

COMMONWEALTH OF PENNSYLVANIA



DARRYL A. LAWRENCE
Acting Consumer Advocate

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March 25, 2025

Via Electronic Mail

Administrative Law Judge Jeffrey A. Watson (Email: jeffwatson@pa.gov)
Mary Swarner, Legal Assistant (Email: mswarner@pa.gov)
Pennsylvania Public Utility Commission
301 Fifth Avenue
Suite 220
Pittsburgh, PA 15222

Re: Application of PPL Electric Utilities Corporation for Approval to (1) Construct the New Three Mile Island – Chanceford 500 kV Line and Chanceford – Peach Bottom 500 kV Transmission Line and (2) Rebuild the Existing Otter Creek – Conastone 230 kV Transmission Line for Future Double Circuit 500 kV Operations and the Rebuilt Chanceford – Doubs 500 kV Transmission Line and the Rebuilt Otter Creek – Conastone 500/230 kV Transmission Line, Located in Chanceford, East Hopewell, and Hopewell Townships in York County, Pennsylvania; Docket No. A-2024-3051167

Petition of PPL Electric Utilities Corporation for Findings That a Structure to Shelter Electrical and Control Equipment at the Proposed Chanceford Switchyard in Chanceford Township, York County, Pennsylvania Is Reasonably Necessary for the Convenience or Welfare of the Public; Docket No. P-2024-3051163

Administrative Law Judge Jeffrey A. Watson
Mary Swarner, Legal Assistant
March 25, 2025
Page 2

Application of PPL Electric Utilities Corporation under 15 Pa C.S. § 1511(c) for a finding and determination that the service to be furnished by the Applicant through its proposed exercise of the power of eminent domain to acquire a certain portion of the lands of Daniel T. Curran in Chanceford Township, York County, Pennsylvania for the proposed Chanceford Switchyard associated with the proposed Chanceford 500 kV Rebuild Project is necessary or proper for the service, accommodation, convenience, or safety of the public; Docket No. A-2024-3051213

Judge Watson,

The purpose of this letter is to advise Your Honor and the Public Utility Commission that after investigation,¹ analysis and thoughtful consideration of the facts and circumstances surrounding the different elements of the proposed Chanceford 500 kV Rebuild Project (Project), the Office of Consumer Advocate (OCA) has determined not to file a Protest in this matter. This is not to say the OCA supports this Project – the OCA does not. Rather, based on the hard realities as to the reliability of the bulk electric system, an issue that must be addressed, the OCA has determined to take a position of non-opposition to the Project.

The Project arises out of the Competitive “Window” solicitation process conducted by grid operator PJM Interconnection, LLC, to identify projects that could resolve potential reliability violations it foresees occurring on its system in its planning projections for the years 2027 and 2028. Those prospective violations result primarily from significantly increased load forecasts for the Northern Virginia (Dominion) and APS (FirstEnergy) zones related to the rapid growth of energy-intensive data centers. A secondary contributor is the announced retirement of 11 GW of generation to the west and south of the Conastone substation in Maryland. These include the proposed retirement of the Brandon Shores and H.A. Wagner coal generating facilities south of Baltimore. Among the reliability issues identified by PJM are various transmission line and transformer overloads, voltage deficiencies and “non-convergent contingencies” that indicate potential system instability or collapse. The OCA largely agrees with PJM’s analysis. Notably, the need to open a Competitive Window and the need for the Project are not the result of any significant new demand or shortage of electric generating capacity in Pennsylvania.

The outcome of PJM’s competitive solicitation process included selection of PPL’s Project along with other projects in what was termed the “PJM 500 kV combination proposal.” PJM determined that this combination of projects would provide the needed reliability upgrades with the least amount of infrastructure development and with a higher reliability margin than other proposals. PJM also found that alternatives to the PJM 500 kV combination proposal had higher costs and required development of significantly more infrastructure.

PJM’s planning protocols, which adhere to the standards of the federally-sanctioned Electric Reliability Organization, the North American Electric Reliability Corporation (NERC), require that potential future reliability violations must be addressed. The OCA understands that

¹ Attached to this Letter as Appendix A are copies of the OCA’s formal discovery and responses received from PPL in this proceeding. The discovery aspect of this matter represents only a small part of the OCA’s overall investigation into PPL’s proposed project.

Administrative Law Judge Jeffrey A. Watson
Mary Swarner, Legal Assistant
March 25, 2025
Page 4

these standards must be followed and that it is in the overall public interest that the integrity of the bulk electricity system in the PJM footprint be maintained in accordance with the applicable standards.

After careful review and consideration of the results of PJM's Competitive Window analysis, the OCA finds that the PJM 500 kV proposal, in its entirety, would address the potential reliability violations identified by PJM. Having reached this conclusion, however, the OCA is mindful of the Public Input Hearing testimony of Ms. Patti Hankins, specifically her observation that the Maryland Piedmont Reliability Project (MPRP), to which the PPL Project will ultimately connect, is being met with significant public opposition that may result in slowing or altering that project. Tr. At 48-62.

In conclusion, the OCA respectfully recommends that Your Honor turn this matter over to the Commission's Bureau of Technical Utility Services (TUS) for further investigation. Further, the OCA respectfully requests that the Commission review the entire record in this matter, including the Public Input Hearing Testimony, Appendix A attached herein, and any further findings produced by TUS before reaching its final determination.

Respectfully submitted,

/s/ David T. Evrard
David T. Evrard, Esq.
Assistant Consumer Advocate
PA Attorney I.D. # 33870
Email: DEvrard@paoca.org

Enclosures

CC: Secretary Rosemary Chiavetta (Via Electronic Filing Only)
Certificate of Service

SERVICE BY E-MAIL ONLY

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Counsel for:
Darryl A. Lawrence
Acting Consumer Advocate

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Harrisburg, PA 17101-1923
(717) 783-5048

Dated: March 25, 2025

Appendix A

Garrett P. Lent
Principal

glent@postschell.com
717-612-6032 Direct
717-731-1979 Direct Fax
File #: 207395

December 20, 2024

VIA ELECTRONIC FILING

Darryl A. Lawrence, Esquire
Senior Assistant Consumer Advocate
Pennsylvania Office of Consumer Advocate
555 Walnut Street
5th Floor Forum Place
Harrisburg, Pennsylvania 17101-1923

**Re: Application of PPL Electric Utilities Corporation Filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval to (1) Construct The New Three Mile Island – Chanceford 500 kV Line And Chanceford – Peach Bottom 500 kV Transmission Line And (2) Rebuild the Existing Otter Creek – Conastone 230 kV Transmission Line For Future Double Circuit 500 kV Operations And The Rebuilt Chanceford – Doubs 500 kV Transmission Line And The Rebuilt Otter Creek – Conastone 500/230 kV Transmission Line, Located in Chanceford, East Hopewell, And Hopewell Townships In York County, Pennsylvania
Docket No. A-2024-3051167**

**Petition Of PPL Electric Utilities Corporation For Findings That A Structure To Shelter Electrical And Control Equipment At The Proposed Chanceford Switchyard In Chanceford Township, Your County, Pennsylvania Is Reasonably Necessary For The Convenience Or Welfare Of The Public
Docket No. P-2024-3051163**

**Application Of PPL Electric Utilities Corporation Under 15 Pa C.S. S 1511(C) For A Finding And Determination That The Service To Be Furnished By The Applicant Through Its Proposed Exercise Of The Power Of Eminent Domain To Acquire A Certain Portion Of The Lands Of Daniel T. Curran In Chanceford Township, York County, Pennsylvania For The Proposed Chanceford Switchyard Associated With The Proposed Chanceford 500 kV Rebuild Project Is Necessary Or Proper For The Service, Accommodation, Convenience, Or Safety Of The Public
Docket No. A-2024-3051213**

Darryl A. Lawrence, Esquire
December 20, 2024
Page 2

Dear Counsel:

Attached are the responses of PPL Electric Utilities Corporation to the Interrogatories of the Office of Consumer Advocate, Set I, in the above-referenced proceeding.

Copies of this correspondence are being provided as indicated on the Certificate of Service.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Garrett P. Lent". The signature is fluid and cursive, with a large initial "G" and "L".

Garrett P. Lent

GPL/dmc
Attachment

cc: Secretary Rosemary Chiavetta (*Letter and Certificate of Service only*)
Certificate of Service

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing has been served upon the following persons, in the manner indicated, in accordance with the requirements of 52 Pa. Code § 57.74(b).

VIA EMAIL

Darryl A. Lawrence, Esquire
Senior Assistant Consumer Advocate
Pennsylvania Office of Consumer Advocate
555 Walnut Street
5th Floor Forum Place
Harrisburg, Pennsylvania 17101-1923
Email: DLawrence@paoca.org

Date: December 20, 2024


Garrett P. Lent

PPL Electric Utilities Corporation
Response to the Set I Data Requests of the
Office of Consumer Advocate
A-2024-3051167
Dated December 6, 2024

Q. OCA I-1. Please refer to page 4 of Mr. lookup's Direct Testimony at line 11. Please explain in detail what is meant by "local constraints".

