20 with a forecast that would warrant some
21 confidence, I think you have to look at that big
22 picture, and you have to look at the regional
23 picture, the competing data centers in Georgia and
24 Ohio and elsewhere, I think you have to look at
25 that or you just don't have a sound basis for your

Transcript of Hearing - Day 3
Conducted on April 16, 2025

552

1 forecast.

2 Q Okay. I believe you said you talked --
3 that you've participated in the PJM load
4 forecasting committee for a while now?

5 A It's called the Load Analysis
6 Subcommittee, yes.

7 Q Okay. How long have you participated?

8 A Oh, probably 2008.

9 Q Okay. Are you a vocal member of that
10 subcommittee?

11 A Am I what?

12 Q A vocal member?

13 A I am, yes.

14 Q Okay. Have you presented them the
15 Energy and AI report?

16 A There hasn't been a meeting since that
17 report showed up.

18 Q Okay. Is that what you're intending to
19 do, is present that to PJM?

20 A I haven't thought about it but I'll take
21 your suggestion.

22 Q All right. Good to know.

23 I think you said something like in PJM's
24 vetting process of the Company's data center load
25 forecast, you said something like they ask for

Transcript of Hearing - Day 3
Conducted on April 16, 2025

553

1 contracts, they review a lot of information, but
2 then they pretty much include what the Companies
3 and the co-ops provide.

4 Is that a fair summary of what you said?

5 A Yes.

6 Q Okay. Are you saying that PJM didn't do
7 their due diligence in vetting the data center
8 load forecast from the Company in the
9 cooperatives?

10 A Well, yes, I am. They collect a lot of
11 contracts and other information that's relevant to
12 the near-term forecast, but the longer term part
13 of the forecast, you know, there just isn't that
14 much for it to be based on. So just to take the
15 extreme example you have here in Virginia, you
16 know, Dominion's forecast just kind of goes like
17 this, while NOVEC's forecast goes like this and
18 then it flattens.

19 And I would have expected, if anything,
20 NOVEC would be the one that has the, you know,
21 land for data centers to keep on growing, while it
22 would be more Dominion, which is more urbanized,
23 that would be flattening. But it's the opposite.

24 And I've asked PJM about this and they
25 don't have any good explanation for why one

Transcript of Hearing - Day 3
Conducted on April 16, 2025

554

1 forecast should keep going up while the other one
2 flattens.

3 Q What has PJM considered the near term?

4 A I don't know.

5 Q I think you said PJM does a pretty good
6 job in the near term?

7 A Well, they --

8 Q By looking at contracts, what do they
9 define as the near term?

10 A Okay. I didn't necessarily say they did a
11 pretty good job, but they do ask for contracts,
12 they look at them, I don't know what they do with
13 them. But for the longer term, the information
14 is, you know, a lot less, a lot weaker. And so
15 that's where historically -- I mean, there was a
16 time when they accepted Dominion's forecast for
17 five years and Dominion had their forecast
18 continuing but PJM said, no, you don't have firm
19 enough evidence for beyond five years, so we're
20 just not going to count that.

21 That's one year they did that. And then
22 after that, there was a year when they just kind
23 of used a sloped line, and now they just accept
24 whatever Dominion provides them, but -- so, yeah,
25 they have used different approaches over time.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

555

1 Q You say they asked for contracts.

2 How far out did the contracts go that
3 were --

4 A I don't know what all -- there's like
5 10 EDCs now providing PJM with various data center
6 forecasts. I know PJM asks for contracts. I
7 don't know what they get.

8 Q So you don't know how far out those
9 contracts go?

10 A Well, it's probably like Dominion's that
11 you have the ESAs, the LOAs, CLOAs.

12 Q So it could be that they went out for the
13 full 15 years in the planning period?

14 A Well, I don't know what they get.

15 Q You don't know?

16 A Yeah. And, of course, those contracts
17 don't commit to any level of load.

18 Q You don't believe they commit to any level
19 of load?

20 A They don't commit to a level of load, yes.

21 Q Okay. But you don't know how far out the
22 contracts went that PJM reviewed, correct?

23 A They get a lot of different contracts of
24 various lengths. I don't know. No, they don't
25 provide us any information.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

556

1 Q Okay.

2 A Any details, yeah.

3 Q So you don't get to be involved in looking
4 at the contracts to see what PJM relied on in
5 vetting and validating the Company's data center
6 load forecast?

7 A Yeah, I mean, "relied on" is a little
8 strong.

9 Q But you don't get to be involved in that?

10 MS. KING: Objection; asked and answered.
11 He's clarified the role he has and how much he can
12 see the contracts and how much he knows about how
13 far in advance they go. I think we've made the
14 point.

15 MS. LINK: I don't think he's answered
16 that he doesn't know or hasn't seen those
17 contracts.

18 THE WITNESS: We haven't seen them, yeah.

19 BY MS. LINK:

20 Q Okay. Thank you.

21 A I mean, I could just add to that that the
22 AEP representative was explicit that they don't
23 have contracts for 8,000 megawatts -- I think it
24 was eight, might have been ten -- that they
25 included in their forecast for 2030. They were

Transcript of Hearing - Day 3
Conducted on April 16, 2025

557

1 explicit, they do not have contracts for that.

2 The reason they wanted it in the forecast
3 was so that PJM would put it in their forecast so
4 that it would go through PJM's transmission
5 planning process so that AEP would then have the
6 transmission that they felt they needed to have in
7 order to sign these contracts. So that's one
8 example where we did know what contracts they did
9 and didn't have.

10 Q But you do not have any such statement
11 like that from Dominion, correct?

12 A No.

13 Q Not correct or correct?

14 A Correct.

15 Q Okay.

16 A But that's -- you were asking about what
17 PJM does and doesn't do. That's one example. And
18 PJM accepted that. I was surprised. I thought
19 they would have said to AEP, well, chicken and --
20 I mean, it's chicken and egg to some extent. I
21 thought they would have said, well, come back next
22 year.

23 Q Okay.

24 A But they included it in their forecast.

25 Q That's not the utility we're talking about

Transcript of Hearing - Day 3
Conducted on April 16, 2025

558

1 here today in the IRP, correct?

2 A It is the utility PJM that we're talking
3 about, yes. We're talking about PJM, and
4 that's --

5 Q We're talking about a PJM process, but --

6 A Yes.

7 Q -- in terms of a utility submitting
8 contracts to validate their own data center load
9 forecast, we're talking about Dominion, correct?

10 A Correct.

11 Q Okay. I think, changing topics, we talked
12 about -- I guess in your surrebuttal I heard you
13 talking about financial commitments that data
14 centers make and that the Company didn't really
15 have very high penalties or demand -- minimum
16 demand levels, that it's not much of a
17 disincentive to sort of move a data center or not
18 fully build a data center; is that fair?

19 A Yes.

20 MS. LINK: Okay. I'll pass out an
21 exhibit.

22 Your Honor, I passed out what is a
23 discovery response propounded by Dominion Energy
24 Virginia to Appalachian Voices. It's
25 Question No. 28 of the third set.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

559

1 May we please have it marked for
2 identification.

3 THE BAILIFF: The Dominion response to
4 Appalachian Voices' Request 3-28 is marked as
5 Exhibit 32.

6 (Exhibit No. 32 was marked for
7 identification.)

8 MS. LINK: Thank you.

9 BY MS. LINK:

10 Q Mr. Wilson, I've passed out what's marked
11 as Exhibit 32.

12 Does that look familiar to you?

13 A Yes.

14 Q Okay. And that's your signature on it?

15 A Yes.

16 Q Okay. So the question is asking about
17 your understanding of the financial commitments
18 that data center customers make to the Company
19 through the CLOAs and ESAs.

20 Do you see that?

21 A Yes.

22 Q And I think the way you responded -- even
23 though that's subpart A of Question 28, I think
24 you responded for CLOAs under subpart A and then
25 for ESAs under subpart B.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

560

1 Do you see that?

2 A Yes.

3 Q Okay. And then the subpart B asks to
4 identify other regions and what their financial
5 commitments are to incentivize data centers to
6 ramp up new facilities in those regions.

7 Do you see that?

8 A Yes.

9 Q Okay. So can you just sort of, in your
10 own words, explain to us what your understanding
11 is of the financial commitment under a CLOA? And
12 then I'm going to ask the same question under an
13 ESA.

14 A Yeah. The contracts commit the
15 customer -- the contracts basically make it so the
16 Company can recover all the costs they have
17 incurred in order to go through the process with
18 the customer to that point. You know, I quoted
19 the words from those contracts. In the case of a
20 CLOA, it's engineering procurement, installation
21 of the transmission equipment. With the ESA, cost
22 of interconnecting the customer and such.

23 Q Okay. And it's your testimony that that's
24 all the Company can recover from these customers
25 if they don't meet their contractual obligations?

Transcript of Hearing - Day 3
Conducted on April 16, 2025

561

1 A Not -- no. There's other provisions to
2 the contract. But these provisions ensure that
3 the Company recovers these incurred costs that are
4 specific to the customer.

5 Q Okay. Did you see Mr. Blackwell's
6 testimony where he speaks about the CLOA and that
7 the customer assumes risks for costs associated
8 with the project should it not take service, and
9 these costs range from 25 million to over
10 \$200 million depending on the infrastructure
11 needed? This is on page 14 of Mr. Blackwell's
12 testimony.

13 A Okay.

14 Q Did you see that?

15 A I see that, yes.

16 Q Okay. So is it your testimony that
17 25 million to over \$200 million is not
18 significant?

19 A Well, the focus of what I'm talking about
20 is that the data center might be constructed,
21 might come into service, and might end up
22 consuming far less than its contract amount.

23 And what Ohio and other states are
24 considering doing is putting a minimum bill in
25 there that you either take 80 percent, say, of

Transcript of Hearing - Day 3
Conducted on April 16, 2025

562

1 your contract amount or you pay for it, one or the
2 other. And that is to ensure that if the utility
3 incurs huge transmission and generation
4 construction costs to serve the customer, that
5 they are going to get that money back, at least
6 some of it, from the customer and won't be stuck
7 with that. That's what we're talking about.

8 Q Okay. So your testimony is that the
9 current ESA doesn't provide any protection if a
10 customer, say, contracts for 200 megawatts but
11 then only uses a hundred megawatts, there's no
12 remedy in the current ESA to handle that?

13 A That's my understanding, yes.

14 Q Okay. You talk about -- but, I guess,
15 let's go back to this testimony.

16 Your concern now is not that the customer
17 would sort of go away, move to another state or
18 what have you; it's really that they might take
19 less than the contracted demand amount, correct?

20 A Well, early in the process there is the
21 concern that -- not at probably the ESA level, but
22 at the earlier stages that the customers might be
23 pursuing into the first stages in different
24 locations, but then maybe free some and further
25 develop others, not knowing whether they are ever

Transcript of Hearing - Day 3
Conducted on April 16, 2025

563

1 going to take those other ones further.

2 So I could see some in not the ESA stage,
3 but maybe at the earlier stage, kind of getting
4 paused because the customers decided that they
5 have a lot of other projects elsewhere that they
6 want to advance more quickly.

7 Q Okay. So earlier in the stage, is that
8 the SELOA stage, the substation engineering letter
9 of authorization stage?

10 A Uh-huh.

11 Q Is that early?

12 A Yeah. Well, each stage goes further.

13 Q Okay. And then is the CLOA stage early?

14 A Yeah, earlier than ESA.

15 Q That's still early, the CLOA?

16 A Yes.

17 Q Okay. And ESA, is that far along in the
18 process?

19 A That's when you're farther along in the
20 process, yes.

21 Q So ESA is when you're far along in the
22 process?

23 A Yes.

24 Q Okay.

25 A In this context. I mean, you asked me

Transcript of Hearing - Day 3
Conducted on April 16, 2025

564

1 that earlier. And it's each one goes further
2 along, so what's far along, what's not far along
3 is -- depends on what you're talking about.

4 Q It's in the eye of the process.

5 Okay. I'm still on Exhibit 32, and
6 subpart B asks for you to identify the other
7 regions and what their financial commitments are
8 to incentivize data centers to ramp up new
9 facilities in those regions.

10 And on Answer C you say:

11 The other regions are those that have
12 already imposed or are considering for the future,
13 financial commitments such as minimum takes or
14 minimum bills or requirements for very large loads
15 to make their own supply arrangements.

16 And you give Ohio, Georgia, Illinois,
17 Minnesota, and other states are considering such
18 measures.

19 Do you see that?

20 A Yes.

21 Q Okay. And I think I heard you say in your
22 surrebuttal that you were familiar with the
23 Company's proposal that's pending in this biennial
24 review?

25 A Yes.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

565

1 Q At least from a high level?

2 A I skimmed it.

3 Q And we're not litigating that case here,
4 but is it fair to say that through that proposal,
5 the Company is now considering for the future
6 financial commitments, such as minimum takes or
7 minimum bills, through that proposal?

8 A Yes.

9 Q Okay. And to be fair, this response from
10 you was before the filing of --

11 A Yes.

12 Q -- biennial review, correct?

13 A Yes.

14 Q Okay. Changing topics again.

15 There was some discussion in your
16 surrebuttal about reviewing some information that
17 the Company provided to you under extraordinarily
18 sensitive protection about the size of different
19 data center campuses.

20 Do you recall that?

21 A Yes.

22 Q And I think you said something like --
23 and, again, this is not going into confidential
24 information -- you reviewed that data and you
25 found that the majority of those data center

Transcript of Hearing - Day 3
Conducted on April 16, 2025

566

1 campuses are still quite small?

2 A Yes.

3 Q Okay. What's your definition of "quite
4 small"?

5 A I don't have that data in front of me and
6 it's confidential.

7 Q I'm just saying hundred megawatts? Two
8 hundred?

9 I'm just asking for what do you think are
10 quite small because we've been talking about
11 thousand megawatts.

12 What do you think?

13 A Well, under a hundred is definitely small
14 nowadays.

15 Q Okay. So you found that data to have --

16 A Well --

17 Q Under a hundred-megawatt campuses?

18 A My testimony had some numbers, right?
19 Let's go to my page of my testimony where this
20 conversation was.

21 Q Okay. Sure.

22 What page are you on, sir?

23 A Huh?

24 Q What page are you on, sir?

25 A The page that you're asking me about.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

567

1 Q Oh, I was asking about your surrebuttal,
2 your live surrebuttal today.

3 A Okay. Which was about the rebuttal of my
4 testimony.

5 Q Okay. If you can help me out, I'd be
6 appreciative.

7 A All right. Let's find it.

8 Page 11.

9 Q Okay.

10 A So I give a number for under 40, over 40,
11 over 200, 200. Forty is small. Under a hundred
12 is probably small nowadays because a lot of them
13 are 200 and up and a thousand even, so...

14 Q You also then say:

15 Now most planned data centers for the
16 Company's service territory over 200 megawatts and
17 quite a few proposed data centers in other regions
18 are over 1,000 megawatts?

19 A Yes.

20 Q So no change to any of that based on the
21 data you reviewed?

22 A No.

23 Q And then just a final area --

24 MS. LINK: Your Honor, did we move the
25 admission of Exhibit 32?

Transcript of Hearing - Day 3
Conducted on April 16, 2025

568

1 COMMISSIONER HUDSON: We have not.

2 MS. LINK: May we move the admission?

3 COMMISSIONER HUDSON: But before we do
4 that, let me just check with the bailiff and get
5 the description.

6 Do we have it as Appalachian Voices'
7 responses to Dominion's request or did I hear it
8 in reverse?

9 THE BAILIFF: It is Appalachian Voices --
10 hold on. Appalachian Voices' response -- okay.
11 Let me just modify the exhibit then.

12 Appalachian Voices' Response to Dominion
13 Request 3-28.

14 COMMISSIONER HUDSON: Thank you.

15 THE BAILIFF: No problem. Thank you.

16 MS. LINK: Thank you.

17 COMMISSIONER HUDSON: So without
18 objection, that document is admitted into the
19 record.

20 (Exhibit No. 32 was admitted into
21 evidence.)

22 MS. LINK: Thank you, Your Honor.

23 COMMISSIONER HUDSON: Thank you.

24 BY MS. LINK:

25 Q So one final area, Mr. Wilson, and this is

Transcript of Hearing - Day 3
Conducted on April 16, 2025

569

1 with regard to -- there was some discussion from
2 several of the counsels about whether you've
3 worked on any electric service agreements or
4 construction letters of authorizations or
5 substation engineering letters of authorizations.

6 Have you worked on those on behalf of a
7 client?

8 A No.

9 Q Not ever?

10 A Not that I recall.

11 MS. LINK: Okay. No further questions.

12 Thank you, Mr. Wilson.

13 COMMISSIONER HUDSON: Appalachian Voices,
14 any redirect?

15 MS. KING: Just briefly, Your Honor.

16 REDIRECT EXAMINATION

17 BY MS. KING:

18 Q So, Mr. Wilson, Ms. Link talked to you
19 about the biennial review case that's pending
20 before the Commission, and she mentioned that
21 Dominion may have proposed certain provisions that
22 would apply to a data center customer; is that
23 right?

24 A Yes.

25 Q The Company proposed that rate class

Transcript of Hearing - Day 3
Conducted on April 16, 2025

570

1 today, right? That's all they have done?

2 A That's my understanding. It's just a
3 recent proposal.

4 Q Right.

5 And the Commission hasn't decided one way
6 or another on that proceeding?

7 A Correct.

8 Q Is there anything else that you wish to
9 address from the cross-examination?

10 MS. LINK: Your Honor, I would object.
11 That's not -- that's not legitimate redirect.
12 That's just sort of a catchall.

13 MS. KING: That's withdrawn. No further
14 questions.

15 Thanks, Mr. Wilson.

16 COMMISSIONER HUDSON: Thank you.

17 Mr. Wilson, you're now excused. Thank you
18 so much for being accommodating to coming to meet
19 with us in person today. Thank you.

20 NRDC?

21 MR. JOHNS: Yes. Your Honor, are you able
22 to hear me and the court reporter able to hear me?

23 I'll just go ahead and move for admission
24 of Sierra Club and NRDC testimony then.

25 On February 28th, 2025, Sierra Club and

Transcript of Hearing - Day 3
Conducted on April 16, 2025

571

1 NRDC filed the direct testimony of Devi Glick that
2 consisted of a cover page, one-page summary, and
3 70 pages of questions and answers, as well as
4 13 exhibits.

5 The parties have waived cross-examination
6 and stipulated to the admission of Ms. Glick's
7 testimony, and we would move it into the record.

8 CHAIRMAN TOWELL: Before we move that in,
9 Counsel, I have a couple of questions that I think
10 you may be able to answer on behalf of
11 Mr. [Sic] Glick.

12 On page 52, if you have the information in
13 front of you.

14 MR. JOHNS: I'll get up to the podium just
15 to make it easier.

16 CHAIRMAN TOWELL: Thanks. That would be
17 great. Don't mean to make you juggle all those
18 things while you're standing back there.

19 MR. JOHNS: Be a little cramped.

20 CHAIRMAN TOWELL: And this is, again, on
21 page 52, line 13.

22 MR. JOHNS: Okay.

23 CHAIRMAN TOWELL: That sentence currently
24 reads:

25 Concentration of the coals --

Transcript of Hearing - Day 3
Conducted on April 16, 2025

572

1 concentration of the coal of supply in a few
2 companies means more/less competition, which in
3 turn can lead to higher coal prices.

4 I assume that only "more" or "less" is
5 meant there, and I presume that it means less; is
6 that correct?

7 MR. JOHNS: I would think so. I think
8 also maybe the "of between coal and supply" is
9 probably confusing there, too. Concentration of
10 the coal supply in a few companies means less
11 competition. I believe that's correct.

12 CHAIRMAN TOWELL: And then on page 56,
13 line 9:

14 The Company also included costs for ELG
15 compliance at Clover and VCHEC. For Clover, these
16 costs -- these totaled around \$34 in capital
17 costs.

18 I presume that is 34 million in capital
19 costs?

20 MR. JOHNS: I believe it is. I believe
21 she meant those to be in the same --

22 CHAIRMAN TOWELL: Otherwise that was going
23 to be the best deal going.

24 MR. JOHNS: Certainly.

25 CHAIRMAN TOWELL: Thank you, Counsel. I

Transcript of Hearing - Day 3
Conducted on April 16, 2025

573

1 appreciate that. Sorry for the delay.

2 MR. JOHNS: You're quite welcome.

3 And, actually, since we are correcting, we
4 had one other small correction that we addressed
5 in discovery with the Company.

6 On page 58, line 2, there's a reference to
7 GPC's service area. That should read Dominion's
8 service area as well.

9 And so with those corrections, we would
10 move for admission of Ms. Glick's testimony into
11 the record.

12 THE BAILIFF: The direct testimony of
13 Devi Glick as corrected will be marked as
14 Exhibit 33.

15 (Exhibit No. 33 was marked for
16 identification.)

17 COMMISSIONER HUDSON: The testimony marked
18 and described and as corrected as Exhibit No. 33
19 is entered into the record.

20 (Exhibit No. 33 was admitted into
21 evidence.)

22 MR. JOHNS: Thank you, Your Honor.

23 Also, on February 28th, 2025, Sierra Club
24 and NRDC filed the direct testimony of
25 Dr. William Shobe. That consisted of a cover

Transcript of Hearing - Day 3
Conducted on April 16, 2025

574

1 page, one-page summary, 35 pages of questions and
2 answers, and two exhibits.

3 We have likewise discussed the
4 admissibility of Dr. Shobe's testimony with the
5 parties, and I believe the parties have waived
6 cross-examination, so we would move for admission
7 of Dr. Shobe's testimony as well.

8 THE BAILIFF: The direct testimony of
9 Dr. William M. Shobe will be marked as Exhibit 34.

10 (Exhibit No. 34 was marked for
11 identification.)

12 COMMISSIONER HUDSON: The testimony marked
13 and described as Exhibit No. 34 is admitted into
14 the record.

15 (Exhibit No. 34 was admitted into
16 evidence.)

