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Case Number (if already assigned) PUR-2020-00035

Case Name (if known) Commonwealth of Virginia ex rel. State Corporation
Commission In re: Virginia Electric and Power
Company's Integrated Resource Plan filing pursuant to
Virginia Code § 56-597 et seq.

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December 18, 2020

BY ELECTRONIC FILING

Mr. Bernard Logan, Interim Clerk
c/o Document Control Center
State Corporation Commission
Tyler Building — First Floor
1300 East Main Street
Richmond, Virginia 23219

RE: Commonwealth of Virginia *ex rel.* State Corporation Commission

In re: Virginia Electric & Power Company's Integrated Resource Plan filing pursuant to Virginia Code § 56-597 et seq.

Case No. PUR-2020-00035

Dear Mr. Logan,

Please find attached for filing in the above-captioned case Sierra Club's Issue Matrix. Please do not hesitate to contact me if you have any questions regarding this filing.

Thank you,

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**COMMONWEALTH OF VIRGINIA
STATE CORPORATION COMMISSION**

COMMONWEALTH OF VIRGINIA, *ex rel.*

STATE CORPORATION COMMISSION

Case No. PUR-2020-00035

**In re: Virginia Electric and Power Company's
Integrated Resource Plan filing pursuant to Virginia
Code § 56-597 *et seq.***

SIERRA CLUB'S ISSUE MATRIX

Issue	The Sierra Club's Position
Is the Company's 2020 Integrated Resource Plan reasonable and in the public interest as Virginia Code § 56-599 requires?	No, the Company's IRP is neither reasonable nor in the public interest. The Company forced supply-side resources into its model, prevented PLEXOS from endogenously retiring units, used inaccurate solar and battery storage capital cost assumptions, and forced the model to select new combustion turbines based on an unproven reliability concern. Taken together, these planning errors result in a worst-case scenario IRP rather than a range of plans with a least-cost VCEA-compliant option. ¹
What is the proper remedy in this case for the Company's failure to submit a reasonable plan in the public interest?	The Sierra Club recommends that the Commission reject the 2020 IRP and require the Company to do the following in its 2021 IRP Update: <ul style="list-style-type: none"> (1) develop a robust estimate of the sustaining capital costs necessary to maintain the VCHEC and Mt. Storm Units 1-3 through the Company's planned retirement date, and then allow the PLEXOS model to endogenously retire them. These

¹ See *infra* notes 6-12 and accompanying text.

sustaining capital costs should be included in PLEXOS for the purposes of determining an economic retirement date for these remaining coal-fired units

- (2) restructure Plan A to be a true least cost VCEA compliant plan;
- (3) use solar and battery storage capital cost assumptions from accepted industry publications; and
- (4) create a range of VCEA-compliant plans and sensitivities that assumes best-case to worst-case scenarios, does not force supply-side resources into the model, and allows the model to endogenously retire units.

These requirements would give the Commission, legislators, and the public a better, fuller picture of how things might play out in the future.

Should the Commission revisit the requirement that the Company use PJM's load forecast as its base-case?

The Sierra Club has taken no position in this proceeding as to whether PJM provides a reasonable base-case load forecast. However, if the Commission allows the Company to use its own internal forecast as a base-case in future plans, the Club maintains the concerns with that forecast that Dr. William Shobe has expressed in prior IRP dockets.² Because the Club has seen no evidence in this case that those concerns have been addressed, any reliance on the Company's internal forecast should be conditioned on adopting the

² See generally *Commonwealth, ex rel. State Corporation Commission, in re: Virginia Electric and Power Company's Integrated Resource Plan pursuant to Virginia Code § 56-597*, Case No. PUR-2018-00065, Direct Testimony of William M. Shobe (August 10, 2018), available at <https://bit.ly/39RoW8E> (Shobe Direct); *Commonwealth of Virginia, ex rel. State Corporation Commission in re: Virginia Electric and Power Company's Integrated Resource Plan filing pursuant to Virginia Code § 56-597*, Case No. PUR-2017-00051, Direct Testimony of William M. Shobe (August 11, 2017), available at <https://bit.ly/3mVYcHs> (2017 Shobe Direct).

	<p>recommendations of Dr. Shobe and Environmental Respondent Witness James Wilson, including (a) cease using the Bass Diffusion Model for data center forecasts,³ (b) using a ten-year historical estimation period,⁴ and/or (c) testing historical data for Andrews structural breaks.⁵</p>
<p>Did the Company comply with the Commission's 2018 Final Order to model a "least cost plan?"</p>	<p>No. As Environmental Respondent Witness Rabago,⁶ NRDC Witness Levin,⁷ Consumer Counsel Witness Norwood,⁸ Sierra Club Witness Rachel Wilson,⁹ Besa Witness Cusick,¹⁰ and Staff Witness Dalton¹¹ all testified, forcing supply-side resources into the model and applying arbitrary modeling constraints on resources—<i>e.g.</i>, solar in Plan A—not only results in plans that overbuild capacity but also prevents the Company from identifying a true least-cost, VCEA-compliant plan. Sierra Club Witness Wilson testified that when those hard limits are removed, the modeling produces plans that are some \$3.3 billion cheaper over the next 15 years and cut carbon emissions by half.¹²</p>

³ Exhibit No. 35 (J. Wilson Direct) at 11; Shobe Direct (2018) at 19.