OCA I-1. As explained in Mr. Lookup's Direct Testimony and Attachment 1 – Necessity Statement, in February 2023, PJM opened a Proposal Window to solicit proposals to address transmission reliability issues associated with data center load growth in the APS and Dominion service territories. PJM identified numerous transmission line and transformer overloads, voltage deficiencies, and non-convergent contingencies. In particular, PJM identified 2027-2028 baseline violations associated with "local constraints" and "regional constraints" as described on page 6 of Attachment 1 – Necessity Statement, as well as necessary reactive power reinforcements as identified on page 7 of Attachment 1 – Necessity Statement. The "local constraints" and "regional constraints" are further described on lines 11-13 and 14-22, respectively, on page 4 of Mr. Lookup's testimony.

By way of further explanation, PPL Electric notes that PJM has not defined exactly what violations (i.e., "local" and/or "regional" constraints) are resolved by the Project on its own. Indeed, the referenced Proposal Window was opened to address broad reliability concerns caused by large load customer growth in the APS and Dominion service territories. This proposal window process involved the analysis of multiple solutions to address the aggregate issues identified, broken down into three clusters (i.e., East, West, Southern). In this regard, specific solutions, including the Project, are not tied directly to specific baseline violations. Rather, PJM evaluated various combinations of scenarios consisting of multiple proposals that collectively would resolve all violations in the window. PJM did not

itemize which solutions specifically solved which violation or violations. This process was explained in detail in Mr. Lookup's Direct Testimony and Attachment 1 – Necessity Statement.

PPL Electric is aware, however, of the following "local" overloads on PPL Electric's "local" lines that were present in the baseline 2027-2028 case used by PJM to analyze the described Proposal Window. These were the Brunner Island – Yorkana – Otter Creek 230 kV lines, the Manor – Graceton 230 kV line, the Manor – Otter Creek – Conastone 230 kV lines, and the Face Rock – Five Forks 115 kV line. PPL Electric is also aware that there are many other "local" line violations that were in the base case that are in METED, PENELEC, PECO, and BGE territories surrounding these PPL "local" lines noted here.

PPL Electric is also aware that the Peach Bottom – Conastone 500 kV line was a "regional" constraint present in the baseline 2027-2028 case used by PJM to analyze the described Proposal Window. This is the "regional" constraint with which PPL Electric's original proposal (proposal 374 described on page 7 of Attachment 1 – Necessity Statement and page 5 of Mr. Lookup's Direct Testimony) was associated, as one of multiple partial solutions that would address this constraint as a part of the Proposal Window.

Finally, PJM defines Transmission Constraints as "Limitations on a transmission line or element that may be reached during normal or contingency system operations."

"Local" in this case and as used by PPL Electric would refer to Transmission Facilities single circuit 345kV and below.

<https://www.pjm.com/Glossary>.

PPL Electric Utilities Corporation
Response to the Set I Data Requests of the
Office of Consumer Advocate
A-2024-3051167
Dated December 6, 2024

Q. OCA I-2. Please refer to page 4 of Mr. lookup's Direct Testimony at line 13. Please explain in detail what is meant by "regional constraints".

A. OCA I-2. Please see PPL Electric's response to OCA-I-1.

PJM defines Transmission Constraints as "Limitations on a transmission line or element that may be reached during normal or contingency system operations."

Regional in this case and as used by PPL Electric would refer to Transmission Facilities double circuit 345kV and above.

Per Open Access Transmission Tariff Schedule 12:

"Regional Facilities and Necessary Lower Voltage Facilities. Transmission Provider shall assign cost responsibility on a region-wide basis for Required Transmission Enhancements included in the Regional Transmission Expansion Plan that (1) (a) are A.C. facilities that operate at or above 500 kV; (b) constitute a single Required Transmission Enhancement comprising two A.C. circuits operating at or above 345 kV and below 500 kV, where both circuits originate from a single substation or switching station at one end and terminate at a single substation or switching station at the other end, regardless of whether or not the two circuits are routed in the same right-of-way ("Double-circuit 345 kV Required Transmission Enhancement"); (c) are A.C. or D.C. shunt reactive resources (such as capacitors, static var compensators, static synchronous condenser (STATCON), synchronous condensers, inductors, other shunt devices, or their equivalent) connected to a Transmission Facility described in clause (a) or (b) of this subsection, or (d) are D.C. facilities meeting the criteria set forth in subsection (b)(i)(D) (collectively, "Regional Facilities"), or (2) new A.C. Transmission Facilities or expansions or

enhancements to existing Transmission Facilities that operate below 500 kV (or 345 kV in the case of a Regional Facility described in clause (1)(b) of this subsection) or new D.C. Transmission Facilities that do not meet the criteria of subsection (b)(i)(D) that must be constructed or strengthened to support new Regional Facilities, based on the planning criteria used by the Transmission Provider in developing the applicable Regional Transmission Expansion Plan ("Necessary Lower Voltage Facilities") as follows:"

and

"Lower Voltage Facilities. Transmission Provider shall assign cost responsibility for Required Transmission Enhancements that (a) are not Regional Facilities; and (b) are not "Necessary Lower Voltage Facilities" as defined in section(b)(i) of this Schedule 12 (collectively "Lower Voltage Facilities"), as follows:"

<https://agreements.pjm.com/oatt/4424>

<https://www.pjm.com/Glossary>.

PPL Electric Utilities Corporation
Response to the Set I Data Requests of the
Office of Consumer Advocate
A-2024-3051167
Dated December 6, 2024

- Q. OCA I-3. Please refer to page 10 of Mr. lookup's Direct Testimony at lines 1-2. As part of the Project is it correct that the existing PPL-owned part of the Otter Creek to Conastone 230 kV transmission line, including all structures, conductors and concrete pads will be completely removed?
- A. OCA I-3. PPL Electric plans to rebuild the existing Otter Creek to Conastone 230kV line from the proposed Chanceford 500kV Switchyard to the Maryland State border, approximately 12.0 miles. As part of the rebuild all overlapping existing infrastructure associated with the existing line will be removed; including the structures, conductors, and supporting concrete foundations (pads). PPL Electric will deconstruct the existing concrete foundations to a depth below finished grade to not interfere with future land use activities. There will be two existing PPL Electric owned Otter Creek to Conastone 230kV structures that will remain upon completion of the proposed project. These two structures are immediately adjacent to the existing Otter Creek 230kV Switchyard and do not overlap with the rebuilt section of line.

PPL Electric Utilities Corporation
Response to the Set I Data Requests of the
Office of Consumer Advocate
A-2024-3051167
Dated December 6, 2024

Q. OCA I-4. It is the OCA's understanding that the existing Otter Creek to Conastone 230 kV line was completely rebuilt in accord with the filings made by PPL in Docket No. A-2011-2228595. Please provide:

- a. The total cost of that rebuild project.
- b. How those costs were allocated to the ratepayers of PPL and other utilities, if any.

A. OCA I-4. a. The total cost of the Otter Creek to Conastone 230 kV Rebuild was approximately \$19.8M.

- b. PPL Electric's costs for transmission infrastructure investment are recovered through its FERC Formula Rate. One hundred percent of the costs for the existing Otter Creek to Conastone 230 kV line are allocated to the PPL Electric Utilities Zone ("PPL Zone"). The PPL Zone includes UGI and AE Coop.

Costs borne by PPL Electric as a Load Serving Entity ("LSE") are passed through to PPL Electric's end use customers. With respect to default service customers costs are recovered via the Transmission Service Charge, a §1307 Automatic Adjustment Clause. The most recently filed Transmission Service Charge is available at Docket No. M-2024-3051913. Electric Generation Suppliers are responsible for the transmission costs of their customers.