17 MR. JOHNS: And, Your Honor, I believe
18 that concludes Sierra Club and NRDC's case.

19 COMMISSIONER HUDSON: Thank you.

20 United?

21 MS. POLLARD: Thank you, Your Honor.

22 United calls Dr. Roumpani to the stand.
23 She is testifying remotely.

24 And is she able to...

25 MARIA ROUMPANI, called as a witness,

Transcript of Hearing - Day 3
Conducted on April 16, 2025

575

1 having been first duly sworn, was examined and
2 testified as follows:

3 DIRECT EXAMINATION

4 BY MS. POLLARD:

5 Q Hi, Dr. Roumpani. Could you please state
6 your name, position of employment, and business
7 address.

8 A Yes. My name is Maria Roumpani. I am a
9 partner with Current Energy Group, and the
10 business address of Current Energy Group is
11 2900 East Broadway Boulevard, Suite 100, No. 780,
12 in Tucson, Arizona.

13 Q Thank you. And do you have with you a
14 document entitled, The Direct Testimony of
15 Dr. Maria Roumpani, consisting of a one-page
16 summary, 90 typed pages of questions and answers
17 as well as two attachments filed in both public
18 and extraordinarily sensitive versions in this
19 proceeding on February 28th, 2025?

20 A I do.

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

23 A Yes, it was.

24 Q And do you have any additions or
25 corrections to your testimony?

Transcript of Hearing - Day 3
Conducted on April 16, 2025

576

1 A No.

2 Q And if you were asked, again, the same
3 questions in your testimony, would you provide the
4 same or substantially similar answers?

5 A Yes, I would.

6 Q Do you wish to sponsor that document as
7 your direct testimony in this proceeding?

8 A Yes.

9 MS. POLLARD: So Your Honor, I'd like to
10 ask that Dr. Roumpani's direct testimony, in both
11 public and extraordinarily sensitive versions, be
12 marked for identification and submitted into the
13 record, subject to cross.

14 THE BAILIFF: The public testimony of
15 Dr. Maria Roumpani will be marked as Exhibit 35.

16 The extraordinarily sensitive testimony of
17 Dr. Maria Roumpani will be marked as Exhibit 35ES.

18 (Exhibit No. 35 was marked for
19 identification.)

20 (Extraordinarily Sensitive Exhibit No.
21 35ES was marked for identification.)

22 COMMISSIONER HUDSON: The testimony marked
23 and described as Exhibit No. 35 is admitted into
24 the record.

25 And the testimony marked and described as

Transcript of Hearing - Day 3
Conducted on April 16, 2025

577

1 Exhibit No. 35ES is also admitted into the record.

2 (Exhibit No. 35 was admitted into
3 evidence.)

4 (Extraordinarily Sensitive Exhibit
5 No. 35ES was admitted into evidence.)

6 MS. POLLARD: Thank you, Your Honor.

7 And the witness is available for
8 cross-examination.

9 COMMISSIONER HUDSON: Thank you. Before
10 Clean Virginia, I think we have Appalachian Voices
11 first, filed by NRDC, then Clean Virginia.
12 Thank you, Mr. Reisinger.

13 CROSS-EXAMINATION

14 BY MS. CLANCY:

15 Q Emma Clancy, on behalf of Appalachian
16 Voices.

17 Dr. Roumpani, it's nice to see you.

18 Can you hear me all right?

19 A Yes, yes, I can.

20 Q Now, I'd like to start on page 10 of your
21 testimony. And here you discuss why it's
22 important for Dominion to identify a preferred
23 portfolio and a near-term action plan that
24 includes specific tasks and details; is that
25 right?

Transcript of Hearing - Day 3
Conducted on April 16, 2025

578

1 A Yes, correct.

2 Q So let's start with the preferred
3 portfolio.

4 Given that no specific project is approved
5 for -- or denied in an IRP, why is a preferred
6 portfolio an important part of a useful resource
7 plan?

8 A The IRP as an exercise, and as I think
9 Dominion also recognizes, should serve as a guide
10 for resource planning decisions. I understand
11 that the IRP is not the place where specific
12 resources are approved or denied, but after the
13 IRP, additional proceedings follow, whether a CPCN
14 or other proceeding, for the approval of those
15 decisions.

16 Within the IRP, it's very important to
17 provide information as to the whole portfolio and
18 how the optimality of selecting one resource is
19 compared to another resource and the
20 (indiscernible) portfolio proposed.

21 So I appreciate Dominion's effort to
22 present different portfolios, although they were
23 pretty narrowly defined, but there was no
24 identification of a preferred portfolio that would
25 be, you know, subject to review in this case.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

579

1 Q So in other words, it would give the
2 Commission a clear sense of what Dominion is doing
3 next?

4 A Exactly.

5 Q And a detailed Short-Term Action Plan
6 helps with that, right, because it gives
7 customers, lawmakers, regulators insight into what
8 the Company is working on?

9 A Exactly, yes. After the preferred
10 portfolio, usually an IRP has a near-term action
11 plan that's for the next three or five years that
12 identifies actions to pursue the preferred
13 portfolio.

14 And these would give -- you know, these
15 would become pre-actions that the Commission and
16 stakeholders could review and get a sense of,
17 like, where the utility is going.

18 Q And just to be clear, you did not consider
19 the five-year reliability plan that Dominion
20 provided to be your idea of a useful, detailed
21 near-term action plan, correct?

22 A No. I did review the reliability plan,
23 but I don't think it included specific actions.

24 Q Okay. Now, you also critiqued Dominion's
25 failure to model its IRP portfolios out to 2045,

Transcript of Hearing - Day 3
Conducted on April 16, 2025

580

1 correct?

2 A Yes, correct.

3 Q And you recommend that every portfolio
4 should meet all VCEA requirements, including the
5 2045 requirement, correct?

6 A Yes, correct. The 25 -- 2045 requirement
7 is a pretty important one. You know, when the
8 utility model is only 15 years ahead, the model is
9 myopic to what happens after that. So thinking
10 that the transition could happen within five
11 years, it would just not position the utility and
12 ratepayers correctly for that transition.

13 Q And wouldn't you agree that presenting
14 portfolios that comply with all legal requirements
15 might be more useful to the Commission than
16 portfolios that pick and choose different
17 requirements?

18 A Yes, exactly.

19 Q And to that same point, planning for
20 noncompliance is likely to result in a similar
21 outcome that doesn't comply with relevant law; is
22 that fair?

23 A Yes, planning for noncompliance will
24 likely result in noncompliance.

25 Q So not let's turn to Dominion's modeling.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

581

1 Now, you have experience running capacity
2 expansion models like PLEXOS, correct?

3 A I do, I have experience running capacity
4 expansion models.

5 Q And when deciding, you know, what
6 resources to include or what build limits or costs
7 to use, do you agree that it's important to look
8 at where markets are going, you know, what market
9 and regulatory --

10 MS. ROBB: I'll object. The questions
11 seem to be particularly leading.

12 COMMISSIONER HUDSON: Counsel?

13 MS. CLANCY: I'm happy to rephrase.

14 COMMISSIONER HUDSON: Please do.

15 MS. CLANCY: But I am conducting
16 cross-examination.

17 BY MS. CLANCY:

18 Q Do you think it's important to look at
19 where the market is headed when you're deciding --

20 MS. ROBB: But by leading, I mean the
21 counsel is asking the witness to agree with the
22 counsel rather than letting the -- rather than
23 asking a general question and having the witness
24 respond to that general question.

25 MS. CLANCY: The witness is welcome to

Transcript of Hearing - Day 3
Conducted on April 16, 2025

582

1 disagree with my question.

2 COMMISSIONER HUDSON: Well, I would agree.
3 Is it possible to kind of rephrase, if it's
4 possible?

5 MS. CLANCY: Yes, I just did. But I'll
6 try it again.

7 BY MS. CLANCY:

8 Q In your experience running capacity
9 expansion models, have you found it useful to look
10 at what the markets are doing when you're setting
11 build limits and deciding what resources to
12 include?

13 A Yes. So when looking at a capacity
14 expansion model, we're looking at -- the load
15 forecast is one of the most important inputs and
16 then the resources that are available to be
17 selected. And within that, like, input bucket is
18 what resources are available to be selected, when,
19 and how much, so (indiscernible).

20 And it is important that we're not
21 capturing just, like, what's happening right now,
22 but that we're looking within the horizon that is
23 at least being modeled, both for their
24 availability and their costs.

25 Q And in these models, if you're overly

Transcript of Hearing - Day 3
Conducted on April 16, 2025

583

1 restrictive in limits, is it possible you can
2 potentially predetermine the outcome?

3 A Yes. In many cases, when those limits are
4 very constrained, that the outcome is kind of
5 predetermined. One way to evaluate that is once
6 we do a run, if we see that every single limit
7 that we have included in the model is binding,
8 that means that the model has exhausted all
9 available resource.

10 Then we have to go back and question, you
11 know, was that a useful exercise or was it just
12 the result of our own inputs? Is there anything
13 to be done to relax those limits to understand
14 what the value additional resources could bring in
15 the system.

16 Q And do you think that Dominion's build
17 limits were overly restrictive?

18 A Based on the review of the outputs
19 Dominion provided, yes. I saw in the testimony
20 that the resource types were always -- like, the
21 limits were always binding.

22 Q Now, I'd like to turn to some of the more
23 specific assumptions in the model.

24 And based on my review, your testimony
25 seems to identify a number of ways that Dominion

Transcript of Hearing - Day 3
Conducted on April 16, 2025

584

1 underestimates or ignores the potential costs of
2 new and existing fossil fuels. And I'd like to
3 just tick through a few of those critiques, if you
4 could confirm that characterization.

5 So to begin, Dominion modeled carbon cost
6 of \$0 in all its portfolios rather than using a
7 proxy for future carbon regulation, correct?

8 A Yes, correct.

9 Q And even if some current EPA regulations
10 are repealed, you know, reliance on fossil fuel
11 still creates exposure to some of those risks,
12 right?

13 A Exactly. Even if, you know, the rules
14 right now are (indiscernible) or other policies
15 within a 15-, 20-year period, it is likely that
16 other carbon policies will be in place, and thus
17 not accounting for them at all would be exposing
18 ratepayers to additional costs.

19 Q And you also note that Dominion left
20 certain costs associated with gas infrastructure
21 out of its analysis, correct?

22 A Yes. And I outline those in my testimony.
23 They have to do with whether those units are
24 converted, for example, how fuel is supplied, and
25 other factors.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

585

1 Q And is your concern arounding [sic] the
2 cost of gas transportation infrastructure that
3 Dominion hasn't accounted for the costs associated
4 with building new green field pipelines to serve
5 future gas plants?

6 A Yes. For example, Dominion modeled
7 compliance with EPA rules for the coal units
8 assuming that they would be converted to pure
9 natural gas.

10 And on the discovery responses, they say
11 they don't fully account or they haven't fully
12 analyzed the feasibility of transporting the fuel
13 to those locations.

14 Q And you also raise, you know, the
15 potential cost of a future LNG storage facility
16 that hasn't been considered in this IRP, correct?

17 A Correct. In some cases we see gas units
18 and LNG facilities being, you know, within the
19 scope of separate CPCN dockets. I think it is
20 important to fully understand, like, what the
21 combined cost be for that resource, and that has
22 not been analyzed in this IRP.

23 Q And Dominion also left costs to convert,
24 you know, any potential new gas units to hydrogen
25 out of its analysis, correct?

Transcript of Hearing - Day 3
Conducted on April 16, 2025

586

1 A Correct.

2 Q And Dominion also didn't include the costs
3 of retiring new fossil fuel plants prior to their
4 useful life to meet the VCEA's 2045 requirement,
5 right?

6 A That is my understanding and that's also a
7 result of, like, not modeling -- not having a
8 modeling horizon after 2045.

9 Q So all of these issues could potentially
10 mean that, you know, Dominion's portfolios that
11 add 6 gigawatts of new gas and have no fossil
12 retirements could cost ratepayers a lot more than
13 the IRP suggests; isn't that right?

14 A Yes. Even if we were to accept all of the
15 other assumptions that Dominion has made in its
16 PLEXOS modeling, the optimum portfolio up to 2039
17 is not necessarily a part of the optimum portfolio
18 up to 2045. In fact, I'd say given the 2045
19 requirement, they would look significantly
20 different.

21 Q Now, changing gears, your testimony also
22 identifies a number of areas where there might be
23 some cost-saving opportunities that Dominion's IRP
24 doesn't reflect, and I'd like to just quickly go
25 through those.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

587

1 Now, first, Dominion didn't model EE and
2 DSM resources as selectable options in PLEXOS,
3 right?

4 A Yes, that is my understanding.

5 Q So that means PLEXOS didn't have the
6 option to select more DSM even if it would be less
7 expensive than a new supply-side resource, right?

8 A Yes. So Dominion estimated the DSM
9 resources and then reduced their load forecast,
10 and that was included in PLEXOS as an input.
11 PLEXOS did not have the option of including
12 incremental energy efficiency or demand response
13 even if that were to be economic compared to the
14 supply-side resources available.

15 Q And, now, Dominion didn't model -- didn't
16 include in its analysis virtual power plants or
17 grid-enhancing technologies, both of which could
18 potentially lower costs and also help with
19 near-term capacity needs, correct?

20 A Yes. So Dominion did not model virtual
21 power plants, which would include some of the
22 demand-side resources. And although the filing
23 mentions grid-enhancing technologies, I did not
24 find anything in the analysis that would, you
25 know, indicate any impact from grid-enhancing

Transcript of Hearing - Day 3
Conducted on April 16, 2025

588

1 technologies.

2 Now, those would not necessarily increase,
3 like, the generation capacity, but would allow
4 additional generation capacity to be
5 interconnected.

6 Q Thank you. Now, on page 82, you also --
7 I'll give you a second to turn to it.

8 You note that community-based bonus
9 credits under the Inflation Reduction Act, or IRA,
10 have not been incorporated into the IRP analysis
11 either; is that right?

12 MS. ALLABAND: Your Honor, I'm sorry. If
13 I may, this cross seems to be improper. It seems
14 to be walking through Dr. Roumpani's testimony and
15 asking her to reiterate or confirm and expand on
16 it. It's not proper cross-examination and adverse
17 or asking her to explain what she meant. It's
18 just asking her to -- they are not adverse parties
19 here.

20 COMMISSIONER HUDSON: So counsel.

21 MS. ALLABAND: And their interests are
22 aligned.

23 MS. CLANCY: I'm happy to wrap up.

24 COMMISSIONER HUDSON: Thank you, Counsel.

25 BY MS. CLANCY:

Transcript of Hearing - Day 3
Conducted on April 16, 2025

589

1 Q And so I just wanted to confirm there that
2 those community credits you're talking about there
3 increase tax credits when the Company cites
4 renewables or storage at former coal sites?

5 A Yes, so my understanding is that Dominion
6 has included up to 30 percent, for example, for
7 the investment tax credit, although an additional
8 10 percent would be available if those resources
9 were cited in a county or adjacent county where
10 coal has retired.

11 Q Okay. And just to clarify, you also
12 identify a proposed site where these credits could
13 be eligible based on your analysis; is that right?

14 A Yes. I am just looking at the testimony,
15 but without reading the exact part of the
16 testimony, Dominion, in responses they state that
17 those bonus credits would be location-specific and
18 this is why they are not included in the analysis;
19 however, when discussing incremental gas units,
20 they say that those could be cited in Brownfield
21 sites. So those Brownfield sites could be used
22 for energy storage and renewable energy, which
23 would then be probably eligible for the bonus
24 credits.

25 MS. CLANCY: Okay. Thank you so much for

Transcript of Hearing - Day 3
Conducted on April 16, 2025

590

1 clarifying that. Appreciate it. Thank you.

2 COMMISSIONER HUDSON: Thank you.

3 THE WITNESS: Thank you.

4 COMMISSIONER HUDSON: NRDC?

5 MR. JOHNS: No questions, Your Honor.

6 COMMISSIONER HUDSON: Clean Virginia?

7 MR. REISINGER: No questions, Your Honor.

8 COMMISSIONER HUDSON: DCC?

9 MR. MURPHEY: No questions, Your Honor.

10 COMMISSIONER HUDSON: Walmart?

11 MS. GRUNDMANN: Yes, Your Honor.

12 CROSS-EXAMINATION

13 BY MS. GRUNDMANN:

14 Q Good afternoon, Dr. Roumpani. My name is
15 Carrie Grundmann, I'm here on behalf of Walmart.

16 I want to follow up on some of the
17 calculations that you made in your testimony,
18 approximately pages 39 to 40, regarding additional
19 potential energy efficiency and demand response
20 savings that you have calculated. And I want to
21 make sure that I understand the impacts of your
22 testimony, so I'm going to draw you to a few
23 specific locations. Give me just a second.

24 Okay. So starting at page 43, line 7, you
25 have Figure 1 there. This is a --

Transcript of Hearing - Day 3
Conducted on April 16, 2025

591

1 A Yes.

2 Q This is a chart that you created or -- I
3 guess I cannot show that right now.

4 That's a chart that you created or did you
5 pull it from the analysis that was done?

6 A It is a chart that I created based on
7 discovery responses from the Company, so it
8 includes the energy-efficiency savings from --
9 that were assumed in the PLEXOS modeling, in the
10 IRP, and then it has the 75 percent and
11 100 percent incentive -- the achievable potential
12 under the assumption of a 75 percent and
13 100 percent incentive that was found in Dominion's
14 potential study.

15 Q Okay. And so you calculate that there's
16 an additional 2,310 gigawatt hours of potential
17 energy-efficiency savings over the period, is it
18 2024 through 2030 or some other time frame?

19 A So those are the accumulated savings up to
20 2030. So this gap is between what the IRP and the
21 100 percent incentive assumption has.

22 Q What I'm trying to understand is,
23 obviously, the IRP was filed in 2024, but we're in
24 2025, so I'm trying to understand that calculation
25 of 2,310 gigawatt hours.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

592

1 What is the bracketed years for which that
2 calculation -- that cumulative calculation is
3 applicable?

4 A It starts from 2024 to 2030. So as they
5 would be -- as Dominion would be building upon,
6 like, their energy-efficiency efforts introducing
7 more programs every year, those would have impacts
8 for subsequent years as well. So in 2030, the
9 difference would be 2,310 gigawatt hours.

10 Q I understand. So I may come back to that,
11 but I want to make sure, then, to convert this to
12 sort of a megawatt or sort of demand-type number,
13 it's your testimony on page 44, lines 9 to 10 that
14 that equates to 717 megawatts that's a potential
15 of cumulative EE savings through 2030?

16 A Can you, please, repeat the question so
17 that I can follow?

18 Q So you initially provide calculations of
19 savings based on sort of energy usage at a
20 gigawatt hour function, but then on page 44,
21 lines 9 to 10, you essentially -- your testimony
22 makes that calculation as megawatts, which is
23 717 megawatts; is that correct?

24 A Yes.

25 Q Okay. So I want to go back to the

Transcript of Hearing - Day 3
Conducted on April 16, 2025

593

1 gigawatt hour calculation, and I have tried really
2 hard to figure this out, but I do not do math.

3 But a REC is the equivalent of 1 kilowatt
4 hour of energy produced; is that correct?

5 A Yes.

6 Q Okay. So 1 REC equals 1 Kwh. Can you
7 just tell me how many zeros I need to add to
8 2,310 gigawatt hours to convert that to kilowatt
9 hours?

10 A That would be six zeros of gigawatt hours
11 to kilowatt hours.

12 Q Okay. So is that 2,000,310,000 kilowatt
13 hours?

14 CHAIRMAN TOWELL: Counsel, do you mean --

15 THE WITNESS: Yes.

16 CHAIRMAN TOWELL: -- 2,310,000,000?

17 MS. GRUNDMANN: That's correct,
18 Your Honor.

19 BY MS. GRUNDMANN:

20 Q And so your testimony doesn't address
21 this, but I want to -- I'm trying to understand.
22 If the Company were to achieve these potential
23 energy efficiency as set forth in your testimony,
24 there wouldn't just be the 717 megawatts of
25 potential savings; there would also be some

Transcript of Hearing - Day 3
Conducted on April 16, 2025

594

1 increment of savings under the VCEA because there
2 would be that many fewer -- 2,310,000,000 fewer
3 kilowatt hours potentially consumed by customers
4 over that 2024 to 2030 time frame.

5 Do you agree with that?

6 A Yes. So let me -- let me take a step back
7 and walk you through what the potential here is
8 and how it was identified in the potential study.

9 Q Okay.

10 A So as we said, it's not included in the
11 capacity expansion model. There is a potential
12 study that identifies what the avoided energy and
13 what the avoided capacity costs would be if
14 Dominion were to invest in energy efficiency and
15 demand response. And that, you know, we have a
16 few tests where if that investment in DSM is
17 considered cost-effective, then it goes in there
18 like economic potential, and then there are some
19 other barriers that have to be included and that
20 results in the achievable potential.

21 So my understanding is that Dominion's
22 potential study has included the avoided energy
23 and the avoided capacity costs. Capacity
24 including generation, transmission, and
25 distribution. They -- and they have found these

Transcript of Hearing - Day 3
Conducted on April 16, 2025

595

1 numbers that I have there to be achievable, also
2 economic.

3 If the potential site were to include some
4 avoided emissions costs or compliance with policy,
5 then a higher level of energy efficiency would be
6 economic. Or in other words, the level identified
7 here would have higher net savings as well.

8 MS. PIERCE: Your Honor -- I do apologize
9 for interrupting your cross, but clarity for the
10 record: Was your question is 1 REC equal to
11 1 kilowatt hour or 1 megawatt hour?