⁴ Exhibit No. 35 (J. Wilson Direct) at 11; *see also* Shobe Direct (2018) at 22 (demonstrating that a rolling six-year data historical estimation period produced a more accurate forecast).

⁵ Shobe Direct (2018) at 16, 21; Shobe Direct (2017) at 27.

⁶ Exhibit No. 31 (Rabago Direct) at 8, 12–13.

⁷ Exhibit No. 44 (Levin Direct) at 6–7, 17–19.

⁸ Exhibit No. 58 (Norwood Direct) at 14–22.

⁹ Exhibit No. 54 (R. Wilson Direct) at 11, 15, 22–23, 26–29.

¹⁰ Exhibit No. 10 (Cusick Direct) at 12–14.

¹¹ Exhibit No. 64 (Dalton Direct) at 27–31, 34–38. 41–42.

¹² Exhibit No. 54 (R. Wilson Direct) at 5, 26–28; Transcript at 512–13.

<p>Did the Company comply with the Commission's Order to model the mandates and requirements of the VCEA and other relevant legislation based on the best available information, using reasonable and appropriately documented assumptions?</p>	<p>No. At a minimum, the Company relied on inflated solar and battery storage capital costs in its modeling that are inconsistent with industry standards.¹³ Had the Company used accurate capital cost assumptions and allowed PLEXOS to endogenously retire units, the modeling results would show that it is more economic to retire Mt. Storm and VCHEC earlier.¹⁴</p>
<p>Should the Company be required to incorporate the results of its economic analysis into its modeling, create resource plans with multiple retirement scenarios and allow PLEXOS to endogenously retire coal units?</p>	<p>Yes. Multiple respondent and Staff witnesses testified that the Company ignored the results of its unit economic analysis—an analysis that only spanned ten years and only looked at the immediate cash flow of the units, not replacement costs or costs beyond the ten-year timeframe. Specifically, VCHEC is operating at a tremendous loss, costing customers \$472 million.¹⁵</p>
<p>Should the Company be required to re-run its model and remove the placeholder CTs until such time as the reliability study is complete?</p>	<p>Yes. Multiple witnesses—including Sierra Club Witness Wilson and Environmental Respondent Witness Rabago—testified that the Company's continued reliance on gas peaker plants is based on unspecified and unfounded reliability issues. Without clearly identifying those issues and analyzing alternative measures to address them, the Company's plan to build two new combustion turbines and preserve 9500 megawatts of gas generation is unreasonable.¹⁶</p>

¹³ Exhibit No. 54 (R. Wilson Direct) at 22-23; Exhibit No. 44 (Levin Direct) at 20-23.

¹⁴ Transcript at 527-29, 532-33.

¹⁵ Exhibit No. 54 (R. Wilson Direct) at 15-19, 28; Exhibit No. 31 (Rabago Direct) at 14; Exhibit No. 58 (Norwood Direct) at 24-25; Exhibit No. 67 (Abbott Direct) at 28; Exhibit No. 64 (Dalton Direct) at 14-17; Transcript at 527, 577, 734.

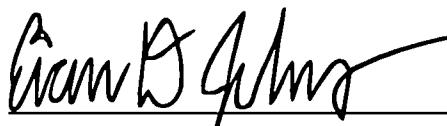
¹⁶ Exhibit No. 54 (R. Wilson Direct) at 29-34; Exhibit No. 31 (Rabago Direct) at 6-8 and 11; Exhibit No. 67 (Abbott Direct) at 4-5; Transcript at 188-89, 195-98, 1005-06.

Should the Company be required to include a cost-benefit analysis of the Fixed Resource Requirement alternative relative to continued participation in the PJM capacity market, due to the Minimum Offer Price Rule, in its 2021 IRP Update?

Yes. While the Company testified it is a matter of *when*—not *if*—it will pursue the FRR alternative,¹⁷ the Company should make any past or future analysis on FRR and MOPR available to interested parties and the Commission in its 2021 IRP Update.¹⁸ This will give the Commission an opportunity to review a comprehensive assessment of the relative impacts of MOPR and FRR on the Company's various resource plans, ensuring a least-cost option for ratepayers.

Dated: December 18, 2020

Respectfully submitted,



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¹⁷ Transcript at 243-44, 1234.

¹⁸ Exhibit No. 11 (Frost Direct) at 16-17.

CERTIFICATE OF SERVICE

In accordance with the Commission's April 1, 2020 Order Requiring Electronic Service in Case No. CLK-2020-0007, I certify that on December 18, 2020, I sent the foregoing Issue Matrix of Sierra Club by electronic mail to:

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