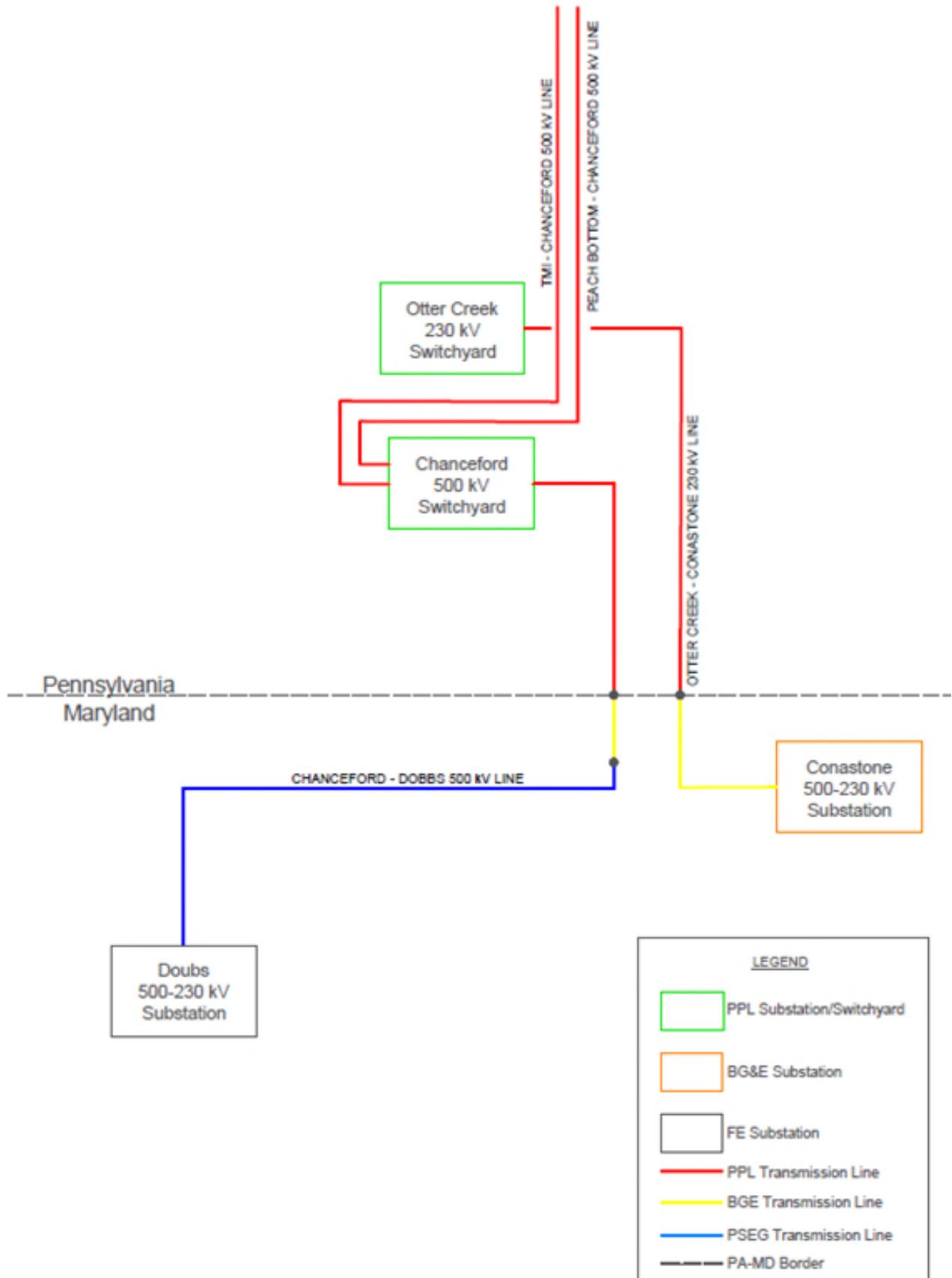
PPL Electric Utilities Corporation
Response to the Set I Data Requests of the
Office of Consumer Advocate
A-2024-3051167
Dated December 6, 2024

- Q. OCA I-5. Considering that the existing Otter Creek to Conastone 230 kV line is relatively new, the OCA assumes that line is not fully depreciated. Considering this, please provide:
- a. The total undepreciated cost of the existing line.
 - b. Explain how those costs will be recovered from ratepayers, including the allocation of those costs to ratepayers of PPL and other utilities, if any.
 - c. Explain whether any of the components of the existing line being removed, towers/conductors/etc. can be re-used or repurposed for use elsewhere on PPL's transmission system.
 - d. Referring to the previous question, if these components are to be scrapped is there a salvage value for these components.
- A. OCA I-5.
- a. At the time of this response, the total undepreciated cost of the existing line is \$17.2M.
 - b. See PPL Electric's response to OCA I-4.
 - c. PPL Electric is not planning to re-use/re-install removed facilities from the existing Otter Creek to Conastone 230kV line elsewhere on the transmission system.
 - d. PPL Electric is planning to recycle most components removed from the existing Otter Creek to Conastone 230kV line through its salvage contractor for credit offset value towards the specific project.

PPL Electric Utilities Corporation
Response to the Set I Data Requests of the
Office of Consumer Advocate
A-2024-3051167
Dated December 6, 2024

Q. OCA I-6. Based on the Necessity Statement, Attachment 1 at page 7, fn 12, the referenced PJM presentation at page 52 provides that the Project would not actually connect to the Conastone Substation in Maryland, but would rather connect directly to the PSEG proposal 637. If this is correct, is that PSEG project also referred to as the Maryland Piedmont Reliability Project (MPRP)? If this is not correct, please clarify where the PPL Project connects to the grid in Maryland.

A. OCA I-6. That is partially correct. The project will connect to the BGE's existing Otter Creek – Conastone line and their rebuilt section will ultimately connect to PSEG proposal 637. It is correct that the PSEG project is also referred to as the Maryland Piedmont Reliability Project (MPRP). Please refer to the one line diagram below for a visual representation of same.



PPL Electric Utilities Corporation
Response to the Set I Data Requests of the
Office of Consumer Advocate
A-2024-3051167
Dated December 6, 2024

Q. OCA I-7. Have PPL and PJM executed a Designated Entity Agreement? If so, please provide a complete copy of the DEA.

A. OCA I-7. PPL Electric has not executed a DEA for the project. PJM originally designated PPL Electric, pursuant to PJM Operating Agreement (“OA”) Schedule 6, Section 1.5.8, as the designated entity for two baseline projects (b3800.1 and b3800.3) by letter dated December 19, 2023. PPL acknowledged and accepted its designation, under the OA and the Consolidated Transmission Owners Agreement (“CTOA”), Section 4.2.2, by letter dated January 18, 2024. Following discussion, PJM designated PPL Electric as the designated entity for a third baseline project (b3800.53) and updated the designation for b3800.3 by letter dated August 14, 2024. PPL Electric in turn acknowledged and accepted its designation, again under the OA and CTOA, by letter dated September 13, 2024. Because it has accepted designation under the CTOA, PPL Electric is legally bound to construct the project:

Parties designated as the appropriate entities to construct and own or finance enhancements or expansions applicable to the PJM Region specified in the Regional Transmission Expansion Plan or required to expand or modify Transmission Facilities pursuant to the PJM Tariff **shall construct** and own or finance such facilities or enter into appropriate contracts to fulfill such obligations

CTOA § 4.2.1 (emphasis added).

Throughout this time, PPL Electric and PJM have also been in negotiations regarding the terms of a designated entity agreement (“DEA”) for this project. Those negotiations remain ongoing pursuant to PJM’s processes. During the pendency of the negotiations, PPL Electric remains bound to construct the project pursuant to the CTOA and is proceeding accordingly.

VERIFICATION

I, JOSEPH B. LOOKUP, being the Vice President – Transmission & Distribution Planning and Asset Management at PPL Services Corporation, hereby state that the facts above set forth are true and correct to the best of my knowledge, information and belief and that I expect PPL Electric Utilities Corporation to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. § 4904 relating to unsworn falsification to authorities.

Date: 12/20/2024


Joseph B Lookup (Dec 20, 2024 11:03 EST)

Joseph B. Lookup

Garrett P. Lent

glent@postschell.com
717-612-6032 Direct
717-731-1985 Direct Fax
File #: 207395

March 13, 2025

VIA EMAIL

Darryl A. Lawrence, Esquire
Acting Consumer Advocate
Pennsylvania Office of Consumer Advocate
555 Walnut Street
5th Floor, Forum Place
Harrisburg, PA 17101-1923

**Re: Application of PPL Electric Utilities Corporation Filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval to (1) Construct The New Three Mile Island – Chanceford 500 kV Line And Chanceford – Peach Bottom 500 kV Transmission Line And (2) Rebuild the Existing Otter Creek – Conastone 230 kV Transmission Line For Future Double Circuit 500 kV Operations And The Rebuilt Chanceford – Doubs 500 kV Transmission Line And The Rebuilt Otter Creek – Conastone 500/230 kV Transmission Line, Located in Chanceford, East Hopewell, And Hopewell Townships In York County, Pennsylvania
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Docket No. A-2024-3051213**

Darryl A. Lawrence, Esquire
March 13, 2025
Page 2

Dear Counsel:

Attached are the responses of PPL Electric Utilities Corporation to the Interrogatories of the Office of Consumer Advocate, Set II, in the above referenced proceedings.

Copies of this correspondence are being provided as indicated on the Certificate of Service.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Garrett P. Lent".

Garrett P. Lent

GPL/dmc
Attachment

cc: Secretary Rosemary Chiavetta (*Letter and Certificate of Service only*)
Certificate of Service

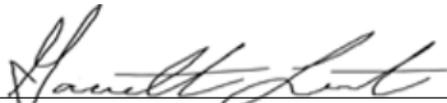
CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing has been served upon the following persons, in the manner indicated, in accordance with the requirements of 52 Pa. Code § 57.74(b).

VIA EMAIL

Darryl A. Lawrence, Esquire
Acting Consumer Advocate
Pennsylvania Office of Consumer Advocate
555 Walnut Street
5th Floor Forum Place
Harrisburg, Pennsylvania 17101-1923
Email: DLawrence@paoca.org

Date: March 13, 2025



Garrett P. Lent



Commonwealth of Pennsylvania
Pennsylvania Public Utility Commission
 Harrisburg, PA 17105-3265
EFILING - FILING DETAIL

Date Created	Filing Number
3/13/2025	2722436

Your filing has been electronically received. Upon review of the filing for conformity with the Commission's filing requirements, a notice will be issued acknowledging acceptance or rejection (with reason) of the filing. The matter will receive the attention of the Commission and you will be advised if any further action is required on your part.

The date filed on will be the current day if the filing occurs on a business day before or at 4:30 p.m. (EST). It will be the next business day if the filing occurs after 4:30 p.m. (EST) or on weekends or holidays.