12 MS. GRUNDMANN: You're correct. I should
13 have said 1 megawatt hour. I apologize.

14 MS. PIERCE: Thank you.

15 BY MS. GRUNDMANN:

16 Q So let's go back, Dr. Roumpani, just to
17 make sure, because I did have her do the math.

18 Can you convert 2,310 gigawatt hours to
19 megawatt hours?

20 MS. GRUNDMANN: And I appreciate Staff
21 counsel's clarification for the record.

22 A That would be times 1,000, right. So
23 we're taking three of the zeros out this time, so
24 it would be 2,300,000.

25 BY MS. GRUNDMANN:

Transcript of Hearing - Day 3
Conducted on April 16, 2025

596

1 Q Perfect. Thank you. I appreciate that
2 clarification.

3 And then you separately -- you separately
4 discuss -- you discuss additional potential for
5 demand response in your testimony, and I just want
6 to understand what you mean by the statement on
7 page 51, lines 10 through 11, where you state that
8 there is a potential to deploy 645 megawatts of
9 demand-side resources through virtual power plants
10 by 2030.

11 Can you just help me make sure that I
12 understand, are you including the full gamut of
13 demand response within the VPP definition or is
14 there other demand response that you did not
15 analyze in your testimony?

16 A Yes. So this number is not based on
17 Dominion's work papers. It is based on and are in
18 my study that I cite just above, so it's the power
19 report that has analyzed what the demand-side
20 resources would be -- what the VPP potential would
21 be within PJM for certain utilities.

22 So that number comes from there, and it
23 focuses mainly on resources that would be included
24 within the VPP umbrella. And it's separate from
25 the energy efficiency estimate that I have above.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

597

1 Q Well, the reason for my question -- the
2 reason that I am confused is because the question
3 in your testimony at page 50, line 13 is:

4 What additional peak load reduction from
5 DR, comma, behind-the-meter storage, and VPPs do
6 you propose could be realized by Dominion?

7 But then your answer on page 51, lines 10
8 to 11, only, as I see it -- and that's what I'm
9 seeking clarity on -- it only mentions VPP
10 potential.

11 And so I'm trying to understand whether
12 it's the description of through 2039 or the 645
13 through 2030.

14 I'm trying to understand if that number is
15 just virtual power plants or if there is
16 additional potential savings associated with
17 demand response and behind-the-meter storage?

18 A No. So DR and BTM -- I'm looking at the
19 question right now. DR and BTM would fall under
20 the umbrella of, like, VPP resources.

21 So we could look at them individually, but
22 based on the report that I examined, it was all
23 under these umbrella with DR and BTM, calculate
24 them separately to avoid any double counting.

25 So the 700 that we were talking before

Transcript of Hearing - Day 3
Conducted on April 16, 2025

598

1 about, that's just energy efficiency. And then DR
2 BTM storage and -- those fall under the VPP; that
3 is a separate resource. But it includes all three
4 of them, right.

5 Q Perfect.

6 A DR, BTM within VPP.

7 Q And so it's your calculation that it's
8 approximately 645 through 2030 up to approximately
9 3,209 by 2039 as of -- that's what you're
10 mentioning at line 4; is that correct?

11 A Can you repeat the numbers just making
12 sure that I have it correctly?

13 Q Yeah. Because now that I understand that
14 VPP includes -- you're including within that all
15 the demand response and the behind-the-meter, your
16 sort of range of potential savings is 645 through
17 2030 up to, it looks like, 3,209 by 2039; is that
18 correct?

19 A Yes.

20 Q And then same question as before that I
21 asked about the energy efficiency but in the
22 demand response, if the Company were to achieve
23 this level of demand response savings, there would
24 also be a secondary benefit to customers in
25 reduced energy for purposes of calculating REC

Transcript of Hearing - Day 3
Conducted on April 16, 2025

599

1 requirements under the Virginia Clean Economy Act.

2 Do you agree with that?

3 A I do agree with that. The impact from the
4 energy efficiency would be more significant
5 because that's the one that's reducing
6 consumption, while the DR responses and storage,
7 they are mainly a capacity resource, so they might
8 be -- so they reduce the maximum capacity needed
9 but have a lower impact on the total energy.

10 Q So does that mean --

11 A For example, if we take -- uh-huh.

12 Q Does that mean you disagree with me or you
13 agree with me? That's what I'm trying to...

14 A I agree with you. However, I note that
15 the impact for VCEA compliance would be much more
16 significant if we were to included it for the
17 energy efficiency estimate that I had before and
18 less so for the demand response.

19 Q Perfect. Thank you for that
20 clarification.

21 MS. GRUNDMANN: Thank you, Dr. Roumpani.
22 Those are all my questions.

23 THE WITNESS: Thank you.

24 COMMISSIONER HUDSON: PEC?

25 MR. JAFFE: PEC has no questions for this

Transcript of Hearing - Day 3
Conducted on April 16, 2025

600

1 witness.

2 However, at this point I want to raise an
3 issue. I feel as if objections to
4 cross-examinations are being abused in a way that
5 is contrary to the rules of the Commission here.

6 In limited circumstances, in limited cases
7 the statutory rules of evidence apply just as they
8 would in Virginia Circuit Court. But in this
9 proceeding, the Commission's Rules of Practice and
10 Procedure -- and I'm looking at 5 VAC 5-20-190 --
11 specifically state that evidentiary rules shall
12 not be unreasonably used to prevent the receipt of
13 evidence having substantial probative effect.

14 And so, you know, we have several more
15 witnesses to go. I would ask the Commission to
16 allow parties to move efficiently through their
17 cross-examination so that evidence having
18 probative effect can be brought before the
19 Commission and given the weight it merits.

20 Thank you.

21 COMMISSIONER HUDSON: Thank you. Duly
22 noted.

23 Microsoft?

24 MS. ROBB: No questions, Your Honor.

25 COMMISSIONER HUDSON: City of Alexandria?

Transcript of Hearing - Day 3
Conducted on April 16, 2025

601

1 MR. ELDRIDGE: Yes, sir.

2 CROSS-EXAMINATION

3 BY MR. ELDRIDGE:

4 Q Hi, Dr. Roumpani. Kyle Eldridge, City of
5 Alexandria.

6 A Hello.

7 Q Let's begin with how Dominion modeled
8 demand-side resources in its IRP.

9 MS. LINK: Could counsel move closer to
10 the mic. I apologize. I can't hear you.

11 BY MR. ELDRIDGE:

12 Q So I want to begin with how Dominion
13 modeled its demand-side resources in its IRP.

14 So I believe earlier in your testimony you
15 did mention that Dominion did not model energy
16 efficiency or demand-side management as selectable
17 resources in its PLEXOS model, correct?

18 A Correct, uh-huh.

19 Q So would it be fair to say that the
20 Company effectively treated those resources as
21 load forecast adjustments?

22 A Yes.

23 Q And not something that they could actually
24 choose in the model or PLEXOS could choose in the
25 model?

Transcript of Hearing - Day 3
Conducted on April 16, 2025

602

1 A Exactly, PLEXOS did not have the
2 capability of -- to selecting more energy
3 efficiency or demand-response resources.

4 Q Okay. And would it be fair to say that
5 treatment effectively excludes these options from
6 any cost optimization or portfolio comparison in
7 the IRP?

8 A Yes. So we think the potential study
9 specific -- avoided energy and avoided capacity
10 cost is assumed.

11 Now, within the capacity expansion model,
12 if that energy and capacity cost were higher from
13 supply-side resources, it could be avoided by
14 additional DR or energy efficiency resources,
15 those would be selected if allowed in PLEXOS.

16 So in this sense, like they are not
17 modeled in a level playing field, they have more
18 of a -- like, energy efficiency and demand
19 response have more of a, like, study of, like,
20 what costs they can avoid.

21 While in the model, as load goes up and
22 more resources are investigated, then, you know,
23 the model cannot go back and select more, or
24 there's no iterative process that would go back
25 and import what those avoided costs should be.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

603

1 Q Thank you.

2 Okay. So let's move on to how other
3 jurisdictions have handled similar issues or, I
4 guess, handled this modeling similarly.

5 So you worked with multiple states
6 evaluating IRPs and DSM plans, correct,
7 demand-side management plans?

8 A Right.

9 Q In your experience, have other utilities
10 been able to model this successfully with
11 demand-side programs as selectable or dispatchable
12 resources?

13 A They have. I want to acknowledge that
14 this is, like, a growing area for many IRPs,
15 especially as demand-side resources are becoming
16 more critical in this era of, like, growing load.

17 So some utilities are shifting from the
18 more, like, traditional potential-side capacity
19 expansion modeling to a more integrated approach.

20 One example that I have just very recent
21 in mind, I think, PacifiCorp in the IRP that they
22 just filed, have DSM as a selection in their
23 capacity expansion.

24 I think Georgia Power is also presenting
25 some scenarios like that. I don't have any

Transcript of Hearing - Day 3
Conducted on April 16, 2025

604

1 example other than the -- like, on the top of my
2 mind.

3 Q Okay. In your experience, have you
4 noticed or have you seen that the utilities often
5 rely -- or not often, have relied upon the state
6 commissions or collaborations with local
7 governments in order to do this or to implement
8 the models?

9 A I'm not sure I have much to respond here.
10 I don't know whether in either case that I
11 mentioned that was a requirement to model these
12 resources as such.

13 Q And just to clarify my question. I'm not
14 saying it was a requirement --

15 A Okay.

16 Q -- I'm asking have you noticed that they
17 have relied on input from the state commissions or
18 collaborations with local governments?

19 A I don't know that.

20 Q Okay. I'll move on.

21 And so I want to talk about some of the
22 barriers that Dominion cites like permitting,
23 siting, land availability in the IRP.

24 Those barriers, do they apply the same way
25 to demand-side programs, like, let's say,

Transcript of Hearing - Day 3
Conducted on April 16, 2025

605

1 smart thermostats or behind-the-meter batteries in
2 the same way they do with supply-side programs?

3 A No, they do not. So one of the benefits
4 of demand-side resources is that they could
5 actually be deployed in a faster timeline because
6 they are not subject to all those limitations.

7 I'm not saying that there are no, like,
8 difficulties in deploying some of them, but they
9 are not subject to, like, the supply chain or,
10 like, permitting, siting constraints as some of
11 the supply-side resources are.

12 Q So would you say excluding these resources
13 on this basis, could you come up with a
14 justification for why a utility would exclude
15 them?

16 A If we're trying to create a feasible
17 least-cost, least-risk scenario, I don't see any
18 reason why a utility would exclude them. If we
19 were to look into utility regulation incentives,
20 there might be a preference for other resources,
21 depending on the state.

22 Q Okay. And were you able to hear
23 Appalachian Voices Witness Laws' testimony today?

24 A Yes, I was.

25 Q Okay. I believe he emphasized that solar

Transcript of Hearing - Day 3
Conducted on April 16, 2025

606

1 and battery energy storage are the resources with
2 the most severe land use and permitting
3 constraints.

4 Would you agree with that?

5 A Yes, at a large -- high level, yes, I
6 would agree with that.

7 Q So based on that, it would be fair to say
8 that demand-side management programs could
9 actually be deployed faster and without major land
10 or permitting hurdles that other resources would
11 require?

12 A Yes.

13 Q Okay. I want to move on to talk about
14 fossil resources.

15 So Dominion defends retaining fossil units
16 on the basis of net present value; is that
17 correct? Is that your understanding?

18 A Yes. Dominion did -- according to the to
19 the filing, did a couple of, like, different
20 assessments for the net present value of the coal
21 units. It was a little bit unclear as to how
22 those two differ to me, as I was looking through
23 work papers.

24 Q Okay.

25 A But, yes, they are making a determination

Transcript of Hearing - Day 3
Conducted on April 16, 2025

607

1 based on, like, NPV.

2 Q But does NPV calculations account for
3 policy risk, carbon exposure, stranded asset risk?

4 A No, they do not. So when we're looking at
5 PLEXOS runs, we're looking more on a, like,
6 deterministic future than what the least cost
7 outcome would be, even if we were to accept all of
8 the Dominion assumptions.

9 However, if we wanted to look into the
10 optimal path forward from a cost and risk
11 perspective, we would have to examine, like, what
12 those resources are introducing to the system, and
13 that would be a significant policy risk, and also
14 maybe some incremental costs that were not
15 included in the modeling.

16 Q So just for clarification, are you saying
17 that a model that appears most cost efficient
18 could actually be creating future liabilities in
19 long-term risk?

20 A Yes.

21 Q Okay.

22 A So if we're only examining a deterministic
23 future instead of, you know, more portfolios
24 looking at the uncertainty of whether that's,
25 like, on the load forecast, the policy

Transcript of Hearing - Day 3
Conducted on April 16, 2025

608

1 environment, the market environment, then this is
2 not necessarily, like, the less risky portfolio
3 moving forward.

4 Q Okay. I want to return to optimization
5 programs really quick.

6 So programs tied to local governments,
7 demand-side commitments, and municipal buildings,
8 they -- as we mentioned earlier, they would avoid
9 many of the siting and land concerns Dominion
10 raises, correct?

11 A Uh-huh.

12 Q And --

13 A Yes.

14 Q And if those commitments were backed by,
15 let's say, MOUs, local ordinances, franchise
16 agreements, or I guess, quite frankly, any
17 contracts, that would enhance their reliability
18 for modeling purposes, correct?

19 A Can you repeat the question, please.

20 Q Commitments such as MOUs, local
21 ordinances, franchise agreements, or general
22 contracts would enhance the reliability for
23 modeling purposes, correct, meaning they are tied
24 to something?

25 A I'm not sure I fully understand. The

Transcript of Hearing - Day 3
Conducted on April 16, 2025

609

1 reliability, talking about the great reliability?

2 Q Yes, the reliability of the programs
3 all together, the model. The model would be
4 more -- I guess the question I'm asking is: Would
5 the model be more reliable if the commitments were
6 based on something outside of just, you know --
7 based on an MOU or an ordinance or a contract or a
8 franchise agreement?

9 A Yes, yes. Sorry, I got confused a little
10 bit with electric reliability and just wanted to
11 make sure.

12 So if we're talking about the modeling
13 being more reliable, dependable, you know, having
14 higher confidence to its results, yes.

15 Q Okay. And have you seen jurisdictions use
16 those commitments or similar tools to implement
17 those programs?

18 A I don't have a specific example that I
19 could cite here.

20 Q Okay. But would it be fair to say if
21 Dominion had included those kind of programs in
22 its IRP, we might have -- we might see a more
23 balanced or compliant portfolio?

24 A If Dominion had included additional
25 demand-side programs, yes, we would have seen a

Transcript of Hearing - Day 3
Conducted on April 16, 2025

610

1 better portfolio, yeah.

2 MR. ELDRIDGE: Okay. That concludes my
3 cross. Thank you.

4 THE WITNESS: Thank you.

5 COMMISSIONER HUDSON: Consumer Counsel?

6 MR. BARTLEY: No questions, Your Honor.

7 COMMISSIONER HUDSON: Staff?

8 MS. PIERCE: No questions, Your Honor.

9 COMMISSIONER HUDSON: Dominion?

10 MS. ALLABAND: Briefly, Your Honor.

11 CROSS-EXAMINATION

12 BY MS. ALLABAND:

13 Q Good afternoon, Dr. Roumpani. Can you see
14 and hear me okay?

15 A Yes.

16 Q Thank you. I'm Nicole Allaband, on behalf
17 of the Company.

18 I want to turn your attention to page 10
19 of your testimony. And I think you were talking
20 about this a little bit in your conversation with
21 Appalachian Voices counsel earlier today, but this
22 is where you talk about whether or not Dominion
23 identified a preferred portfolio.

24 Do you see that?

25 A Yes.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

611

1 Q And then on lines 8 and 9, you say that
2 the five-year reliability plan includes some
3 general direction but fails to identify specific
4 resource procurement or development actions.

5 Do you see that?

6 A Yes.

7 MS. ALLABAND: I'm going to put this on
8 the screen. Just one moment.

9 BY MS. ALLABAND:

10 Q So this is the Company's five-year
11 reliability plan, Section 3.8 that starts on
12 page 44 of the 2024 IRP.

13 Is that what you were referring to in your
14 testimony?

15 A Just to note that I'm not seeing what
16 you're seeing, but I have the -- the IRP.

17 Q One moment. We're going to try to fix
18 that.

19 A Okay. I do have the IRP open if you
20 prefer me to, like, go through that.

21 Q Okay.

22 CHAIRMAN TOWELL: Counsel, she has a copy
23 of the IRP. Why don't we proceed with the
24 question. If it's not working we can see if we
25 can make this part.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

612

1 MS. ALLABAND: Of course I will,
2 Your Honor. Thank you.

3 THE WITNESS: And I can see it now.
4 BY MS. ALLABAND:

5 Q Perfect. Okay. So section 3.8.1 talks
6 about generation reliability and resource
7 adequacy. Turning the page, there's some
8 additional bullet points under that subtopic.
9 That first bullet point at the top of the page
10 says:

11 Continue to pursue regulatory approvals of
12 the LNG storage facility to ensure reliable supply
13 of fuel for the Brunswick and Greenville power
14 stations.

15 Do you see that?

16 A Yes.

17 Q So is that a specific action?

18 A It is a specific action, but it's not for
19 all resource types. Generally, pulling an IRP,
20 there's some indication about new RFPs or
21 procurement of, like, different resource types, so
22 this one is particularly for, like, an LNG storage
23 facility. That's not really analyzed within this
24 IRP.

25 Q Okay. And we're not done. There are a

Transcript of Hearing - Day 3
Conducted on April 16, 2025

613

1 couple more bullet points.

2 Do you see the next bullet point says
3 advancement and development of SMRs, as discussed
4 in Chapter 3.5.2?

5 A Yes, I see that.

6 Q Okay. And this is the start of
7 Section 3.5.2. And on the next page, down at the
8 bottom, it says that:

9 In July of 2024, the Company issued an RFP
10 to leading SMR nuclear technology companies to
11 evaluate the feasibility of developing an SMR at
12 the Company's North Anna Power Station site.

13 Do you see that?

14 A Yes.

15 Q And would you call that a specific action?
16 I think earlier you mentioned RFPs?

17 A Yes, that would be part of a more specific
18 action plan. Ideally we would see that for all
19 resource types.

20 Q Okay. Just a couple more. Please bear
21 with me.

22 So back to the five-year reliability plan,
23 that same page, that last bullet above demand-side
24 management, pilot energy storage projects, as
25 discussed in Chapter 3.2.4.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

614

1 Do you see that?

2 A Yes.

3 Q And turning to that chapter -- this is on
4 page 34 in Section 3.2.4 -- do you see the lines
5 that I highlighted first, that three other
6 projects are comprised of three non-lithium
7 batteries and one lithium-ion battery and are
8 expected to reach commercialization by the end of
9 2027.

10 And then the next paragraph talks about a
11 pilot program in support of FEMA's Building
12 Resilient Infrastructure and Communities niche to
13 utilize mobile energy storage systems during
14 emergencies.

15 Do you see those?

16 A I do. And let me just very briefly say
17 that I think, you know, Dominion having those
18 pilot programs is great, especially in a
19 technology that I think would play a critical role
20 in the future.

21 I'm not sure if these pilot programs are
22 directly a result of the IRP. And I think it
23 would be good for the Commission and stakeholders
24 to see how, like, those actions are informed by
25 the IRP analysis.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

615

1 Q So even though these are specific actions
2 that are discussed in the IRP, you -- I'm sorry,
3 I'm not understanding.

4 What did you say?

5 A That the portfolios presented within this
6 IRP, which have specific levels of energy; solar,
7 wind, and other resources, are not the ones
8 necessarily informing those pilot programs.

9 Q Okay. And Dr. Roumpani, just one last one
10 because we were talking about different generation
11 projects in this five-year reliability plan.

12 But the third section also talks about
13 transmission and the Company's pursuit of
14 necessary regulatory approvals for new
15 transmission lines needed to rebuild aging
16 infrastructure, interconnect data center
17 customers, address reliability criteria
18 violations, and interconnect new renewable
19 projects.

20 And are you aware of Appendices 2C-1 and
21 2C-2? And I'll flip to the first one.

22 A Yeah, I'm aware. Like, you'd have to
23 refresh my memory on what exactly those appendices
24 are.

25 Q Yes, I'm putting them on the screen.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

616

1 So this is 2C-1, which is the list of
2 transmission projects under construction. And
3 it's two pages. And then 2C-2 is the list of plan
4 planned transmission projects during the planning
5 period, and that is several pages.

6 So all of these transmission projects are
7 specific projects and actions?

8 A Yes, they seem to be. And I hope that,
9 you know, the bullet point as identified on the
10 previous page is, you know, always true that
11 Dominion is looking for those improvements. I did
12 not look specifically into the transmission
13 projects. I focused on the generation side. But,
14 yes, those look specific -- I don't know exactly
15 what actions the Company is taking for those.

16 Q But you would agree these are a list of
17 projects the Company says are under construction
18 or planned during the planning period?

19 A Yes, of course, I agree this is a list of
20 projects that the Company is undertaking. I have
21 not looked specifically into what the actions are
22 here.

23 MS. ALLABAND: Understood. Thank you so
24 much, Dr. Roumpani, for appearing virtually for us
25 today.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

617

1 THE WITNESS: Thank you.

2 COMMISSION HUDSON: United, any redirect?

3 MS. POLLARD: No redirect, Your Honor.

4 COMMISSIONER HUDSON: Dr. Roumpani,
5 thank you so much. You're now excused.

6 THE WITNESS: Thank you so much.

7 COMMISSIONER HUDSON: So what I'd like to
8 do right now is take a break. But before that, we
9 have, I believe, Clean Virginia and Walmart has
10 stipulated testimony. Can we kind of take care of
11 that right now and then come back from break, have
12 Microsoft come in.

13 Let's start with Clean Virginia.

14 MR. REISINGER: Thank you, Your Honor.
15 And I can talk to you from here if that's all
16 right.

17 Clean Virginia filed the direct testimony
18 of Mr. Simon Key on February 28th of this year.
19 His direct testimony consisted of 29 pages and one
20 exhibit in a public version only. All the parties
21 waived cross-examination of Mr. Key and he was
22 excused from this hearing, so I would ask that his
23 testimony be admitted into the record.