Docket Number: A-2024-3051167
Case Description: A-2024-3051213
 P-2024-3051163
Transmission Date: 3/13/2025 1:54 PM
Filed On: 3/13/2025 1:54 PM
eFiling Confirmation Number: 2722436

File Name	Document Type	Upload Date
PPL - Chanceford - Filing Letter and COS Serving Responses to OCA Set II.pdf	Certificate of Service	3/13/2025 1:54:23 PM

For filings exceeding 250 pages, the PUC is requiring that filers submit one paper copy to the Secretary's Bureau within three business days of submitting the electronic filing online. Please mail the paper copy along with copy of this confirmation page to Secretary, Pennsylvania Public Utility Commission, 400 North Street, Harrisburg PA 17120 a copy of the filing confirmation page or reference the filing confirmation number on the first page of the paper copy.

No paper submission is necessary for filings under 250 pages.

You can view a record of this filing and previous filings you have submitted to the PUC by using the links in the Filings menu at the top of the page. Filings that have been submitted within the last 30 days can be viewed by using the Recent Filings link. Older filings can be viewed by using the search options available in the Filing History link.

PPL Electric Utilities Corporation
Response to the Set II Data Requests of the
Office of Consumer Advocate
A-2024-3051167
Dated February 20, 2025

Q. OCA II-1. Please refer to the February 11 Public Input Hearing at 1:00, specifically transcript pages 52-53, the testimony of Patti Hankins. Explain in detail how the PPL Project is going to be built on the existing Otter Creek to Conastone right-of-way when the Transource Project 9A is still being considered by PJM to use that same right-of-way?

A. OCA II-1. The PPL Electric Chanceford-Doubs 500 kV Transmission Line addresses separate and distinct needs from Transource Project 9A ("Project 9A"). Additionally, PPL Electric was awarded the proposed project in a separate PJM Interconnection, LLC ("PJM") Regional Transmission Expansion Plan ("RTEP") window than Project 9A.

Reconciling PPL Electric's proposed project with Project 9A is ultimately PJM's responsibility. However, PJM has suspended Project 9A. If PJM determines that Project 9A is to proceed, the Project 9A scope will need to be re-evaluated due to changes in system topology.

PPL Electric Utilities Corporation
Response to the Set II Data Requests of the
Office of Consumer Advocate
A-2024-3051167
Dated February 20, 2025

Q. OCA II-2. Please refer to the February 11 Public Input Hearing at 1:00, specifically transcript page 78 at line 9-15, the testimony of Barron Shaw. Please provide an answer to Mr. Shaw's question as to the increased costs of generation to PA ratepayers, considering the current status quo of the Otter Creek to Conastone single 230 kV line versus the proposed Project once it's fully energized at 500 kV.

A. OCA II-2. The project driver for the Chanceford–Doubs 500 kV Transmission Line is reliability and not market efficiency. PPL Electric is a transmission owner and operator and is not responsible for the energy market.

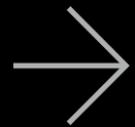
However, Attachment 1 – Necessity Statement explains that only 0.22% cost of the Project will be allocated to PPL Electric.

In addition, PPL Electric has performed a study of the impact of PPL Electric's allocated share of the costs of the Chanceford-Doubs 500 kV Transmission Line residential retail rates for PPL Electric customers, and found that there will be a minimal impact on residential customer bills. PPL Electric's study found that the average increase in residential retail rates will be 0.016\$/MWh in the 2027-2029 period.

See Attachment OCA-II-2.



Attachment OCA II-2



Market Efficiency (ME) Model Analysis
Client: PPL Electric Utilities



03/27/2024

PJM ME Model Benchmarking

Modeling Results: Key Congestions, APC and others benefits

Benchmarking Base Case from PJM ME Database

Metrics	2028	
	PJM published	ICF Model
Number of constraints ¹ with congestion cost > \$1M	20	20
Number of constraints binding > 25 hours in a year	56	55
Largest congestion cost ² (M\$)	48.49	48.65 (0.33%)

Caveats: Results between two optimization models can vary because of numerous reasons, including few such as:

- Differences in solvers and Promod engines.
- Differences in native machines and settings
- Solution degeneracy and precision.
- Minor changes in inputs such as load data, etc.

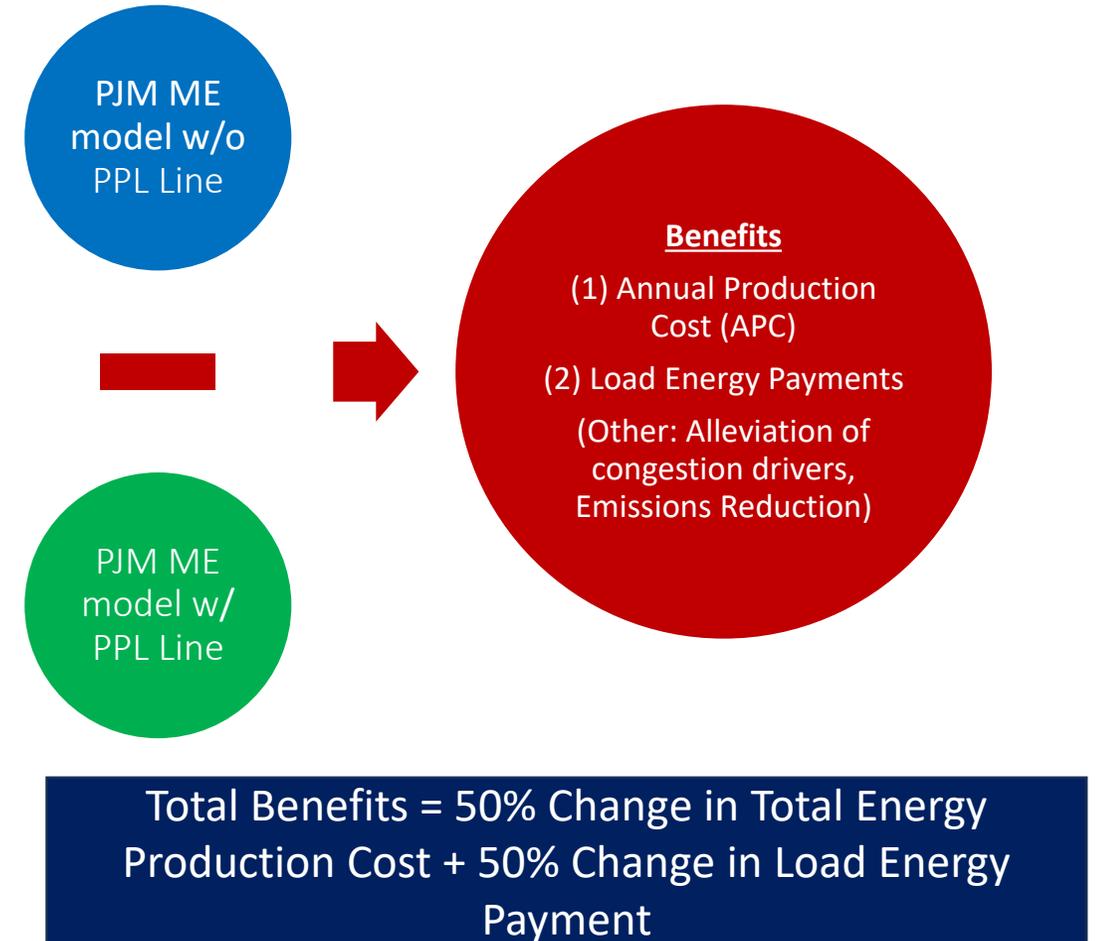
¹ A total of 98 unique constraints were binding in 2028

² Cliffer – Boxwood 138kV Transmission Line

Benefits Analysis and Scenarios

- For conducting the energy market benefits analysis of a proposed transmission project, PJM uses PROMOD based SCED modeling and compares the market simulation results with and without the proposed project.
- The below metrics are used for computing the energy market efficiency benefits:
 - **Regional Projects (345 kV double circuit or above) :**
50% Change in Total Energy Production Cost + 50% Change in Load Energy Payment* [1]
 - **Lower Voltage Projects (345 kV single circuit or below) :**
100% Change in Load Energy Payment*
- Benefits horizon : 15 years
- Benefit/Cost Criteria: 1.25
- PJM also evaluates if the proposed transmission project relieves any of the posted economic congestion drivers. Additionally, reliability impact assessment is made to ensure the project does not create any violations requiring additional reliability upgrades

*For change in Load Energy Payments, only zones that show a LMP decrease will be considered



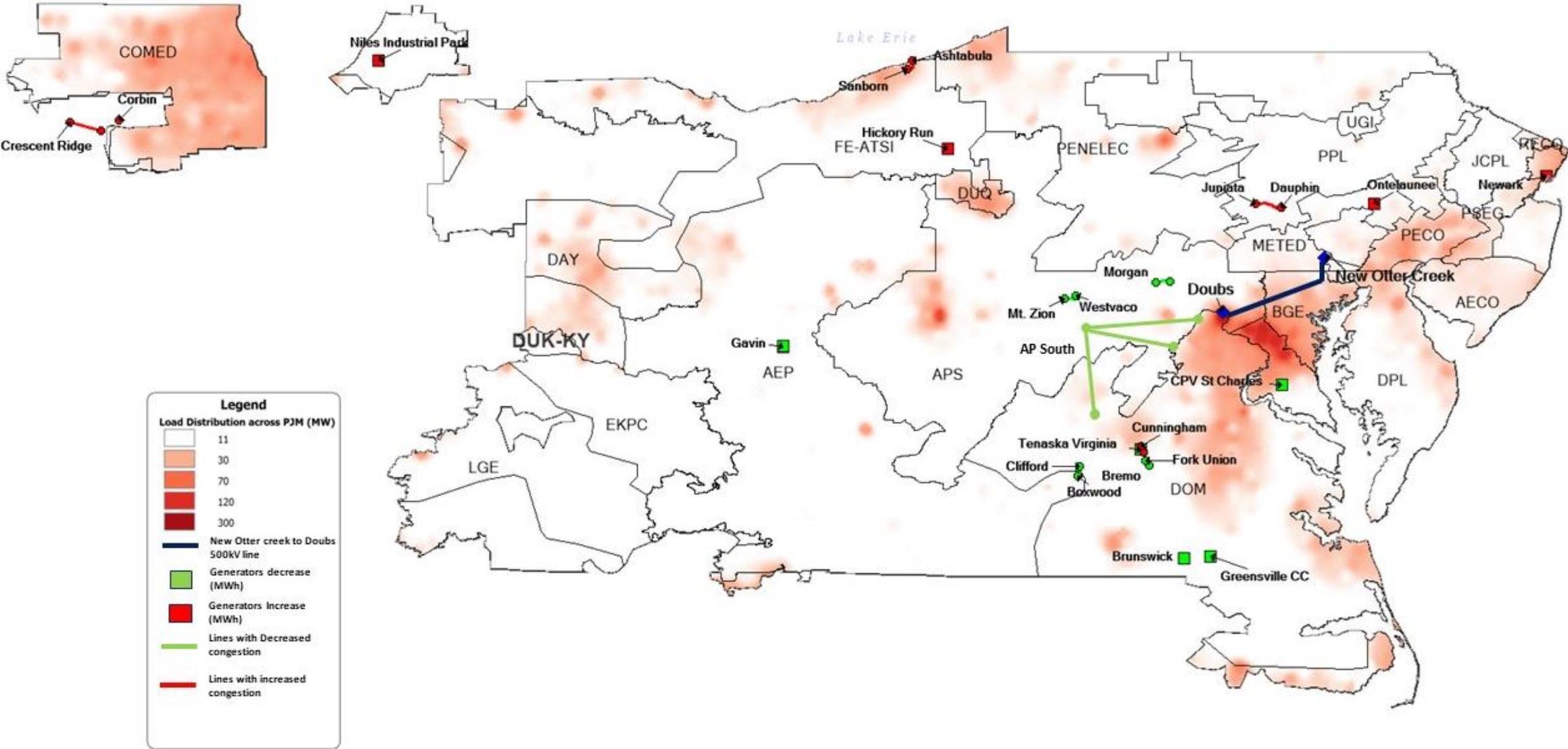
Notes: [1] Only Gross load payments have been assessed, evaluation of ARR credits may also have an impact depending on the congestion levels before and after the line.

Source: PJM Manual 14B and PJM Market Efficiency Study Process Training Presentation