24 THE BAILIFF: The direct testimony of
25 Simon Key will be marked as Exhibit 36.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

618

1 (Exhibit No. 36 was marked for
2 identification.)

3 COMMISSIONER HUDSON: The testimony marked
4 and described as Exhibit No. 36 is admitted into
5 the record.

6 (Exhibit No. 36 was admitted into
7 evidence.)

8 COMMISSIONER HUDSON: Thank you.

9 MS. GRUNDMANN: Your Honor, on
10 February 28, 2025, Walmart caused to be filed the
11 direct testimony of Lisa V. Perry, director of
12 Utility Partnerships Regulatory, consisting of a
13 summary page, 12 pages of typed questions and
14 answers, and three exhibits in public version
15 only.

16 All parties have agreed to waive cross,
17 and we would ask that that testimony be marked and
18 admitted into the record.

19 THE BAILIFF: The direct testimony of
20 Lisa V. Perry will be marked as Exhibit 37.

21 (Exhibit No. 37 was marked for
22 identification.)

23 COMMISSIONER HUDSON: The testimony marked
24 and described as Exhibit No. 37 is admitted into
25 the record.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

619

1 (Exhibit No. 37 was admitted into
2 evidence.)

3 COMMISSIONER HUDSON: Thank you.

4 MS. GRUNDMANN: Thank you.

5 COMMISSIONER HUDSON: So let's take a
6 recess until 3:45. So we'll reconvene at 3:45.

7 We're now in recess.

8 (A recess was taken.)

9 COMMISSIONER HUDSON: Microsoft, please
10 proceed.

11 MS. ROBB: Microsoft calls Dr. Oliver
12 Stover.

13 OLIVER STOVER, called as a witness, having
14 been first duly sworn, was examined and testified
15 as follows:

16 DIRECT EXAMINATION

17 BY MS. ROBB:

18 Q Please state your name and address for the
19 record.

20 A My name is Oliver Stover, and my business
21 address is 200 Clarendon Street, Boston,
22 Massachusetts.

23 Q And by whom are you employed?

24 A I'm employed by Charles River Associates.

25 Q Did you cause to be prefiled in this

Transcript of Hearing - Day 3
Conducted on April 16, 2025

620

1 proceeding 16 pages of direct testimony consisting
2 of questions and answers, as well as a summary
3 page and one exhibit, with such testimony being
4 titled, Direct Testimony of Oliver Stover, PhD, on
5 Behalf of Microsoft Corporation, dated
6 February 28th, 2025?

7 A Yes, I did.

8 Q Was this testimony prepared by you or
9 under your direction?

10 A Yes.

11 Q Do you have any clarifications to your
12 testimony?

13 A Yes, I do.

14 On page 8, line 15, please change "two
15 reasons" to instead say "three reasons."

16 MS. GRUNDMANN: Can you repeat that page
17 and line again?

18 THE WITNESS: Page 8, line 15.

19 MS. GRUNDMANN: Thank you.

20 BY MS. ROBB:

21 Q So page 8, line 15, instead of saying two
22 reasons, it should say three?

23 A Yes.

24 Q Thank you.

25 Do you -- with that clarification, if I

Transcript of Hearing - Day 3
Conducted on April 16, 2025

621

1 were to ask you the questions that are included in
2 your testimony today, would your answers be the
3 same?

4 A Yes, they would.

5 Q Do you wish to sponsor this document as
6 your direct testimony in this proceeding?

7 A Yes, I do.

8 CHAIRMAN TOWELL: One other quick
9 clarification, Counsel, if that's okay.

10 MS. ROBB: Sure, yeah.

11 CHAIRMAN TOWELL: Sir, on page 9,
12 line 5 -- do you have a copy of that, Counsel?
13 I'm sorry. You may not have copies of that
14 testimony.

15 Just, I believe that the first word on
16 that line should be "Dominion." Is that correct?
17 And not "domination"? I thought you might have
18 been pitching for work from the Consumer Counsel's
19 office.

20 THE WITNESS: Yes.

21 CHAIRMAN TOWELL: All right. Thank you.

22 BY MS. ROBB:

23 Q So with that -- these clarifications, if I
24 were to ask you the questions that are included in
25 your testimony today, would your answers be the

Transcript of Hearing - Day 3
Conducted on April 16, 2025

622

1 same?

2 A Yes, they would.

3 Q Do you wish to sponsor this document as
4 your direct testimony in this proceeding?

5 A Yes, I do.

6 MS. ROBB: I ask that Dr. Stover's direct
7 testimony, with the clarifications just described,
8 be marked for identification and I move its
9 admission, subject to cross-examination.

10 THE BAILIFF: The direct testimony of
11 Dr. Oliver Stover as corrected will be marked as
12 Exhibit 38.

13 (Exhibit No. 38 was marked for
14 identification.)

15 COMMISSIONER HUDSON: Testimony marked and
16 described and as corrected as Exhibit No. 38 is
17 admitted into the record.

18 (Exhibit No. 38 was admitted into
19 evidence.)

20 BY MS. ROBB:

21 Q Dr. Stover, were in the hearing room this
22 morning during the testimony of Appalachian Voices
23 Witness Laws?

24 A Yes, I was.

25 Q Do you have any comment on that testimony?

Transcript of Hearing - Day 3
Conducted on April 16, 2025

623

1 A Yes, I do. I would highlight that I very
2 much agree with Witness Laws' recommendation that
3 breaking the Dominion into sub zones can be easily
4 accomplished within a tool like PLEXOS using a
5 hub-and-wheel-type model, and cosign his
6 recommendation.

7 I don't take a position on the public
8 interest or validity of the portfolio proposed by
9 Witness Laws; however, I would like to provide
10 some recommendations on evaluating these types of
11 resources, which are using a large amount of
12 energy limited and variable resources when meeting
13 potential energy and resource adequacy needs.

14 Specifically, I'd recommend that these
15 types of portfolios be evaluated within the wider
16 context and they be evaluated to consider that
17 there's sufficient energy resources to charge all
18 batteries. And I would also recommend that these
19 be considered with some of the context that was
20 raised by Witness Goggin, that ELCCs decline as a
21 technology increases in penetration.

22 I agree with his insight that Dominion is
23 a small part of PJM, so the build decisions made
24 by Dominion impact only a part of PJM, but this
25 doesn't mean it couldn't lead to local resource

Transcript of Hearing - Day 3
Conducted on April 16, 2025

624

1 adequacy solutions. This is not to say that this
2 portfolio is not resource adequate; I didn't
3 evaluate it. Merely to say that when considering
4 these types of portfolios, that it should be done
5 within these lights, and possibly additional
6 checks should be included as we transition to
7 portfolios that have a larger amount of energy
8 limited and variable resources.

9 Q All right. Now, were you in the hearing
10 room this morning during the testimony of
11 Appalachian Voices Witness Goggin?

12 A Yes, I was.

13 Q Do you have any comment on that?

14 A Yes, I do. I appreciate that when we're
15 talking about some of these modeling assumptions,
16 it can be easy to focus on the assumptions, but I
17 think it's important to take it back to a broader
18 context.

19 So specifically, Witness Goggin was
20 discussing how Dominion sets its limits, I
21 believe, for capacity purchases and recommended
22 that this should be set at the transmission limit.

23 I would recommend that this is missing
24 some of the larger context of what needs to go
25 into reliable using capacity purchases when

Transcript of Hearing - Day 3
Conducted on April 16, 2025

625

1 meeting capacity needs.

2 Specifically, it's not enough to say that
3 a capacity purchase will guarantee that there's a
4 real physical resource that will be built to meet
5 the need. So when we're talking about setting the
6 amount of capacity limits, I don't think it's
7 right just to say the transmission limit is the
8 only limit there.

9 Specifically, I would recommend that when
10 evaluating the prudence of capacity purchases, we
11 look at some of the broader context of what's
12 going on at PJM and specifically within the
13 DOM Zone.

14 I'd raise some issues that I also raised
15 in my testimony. First, I'd highlight load
16 growth; that's substantial across PJM.
17 Specifically, in the most recent 2025 load
18 forecast update, PJM projects that there's
19 70 gigawatts of load growth in the next 15 years
20 and 19 gigawatts of load growth in the DOM Zone,
21 which is increasingly brought by entities other
22 than Dominion.

23 Second, I'd also highlight that there's
24 declining ELCCs.

25 Given this context, I think it's important

Transcript of Hearing - Day 3
Conducted on April 16, 2025

626

1 that we ensure that there's a real physical
2 resource that's being built to meet load by other
3 than just relying on capacity purchases and saying
4 that Dominion can cede its responsibility to
5 meeting resource adequacy to the market.

6 Q Thank you.

7 Now, were you in the hearing room this
8 morning during the testimony of Appalachian Voices
9 Witness Wilson?

10 A Yes, I was.

11 Q Now, is it true, as Mr. Wilson testified,
12 that PJM reviews large load requests submitted by
13 EDCs and adopts them as is?

14 A No, that's not true.

15 Specifically, I would highlight in the
16 most recent 2025 load forecast IRP that PJM did
17 not accept the proposed submission by various load
18 serving entities, and, in fact, chose to correct
19 them.

20 And they specifically did this in
21 consultation with the third-party consultant
22 451 Research, which is a sub -- whose parent
23 company is S&P Global.

24 I'd also highlight that Witness Wilson
25 specifically identified this entity as a credible

Transcript of Hearing - Day 3
Conducted on April 16, 2025

627

1 forecasting entity.

2 MS. ROBB: Your Honor, at this point I'd
3 like to pass out an exhibit and have it marked for
4 identification.

5 The exhibit that's being handed out is
6 from PJM. It's titled Load Adjustment Request
7 Summary for 2025 Load Forecast - Preliminary, and
8 I request that it be marked for identification.

9 THE BAILIFF: The PJM Load Adjustment
10 Request Summary for 2025 Load Forecast -
11 Preliminary document will be marked as Exhibit 39.

12 (Exhibit No. 39 was marked for
13 identification.)

14 BY MS. ROBB:

15 Q Dr. Oliver, does this refer to the text
16 you were just stating about PJM?

17 A Yes.

18 Q Could you turn us to the particular page?

19 A Yes. I realize this is -- there's a few
20 pages, but specifically if we evaluate each
21 individual entity, you can see that the blue line
22 is marked as request and --

23 Q Are you on a particular page?

24 A Sorry. Page 10 could be a good
25 indication.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

628

1 My understanding is that the request
2 indicates the amount that the individual load
3 serving entity reported that it would like to
4 include in the PJM load forecast, and the blue
5 line, while marked "preliminary," closely
6 resembles or exactly matches the amount that was
7 included in the ultimate PJM 2025 forecast.

8 Q Thank you.

9 MS. LINK: Ms. Robb, you may want to turn
10 the document. It's on the screen sideways.

11 MS. ROBB: Oh, sorry. Okay.

12 MS. LINK: Thank you.

13 BY MS. ROBB:

14 Q Anything further to point out in this
15 document?

16 A Yes. I would like to also point out that
17 if we move to page 17, Dominion chose -- or PJM
18 chose to accept Dominion's forecast as is without
19 some of the corrections that were requested from
20 other LSEs within the wider PJM market.

21 Q Very good.

22 Anything else to bring to our attention
23 with this document?

24 A No.

25 MS. ROBB: Your Honor, I would move its

Transcript of Hearing - Day 3
Conducted on April 16, 2025

629

1 admission.

2 COMMISSIONER HUDSON: Any objection?

3 The PJM Load Forecast document marked and
4 described as Exhibit No. 35 is admitted into the
5 record -- 39, my apologies.

6 (Exhibit No. 39 was admitted into
7 evidence.)

8 BY MS. ROBB:

9 Q Dr. Stover, were you in this hearing room
10 yesterday during the cross-examination of the
11 Dominion witnesses?

12 A Yes, I was.

13 Q Do you have any general observations based
14 on the discussions in the hearing room yesterday?

15 A Yes, I was. I would bring it back to this
16 wider context that needs to be critical when
17 evaluating whether or not Dominion's plan is in
18 the public interest.

19 There was a lot of great discussion on
20 some of the specific modeling input assumptions,
21 which is certainly valid, but I think sometimes
22 we're failing to consider the wider context of
23 some of the challenges that are facing Dominion.
24 Specifically some of the challenges I would also
25 like to highlight.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

630

1 This load growth that's occurring
2 within -- from entities other than Dominion within
3 the DOM Zone for which Dominion is the primary
4 transmission operator. I think we need to be
5 thoughtful in considering some of these potential
6 resource adequacy and transmission stress
7 challenges that could be coming and that Dominion
8 should thoughtfully evaluate this within the IRP
9 context.

10 Q Thank you.

11 Now I'm going to ask you what comments you
12 have on written testimony submitted by other
13 parties after your February 28th direct testimony
14 was filed. So let's turn to Compton rebuttal.

15 Have you reviewed the rebuttal testimony
16 submitted by Dominion's witness Shane Compton on
17 March 25th in this proceeding?

18 A Yes, I did.

19 Q Do you have any comments on Mr. Compton's
20 claim on pages 8 to 9 of his testimony that a
21 powerful model has little IRP value and that
22 locational constraints are unnecessary for an IRP?

23 A Yes, I do. I would first observe that
24 Dominion itself used a powerful model within this
25 IRP. That's how it came to the transmission

Transcript of Hearing - Day 3
Conducted on April 16, 2025

631

1 limits when considering the ability to import from
2 outside of the DOM Zone.

3 I would highlight that this type of
4 analysis could be critical in getting ahead of
5 some of the transmission stress that's emerging
6 within the DOM Zone. And that's my recommendation
7 for considering these types of analysis.

8 I agree with Mr. Compton that tools like
9 long-term capacity tools are the right tool for
10 getting at performing the actual IRP modeling
11 given this transmission context.

12 Specifically here, I think some of the
13 recommendations that have been raised by
14 Staff Witness Smith and Dr. Laws are the right
15 short-term solution of breaking the DOM Zone into
16 subregions so that DOM -- Dominion can better get
17 ahead of some of these transmission stress
18 challenges that are emerging within the DOM Zone.

19 Q Thank you.

20 Now, do you have any comments on
21 Mr. Compton's objection on page 14 of his
22 testimony to your recommendation that Dominion
23 considered the broader DOM Zone and PJM context in
24 future IRPs?

25 A Yes, I do. As I previously mentioned, I

Transcript of Hearing - Day 3
Conducted on April 16, 2025

632

1 think it's critical when Dominion is considering
2 its obligation to meet its energy and capacity
3 requirements, that it considers this wider
4 context.

5 I'd also highlight that it itself
6 considers the wider context in its modeling as an
7 entity within PJM. Specifically, it modeled the
8 wider PJM market both as an energy price and as a
9 capacity price, so it's already considering the
10 wider context.

11 My recommendation to them is that it takes
12 it a step further and it starts to report what the
13 underlying load growth assumptions and build and
14 transmission assumptions so that various entities
15 in the Commission can evaluate their modeling, if
16 it's in the public interest, and look at some of
17 these emerging challenges that are critical for
18 Dominion to meet its energy and capacity needs in
19 a reliable and affordable way.

20 Q All right. Now, Mr. Compton observes, on
21 page 32 of his testimony, that load growth is
22 higher outside of the DOM LSE and that other LSEs
23 have not committed to supply resources.

24 Do you have any comments on this?

25 A Yes, I do. And I very much agree with his

Transcript of Hearing - Day 3
Conducted on April 16, 2025

633

1 observation.

2 I would point out that many of these
3 entities don't have IRP requirements, so it's
4 difficult to know exactly what their strategy is
5 to meeting their growing, as Mr. Compton observes,
6 energy and capacity needs.

7 However, recently the Commission held a
8 technical conference on data centers in which
9 various leaders from ODEC, NOVEC, and others made
10 statements. And it was my assumption, based on
11 their statements, that strategies like market
12 purchases and sleep (phonetic) PPAs will be a key
13 part of their strategy rather than building new
14 generation resources.

15 I think this is critical to think about
16 because it could create significant upward
17 pressure on energy and capacity prices and, if not
18 addressed, could lead to resource adequacy
19 challenges within the DOM Zone.

20 Q All right. Now turning to the Vance
21 rebuttal testimony.

22 Have you reviewed the rebuttal testimony
23 submitted by Dominion's witness Katelynn Vance on
24 March 25th in this proceeding?

25 A Yes.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

634

1 Q Do you have any comments on Dr. Vance's
2 assertion on pages 13 to 14 of her testimony that
3 generation and transmission cannot be planned
4 together due to FERC Standards of Conduct?

5 A Yes. I'm not a lawyer, so I don't have a
6 legal position on this. I would point out that
7 Dominion considers aspect of the transmission
8 system within this IRP and that other utilities,
9 like in the PacifiCorp 2023 IRP, it considered
10 transmission as a selectable resource. So I
11 highlight there, there are other entities that are
12 considering this aspect of transmission and
13 generation planning.

14 Specifically, I bring this up to help
15 Dominion get ahead of some of the challenges that
16 might emerge from having enough generation but not
17 to be able to deliver the generation due to
18 insufficient transmission. So being thoughtful by
19 some of these challenges, they can prevent
20 resource adequacy issues or find more cost
21 efficient solutions.

22 Q All right. Now, turning finally to the
23 Staff Witness Smith's testimony, have you reviewed
24 the testimony submitted by Commission Staff
25 Witness Steven Smith on March 11 in this

Transcript of Hearing - Day 3
Conducted on April 16, 2025

635

1 proceeding?

2 A Yes.

3 Q Do you have any comments on his
4 recommendation on pages 13 to 16 that Dominion
5 model the DOM Zone in smaller geographic sub zones
6 enabling better assessment of congestion and
7 locational constraints?

8 A Yes, I support this recommendation, but
9 would take it further and say instead of just
10 focusing on geographic limites, also focus on key
11 transmission limits, which can be identified using
12 tools like PowerFlow, so I think this is an
13 excellent recommendation.

14 Q All right.

15 MS. ROBB: Your Honor, the witness is
16 available for cross-examination.

17 COMMISSIONER HUDSON: Thank you.

18 CROSS-EXAMINATION

19 BY MR. ALLMOND:

20 Q Good afternoon, Dr. Stover. How are you
21 doing?

22 A Good afternoon.

23 Q My name is Josephus Allmond. I'm an
24 attorney with the Southern Environmental Law
25 Center on behalf of Appalachian Voices.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

636

1 Before we get started, I just want to flag
2 that I will be referring to your prefiled
3 testimony, the rebuttal testimony of Company
4 Witness Blackwell, as well as some other publicly
5 available reports.

6 Starting on page 4 and starting at line 18
7 of your testimony, you state that to incorporate
8 uncertainty, Dominion models multiple policy
9 scenarios and develops corresponding fuel and
10 market price projections. Additionally, it runs
11 sensitivity analysis on the alternative load
12 futures and stakeholder-recommended build limits.

13 What's your understanding of the
14 alternative load forecast that Dominion allegedly
15 modeled?

16 A My understanding is they forecast
17 potential lower or higher load futures. And based
18 on earlier testimony, this is based on different
19 penetrations of up data centers and energy
20 efficiency.

21 Q And these are the sensitivities right here
22 on page 69 of the IRP?

23 A That's right.

24 Q Is it your testimony that these scenarios
25 capture the full range of reasonable -- reasonably

Transcript of Hearing - Day 3
Conducted on April 16, 2025

637

1 likely future load conditions?

2 A I think this is an area where Dominion
3 could improve, that the -- some of the
4 recommendations of -- brought earlier of expanding
5 the scenarios.

6 Q So the plus or minus 5 percent don't
7 accurately capture the full reasonable range of
8 possible scenarios?

9 A While I agree with their general approach
10 as a best practice, I specifically would recommend
11 providing further context into why they chose
12 those specific values to be an area for
13 improvement.

14 Q Thank you. I'm going to go to page 8 of
15 your testimony, starting at line 9. You state
16 that given the market fundamentals driving
17 Dominion's load forecast, its more recent accuracy
18 in data center projections, and the asymmetric
19 risks of forecast errors, I recommend the
20 Commission adopt the forecast -- due to your
21 mention of market fundamentals, and then earlier
22 in your testimony you note that you can address
23 Microsoft's interests generally, based on publicly
24 available data.

25 MR. ALLMOND: So I'd like to go over a

Transcript of Hearing - Day 3
Conducted on April 16, 2025

638

1 couple of recent data center lease cancellations
2 that have become public that Microsoft has
3 announced. I've got three exhibits that I'll be
4 passing out right now. I'll just pass them out at
5 the same time and discuss them individually, if
6 that works.

7 COMMISSIONER HUDSON: Yeah, without any
8 objection, yeah.

9 MR. ALLMOND: I can start with this first
10 one. And my apologies that the date got cut off
11 with these. I was trying to get rid of the URLs
12 and advertisements. But I've written them down
13 here.

14 BY MR. ALLMOND:

15 Q The first one I want to look at is from
16 Data Center Dynamics, February 24th, 2025. And
17 the title is Microsoft Cancels 200 Megawatts of
18 AI Data Center Leases-Report.

19 MS. ROBB: I'm sorry, Counsel.

20 MS. GRUNDMANN: Can we do it again?

21 BY MR. ALLMOND:

22 Q The first one I'd like to look at is this
23 article from Data Center Dynamics. It was
24 published on February 24th, 2025. It's titled
25 Microsoft Cancels 200 Megawatt of AI Data Center

Transcript of Hearing - Day 3
Conducted on April 16, 2025

639

1 Leases.

2 Are you familiar with this report?

3 A Generally.

4 Q And the underlying TD Cowen report that
5 sort of led to this reporting?

6 A Sorry?

7 Q Are you familiar with the underlying
8 TD Cowen report that sort of --

9 A Yes, generally, as a news item, yep.

10 Q Great. Are you a -- do you know if any of
11 these 200 megawatts of AI data center leases were
12 canceled in Dominion territory?