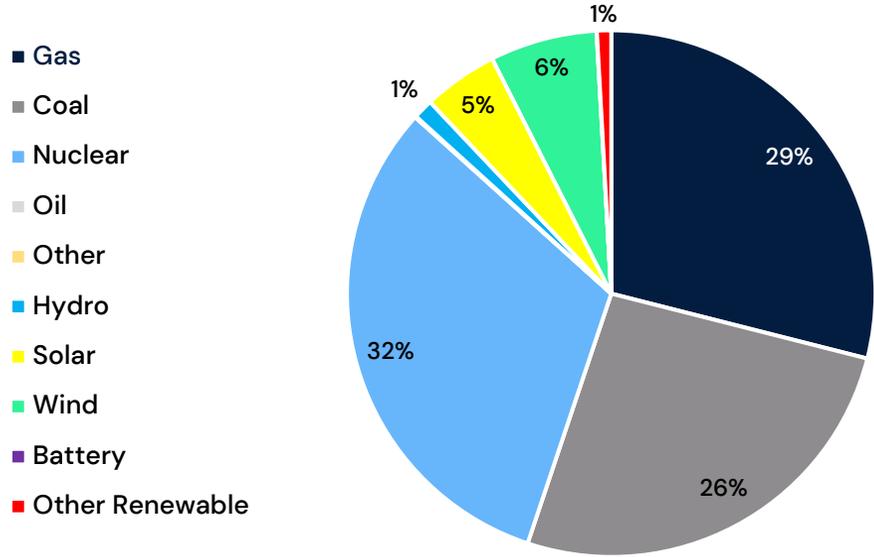
Results: Benefits Calculation

Impact of the new line on congestion on generator dispatch

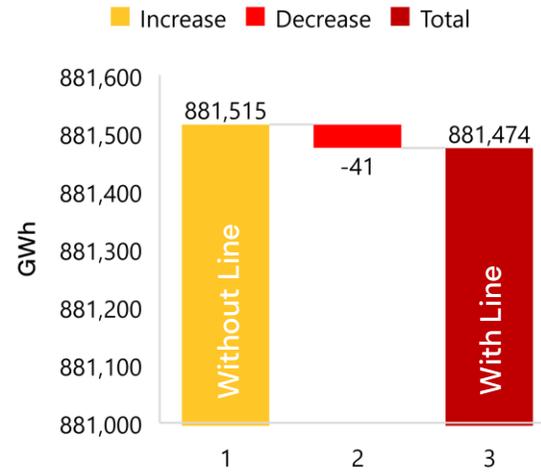


PJM Generation Mix

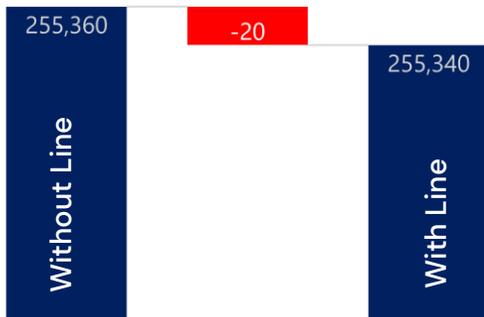
PJM Generation Mix – Without PPL Line



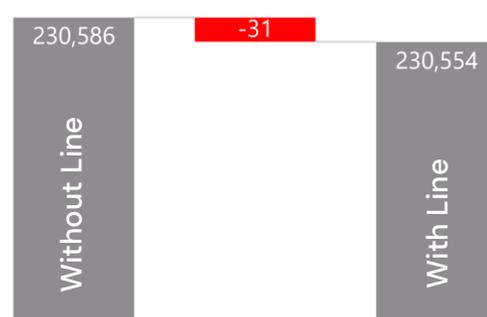
Generation Delta – With Line



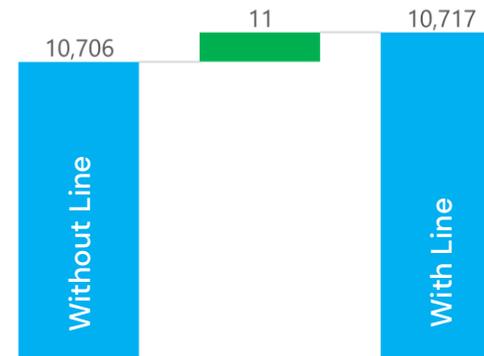
Gas



Coal



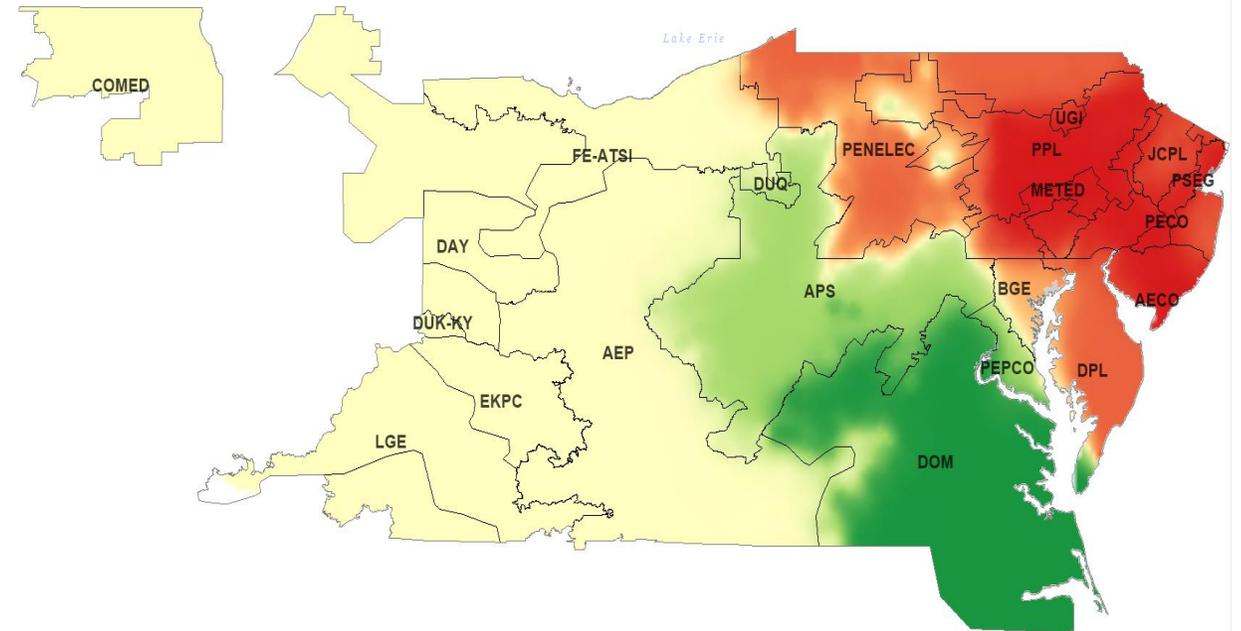
Hydro



LMP Summary

Year of Study is 2028
All figures in \$/MWh

	Without PPL Line	With PPL Line (PJM ME BaseCase)	Delta
AECO	45.57	45.61	0.04
AEP	40.73	40.72	(0.01)
APS	44.26	44.23	(0.03)
BGE	46.32	46.32	0.01
COMED	38.00	37.99	(0.01)
DEOK	40.37	40.35	(0.01)
DOM	45.20	45.16	(0.05)
DPL	46.64	46.68	0.03
DUQ	42.16	42.16	(0.00)
EKPC	40.72	40.70	(0.01)
FE-ATSI	42.11	42.10	(0.01)
HTP	46.55	46.58	0.03
JCPL	47.01	47.04	0.03
METED	45.83	45.87	0.04
NEPT	46.17	46.21	0.03
OVEC	38.41	38.39	(0.01)
PECO	46.11	46.15	0.04
PENELEC	44.31	44.34	0.03
PEPCO	46.23	46.20	(0.03)
PPL	45.62	45.66	0.04
PSEG	46.43	46.47	0.04
RECO	46.55	46.58	0.03
VFT	46.50	46.54	0.04

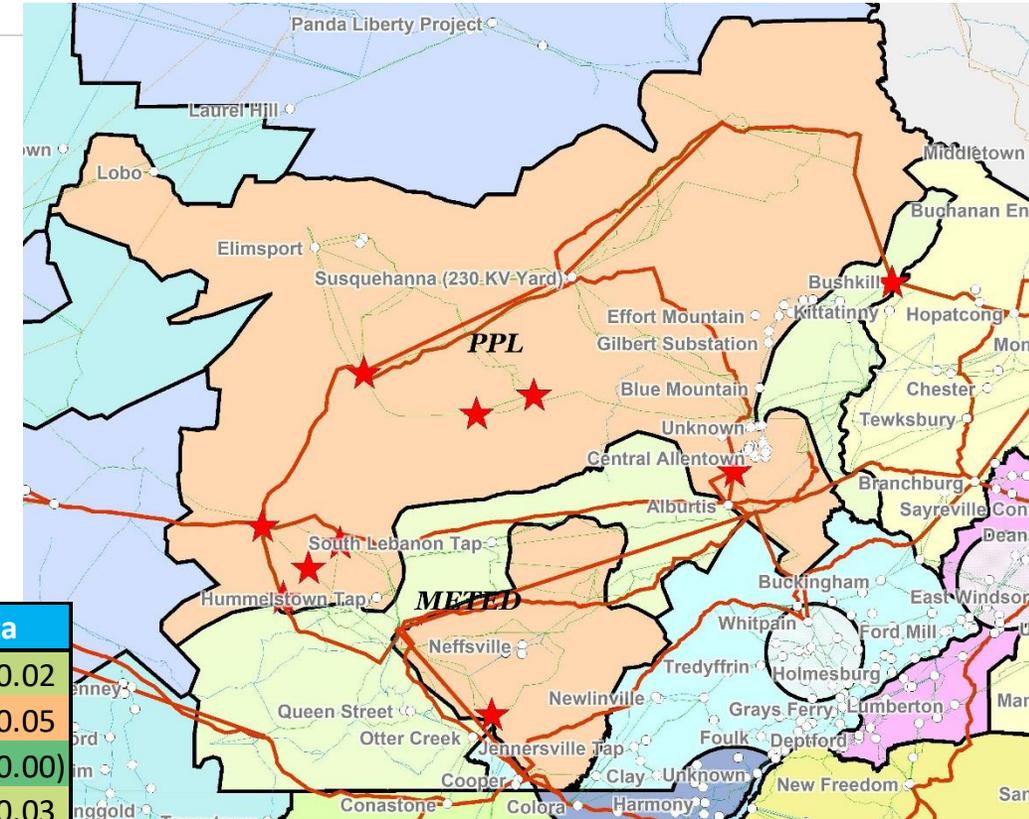


- The 500 kV PPL proposed line helps to reduce LMP in regions that imports such as DOM and other regions shaded in green.
- PPL and regions shown in red color see a marginal increase in LMP
- Note, given the lower utilization of the proposal line in 2028 (on average 11%), the LMP impact is lower.
- Downside case: For a case or year with higher load in DOM and southern PJM region where the line delivers energy, the LMP impact in PPL may be higher.
- Increase in Offshore wind in NJ (2030 and later) may also increase line utilization, however, may replace some of the gas/fossil generation in Northern PJM (PPL) thereby reducing the prices.

Monthly PPL LMP Summary

Year of Study is 2028
All figures in \$/MWh

PPL Nodes	Without PPL Line	With PPL Line (PJM ME BaseCase)	Delta
Juniata 500 kV	44.43	44.46	0.04
Sunbury 500 kV	44.13	44.17	0.04
Wescosville 500 kV	45.12	45.16	0.04
Bushkill 230 kV	45.64	45.68	0.04
Cumberland #2 230 kV	45.14	45.19	0.04
Dauphin #2 230 kV	45.23	45.28	0.05
Eldred #2 230 kV	44.20	44.23	0.03
Frackville 230 kV	44.21	44.24	0.03
Juniata Fake 1 230 kV	44.46	44.50	0.04
Safe Harbor 3-4 Tap 230 kV	45.49	45.52	0.03
Wescosville 138 kV	45.39	45.42	0.04



Month	Without PPL Line	With PPL Line (PJM ME BaseCase)	Delta
1	53.46	53.48	0.02
2	48.49	48.54	0.05
3	44.14	44.13	(0.00)
4	40.35	40.37	0.03
5	40.69	40.73	0.04
6	42.24	42.29	0.05
7	48.67	48.70	0.04
8	47.48	47.49	0.01
9	42.82	42.90	0.08
10	41.63	41.67	0.04
11	47.52	47.56	0.04
12	49.84	49.90	0.07

Impact on PPL Residential Retail Rates (based on Wholesale Price impacts)

Month/Year	Residential Retail Rate (\$/MWh)		Delta (\$/MWh)	Bundled Residential Sales (MWh)	Impact in \$
	Without PPL Line	With PPL Line (PJM ME BaseCase) Upgrades			
Jun-27	161.03	161.02	0.005	549,545	2,608
Jul-27	161.03	161.02	0.005	685,996	3,256
Aug-27	161.03	161.02	0.005	722,703	3,430
Sep-27	161.03	161.02	0.005	624,961	2,966
Oct-27	161.03	161.02	0.005	538,581	2,556
Nov-27	161.03	161.02	0.005	605,729	2,875
Dec-27	162.92	162.90	0.022	822,466	18,007
Jan-28	164.30	164.28	0.022	933,189	20,431
Feb-28	164.30	164.28	0.022	863,927	18,915
Mar-28	164.30	164.28	0.022	786,354	17,216
Apr-28	164.30	164.28	0.022	660,647	14,464
May-28	164.30	164.28	0.022	533,790	11,687
Jun-28	165.30	165.27	0.033	551,666	18,023
Jul-28	165.30	165.27	0.033	688,643	22,498
Aug-28	165.30	165.27	0.033	725,492	23,702
Sep-28	165.30	165.27	0.033	627,373	20,496
Oct-28	165.30	165.27	0.033	540,659	17,664
Nov-28	165.30	165.27	0.033	608,067	19,866
Dec-28	163.11	163.09	0.016	825,640	13,079
Jan-29	164.78	164.76	0.016	930,146	14,734
Feb-29	164.78	164.76	0.016	861,111	13,640
Mar-29	164.78	164.76	0.016	783,790	12,416
Apr-29	164.78	164.76	0.016	658,493	10,431
May-29	164.78	164.76	0.016	532,049	8,428
Jun-29	162.49	162.48	0.003	549,867	1,461
Jul-29	162.49	162.48	0.003	686,398	1,824
Aug-29	162.49	162.48	0.003	723,127	1,922
Sep-29	162.49	162.48	0.003	625,328	1,662
Oct-29	162.49	162.48	0.003	538,896	1,432
Nov-29	162.49	162.48	0.003	606,084	1,611

- Notes:
- Change in wholesale price of PPL load zone for the year 2028 impacts PPL's residential rates over June 2027 to November 2029.
 - The delta shown above captures only the impact of the change in the 2028 wholesale energy prices and assumes no change in other drivers of 2028 residential retail rates such as capacity prices, RECs prices, ancillary services prices, transmission and distribution costs Additional impact.
 - Additional impacts to 2029 prices may come from 2029 wholesale price impacts of the line (which was not studied)



Reference: Refer to Appendix slides for the method and assumptions for wholesale to retail rate calculations

- Like other Pennsylvania utilities, PPL hedges its supply procurement through periodic solicitations prior to the actual delivery for different customer rate groups.
- Because of this procurement strategy the PPL 2028 wholesale energy prices affect the residential retail prices between June 2027 and November 2029. Or in other words, the impact of the PPL line on the 2028 wholesale energy prices is reflected only partially in the 2028 residential retail prices.
- 2028 whole price impacts (0.04 \$/MWh increase) spread through 2027-2029
 - 2027 retail price increase ~ 0.007 \$/MWh on average
 - 2028 retail price increase ~ 0.027 \$/MWh on average
 - 2027 retail price increase ~ 0.009 \$/MWh on average
- Overall, the impact is 0.016\$/MWh average increase in PPL's residential retail rates for bundled customers or \$0.32 million total increase over the period. This is about 0.01% increase in retail prices on account of the PPL line (this does not include C&I customers).
- Note, given the lower utilization of the proposed line in 2028 (on average 11%), the wholesale and retail price impacts are generally lower.
 - Higher load growth in DOM and OSW in NJ may increase the utilization, however OSW may also put downward pressure on overall wholesale energy prices.

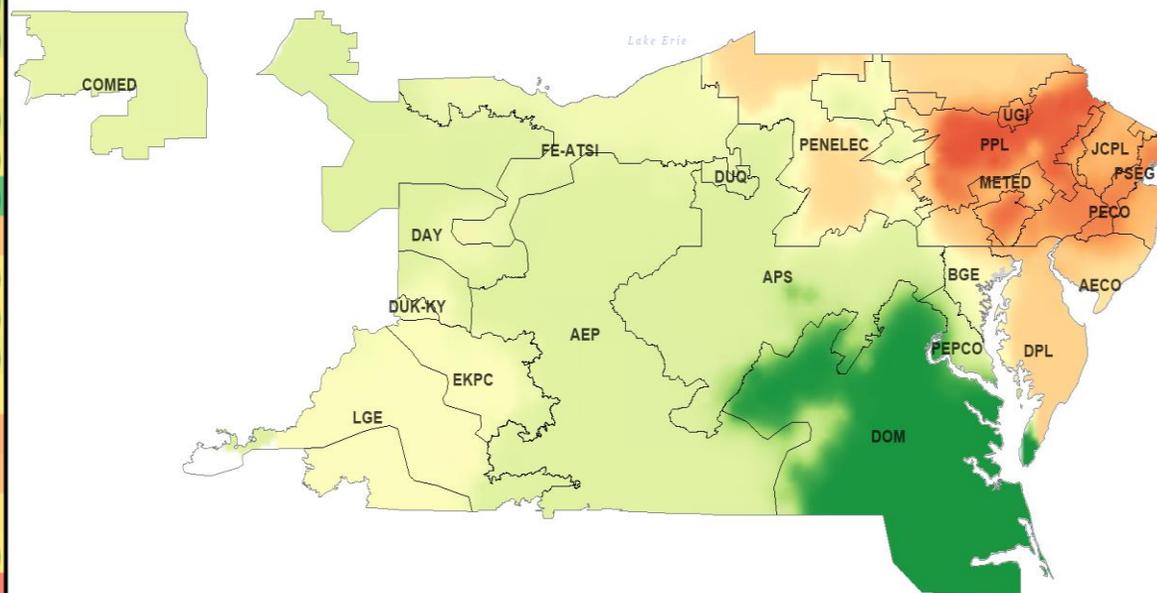
Gross Load Payments

Year of Study is 2028
All figures in \$/MWh

	Without PPL Line	With PPL Line (PJM ME BaseCase)	Delta
AECO	441.99	442.32	0.3
AEP	5,578.93	5,577.25	(1.7)
APS	2,635.25	2,633.43	(1.8)
BGE	1,439.88	1,439.92	0.0
COMED	3,602.27	3,600.99	(1.3)
DEOK	1,100.40	1,100.02	(0.4)
DOM	8,175.82	8,166.77	(9.1)
DPL	846.63	847.17	0.5
DUQ	568.29	568.25	(0.0)
EKPC	493.57	493.40	(0.2)
FE-ATSI	2,698.73	2,698.02	(0.7)
HTP	88.32	88.39	0.1
JCPL	1,092.98	1,093.70	0.7
METED	764.78	765.37	0.6
NEPT	191.80	191.94	0.1
OVEC	13.21	13.21	(0.0)
PECO	1,855.41	1,856.71	1.3
PENELEC	779.88	780.36	0.5
PEPCO	1,405.87	1,404.86	(1.0)
PPL	1,970.89	1,972.48	1.6
PSEG	1,937.03	1,938.37	1.3
RECO	73.18	73.23	0.1
VFT	92.86	92.94	0.1
PJM	37,847.98	37,839.10	(8.9)

Definition:

$$\text{Load Energy Payment of a zone} = \sum_{i=1}^{8760} (\text{Hourly LMP} * \text{Hourly Load})$$



- Green area represents decrease of gross load energy payments, while red shaded region indicates an increase.
- DOM largely benefits, while PPL sees increase in load payments due to the increase in LMP sees in the previous slide.

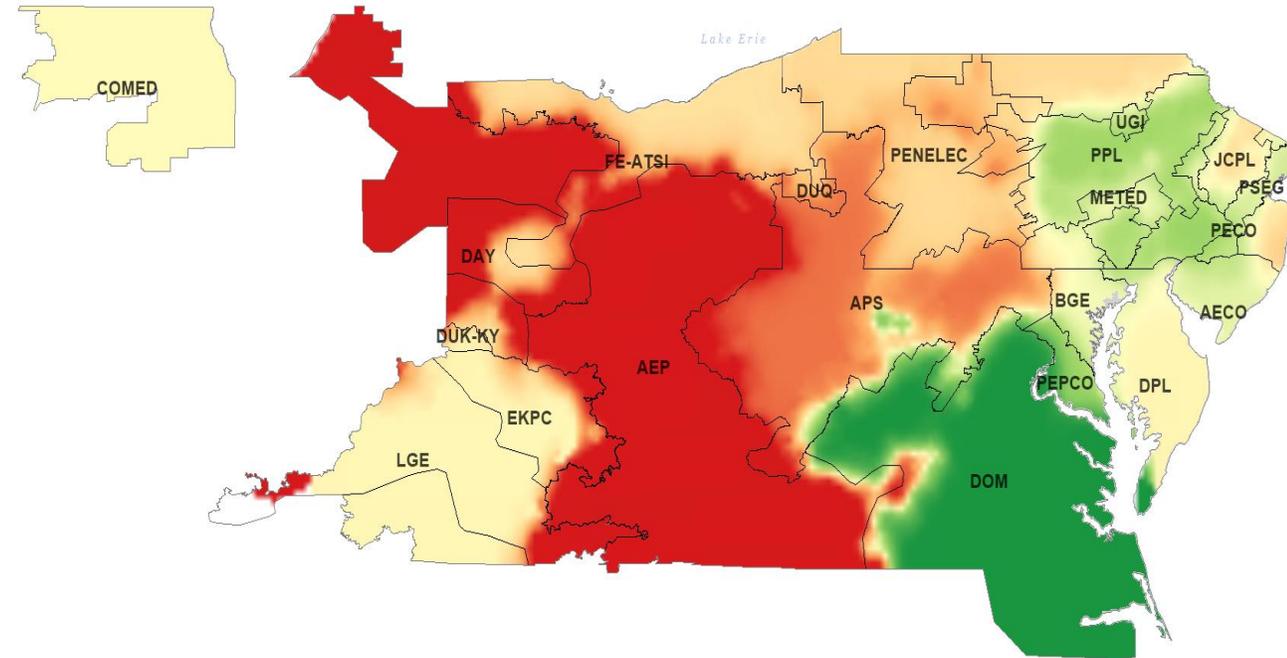
Adjusted Production Cost (APC)

	Without PPL Line	With PPL Line (PJM ME BaseCase)	Delta \$M
Company	Adjusted Production Cost \$M		With PPL Line (PJM ME BaseCase) - Without PPL Line
AECO	115.54	115.27	(0.27)
AEP	2,843.51	2,846.26	2.75
APS	1,714.39	1,715.79	1.40
BGE	974.99	974.90	(0.08)
COMED	632.87	632.93	0.06
DAY	658.89	658.62	(0.27)
DEOK	924.97	925.18	0.21
DOM	5,413.29	5,409.11	(4.18)
DPL	683.63	683.75	0.12
DUQ	143.26	143.34	0.08
EKPC	272.51	272.61	0.10
FE-ATSI	1,770.64	1,771.02	0.37
HTP	88.32	88.39	0.06
JCPL	881.81	882.43	0.62
METED	591.67	591.75	0.08
NEPT	191.80	191.94	0.14
OVEC	(86.99)	(86.66)	0.33
PECO	348.04	346.76	(1.28)
PENELEC	385.08	385.53	0.45
PEPCO	1,314.72	1,313.80	(0.92)
PPL	697.29	696.23	(1.06)
PSEG	826.63	826.07	(0.56)
RECO	73.18	73.23	0.05
VFT	92.86	92.94	0.07
zPJMIMP	(147.23)	(147.20)	0.03
Totals	21,405.68	21,403.99	(1.68)

Definition:

APC = Production Cost + Cost to purchase (when Import) - Revenue from Sale (When Export)