13 A I'm not a Microsoft employee. I can't
14 speak to that.

15 Q So you wouldn't know if they were canceled
16 in PJM region either?

17 A No, I can't speak to it.

18 Q Okay. No problem.

19 The next one I'd like to discuss is titled
20 Microsoft Cancels Up to 2 Gigawatts of Data Center
21 Projects, says TD Cowen. This one was dated
22 March 27th, 2025.

23 And I'll note your previous response, so
24 I'm assuming you don't know whether these
25 2 gigawatts of data center projects in the US were

Transcript of Hearing - Day 3
Conducted on April 16, 2025

640

1 canceled in the Dominion or PJM footprint?

2 A That's right.

3 Q Last one on this issue, this one was from
4 just last week, so April 8th, 2025. The title is
5 Microsoft Pauses \$1 Billion Data Center Plans in
6 Licking County, Ohio.

7 Underlined sentence there notes that it
8 was a billion dollars for three data center
9 campuses in different Ohio localities.

10 So that would be in the PJM region,
11 correct?

12 A Most likely.

13 Q Would it be fair to say that even in the
14 time since interveners filed testimony in this
15 case, Microsoft's plans in Ohio and the PJM area
16 have changed?

17 A I can't speak to the veracity of the
18 reports. I'm not a Microsoft employee, nor did I
19 prepare these reports.

20 Q Okay. If I can go back to the March 27th,
21 2025 article, down at the bottom:

22 Securities analyst notes that this
23 2 gigawatt cancellation looks and sounds like
24 business as usual. Company with this large and
25 with 80 billion of annual spending has the right

Transcript of Hearing - Day 3
Conducted on April 16, 2025

641

1 to move in and out of data center leases, many of
2 which were never officially signed.

3 Then on the back, if you flip it over,
4 there's a quote from the chairman of the Alibaba
5 group noting that he sees the beginning of some
6 kind of bubble.

7 So while you note that the market
8 fundamentals are strong in your testimony, is it
9 fair to state that not everyone agrees with you
10 with respect to that statement?

11 A This individual might appear to think
12 that, sure.

13 Q Would you say it's difficult to say at
14 this point in time whether or not this is the
15 beginning of some kind of bubble?

16 A I can't speak to that.

17 Q Okay. Now, I'd like to go back to this
18 first one. And you noted that you're familiar
19 with the underlying TD Cowen report. It says
20 that:

21 The report adds that Microsoft has also
22 pulled back on converting negotiated and signed
23 statement of qualifications, or 500s, which are
24 the precursor to a data center lease -- the signed
25 leases.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

642

1 And notes that:

2 It cannot confirm if this is a delay to
3 conversion or outright termination.

4 Those terms, statement of qualifications
5 or 500s, seem a little bit different than the
6 contract terms that Dominion uses. So hoping that
7 your experience across markets might be able to
8 help us --

9 A I'm not a contracting expert so I don't
10 feel comfortable speaking to it.

11 Q Okay. Well, you noted that you're
12 familiar with the underlying TD Cowen report. And
13 according to this report, down at the bracketed
14 section, the conversion rate of SOQs --

15 A Apologies, I should clarify. I'm aware of
16 this report as a news item. I did not review this
17 report in detail.

18 Q Great. Just want to finish the statement.

19 According to this report, which led to
20 these public reports, the conversion rate of SOQs
21 into a signed lease is close to a hundred percent.

22 I wanted to reference that because it
23 seems similar to the statement that
24 Company Witness Blackwell makes in his rebuttal
25 testimony about constructing letters of

Transcript of Hearing - Day 3
Conducted on April 16, 2025

643

1 authorization. And starting on line 6, he notes
2 that:

3 To date, no data center customer has
4 canceled a project after signing a CLOA, so these
5 contracts represent a clear commitment from data
6 center customers.

7 The statement of qualifications, or 500s,
8 had virtually 100 percent conversion rates and are
9 similar to the CLOAs.

10 Do you think this Commission should be
11 skeptical those CLOAs will continue to have a
12 100 percent conversion rate?

13 A I think Dominion is better positioned to
14 speak to those kinds of contracting issues.

15 Q Okay. Going back to your testimony,
16 page 8, starting at line 9, one of the reasons
17 that you give for recommending support and
18 adoption for the Company's forecasts are more
19 recent accuracy in data center projections.

20 And that was the first time I read in your
21 testimony a notation of more recent accuracy in
22 data center projections.

23 What are you referring to when you say
24 more recent accuracy?

25 A Yeah, Dominion's forecast has improved

Transcript of Hearing - Day 3
Conducted on April 16, 2025

644

1 over time, just as a matter of record.

2 Q I would like to discuss this idea of
3 accuracy and projections with you because many
4 energy professionals, including yourself, have
5 recently warned of the risk of double counting; is
6 that correct?

7 A I'm not aware I've ever warned of the risk
8 of double counting.

9 Q This is an article from Data Centre
10 Review. It has you listed as one of the authors
11 there.

12 A Sure.

13 Q Are you familiar with this article?

14 A Generally, yes.

15 Q I'd like to flip to the back -- sorry --

16 MR. ALLMOND: Your Honor, I'd like to mark
17 this as an exhibit and pass it out.

18 MS. GRUNDMANN: Your Honor, may I ask a
19 question? Are we marking these articles?

20 COMMISSIONER HUDSON: Are you marking
21 them?

22 MR. ALLMOND: Yes, Your Honor.

23 COMMISSIONER HUDSON: Great.

24 MS. ROBB: We are marking them?

25 COMMISSIONER HUDSON: Yes, we are, for

Transcript of Hearing - Day 3
Conducted on April 16, 2025

645

1 identification purposes.

2 MS. ROBB: Because I just have a -- I
3 don't think the witness has been able to verify
4 the truth of them, so I'm not sure. Is there a
5 basis for getting them into the record?

6 MS. GRUNDMANN: He hasn't moved for their
7 admission yet.

8 COMMISSIONER HUDSON: Counsel?

9 MR. ALLMOND: Your Honor, I haven't moved
10 for their admission yet but -- as the witness said
11 that he was familiar with publicly available
12 information, including the articles I put in front
13 of him.

14 COMMISSIONER HUDSON: Please proceed.

15 MR. ALLMOND: Would you like me to proceed
16 with the next exhibit?

17 COMMISSIONER HUDSON: Yeah.

18 MS. GRUNDMANN: Your Honor, once this new
19 exhibit is passed out, for purposes of my
20 recordkeeping would it be possible -- I don't know
21 that counsel actually asked to mark these, so I
22 think I have four documents that will need to be
23 marked.

24 COMMISSIONER HUDSON: My question was
25 going to be, would you like to have this all as

Transcript of Hearing - Day 3
Conducted on April 16, 2025

646

1 one exhibit or individually?

2 MR. ALLMOND: We can do the first --

3 COMMISSIONER HUDSON: Take those first
4 four.

5 MR. ALLMOND: The first four as one.

6 COMMISSIONER HUDSON: Okay.

7 CHAIRMAN TOWELL: Real quick, if you don't
8 mind, Counsel, I think maybe for my own
9 recordkeeping purposes, if we could just have each
10 one be their own number because I imagine there
11 may be different responses to different kinds of
12 exhibits from counsel.

13 MR. ALLMOND: Sounds good to me,
14 Your Honor.

15 COMMISSIONER HUDSON: Let's take care of
16 that now, then.

17 THE BAILIFF: Proceed?

18 COMMISSIONER HUDSON: Start with the
19 February 2024.

20 CHAIRMAN TOWELL: February 2025?

21 COMMISSIONER HUDSON: Yes.

22 THE BAILIFF: The article entitled,
23 Microsoft Cancels 200 Megawatts of AI Data Center
24 Leases report will be marked as Exhibit 40.

25 The article entitled, Microsoft Cancels up

Transcript of Hearing - Day 3
Conducted on April 16, 2025

647

1 to 2 Gigawatts of Data Center Projects will be
2 marked as Exhibit 41.

3 And Exhibit 42 will be the article
4 entitled, Microsoft Pauses 1 Billion Data Center
5 Plans in Licking County, Ohio.

6 (Exhibits No. 40 - 42 were marked for
7 identification.)

8 COMMISSIONER HUDSON: Thank you.

9 BY MR. ALLMOND:

10 Q All right. Do you have the article from
11 Data Centre Review in front of you, Dr. Stover?

12 A Yeah.

13 Q Flip it around to the other side. Top
14 paragraph says:

15 Forecasting faces two competing
16 challenges; regulators' concerns over inflated
17 growth and real data center developers' plans. On
18 one hand, the race to bring data centers online
19 has given rise to the risk of double counting
20 potential growth. Developers often explore
21 multiple utility partnerships within a single
22 integrated market, and if each utility includes
23 the potential development in its forecast,
24 market-wide growth projections can become wildly
25 inflated. This has led to skepticism about the

Transcript of Hearing - Day 3
Conducted on April 16, 2025

648

1 stated forecasts.

2 You are one of the authors for this
3 article, correct?

4 A Yes.

5 Q So you have warned about the risk of
6 double counting?

7 A I should clarify. The purpose of this
8 article was a review of the overall context and
9 discussion around data center challenges. Yeah,
10 it's just to give that context.

11 Q Okay. But within that context of risk is
12 certainly double counting?

13 A Yeah, that's fair.

14 Q Were you in the courtroom earlier during
15 the surrebuttal testimony -- or, actually, it was
16 the cross of Walmart counsel with our witness,
17 Jim Wilson, when they were discussing the impact
18 of the largest companies on the Company's load
19 forecast?

20 A Right.

21 Q Do you remember that?

22 I believe they established that the five
23 largest companies make up 71 percent of Dominion's
24 load forecast.

25 And is Microsoft one of those five largest

Transcript of Hearing - Day 3
Conducted on April 16, 2025

649

1 data center companies?

2 A I can't speak to that.

3 Q You don't know?

4 A I don't know.

5 Q Okay.

6 A I -- yeah, I don't know.

7 Q I'd like to hopefully use your experience.

8 You've worked with a number of utilities and
9 different data center developers. Hopefully we
10 can quantify sort of to what extent this double
11 counting is happening.

12 When a developer submits bids and they
13 have a single project in mind, can you just help
14 us understand, are they submitting bids for ten
15 projects and expecting only one to go to fruition?
16 Is it five? Is there a sort of average range?

17 A Apologies. I'm not a data center
18 developer, I can't speak to their strategies.

19 Q But you and your colleagues note in this
20 article that this often happens among data center
21 developers.

22 A Sure. I should clarify, we were more
23 talking about the conversation that was happening
24 across the country and kind of wanted to bring the
25 issues out there for full discussion. And as you

Transcript of Hearing - Day 3
Conducted on April 16, 2025

650

1 clarified, there certainly is this perception, not
2 saying for or against in one way, but there
3 certainly is a perception as raised by
4 Witness Wilson.

5 Q And so you're not sure -- despite you
6 flagging this risk of double counting in this
7 article, you're not --

8 A Not -- apologies.

9 Q So despite flagging this risk of double
10 counting, you're not sure to what extent it's
11 happening?

12 A Correct. I think it's fair to say that
13 this is a factor that needs to be thought through,
14 as I believe Dominion has raised. So I think it's
15 a fair thing that needs to be thought through, but
16 I wouldn't think it's fair to say that I
17 specifically quantified the specific risks here.

18 Q So you're not sure what it is, so it could
19 be that data center developers are submitting ten
20 bids for every project that they need?

21 A I think Dominion is better positioned to
22 speak through how it talks about these types of
23 risks, and it's my understanding that Dominion
24 does take these kind of challenges into its
25 thought process.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

651

1 Q Happy to ask Dominion about that later on,
2 but I wanted to focus on you because you have
3 raised this issue before.

4 You don't have an awareness of to what
5 extent this is happening; is that correct?

6 A Based on public conversation, I can
7 imagine that this is something that needs to be
8 thought through in a prudent load forecast.

9 Q And you didn't discuss double counting
10 anywhere in your testimony in this proceeding, did
11 you?

12 A That's right.

13 Q Okay. I'd like to go back, staying on the
14 issue of forecast, page 5 of your testimony.

15 Starting at line 12, you note that you do
16 not have access to the market intelligence
17 assumptions that Dominion uses for its forecast to
18 assess the credibility of those assumptions?

19 A That's right.

20 Q Market intelligence assumptions is a
21 pretty amorphous term.

22 Can you sort of elaborate on what that
23 might include?

24 A Sure, yeah. Dominion specifically
25 highlights that it uses close conversations and

Transcript of Hearing - Day 3
Conducted on April 16, 2025

652

1 market intelligence based on direct conversations
2 with its customers to do its performance forecast.
3 While I strongly support this effort and think
4 that this is best practice, I do recognize that it
5 creates a challenge to transparency for their
6 forecast.

7 I also recognize that some of this
8 intelligence is highly sensitive, so while I think
9 this is an area where Dominion could improve in
10 its transparency, I also think that those
11 solutions might need to be creative, given some of
12 the sensitive nature of some of the information.

13 Q And did you attempt to obtain any of these
14 market intelligence assumptions through the
15 discovery process?

16 A I did not.

17 Q Okay. So you didn't attempt to obtain
18 these assumptions, you don't know what they are,
19 and yet you're still confident in saying that you
20 think the Commission should approve this forecast?

21 A Yes, I am, as a baseline forecast for the
22 purpose of this IRP, with some of my suggested
23 improvements in future IRPs.

24 Q Dr. Stover, I'd like to move on to the
25 topic of resource planning.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

653

1 A Sure.

2 Q Page 3, starting at line 8 of your
3 testimony, you state that Dominion's approach to
4 resource planning should be accepted for the 2024
5 IRP.

6 Is that correct?

7 A Yep, that's right.

8 Q On the same page you note that their
9 approach to load forecasting, resource modeling,
10 and scenario analysis aligns with industry
11 standards for Integrated Resource Planning; is
12 that right?

13 A In the general principles it adopted,
14 correct.

15 MR. ALLMOND: I'd like to mark another
16 exhibit, Your Honor.

17 THE BAILIFF: Your Honor, would you like
18 to mark the Data Centre Review document? It
19 hasn't been marked yet.

20 COMMISSIONER HUDSON: Yeah, let's do that.

21 THE BAILIFF: The Data Centre Review
22 article entitled, How Do We Power AI will be
23 marked as Exhibit 43.

24 (Exhibit No. 43 was marked for
25 identification.)

Transcript of Hearing - Day 3
Conducted on April 16, 2025

654

1 COMMISSIONER HUDSON: Thank you.

2 CHAIRMAN TOWELL: All right. 44.

3 BY MR. ALLMOND:

4 Q To an article titled, Toward a 24/7
5 Carbon-Free Energy Future: Navigating Challenges
6 and Opportunities. This is from T&D World from
7 August 29th, 2024, written by yourself and one of
8 your colleagues; is that correct?

9 A Yep.

10 Q In this article, you and your colleague
11 note, and I'm looking here at the bracket in the
12 middle of the page, that:

13 Identifying the least cost resource makes
14 for systems with high renewable capacities and
15 flat load shapes presents significant challenges.
16 Traditional approaches, such as planning reserve
17 margins and effective load-carrying capabilities,
18 are less effective in these scenarios. Moreover,
19 our research highlights that portfolios based on a
20 single weather year can vary widely, depending on
21 the chosen year.

22 You continue that, to address those
23 issues, you adopted an optimization model that
24 considers multiple weather years, incorporating
25 uncertainty into the decision-making process. And

Transcript of Hearing - Day 3
Conducted on April 16, 2025

655

1 that enables the identification of resource mixes
2 capable of meeting decarbonization targets under
3 varying weather conditions.

4 Would you characterize Dominion's
5 territory as a system with high renewable
6 capacities and flat load shapes?

7 A I would not say that it -- it is nowhere
8 near the level of decarbonization that I was
9 envisioning in this paper, which was an entirely
10 noncarbon-emitting resources, so this is a
11 slightly different study.

12 Q Would you say that Dominion is moving
13 towards a system with high renewable capacities
14 and flat load shapes?

15 A Sure. Yeah.

16 Q And despite that Dominion's system is
17 moving towards that, it used a more traditional
18 approach in this IRP process that used planning
19 reserve margins and effective load carrying
20 capabilities; is that right?

21 A Sort of talking about two separate issues;
22 one, Dominion operates in the PJM capacity market,
23 so it has an obligation to follow PJM's approach.
24 So we're talking about a slightly different study.

25 But, yes, I would characterize that

Transcript of Hearing - Day 3
Conducted on April 16, 2025

656

1 Dominion use ELCCs in planning reserve margins,
2 which is standard industry best practice and their
3 obligation within -- operating within the PJM
4 market.

5 Q But in this article, you and your
6 colleague identify a new metric called the loss of
7 green hours. And this metric measures the portion
8 of hours that must be met by carbon-emitting
9 resources offering a clear benchmark for
10 evaluating progress towards 24/7 carbon-free
11 energy.

12 Can you explain that metric a little bit
13 more for me? I haven't seen it before.

14 A I'm happy to, just making sure that --
15 this is a very different challenge than what is
16 addressed in the IRP.

17 But, yeah, happy to.

18 We adopted this metric similar to loss of
19 load hours to look at the portion of hours that
20 are met by noncarbon-emitting resources.

21 Q And given the RPS schedule here in
22 Virginia, along with the retirement requirement in
23 2045, would you be able to use this metric to
24 model compliance with the VCEA if you went out
25 long enough to see that retirement requirement?

Transcript of Hearing - Day 3
Conducted on April 16, 2025

657

1 A I am not aware that the VCEA envisioned
2 this type of metric. Specifically, this metric
3 allows a non-zero amount of carbon-emitting
4 resources, so they are just a little bit of apples
5 and oranges.

6 Q Okay. That's fair.

7 So you said they are apples and oranges
8 and you couldn't use this metric to sort of model
9 compliance with the Clean Economy Act or with the
10 RPS?

11 A Perhaps this kind of thinking might be
12 useful, but I just would hesitate to say this
13 exact metric is the right fit. Again, I'm not a
14 lawyer, so I don't want to be assuming that a
15 certain type of metric or certain approach is
16 going to exactly meet the legal standard met in
17 the VCEA.

18 Q That's fair enough, Dr. Stover.

19 I want to go a little bit farther down in
20 this article and look at that bracketed section up
21 top.

22 You found that the synergistic use of
23 technologies with complementary seasonal patterns
24 can enhance the efficiency of existing renewable
25 resources. Long-duration energy storage, in

Transcript of Hearing - Day 3
Conducted on April 16, 2025

658

1 particular, proved effective in reducing the
2 required installed capacity of generating
3 resources by approximately 20 percent and reduced
4 renewable curtailment.

5 You also note in your testimony on
6 page 16, line 15, that long-duration energy
7 storage fits into a group of nascent but promising
8 technologies as potential clean, high ELCC
9 resources which can replace or augment natural
10 gas-based resources.

11 Is that right?

12 A Yes.

13 Q Now, Dominion did not include
14 long-duration energy storage in their IRP; is that
15 right?

16 A That's correct.

17 Q And later on page 16 of your testimony,
18 you state that Dominion is considering these
19 resources.

20 Do you think that the Commission should
21 require that these resources be included in future
22 IRPs?

23 A I defer to the Commission to make that
24 recommendation. However, I certainly agree that
25 this is a very promising technology that could be

Transcript of Hearing - Day 3
Conducted on April 16, 2025

659

1 an important resource towards meeting the VCEA
2 requirements.

3 Q And based on this finding here in this
4 report, would you expect that including
5 long-duration energy storage in Dominion's plan,
6 if they would have included it this time around,
7 would have reduced the required installed capacity
8 of generating resources?

9 A Can you clarify your question?

10 Q Sure.

11 You and your colleague note here that
12 long-duration storage can reduce the required
13 installed capacity of generating resources by
14 approximately 20 percent --

15 A No, not at all. Completely different
16 issues. So specifically when we're talking about
17 in the Dominion context, they have to meet their
18 capacity obligation for PJM. That's not going to
19 change based on the types of resources that they
20 model, so their planning reserve margin is their
21 planning reserve margin which is their obligation
22 within PJM. This was specifically talking about a
23 different type of study.

24 Q Okay. And so you don't think that if
25 Dominion would have included long-duration energy

Transcript of Hearing - Day 3
Conducted on April 16, 2025

660

1 storage, that the amount of generating resources
2 in their portfolios would have changed?

3 A I think there's maybe some confusion in
4 the question. Long-duration energy storage may
5 have been selected, but that doesn't change the
6 sort of amount of resources or their overall
7 planning reserve margin obligation.

8 Q I want to stay on the topic of emerging
9 technologies.

10 MR. ALLMOND: Your Honor, can I have this
11 admitted into the record?

12 THE BAILIFF: The article --

13 COMMISSIONER HUDSON: Let's mark it.

14 THE BAILIFF: The article entitled Toward
15 a 24/7 Carbon-Free Energy Future: Navigating
16 Challenges and Opportunities will be marked as
17 Exhibit 44.

18 (Exhibit No. 44 was marked for
19 identification.)

20 MR. ALLMOND: And I'd like to mark another
21 exhibit, Your Honor, still staying on this issue
22 of emerging technologies.

23 BY MR. ALLMOND:

24 Q This is a June 2024 white paper titled
25 Enabling 24/7 carbon-free energy that you and

Transcript of Hearing - Day 3
Conducted on April 16, 2025

661

1 several colleagues at Charles River Associates are
2 listed as contacts on.

3 Did you help craft this white paper?

4 A Yes.

5 Q I'll start on page 13. You note that, As
6 emerging carbon-free base load technologies
7 materialize within the next decade, these will be
8 powerful tools toward the pursuit of 24/7
9 carbon-free energy, particularly for high-capacity
10 factor loads.

11 Under Dominion's portfolios, don't most of
12 Dominion's planned gas units come online at the
13 exact moment there will likely be carbon-free base
14 load alternatives?

15 A I don't think that's necessarily the case,
16 specifically if you look at the years that
17 Dominion was able to select some of the resources
18 we were talking about here, specifically SMRs.
19 Dominion planned those to be in 2035, if I
20 remember correctly.

21 Q Okay. So it's possible that Dominion's
22 gas build is only filling a two- to three-year
23 need before that same need might be able to be met
24 with carbon-free capacity?

25 A I don't -- I don't think that's

Transcript of Hearing - Day 3
Conducted on April 16, 2025

662

1 necessarily true given the context of build limits
2 and sustained load growth across the planning
3 horizon and the fact that Dominion chose to use --
4 build natural gas both in -- both -- in both their
5 sensitivities. They are using this as a part of
6 an all-the-above approach.

7 Q I want to go to page 8 of this.

8 There at the bottom, you note that:

9 These optimal resource mixes are highly
10 dependent on cost assumptions. Technological
11 breakthroughs or delays may change the cost of
12 developing and operating new and emerging
13 technologies like long-duration energy storage,
14 SMRs, and others. Changes in the pricing and
15 timing constraints of bringing base load clean
16 technologies to market will change the optimal
17 resource mix.

18 Under the -- you've reviewed the
19 IdeaSmiths report; is that correct?

20 A Generally, yes.

21 Q And under their compliance scenarios that
22 go out to 2045, they build SMRs towards the end of
23 the planning period.

24 Just given this statement, is it possible
25 that technological innovations or changes in price

Transcript of Hearing - Day 3
Conducted on April 16, 2025

663

1 over the next decade could mean that a technology
2 besides SMRs emerges as the leading contender to
3 provide carbon-free base load power?

4 A Yeah, I think that's a fair assessment.

5 Q Conversely, it's possible that SMRs emerge
6 as the leading contender to provide carbon-free
7 base load power?

8 A I think that's a fair assessment.

9 Q But regardless of sort of how the race for
10 that optimal technology works out with the
11 IdeaSmiths compliant 2045 scenarios, the
12 Commission would have about a decade from now to
13 evaluate these emerging technologies and cost
14 strands to determine which is most appropriate.
15 Is that fair?

16 A I don't think that's necessarily fair
17 given that specifically some of these do require a
18 substantial amount of time to develop.

19 Granted, I'm not a developer, so just
20 speaking generally from my knowledge. So I think
21 it's important to take into mind that some of
22 these can't be built overnight, and Dominion is
23 probably in a better position to discuss how long
24 it takes and the lead time for some of these
25 resources.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

664

1 Q Sure. You noted that they are planning to
2 put SMRs online in 2035 --

3 A Sure.

4 Q -- which is 10 years from now. So if we
5 waited 10 years from now, we would be at 2035.
6 There would be another 10 years before we got to
7 2045, which is when the IdeaSmiths scenario...

8 A I see what you're saying. Talking about
9 the 2045 deadline.

10 Q Yes.

11 A Yeah. Sure. Fair.

12 Q This is going to be my last question on
13 this white paper.

14 If I can go to pages 6 and 7, you and your
15 colleagues show how different loss of green hours
16 tolerances affect the necessary installed capacity
17 and total capital cost for resource mix to meet
18 the load of a hypothetical data center in the
19 southwest.

20 And there are four different generation
21 technology scenarios. The first is no
22 restrictions. The second is wind and solar
23 generation and LIB only.

24 Is that lithium-ion battery?

25 A Yes.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

665

1 Q And then the last two are wind/solar
2 generation, lithium-ion battery, and long-duration
3 energy storage only. And the last one is no
4 long-duration energy storage.

5 Which one of these four scenarios results
6 in the most cost-optimal mix to meet the loss of
7 green hours metric that you came up with?

8 A Again, caveat these results as we did in
9 the paper, highly, highly dependent on the
10 assumptions, but specifically this resulted in a
11 base load -- selecting a base load clean resource.

12 Q Sorry. My question was which one of these
13 scenarios results in the most cost optimal mix to
14 meet the loss of green hours metric?

15 A I'm sorry. I'm very confused.

16 Q Well, I can just point you to it. In
17 number one, in no restrictions, you say: This
18 scenario will result in the most cost optimal mix
19 to meet loss of green hours goals using current
20 technologies.

21 Is that right?

22 A Sure, that is the result of this study.
23 However, I would clarify that we're talking again
24 about apples and oranges. This was a hypothetical
25 study, mostly looking at how to plan for these

Transcript of Hearing - Day 3
Conducted on April 16, 2025

666

1 high portfolios that have a large amount of wind
2 solar and storage. It's not an apples to oranges
3 to say with an IRP that you can build with no
4 restrictions.

5 Q Fair enough. Just trying to get the
6 underlying premise.

7 Am I correct that in this no-restriction
8 scenario, that you didn't apply any build limit to
9 any of the resources?

10 A Specifically we are looking -- again, this
11 specific study is not an IRP. This is a specific
12 modeling study. And this specific study was
13 looking at various technology futures. That was
14 our primary purpose for this study.

15 Q So you didn't -- I understand, I noted at
16 the beginning that this is for a hypothetical data
17 center in the Southwest, so I get that there are
18 different scenarios.

19 But just trying to understand, you didn't
20 put a cap on the build limits in this
21 no-restriction scenario?

22 A I should note that we found the amount of
23 resources that needed to be built to be highly
24 infeasible, so yes, we did not put restrictions
25 but found the results -- the amount of build that

Transcript of Hearing - Day 3
Conducted on April 16, 2025

667

1 we needed to be met with only wind, solar, and
2 storage resources to be substantial.

3 Q Got you. And that only included wind,
4 solar, and storage? It doesn't include other
5 emerging technologies?

6 A In this particular study, that's correct.

7 Q Okay. I'd like to -- I'd like to discuss
8 resource adequacy tools because --

9 MR. ALLMOND: Actually, Your Honor, can I
10 have that exhibit admitted into the record?

11 THE BAILIFF: The June 2024 article
12 entitled Enabling 24/7 Carbon-Free Energy will be
13 marked as Exhibit 45.

14 (Exhibit No. 45 was marked for
15 identification.)

16 COMMISSIONER HUDSON: And, Counsel, you
17 want it moved into the record, but we haven't
18 moved a lot of the other articles and documents,
19 exhibits yet, so --

20 MR. ALLMOND: Happy to wait until the
21 end --

22 COMMISSIONER HUDSON: So let's just mark
23 this as Exhibit No. 45. And then at the end, you
24 can move them all into the record.

25 MR. ALLMOND: Okay. I'd like to mark

Transcript of Hearing - Day 3
Conducted on April 16, 2025

668

1 another exhibit, Your Honor. This is a paper from
2 October 2024 introducing CRA AdequacyX, which is
3 Charles River Associates' resource adequacy model.

4 BY MR. ALLMOND:

5 Q You're also listed as one of the contacts
6 on this.

7 A Yep.

8 Q Did you help draft this paper?

9 A Yep.

10 Q I'd like to go and start on page 11 here.

11 In the bracket, you note your findings:

12 Highlight the importance of simulating
13 future load conditions and correlated events.
14 Without accounting for changing load shapes,
15 changes in cold weather outages, and other system
16 changes, models may miss synergies between
17 technologies or provide an inaccurate view of the
18 resource adequacy of the system.

19 To your knowledge, did Dominion's PLEXOS
20 modeling incorporate these future load conditions?

21 A Yes. Well, I should clarify. Dominion is
22 better positioned to speak to exactly how it did
23 its modeling, but my understanding is that it's
24 load forecast because it used the PJM-derived
25 forecast which includes aspects of changing shapes

Transcript of Hearing - Day 3
Conducted on April 16, 2025

669

1 due to electrification, another source of load
2 growth.

3 Q I want to go to page 7 of the white paper.

4 Now, this is -- you and your colleagues
5 note for a synthetic island utility based in the
6 upper Midwest, so not saying that this is Dominion
7 or Dominion's IRP, but for this situation modeled,
8 you noted that:

9 Stand-alone solar makes a minimum
10 contribution during winter months. During the
11 remaining months, solar resources initially had a
12 high-capacity contribution, but declined quickly.

13 And you and your colleagues highlighted
14 the need for storage resources to fully harness
15 solar energy for meeting capacity needs and
16 quantified the synergies between solar and
17 storage. And you note the minimum contribution
18 during winter months and declining capacity
19 contributions over time.

20 Would you expect those same factors to
21 similarly impact solar facilities in Dominion's
22 footprint?

23 A Yes. I would also highlight that Dominion
24 is subject to the ELCC constructs in PJM, so this
25 study is specifically focusing on a utility that

Transcript of Hearing - Day 3
Conducted on April 16, 2025

670

1 might be vertically integrated, so in control of
2 its own destiny.

3 But if we look at some of the ELCC
4 projections from PJM, it does accurately capture
5 this impact, both for solar and storage resources,
6 that their contribution to capacity decreases with
7 increasing penetration, which has been raised by
8 other witnesses.

9 Q So would you see storage as an important
10 resource in Dominion's territory to fully harness
11 that solar energy and reduce curtailment?

12 A Again, I'd highlight that it's impossible
13 to talk about a given resource by itself. As a
14 witness in this testimony, it's important that
15 resources are really -- it's really critical they
16 talk to each other and they are put into context.

17 So certainly, storage can play a
18 synergistic role with solar in particular, but
19 could be charged from anything in general, but
20 it's got to be put through some of the studies
21 that you've talked about of multi weather analysis
22 to look at, does this really make sense under all
23 possible load conditions.

24 Q Okay. Go back to your testimony at page 6
25 and starting at line 10, and you claim that there

Transcript of Hearing - Day 3
Conducted on April 16, 2025

671

1 is less of a risk for overestimating demand,
2 because if it overestimates load growth it can
3 just reduce capacity purchases.

4 You are aware that the Company's portfolio
5 has all build nearly six gigawatts of new gas
6 through the planning period?

7 A That's the Company portfolio, correct.

8 Q Yes. So if the Company builds all six
9 gigawatts but doesn't end up needing them, the
10 Company could reduce capacity purchases but
11 customers would still be on the hook to pay that
12 resource back, correct -- or those resources?

13 A I think that's a fair assessment, sure.

14 Q Okay. Let me go back a page to page 5,
15 starting at line 2, and you state that:

16 Dominion's plans make meaningful and
17 positive progress towards achieving the
18 decarbonization and clean energy targets in the
19 VCEA.

20 But then later on, on page 16, starting at
21 line 7, you recommend that Dominion expand its
22 planning horizon and develop a strategy to
23 reliably and affordably exit from natural
24 gas-based resource to meet the VCEA
25 decarbonization mandates.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

672

1 Now, a couple of Dominion's portfolios
2 include the VCEA petition requirements, so we
3 understand the notion that there's progress
4 towards those clean energy goals.

5 But can you help me understand what
6 progress -- what meaningful and positive progress
7 this IRP makes towards the decarbonization goals
8 in the VCEA?

9 A Yes. It's my understanding -- apologies,
10 I'm looking for the number -- I think it's subject
11 to check in the order of magnitude of 19 gigawatts
12 of renewables that Dominion is selecting to build
13 in this portfolio. And that's specifically what I
14 was referring to, was the development of
15 significant renewable resources within this plan.
16 But agree that the 2045 deadline is important.

17 I echo the thought process raised by
18 Witness Laws that including that will allow
19 Dominion to be proactive in finding efficiencies
20 and really looking at this glide path so that it
21 can meet the deadline in a thoughtful way that
22 balances both resource adequacy and cost.

23 Q I think we're in agreement that a couple
24 of these portfolios do make progress towards the
25 clean energy targets. But in terms of

Transcript of Hearing - Day 3
Conducted on April 16, 2025

673

1 decarbonizing, I typically think of retirements
2 and reducing emissions.

3 So curious if you think that it does make
4 meaningful and positive progress towards the
5 decarbonization goals themselves?

6 A I think it's fair. They reduce the carbon
7 emissions' intensity over the planning horizon, so
8 I think that's a fair assessment.

9 Q Do any of Dominion's plans discuss any
10 plans about retiring its carbon-emitting
11 resources?

12 A That's correct, but it's also my
13 understanding that the 2045 deadline was not
14 included in this assessment.

15 Q Okay. And -- okay. I'm going to go to
16 page 8 of your testimony, starting at line 7. You
17 state that:

18 Dominion cannot support higher than
19 anticipated growth given these build limits and
20 caps on capacity market purchases.

21 So is it your testimony that Dominion
22 could not support higher than anticipated growth
23 because of the constraints imposed by the build
24 limits and caps on capacity purchases?

25 A That's not entirely fair. I think that's

Transcript of Hearing - Day 3
Conducted on April 16, 2025

674

1 implying that the build limits are artificial, and
2 I don't necessarily have a position on the exact
3 build limits other than to say that build limits
4 are important and an important part of the prudent
5 IRP context.

6 However, I do observe that during three of
7 the years during the planning horizon, they are at
8 the build limits for all their technology
9 resources, which is atypical. So I think it would
10 be worth for Dominion to provide more explanation
11 on why it chose these build limits -- again, not
12 commenting on the prudence of these exact build
13 limits -- and defer to Dominion on better
14 explaining its thought process there.

15 Q But Dominion was the one who created the
16 build limits themselves; is that correct?

17 A Yes, that's correct. But I highlight this
18 is a standard part of IRP processes, which is, to
19 my knowledge, done in most IRPs across the
20 country.

21 Q No disagreement there. But you stated
22 that you think there could be more analysis
23 provided about how those build limits were
24 reached?

25 A I think that's fair.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

675

1 Q Okay. Dr. Stover, this is my last
2 question. I just want to go to Exhibit A in your
3 testimony. It states that:

4 Microsoft is committed to using its voice
5 to advance electricity policy because electricity
6 is an enabler of economic development, social
7 welfare, improved health, and other positive
8 social outcomes.

9 And you note that electricity is an
10 enabler for social welfare, improved health, and
11 other positive societal outcomes.

12 Would you agree that certain forms of
13 electricity development lead to poorer health for
14 the communities in which they are located?

15 A I certainly agree that -- as witnessed
16 earlier, that there's a balance in finding that --
17 the right trade-off between some of these issues
18 that are in context. However, I do very much --
19 very much support my statement that resource
20 adequacy is critical to maintaining public health
21 in the Commonwealth.

22 Q Sure. My question was about the
23 communities in which these resources are located,
24 though.

25 And so for some of these carbon-emitting

Transcript of Hearing - Day 3
Conducted on April 16, 2025

676

1 resources that do emit other pollutants, do those
2 negatively impact the health of the communities in
3 which they are sited?

4 A I think those types of specific locational
5 issues are better left to -- better left to a
6 CPCN.

7 Q So you don't have an opinion on whether
8 fossil-generating resources negatively affect the
9 communities in which they are located?

10 A I think that it is fair to say that there
11 are benefits to minimizing fossil fuel generation
12 generally, specifically I think it's a fair
13 statement.

14 Q Because fossil fuel emissions impose
15 health costs on the surrounding communities?

16 A Again, as was raised by other witness, all
17 of these decisions have to be made within a
18 context, and they have to be balanced between
19 given challenges. This is certainly an important
20 challenge, which is conditioned by the goals of
21 the VCEA, but there also have to be other
22 challenges in making a thoughtful plan,
23 specifically resource adequacy and cost and I
24 think it's important to consider all three -- all
25 these three aspects very carefully when making

Transcript of Hearing - Day 3
Conducted on April 16, 2025

677

1 decisions about resource plans.

2 Q And has Microsoft used its voice in this
3 docket to advocate for any sort of planning that
4 would minimize risks to the health of those
5 communities that are likely to see these
6 resources?

7 A I can't speak to -- I was speaking to
8 Microsoft's actor as a player in the energy
9 industry generally and based on public statements.
10 I can't speak to Microsoft's specific actions
11 within the Dominion zone.

12 Q But you didn't identify any ways in your
13 testimony that the planning process could be
14 reexamined or reevaluated to minimize harm on
15 those communities?

16 A I think specifically the regulation that's
17 been laid out is the target in the VCEA as kind of
18 the Commonwealth's goal to meet some of these
19 fantastic objectives, and I think it's important
20 that that target be kept in mind in future IRPs.

21 Q But that target was not kept in mind by
22 any of Dominion's models in this proceeding, was
23 it?

24 A I think that's fair.

25 MR. ALLMOND: Okay. No further questions,

Transcript of Hearing - Day 3
Conducted on April 16, 2025

678

1 Your Honor.

2 At this point, I'd like to have those
3 exhibits admitted into the record.

4 COMMISSIONER HUDSON: And you would like
5 this one marked as well?

6 MR. ALLMOND: Yes, Your Honor.

7 THE BAILIFF: The October 2024 article,
8 Introducing CRA AdequacyX, will be marked as
9 Exhibit 46.

10 (Exhibit No. 46 was marked for
11 identification.)

12 COMMISSIONER HUDSON: So the document
13 marked and described as Exhibit No. 40 is admitted
14 into the record.

15 (Exhibit No. 40 was admitted into
16 evidence.)

17 COMMISSIONER HUDSON: The document marked
18 and described as Exhibit No. 41 is admitted into
19 the record.

20 (Exhibit No. 41 was admitted into
21 evidence.)

22 COMMISSIONER HUDSON: The document marked
23 and described as Exhibit No. 42 is admitted into
24 the record.

25 (Exhibit No. 42 was admitted into

Transcript of Hearing - Day 3
Conducted on April 16, 2025

679

1 evidence.)

2 COMMISSIONER HUDSON: The document marked
3 and described as Exhibit No. 43 is admitted into
4 the record.

5 (Exhibit No. 43 was admitted into
6 evidence.)

7 COMMISSIONER HUDSON: The document marked
8 and described as Exhibit No. 44 is admitted into
9 the record.

10 (Exhibit No. 44 was admitted into
11 evidence.)

12 COMMISSIONER HUDSON: The document marked
13 and described as Exhibit No. 45 is admitted into
14 the record.

15 (Exhibit No. 45 was admitted into
16 evidence.)

17 COMMISSIONER HUDSON: And the document
18 marked and described as Exhibit No. 46 is admitted
19 into the record.

20 (Exhibit No. 46 was admitted into
21 evidence.)

22 COMMISSIONER HUDSON: Thank you.

23 MR. ALLMOND: Thank you, Your Honor.

24 COMMISSIONER HUDSON: So NRDC, before you
25 do cross, I think maybe this is a good time to

Transcript of Hearing - Day 3
Conducted on April 16, 2025

680

1 kind of stop and reconvene tomorrow at 10:00 a.m.,
2 if that's all right with you.

3 MS. JAFFE: Well, I'm not sure I'm the
4 only person that should answer. I don't know if
5 there's any other parties that are going to ask
6 questions of Dr. Stover, but I obviously did.

7 MR. REISINGER: I have no questions for
8 the witness.

9 MS. GRUNDMANN: I do have a few. I don't
10 know if we can get him up and down in 30 minutes.
11 I only have about five minutes of cross.

12 MS. LINK: I have five minutes.

13 MS. PIERCE: I have, like, three
14 questions.

15 COMMISSIONER HUDSON: So let's see if we
16 can wrap that up really quick and then, yeah,
17 we'll have a recess until tomorrow morning, so
18 let's start with NRDC.

19 MS. ROBB: Could --

20 COMMISSIONER HUDSON: Do you have time
21 constraints?

22 THE WITNESS: It would be great, if it's
23 possible, to complete today, yeah.

24 MS. GRUNDMANN: I will commit to going as
25 quickly as I can.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

681

1 MS. LINK: That's what we're doing.

2 COMMISSIONER HUDSON: We will just wrap
3 you up, yeah.

4 So let's go, NRDC.

5 CROSS-EXAMINATION

6 BY MS. JAFFE:

7 Q Good afternoon, Dr. Stover. My name is
8 Dorothy Jaffe, on behalf of Sierra Club and NRDC.

9 A Good afternoon.

10 Q And I will try to make this as painless as
11 possible.

12 Let's see. So starting on page 1 to 2 of
13 your direct, you state that you're not an employee
14 of Microsoft, that you can speak to Microsoft's
15 interests generally and Microsoft's interests in
16 this IRP; is that correct?

17 A Sure, yep.

18 Q Okay. And on page 2, line 4, you state
19 that Microsoft is investing to meet its
20 sustainability targets. And then you go into a
21 little bit more detail in Exhibit A of your
22 testimony where you discuss Microsoft shifting to
23 Power Purchase Agreements for green energy,
24 contracted for a hundred percent of
25 carbon-emitting electricity consumed by its data

Transcript of Hearing - Day 3
Conducted on April 16, 2025

682

1 centers.

2 Is that correct?

3 A That is correct, yep.

4 Q Okay.

5 A But I should clarify. Based on the --
6 yes. Yes, that's correct.

7 Q Yes, that's correct, okay, thank you.

8 When is Microsoft's target to match a
9 hundred percent electric consumption with green
10 energy?

11 A I can't speak to that directly. I'm not a
12 Microsoft employee.

13 Q But you can generally speak to the
14 information that's in Exhibit A?

15 A Yes.

16 Q Microsoft does have that target to match a
17 hundred percent of its data center electricity
18 consumption with green energy?

19 A That was my understanding based on public
20 information.

21 Q So just to put on the screen really
22 quickly, I have Microsoft's 2024 environmental
23 sustainability report.

24 Are you generally aware of this or their
25 sustainability targets as mentioned in Exhibit A?

Transcript of Hearing - Day 3
Conducted on April 16, 2025

683

1 A I'm generally aware that Microsoft has
2 sustainability targets. Again, I'm not a
3 Microsoft employee, I'm an electricity resource
4 planner, so I have not reviewed Microsoft's
5 specific 2024 sustainability report.

6 Q And do I understand that. But,
7 unfortunately, you did include an entire paragraph
8 in Exhibit A on Microsoft's investing to meet its
9 leading sustainability targets, and it goes into a
10 pretty substantial amount of detail.

11 So are you saying you cannot testify at
12 all about the information in that paragraph?

13 A I can speak to it generally, but, again,
14 based on public statements, based on my general
15 knowledge of Microsoft as a -- my general
16 knowledge based on public statements.

17 Q Okay. Well, we will try. Going back
18 directly to Exhibit A where you talk about
19 Microsoft having a target of 100 -- of supplying a
20 hundred percent of its electricity consumption
21 with green energy, do you see in this section
22 right here where it speaks specifically to
23 replacing a hundred percent of its electricity
24 consumption?

25 A I am generally aware that Microsoft has

Transcript of Hearing - Day 3
Conducted on April 16, 2025

684

1 stated this goal publicly, yes.

2 Q Okay. And this goal says by 2030?

3 A Based on this document, yes.

4 Q Okay. So in entering into these green
5 energy PPAs, is Microsoft ensuring that the green
6 energy is connected to the grid where the data
7 centers are located?

8 A Sorry. Can you clarify your question?

9 Q So if Microsoft is attempting to match a
10 hundred percent of its electricity consumption
11 from a data center with green energy, are those
12 green energy PPAs that they are entering into, are
13 they for projects within the grid that will serve
14 that data center or are these just generally PPAs
15 in another state, across the country, across the
16 ocean?

17 A Right. Apologies. I think we have
18 reached my limit of knowledge about Microsoft's
19 exact strategies towards meeting these goals.

20 Q Okay. Since you can't testify, it
21 appears, to the specifics of Microsoft
22 sustainability targets, would you like to strike
23 that language from Exhibit A, that entire
24 paragraph? Are you unable to sponsor that
25 testimony?

Transcript of Hearing - Day 3
Conducted on April 16, 2025

685

1 MS. ROBB: I'm going to object to that
2 question. The purpose of Exhibit A was to provide
3 some generally available public information of
4 Microsoft. That was the extent of his testimony
5 on that. He didn't expand on this in his
6 testimony, so I think it's improper to ask him to
7 go beyond what is in his written testimony. He
8 explained at the forefront of his testimony he was
9 not a Microsoft employee, and the statements that
10 he made in his testimony were derived from that
11 Exhibit A, which was provided in his testimony.

12 MS. JAFFE: But it is attached to his
13 direct testimony. He does sponsor it as
14 Exhibit A, and there is pretty specific detailed
15 information in here on the type of sustainability
16 targets that Microsoft has.

17 So if Dr. Stover cannot testify to that
18 information, then I would ask that the information
19 be stricken.

20 MS. ROBB: I disagree. Dr. Stover
21 provided that publicly available information as
22 context for the few sentences that he had on
23 sustainability -- on Microsoft's interest in
24 sustainability.

25 He's not testifying as a Microsoft

Transcript of Hearing - Day 3
Conducted on April 16, 2025

686

1 employee. He's testifying as a load forecasting
2 expert in this proceeding, and he made that clear
3 at the outset of his testimony.

4 COMMISSIONER HUDSON: Yeah, we'll keep it
5 in.

6 MS. JAFFE: Okay.

7 BY MS. JAFFE:

8 Q Well, let's scroll to page 2, line 9 of
9 your direct testimony where you state that
10 Microsoft wants reliable, sustainable, and
11 cost-effective energy.

12 Has Microsoft told Dominion that it wants
13 sustainable energy?

14 A I can't speak to the direct conversations
15 between Microsoft and Dominion other than to point
16 out some of the public statements that Microsoft
17 has spoken to.

18 Q Okay. And on same page, 2, lines 11
19 through 12, you state that: Microsoft is keenly
20 interested in the impact that Dominion's IRP will
21 have on the development of its future facilities;
22 is that correct?

23 A I'm so sorry. I apologize. Could you
24 repeat your question.

25 Q So page 2, lines 11 to 12, you state that:

Transcript of Hearing - Day 3
Conducted on April 16, 2025

687

1 Microsoft is keenly interested in the impact that
2 Dominion's IRP will have on the development of its
3 future facilities.

4 Do you see that?

5 A Yes.

6 Q So if Microsoft is interested in the
7 impacts that Dominion's IRP will have on its data
8 centers, and as you state in Exhibit A, Microsoft
9 has sustainable energy goals, then am I right to
10 conclude that Microsoft would not support the use
11 of fossil fuels?

12 A I don't think that's necessarily fair. As
13 I've mentioned previously, all these decisions
14 have to be made within the context of balancing
15 some of these decisions of reliable, affordable,
16 and increasing with green energy.

17 I can't speak for Microsoft specifically,
18 but I would speak for Microsoft generally that I
19 am aware based on public statements that Microsoft
20 is working towards very ambitious decarbonization
21 goals.

22 Q Okay. And how many data centers does
23 Microsoft have in Virginia?

24 A I can't speak to that specifically.

25 Q And so do you also not know how many more

Transcript of Hearing - Day 3
Conducted on April 16, 2025

688

1 they plan to build in Mecklenburg County?

2 A I can't speak to that specifically.

3 Q You do discuss on page 5, lines 4 to 7, a
4 list of Dominion's proposed plans to build a
5 variety of resources over the next 15 years. You
6 include solar, onshore wind, battery storage, and
7 SMRs, but your list does leave out a few other key
8 resources.

9 So are you aware that Dominion's portfolio
10 in this IRP also has 6 gigawatts of new fossil
11 generation?

12 A Yes, I'm aware of that.

13 Q Okay. And so if Microsoft is aware of the
14 6 gigawatts of new fossil generation in this IRP
15 to feed significant load growth but Microsoft
16 is -- still wants the Commission to approve this
17 IRP even though it has sustainability targets for
18 its own company and data centers?

19 A Again, I think that would be asking me to
20 speak for Microsoft, and I can't speak for
21 Microsoft. But -- yeah.

22 But me as a resource planner, I think it's
23 important to keep in mind the -- the 2045
24 deadline, I think, is going to be critical towards
25 informing some of these thought processes towards

Transcript of Hearing - Day 3
Conducted on April 16, 2025

689

1 achieving the decarbonization envisioned in the
2 VCEA.

3 I'd also specifically highlight that
4 there's gas chosen to be built in both the
5 Commission order supplement, so it does appear
6 that natural gas builds are a part of data
7 center -- Dominion's all-of-the-above strategy no
8 matter the future.

9 Again, not speaking for Microsoft but just
10 thinking myself as a resource planner, I would
11 also observe that the higher load growth does
12 enable some of these key technologies that we have
13 previously discussed, specifically SMRs and
14 offshore wind, and creates a larger customer base.

15 So, specifically, my observation. Again,
16 not speaking for Microsoft, just me as a resource
17 planner, if I were to have to think about this
18 2045 target.

19 This is a challenge that Dominion has,
20 kind of no matter what, and having some -- this
21 higher load growth and some of these customers
22 that, again, based on public statements, are
23 really open to these decarbonization futures, it's
24 going to allow them to better position to meet
25 this target, to actually unlock some of the

Transcript of Hearing - Day 3
Conducted on April 16, 2025

690

1 technologies that are needed to meet this critical
2 deadline in 2045.

3 Q Right. And I understand that those are
4 your general observations as a resource planner,
5 but you are a resource planner testifying as an
6 expert witness on behalf of Microsoft.

7 And so my question was whether Dominion's
8 2024 IRP and its build-out of fossil generation is
9 in line with Microsoft's sustainability targets
10 and goals.

11 A I think it's critical that we -- I think
12 it's fair to say that there could be further
13 decarbonization in the future given the 2045
14 deadline under the VCEA and in line with Microsoft
15 general desire for finding a decarbonized future.

16 Q Okay. Thank you.

17 So in addition to Microsoft's goals to
18 have a hundred percent of its electricity
19 consumption matched with zero carbon energy
20 purchases, do you also see Microsoft's additional
21 target of reducing its scope 1 and 2 emissions to
22 near zero by increasing energy efficiency,
23 decarbonization of operations, and reaching a
24 hundred percent renewable energy by 2025?

25 A Again, generally aware of these

Transcript of Hearing - Day 3
Conducted on April 16, 2025

691

1 statements.

2 Q Okay. That's fair.

3 So being generally aware that they have a
4 goal of increasing energy efficiency and
5 decarbonizing its operations, would one method to
6 decarbonize their operations be to switch from
7 using backup diesel generators to solar or
8 storage?

9 A I can't speak to Microsoft-specific goals
10 and their specific strategies as a data center.
11 However, I can speak to some of the challenges of
12 using solar and storage in particular as -- just
13 as a behind-the-meter resource planning
14 perspective. And --

15 Q Well, I'm sorry to interrupt, but my
16 question wasn't whether or not there's challenges
17 to it. I'm just asking if it's a possibility that
18 that could be used as an alternative if their goal
19 is to decrease their carbon footprint.

20 A I can't speak to Microsoft's plans
21 specifically on some of the behind-the-meter
22 generation.

23 Q Well, as a resource planner, could you
24 replace backup diesel generators with renewable
25 energy?

Transcript of Hearing - Day 3
Conducted on April 16, 2025

692

1 A First of all, we're talking about
2 behind-the-meter generation. That's used for an
3 entirely different role.

4 So if we switch the conversation to
5 front-of-meter generation, I'd be happy to discuss
6 those types of challenges of one-for-one
7 replacements between dispatchable resources and
8 some of the energy limited and variable resources
9 you're talking about.

10 Q So you can't speak to whether or not it's
11 available to have a storage system paired with
12 solar as an alternative to backup diesel
13 generators?

14 A I think it's unfair to say that these are
15 one-for-one replacements, which has been
16 highlighted specifically within the PJM when they
17 are talking about the ELCCs. If you look at the
18 very low ELCC accreditation given to solar, it's
19 very challenging for solar to be a capacity
20 resource.

21 Not saying that solar doesn't have a
22 fantastic position in a balanced portfolio, but,
23 again, when we're talking about making portfolio
24 selections, they have to be considered within the
25 wider context of balancing these three things.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

693

1 My concern of saying that these are
2 one-for-one replacements is that they are not
3 one-for-one replacements and that latter context
4 needs to be considered.

5 Q Right. And that's fair. I wasn't
6 necessarily asking, and apologies for the
7 confusion, whether or not that was a one-to-one
8 replacement, like, you could replace every single
9 diesel generator because some of these sites
10 have -- I have seen some as big as 360 on-site
11 diesel generators.

12 Setting aside the one-for-one ratio, let's
13 use the word "some."

14 Could you replace some of those diesel
15 generators with renewable sources?

16 A Again, not comfortable speaking to
17 behind-the-meter generation because I realize that
18 comes with engineering and land constraints, so I
19 really want to put that aside.

20 However, I think this raises a great
21 question about -- just thinking about resource
22 planning in general when we're talking about
23 getting the right resource mix.

24 And certainly solar and storage can play a
25 great balance portfolio that can augment a wide

Transcript of Hearing - Day 3
Conducted on April 16, 2025

694

1 range of resources when speaking about some of
2 these contexts that I raised.

3 Specifically with the testimony that
4 was -- study on the 24/7 claim, I actually think
5 that really hits the nail on the head of some of
6 the challenges that come with solar and storage
7 only, that you're exposed to multiple weather
8 years in a way that you aren't with dispatchable
9 resources.

10 Again, with other benefits, so you have to
11 kind of think through all of these implications.

12 So, again, notwithstanding that it's not
13 something Microsoft could explore, you'll have to
14 speak to Microsoft, and don't want to speak to
15 engineering constraints.

16 But thinking front-of-meter, again, could
17 be great least cost resources, but just thinking
18 through the full context of how to make these
19 sorts of balanced decisions.

20 Q Okay. Thank you.

21 And also in this reducing direct
22 emissions, it talks about increasing energy
23 efficiency.

24 Would it be fair to say that a data center
25 such as Microsoft could set a specific power usage

Transcript of Hearing - Day 3
Conducted on April 16, 2025

695

1 effect at this number for its facility in order to
2 increase its energy efficiency?

3 A Again, I'm not going to speak about the
4 specific engineering challenges of achieving some
5 of these targets in a data center, but certainly
6 agree that pursuing energy efficiency goals could
7 be a part of a data center strategy given the
8 right plan.

9 Q Would you also then agree that looking for
10 opportunities for demand response flexibility
11 could also be an opportunity to help shift load
12 during peak times?

13 A I think demand response could be included
14 as an optional strategy for all types of
15 resources. Again, would want to be thoughtful,
16 again, in this wider context that I've been
17 talking about of what that demand response
18 resource is.

19 And making sure that the demand response
20 resource, A, doesn't have further negative
21 implications, specifically some of my concerns of
22 abusing behind-the-meter generation for demand
23 responses if it's a diesel generator. I don't
24 think that's the right resource for a variety of
25 reasons; EPA limits and emissions, one issue.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

696

1 And the other issue I would raise with
2 demand response is that it has declining efficacy,
3 as we have seen with some of these other
4 resources, that the ELCC declines over time.

5 So I certainly think this could be a
6 meaningful solution as a part of a balanced
7 portfolio as long as these further factors are
8 just -- it's fully thought through and assessed
9 very carefully.

10 Q Okay. Thanks. So on page 6, lines 7 and
11 8, you discussed the risk of forecasting errors
12 overestimating demand risks can lead to stranded
13 assets, while underestimating lead to system
14 reliability issues.

15 Do you see that?

16 A Yep.

17 Q So based on these concerns and the
18 documents that were listed as Exhibits 40 through
19 42, the news articles Mr. Allmond asked you about
20 regarding the cancellation of multiple Microsoft
21 projects, would those cancellations -- and this
22 could be for any data center; we're just talking
23 from a resource-planning perspective -- would
24 cancellations like that lead to forecasting errors
25 and the possibility of stranded assets?

Transcript of Hearing - Day 3
Conducted on April 16, 2025

697

1 A I should clarify. I agree that
2 forecasting error is a challenge for all types of
3 classes. I should clarify this statement was
4 specifically talking about some of the context
5 that we have been talking about earlier of
6 operating near these build limits.

7 So my specific concern is that Dominion
8 has very limited ability to adjust in the opposite
9 direction given that it's reaching some of the
10 build limits.

11 Q So is -- I'm sorry. Maybe I'll repeat the
12 question.

13 So do the cancellations of projects, such
14 as the ones identified in Exhibit 40 through 42,
15 does that have any impact on load forecasting in
16 general and the anticipation of potential
17 cancellations?

18 A Yeah, I can't speak to those specific kind
19 of general news reports. I certainly agree that
20 there is potential forecasting error for all
21 classes of customers, certainly data centers but
22 other customers as well. And this is a known
23 challenge in resource planning. And I think some
24 of the other suggestions would refer back to my
25 earlier suggestion that some increased

Transcript of Hearing - Day 3
Conducted on April 16, 2025

698

1 scenario-based planning could hedge against some
2 of these challenges that you highlight.

3 MS. JAFFE: Okay. Thank you. No further
4 questions.

5 COMMISSIONER HUDSON: Thank you.
6 United?

7 MS. POLLARD: No questions, Your Honor.

8 COMMISSIONER HUDSON: Clean Virginia?

9 MR. REISINGER: No questions, Your Honor.

10 COMMISSIONER HUDSON: DCC?

11 MR. MURPHEY: No questions, Your Honor.

12 COMMISSIONER HUDSON: Walmart?

13 CHAIRMAN TOWELL: Before Walmart goes, I
14 have to apologize. I'm going to have to excuse
15 myself. I recognize that it's somewhat unfair
16 that folks on this side of the bench get to bail
17 and that other folks have to continue on,
18 especially when it is for family child pickup, so
19 my apologies. I will have the opportunity to read
20 the transcript, so everyone please speak slowly
21 and clearly so that our stenographer can do a good
22 job with that. And I'll see you-all tomorrow.
23 Thank you.

24 CROSS-EXAMINATION

25 BY MS. GRUNDMANN:

Transcript of Hearing - Day 3
Conducted on April 16, 2025

699

1 Q Good afternoon, Dr. Stover. My name is
2 Carrie Grundmann on behalf of Walmart. I want to
3 ask some follow-up questions, and I'm going to try
4 and do it pretty quickly.

5 I heard you say twice that from a
6 resource-planning perspective, you felt like
7 Dominion engaged in an all-of-the-above approach.

8 Do you recall making a statement to that
9 nature?

10 A Generally, with the context of there
11 perhaps could be further -- some of the
12 recommendations that I've highlighted.

13 Q And were you in the room yesterday or did
14 you listen to the proceeding?

15 A Yes.

16 Q Okay. And so then did you see the
17 document that I marked as Exhibit 6?

18 A Yes.

19 Q Okay. And so from a resource-planning
20 perspective, I want to know your opinion.

21 Do you think it was reasonable that the
22 Company did not model eight-hour or longer battery
23 storage as being a selectable resource at any
24 point over the 15-year planning period?

25 A I think this is an area where Dominion

Transcript of Hearing - Day 3
Conducted on April 16, 2025

700

1 could improve.

2 Q So that means you did not think it was
3 reasonable?

4 A I think that's a fair assessment.

5 Q Do you think that it was reasonable that
6 they not even assess as a potential resource,
7 whether it was modeled or not, large-scale
8 nuclear?

9 A I'd specifically highlight some of the
10 challenges that come with large-scale nuclear when
11 we talk about some of the financial risk.
12 However, I certainly theorize that Dominion could
13 have modeled it. I just specifically would
14 highlight that that -- in my view, that specific
15 technologies brings real financial challenges from
16 exposure for potential development.

17 Q Do you compare the financial challenges of
18 large-scale nuclear to SMRs?

19 A No, I don't, because they are smaller
20 sequential investments.

21 Q For which there's none in commercial
22 operation in the United States?

23 A I think that's fair, but we also have to
24 highlight some of the risks posed by large-scale
25 nuclear as witnessed recently by some of the cost

Transcript of Hearing - Day 3
Conducted on April 16, 2025

701

1 overruns in Vogtle.

2 Q Do you think that -- do you distinguish
3 between putting four SMRs that are 300 megawatts
4 each at a single site as being less risky than one
5 1000-megawatt large-scale nuclear at a single
6 site?

7 A I think it's fair to -- I want to speak
8 about this generally, again, as a resource
9 planner --

10 Q That's -- all my questions are attempting
11 to be in the resource --

12 A I'm not a finance developer. I think
13 these are really important questions when we're
14 talking about resource planning. And I think you
15 raise some good suggestions. I guess my
16 improvements for recommendation that talking about
17 some of these technology uncertainties and risks
18 is a critical part of resource planning.

19 I think you raise some really good points
20 about talking about different technology futures,
21 but that those have to be done thoughtfully and
22 within the context of potential risk. So I could
23 envision that Dominion could include -- defer to
24 them on some of their specific concerns about
25 different technology risks.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

702

1 Q Now -- thank you for that, Dr. Stover.
2 What I want to do is I want to -- I am not
3 attempting, in putting up Exhibits 40 and 42, to
4 single out Microsoft, but I want to talk about as
5 your perspective as a resource planner within the
6 context of statements that have been made at the
7 corporate level by Microsoft. So I want to make
8 sure we are pulling this back to the
9 resource-planning perspective.

10 A Sure.

11 Q So let me start with, it is your
12 recommendation thus far that the Commission should
13 accept the Company's data center forecast as
14 reasonable; is that correct?

15 A As a baseline for this IRP with some of
16 the recommendations I suggest in the future.

17 Q So then I want to go through, very
18 quickly -- I have got Exhibit 40, which my notes
19 only reflect that this was an article from
20 February of 2025, and I am focusing on this
21 statement here at the top of the page from what I
22 believe to be Microsoft CEO Satya Nadella, where
23 she said -- he or she said, quote: There will be
24 an overbuild of AI infrastructure. And said his
25 company will be, quote: Leasing a lot of capacity

Transcript of Hearing - Day 3
Conducted on April 16, 2025

703

1 in '27 and '28.

2 So you see that statement there?

3 A Yeah, I see the statement.

4 Q And then I want to go -- I want to pull up
5 this next statement. They talk about here -- and
6 there's sort of this sort of long statement, and
7 so I'll read parts of it -- but essentially,
8 they -- they're talking about having made the
9 decision to pull back -- this is in -- let me go
10 back to clarify the record. This is Exhibit 42.
11 This is with respect to the decision to back away
12 from its Licking County \$1 billion data center.

13 But the context of the statement is that
14 they have made significant investments, they are
15 well positioned for our current increasing demand.
16 Last year they added more capacity than any in
17 prior history.

18 While we may strategically pace or adjust
19 our infrastructure in some areas, we continue to
20 grow in all regions.

21 Then goes on to say, noting a post from
22 Microsoft Cloud's president, Noelle Walsh, that
23 basically says that in recent years, demand for
24 our cloud and AI services grew more than we could
25 have ever anticipated, and in order to meet this

Transcript of Hearing - Day 3
Conducted on April 16, 2025

704

1 opportunity, we began executing the largest and
2 most ambitious infrastructure scaling project in
3 our history.

4 Next paragraph: By nature, any
5 significant new endeavor of this size and scale
6 requires agility and refinement. What this means
7 is we are slowing or pausing some early stage
8 projects. While we may strategically pace our
9 plans, we will continue to grow strongly and
10 allocate investments that stay aligned with
11 business priorities and customer demand.

12 So I provide the context for those
13 statements to say if the data center industry is,
14 as I believe Ap Voices Witness Jim Wilson
15 suggested, building out infrastructure for the
16 future but not necessary reply planning to use all
17 of that infrastructure, does that present any
18 concerns to you, as a resource planning expert, in
19 terms of what actual load and energy usage the
20 Company should expect on its system?

21 A I agree that being very thoughtful about
22 load forecasting and proactive and being in
23 contact with its customers is critical, and that
24 forecasts do adjust over time. However, I don't
25 agree with Witness Wilson's characterization,

Transcript of Hearing - Day 3
Conducted on April 16, 2025

705

1 specifically kind of one area I would highlight
2 that -- again, I think Dominion is better
3 positioned, but my observation and why I feel
4 comfortable with their forecast as a base load is
5 that they specifically forecast meter demand and,
6 as a savvy operator, understand this difference
7 between building out capacity and actual meter
8 demand.

9 So specifically I would highlight that
10 context of Dominion's understanding of this
11 difference based on their statements, based on
12 their document, the document that was raised with
13 Witness Wilson. So generally agree that it's very
14 critical that Dominion stays in constant contact
15 with its customers, which is my understanding that
16 it does, and that it forecasts for this actual
17 meter demand.

18 Q But -- so let's back up on that.
19 Customers who have a desire to have infrastructure
20 available when they are ready for it, would you
21 expect them to tell the Company, we don't actually
22 expect to build this out; we just want to have it
23 available? Or are they likely to do what is
24 necessary to preserve what I would describe as the
25 optionality of that capacity in the future?

Transcript of Hearing - Day 3
Conducted on April 16, 2025

706

1 A Again, I think this is getting at some of
2 the data center strategies. I can only speak to
3 some of the load forecasting that Dominion has
4 performed.

5 It's my understanding that their
6 forecasting is quite accurate, has proven to be
7 quite accurate on actual meter demand, so they
8 have a proven track record here. However, I agree
9 there is room for increased transparency to
10 assuage some of these concerns from various
11 stakeholders.

12 Q I just want to make sure that, you know,
13 so is it your position that we should base the
14 past as an indicator of what's going to happen in
15 the future?

16 A No. And I very much appreciate that
17 clarifying question. It has to be both. The past
18 is a critical indicator of history, as well as
19 needing to use fundamental analysis, customer
20 conversation, customer intelligence, and marrying
21 the two when getting the right approach. And this
22 is best practice in forecasting across all
23 classes.

24 For example, I'd highlight some of the
25 challenges of forecasting electric vehicles.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

707

1 Challenging that data gives us a lot of
2 information on how EVs behave, but you need to get
3 ahead of what technologies are changing, policies
4 are changing, and other aspects. This marrying of
5 the two, looking in the past to find trends while
6 going to the future of customer intelligence, in
7 my view, is the right approach.

8 I defer to Dominion to speak to the exact
9 implementation of how they do that, but observe
10 generally they follow these best principles.

11 Q And you are -- sorry. I apologize if I
12 cut you off.

13 Were you finished with your answer?

14 A Yes.

15 Q You are aware, are you not, of the
16 statutory construct in Virginia which is that this
17 Commission is obligated to essentially determine
18 whether the IRP is reasonable and in the public
19 interest?

20 A Yes.

21 Q And while it does not check a box for a
22 future CPCN, it does give the Commission and the
23 parties an insight into the resources that the
24 Company may seek to build as a result of its load
25 forecast and its needs over the 15-year planning

Transcript of Hearing - Day 3
Conducted on April 16, 2025

708

1 horizon?

2 A That's correct.

3 MS. GRUNDMANN: Okay. Thank you so much.

4 CROSS-EXAMINATION

5 BY MR. JAFFE:

6 Q Good afternoon, Dr. Stover. Cale Jaffe,
7 on behalf of Piedmont Environmental Council. Just
8 a couple of quick questions about what's been
9 introduced as Exhibit 39 --

10 A Sure.

11 Q -- which is the PJM load adjustment
12 request.

13 This is a PowerPoint presentation; is that
14 right?

15 A Yes, from the load analysis subcommittee,
16 yep.

17 Q All right. And just quick question
18 this -- I'll zoom out here. There we go.

19 This is on page 16. This is the forecast
20 in the -- for the entire DOM Zone on data center
21 forecast; is that right?

22 A Yep, that's right.

23 Q And that goes out to 2045?

24 A Yep.

25 Q And then the next page on 17 is the

Transcript of Hearing - Day 3
Conducted on April 16, 2025

709

1 Dominion Energy, the investor and utility data
2 center forecast; is that correct? I've drawn some
3 blue lines on there, but ignore that.

4 A Yeah, that's right.

5 Q This is the -- all right. So this is
6 Dominion Energy the Company in this case?

7 A That's my understanding, correct.

8 Q Okay. And, again, this chart goes out to
9 2045 as well; is that right?

10 A Correct.

11 Q And the IRP docket that we're in, the
12 forecast goes through 2039, correct?

13 A Correct.

14 Q Can you just state what value we get by
15 looking out this additional six years in terms of
16 the data center load forecast? What are we
17 learning if we look out an additional six years
18 from 2039 to 2045?

19 A Specifically, first highlight, PJM does
20 all its forecasts out to 2045, so this is in line
21 with their standard approach. So this was their
22 forecast for those remaining years, as you
23 highlight.

24 Q Can you tell me what we're learning with
25 the additional six years of data, this

Transcript of Hearing - Day 3
Conducted on April 16, 2025

710

1 additional -- it looks to be nearly -- not quite
2 4,000 megawatts of additional data center demand
3 in those next four years.

4 What does that tell you as a resource
5 planner?

6 A Apologies if I'm not answering your
7 question; I might not slightly understand it. But
8 just this is my understanding for those remaining
9 years -- the forecast for the remaining years.

10 Q Do we know -- does it help to plan to know
11 farther -- to have data for more years into the
12 future?

13 A Sure. I think planning in the future,
14 specifically if we're talking about 2045 in
15 particular, yeah, I agree that's a key year. If
16 that's what you're getting at.

17 MR. JAFFE: That's all. Thank you, Your
18 Honor.

19 COMMISSIONER HUDSON: City of Alexandria?

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

22 CROSS-EXAMINATION

23 BY MR. WINSTON:

24 Q Good evening, Dr. Stover. In your
25 experience as a resource planner, have you ever

Transcript of Hearing - Day 3
Conducted on April 16, 2025

711

1 seen demand-side resources modeled as a selectable
2 resource?

3 A Yes.

4 Q And do you agree with this statement that
5 there are currently several energy efficiency
6 technologies specifically applicable to data
7 centers that can lead to significant energy
8 savings, including advanced control system
9 cooling, chill beam cooling systems, AI-driven
10 optimization cooling systems, and the like?

11 A I am -- clarify, I'm not going to speak to
12 the exact engineering implications of a data
13 center. I am aware generally as resource planner
14 this is a topic that's being proposed and, yeah,
15 shows some promise. I'm not aware that any of
16 these are achievable at scale in a meaningful way,
17 but aware of them generally as emerging ideas.

18 Q Do you agree with the general statement
19 that having a resource plan that does model
20 demand-side resources is appropriate in an IRP and
21 can lead to valuable discoveries?

22 A I -- there's been a great debate on
23 whether or not demand-side management should be
24 modeled as a selectable resource or on the load
25 side, and I've seen it done both ways and don't

Transcript of Hearing - Day 3
Conducted on April 16, 2025

712

1 take a position on it. I do agree that
2 demand-side management can be a valuable resource
3 as a part of a balanced portfolio, so certainly
4 appreciate some of the comments and views
5 discussed here.

6 Again, talking about the wider context and
7 thoughtfulness of a modeling approach, just kind
8 of one recommendation that I don't think has been
9 brought up is making sure that we're being careful
10 to get through the some of the capacity
11 implications of how these behave in extreme
12 events. And that was my recommendation whether
13 they were modeled on the load side or on the
14 selectable resource side. Simply just to make
15 sure that we're thinking through the resource
16 implications.

17 So in conclusion, it seems a reasonable
18 approach to getting to a balanced portfolio.

19 Q I appreciate that. And you've seen, in
20 your experience, elegant models that do have
21 demand-side resources as selectable resources?

22 A I don't want to under appreciate their
23 challenges, so do recommend that some of the --
24 which is why I say don't take a position. Both
25 sides, I think, have made some great points.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

713

1 Specifically one of the challenges I would
2 highlight, depending on the resource, if we're
3 talking about behind-the-meter battery or
4 in-front-of-the-meter battery, you really got to
5 think through the charging logic and how it
6 interacts on what's going on with the grid.

7 So, again, it seems like an interesting
8 and great opportunity for a balanced approach, as
9 long as we really are careful and thoughtful of
10 thinking through the bigger context of some of
11 these resources.

12 Q Final question. You did say, though, in
13 an IRP, and I think you just said something very
14 similar right now, that you have to see how all of
15 the resources interact with one another, I think?

16 A Yep.

17 Q You used some other term that I really
18 liked and I can't remember right now, but in the
19 IRP, if you're modeling demand-side management
20 only as a load adjustment and not as a selectable
21 resource, wouldn't you agree that you are
22 sacrificing some of that synergistic analysis that
23 you recommended?

24 A Not -- not necessarily. I've seen it done
25 really well on both sides, but -- so I don't think

Transcript of Hearing - Day 3
Conducted on April 16, 2025

714

1 it's necessarily fair to say either way, as long
2 as we think through that logic.

3 MR. WINSTON: Nothing further, Your Honor.

4 COMMISSIONER HUDSON: Consumer Counsel?

5 MR. BARTLEY: No questions, Your Honor.

6 COMMISSIONER HUDSON: Staff?

7 MS. PIERCE: Yes, Your Honor.

8 CROSS-EXAMINATION

9 BY MS. PIERCE:

10 Q Good evening, Kiva Pierce with
11 Consumer Counsel. It's been a long day.
12 Commission Staff. I want to make sure at a high
13 level I understand, because there's been a lot of
14 back-and-forth here today.

15 Your testimony as a resource planner is
16 that Dominion's current IRP is reasonable; is that
17 correct? Is that fair?

18 A For -- for this time around with some
19 improvements in the future.

20 Q Okay. And one of your recommendations for
21 a future IRP is that the Company should consider a
22 wider range of technologies; is that right?

23 A That's correct.

24 Q And one of those technologies is long
25 duration energy storage; is that correct.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

715

1 A That's correct.

2 Q Okay. Thank you. And during your
3 surrebuttal today, you indicated that you agreed
4 with Staff Witness Smith with his recommendation
5 about the nodal or locational modeling; is that
6 correct?

7 A I should clarify. My understanding of
8 Staff Witness Smith's recommendation was that it
9 was more of a hub-and-spoke-type model, as
10 recommended by Witness Laws. Apologies if I
11 misunderstood his recommendation. But the general
12 thought of geographic fidelity, I very much agree
13 with.

14 Q Okay. And in your surrebuttal, I wrote
15 down that you also said you would even take it
16 further to include transmission limits.

17 Can you explain you what meant by that?

18 A Yeah. So, specifically, I really like
19 this recommendation, and my suggestion was instead
20 of just thinking about it as a geographic factor,
21 I would sort of say, yes, and let's look at very
22 key transmission limits. So we're picking those
23 zones very carefully so we can get ahead of some
24 of the these challenges.

25 So take that recommendation even further

Transcript of Hearing - Day 3
Conducted on April 16, 2025

716

1 and look at these key transmission limits, and
2 this is how a hub-and-spoke type model would be
3 set up, break it into different zones with these
4 known transmission limits in between them.

5 Q When you say "transmission limits," would
6 that mean, like, transmission constraints on the
7 system?

8 A Yeah. It's exactly the model -- the type
9 of analysis that Dominion did for its ability to
10 import from outside of DOM Zone, just thinking
11 about it within the DOM Zone.

12 MS. PIERCE: All right. Thank you very
13 much. No further questions.

14 COMMISSIONER HUDSON: Thank you.
15 Dominion?

16 MS. LINK: Thank you, Your Honor.

17 CROSS-EXAMINATION

18 BY MS. LINK:

19 Q Good evening, Dr. Stover. I realize
20 you've been up there quite a bit and I'm standing
21 between you and freedom.

22 Just going to jump around a little bit.
23 Question for you on Exhibit 39. This says it's
24 the Load Adjustment Request Summary for 2025 Load
25 Forecast - Preliminary, dated November 25th, 2024,

Transcript of Hearing - Day 3
Conducted on April 16, 2025

717

1 correct?

2 A Yes.

3 Q Okay. So for purposes of the IRP filed by
4 Dominion of October 15th of 2024, that was based
5 on the 2024 PJM load forecast, correct?

6 A And that's a fair clarification. I --
7 yeah -- yes.

8 Q So this is sort of the next iteration that
9 could go into the IRP update, correct?

10 A Correct.

11 Q Okay. So then when we're talking about
12 all these different charts -- I just put up
13 page 17 of that exhibit.

14 It goes from 2025 to 2045, which is a
15 20-year time frame, correct?

16 A Correct.

17 Q And that's different from the 2024 PJM
18 load forecast that went 15 years, correct?

19 A If memory serves, subject to check, it did
20 end in 2039, that's correct.

21 Q Okay. Isn't it true that PJM extended the
22 forecast from 15 to 20 years in keeping with the
23 new order 1920 long-term transmission planning
24 rule from FERC?

25 A I -- the exact reason -- subject to

Transcript of Hearing - Day 3
Conducted on April 16, 2025

718

1 memory, that sounds correct.

2 Q Okay. So just in terms of what was
3 available to the Company when it did a 15-year
4 view for the 2024 IRP, it was a 15-year PJM load
5 forecast, correct?

6 A That's fair.

7 Q Okay. Let's move to another topic. This
8 is page 14 of your testimony, and I'm on line 1
9 where you talk about Dominion could adopt an
10 alternative approach by jointly planning
11 generation and transmission systems, which is
12 sometimes described as an integrated system
13 planning approach.

14 Do you see that?

15 A Yes.

16 Q Okay. And if I understood your
17 surrebuttal correctly, I believe you said
18 something like, I'm not a lawyer, but if they
19 could do it, they could be getting ahead of some
20 transmission constraints.

21 So setting aside the legal reasons that
22 the Company addressed in Dr. Vance's rebuttal,
23 what is an example -- a specific example of
24 jointly planning generation and transmission
25 systems that you are envisioning with this

Transcript of Hearing - Day 3
Conducted on April 16, 2025

719

1 recommendation?

2 A Yes. Specifically, these are emerging
3 concepts, so I'm aware of other IRPs, for example,
4 PacifiCorp, included transmission as a selectable
5 resource. However, I really recognize that this
6 is an emerging concept and it can't be done
7 overnight.

8 My specific recommendation for future IRPs
9 would be some of the recommendations that have
10 come up with -- such as Staff Witness Smith and
11 Dr. Laws, more at looking at some of these smaller
12 sub zones as a great way to get ahead of some of
13 these challenges.

14 Q Okay. So you recognize that the FERC
15 Transmission Standards of Conduct are a real rule
16 that the Company has to abide by?

17 A I don't think that's fair. There's a fair
18 amount of public resources that could be leveraged
19 to make some great decisions. Specifically,
20 there's a lot of information about load within the
21 DOM Zone.

22 And I also think it's fairly -- doesn't
23 fully appreciate the degree to which Dominion LSE
24 is exposed to some of the transmission challenges,
25 so I think it's critical -- recognizing some of

Transcript of Hearing - Day 3
Conducted on April 16, 2025

720

1 the legal challenges, I think it's at least
2 critical that we think about this wider context
3 and at least think about Dominion's role as a
4 transmission operator.

5 So fair enough that we have to honor FERC
6 regulations, but we can use a wide amount of
7 public information from PJM to start making some
8 of these decisions.

9 Q Okay. Well, that's helpful. You're not
10 saying jointly planned transmission and generation
11 with the nonpublic information?

12 A Absolutely. But just highlight that
13 there's some really great public information
14 through PJM that could be very useful in some of
15 these types of efforts.

16 Q Fair enough. Thank you.

17 Moving to another topic, there was some
18 discussion you had with Mr. Allmond about the
19 sensitivities the Company conducted?

20 A That's right.

21 Q And this is Section 5.3 of the IRP on the
22 screen, page 69. And I believe I heard some
23 discussion -- something to the effect of plus or
24 minus 5 percent isn't going to cut it.

25 A I should clarify. My issue is not with

Transcript of Hearing - Day 3
Conducted on April 16, 2025

721

1 the exact number, just providing further context
2 of why this exact number was chosen.

3 Q Okay.

4 A So if we point at peer utilities -- and
5 even some of the concepts that Witness Wilson,
6 this is a widely used concept in IRPs to have
7 these kind of internally consistent, thematic
8 narratives that envision a various future and not
9 just on the load side.

10 So no issue with the exact number, just a
11 suggestion in the future of how to kind of explain
12 how we got to that number a little more clearly.

13 Q So I just wanted to make sure you saw this
14 description of how, you know, in the high-load
15 forecast, you modeled data center load forecast
16 5 percent higher in the first year, growing in a
17 linear fashion to 20 percent higher by 2039, and
18 then also did the EE. They, you know, took EE
19 down and that basically ended up with a high-load
20 forecast which started at 1.5 percent higher and
21 then moving to 11.5 percent higher by 2039.

22 You, like, read those descriptions?

23 A Yes. I was aware of it, yep.

24 Q Okay. I just wanted to make sure you saw
25 those descriptions.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

722

1 A My recommendation is that it does appear
2 that the number is chosen somewhat arbitrarily and
3 could just be explained how that number was come
4 to. But agree that this is a good-faith effort at
5 scenario planning.

6 Q Okay. So your point isn't -- you
7 recognize it's not just plus or minus 5 percent;
8 you just want more description of why the numbers
9 were chosen to begin with?

10 A Correct. And specifically Mr. Wilson had
11 recommended when we were talking about load
12 forecasting getting this internally consistent,
13 thematic narrative with a much discussed report.
14 However, I'll highlight this idea, internally
15 consistent, thematic narratives is a standard best
16 practice when we're talking about IRPs, and that's
17 a place we can go not just in the load-forecasting
18 side, but on the technology side as well as we
19 were discussing with Walmart counsel.

20 Q Okay. So then just one last area. It's
21 more of a clarification of your discussion. At
22 this point, I can't remember who it was with, but
23 it was discussion about whether there was a point
24 where you didn't agree with Mr. Wilson and you
25 talked about how the Company has proven to be

Transcript of Hearing - Day 3
Conducted on April 16, 2025

723

1 quite accurate on metered demand.

2 But my question is: What specifically did
3 you not agree with with Mr. Wilson?

4 A My concern is that he was raising a lot of
5 objections of talking about that Dominion in its
6 forecasting effort focused on forecasting for
7 capacity.

8 However, my understanding of reading the
9 report and all the documentation within the IRP,
10 Dominion -- based on my read, Dominion, seems to
11 me, that they are forecasting specifically on net
12 metered demand rather than on the capacity.

13 Certainly recognizing that that's a
14 context that needs to go into a good-faith
15 forecast and, again, my overall recommendation of
16 just making sure that we're thinking through the
17 broader context of how we're doing things.

18 MS. LINK: Thank you. I appreciate it.
19 Have a good evening.

20 REDIRECT EXAMINATION

21 BY MS. ROBB:

22 Q Dr. Stover, very little.

23 Do you recall having the conversation with
24 Appalachian Voices counsel, Mr. Allmond, about
25 fossil fuel units and whether Microsoft cared

Transcript of Hearing - Day 3
Conducted on April 16, 2025

724

1 about fossil fuel units being built?

2 A Yes.

3 Q Okay. Could you turn to page 16 of your
4 testimony, please, line 7 through 9?

5 A Yes.

6 Q Okay. That portion of your testimony, you
7 said you recommend that Dominion expand its
8 planning horizon and develop the strategy to
9 reliably and affordably exit from natural
10 gas-based resources to meet the VCEA
11 decarbonization mandates.

12 Would you consider that responsive to
13 Mr. Allmond's concerns?

14 A Yes. That was my best view that,
15 including this 2045, could best position Dominion
16 to envision this deep decarbonized future that's
17 generally based on Microsoft statements that it's
18 my belief that they care about.

19 Q And you recall the discussion about double
20 counting that you had with Mr. Allmond?

21 A Yes.

22 Q Okay. And you also recall the discussions
23 you just had with Walmart's counsel about
24 communicating with customers being important?

25 A Yes.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

725

1 Q Is there a relation between avoiding
2 double counting and having close communications
3 with customers?

4 A Yes, very much so.

5 Q All right. And I'm going to turn to
6 another section of your testimony that had some
7 discussion today. It's page 6 and it's lines 7
8 through 9. Okay. It says:

9 Reliable forecasting is critical:
10 Overestimating demand risks stranded costs [sic],
11 while underestimating could lead to system
12 reliability issues.

13 Now, in that thought, were you talking
14 about the risk of data center load being over --
15 being less than what it actually is?

16 A I was more talking about forecast error
17 more generally and Dominion's ability to be
18 flexible within its actual plan.

19 Q Okay. So -- and this is a risky question,
20 but I'm going to ask it any way.

21 Do you recall the conversation you had
22 with Sierra Club's counsel about backup generation
23 and whether solar and storage could be used for
24 that?

25 A Yeah.

Transcript of Hearing - Day 3
Conducted on April 16, 2025

726

1 Q Are you aware -- and I don't know if you
2 are or not -- that some companies have moved to
3 renewable biofuel for backup generation?

4 A I'm not aware. It doesn't surprise me,
5 though.

6 MS. ROBB: All right. No further
7 questions.

8 COMMISSIONER HUDSON: Thank you.

9 Dr. Stover, just want you to know you're
10 excused. Thank you so much.

11 All right. So let's stop here and
12 reconvene tomorrow at 10:00 am. And when we do
13 that, City of Alexandria, you'll be able to call
14 your witness.

15 MR. WINSTON: Thank you. We'll be ready.

16 COMMISSIONER HUDSON: We'll be in recess
17 until 10:00 a.m. tomorrow morning. Thank you.
18 We're in recess.

19 (The proceedings adjourned at 5:50 p.m.,
20 to be reconvened on April 17, 2025, at 10:00 a.m.)

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Transcript of Hearing - Day 3
Conducted on April 16, 2025

727

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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 16th 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
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Given under my hand this 21st day of
April, 2025, at Norfolk, Virginia.

Scott D. Gregg / RPT

Scott D. Gregg, RPR

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