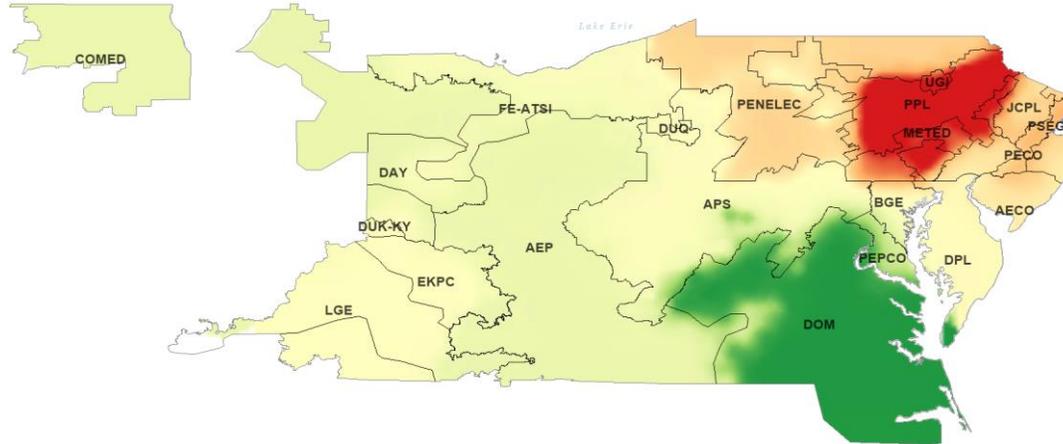
- Cost to Purchase = MW Import * Zonal LMP (Load Weighted)
- Revenue from Sales = MW Export * Zonal LMP (Gen. Weighted)



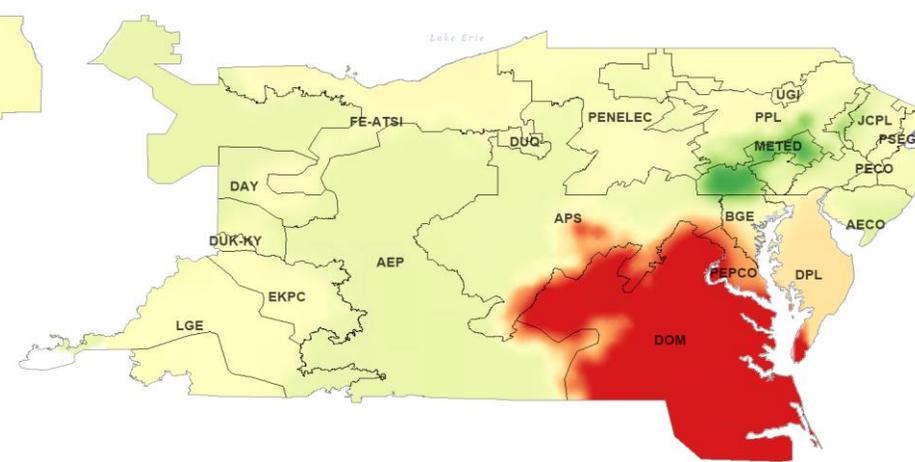
- PPL has a net APC savings, due to increases sales to a region with higher energy price

Driving factors of Adjusted Production Cost (APC)

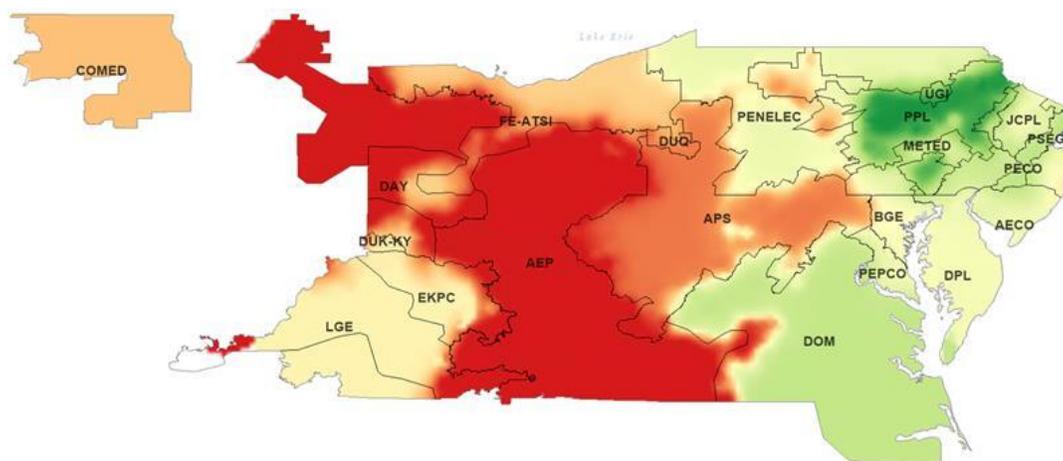
PPL Line Impact on Production Cost



PPL Line Impact on Energy Purchase Cost



PPL Line Impact on Energy Sales Revenue



Definition:

APC = Production Cost + Cost to purchase (when Import) - Revenue from Sale (When Export)

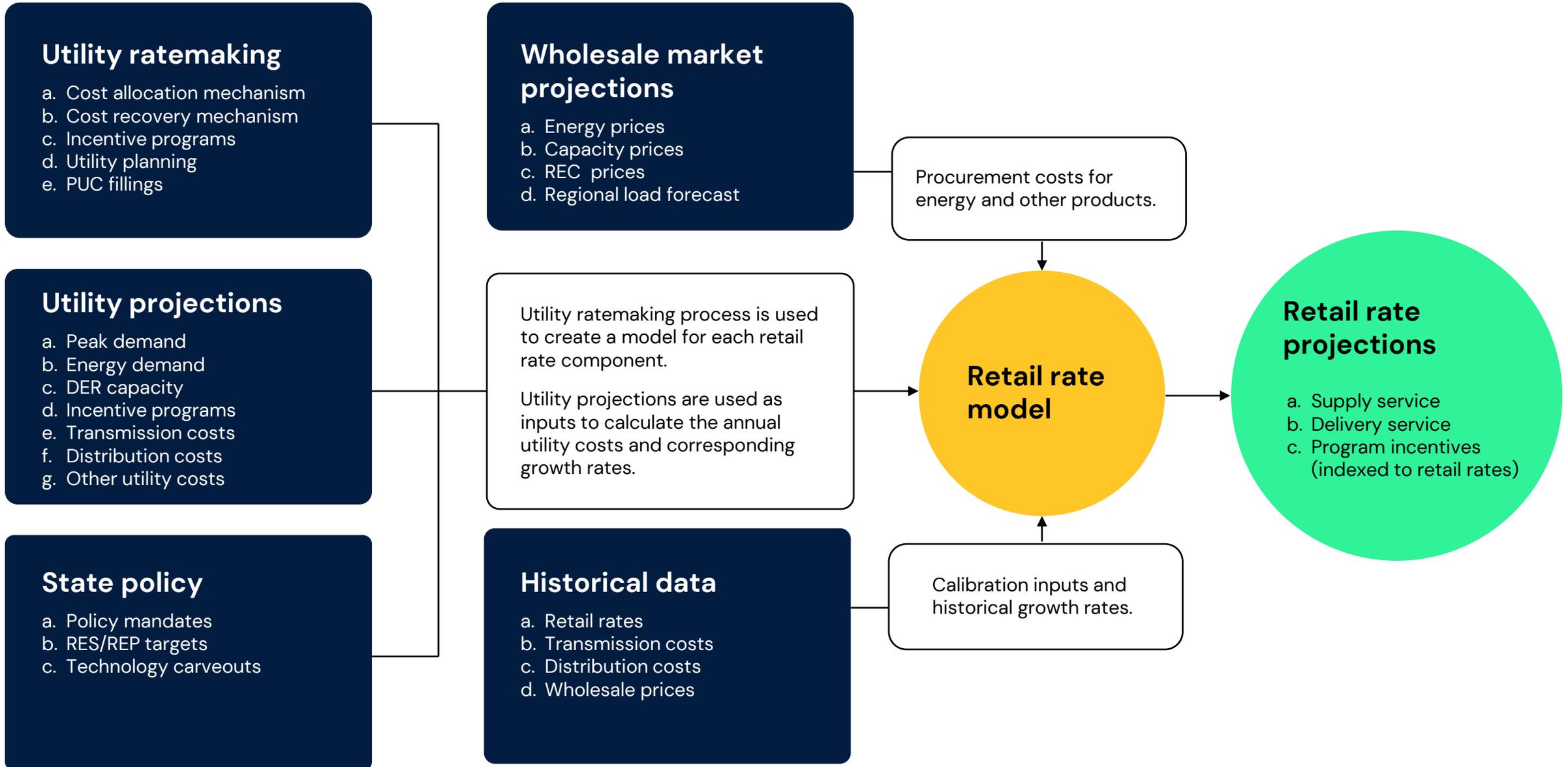
- Cost to Purchase = MW Import * Zonal LMP (Load Weighted)
- Revenue from Sales = MW Export * Zonal LMP (Gen. Weighted)

PPL benefits from sales to DOM that has higher energy price.
Sales revenue increase > Production Cost increase due to thermal generation, therefore net APC savings in PPL due to the line.



Appendix: Retail Prices Estimation Method

Retail Price Forecast Methodology



- Wholesale Market Prices
- State Clean Energy Goals
- Load Forecasts
- Utility Procurement Plans
- Utility Supply Cost Allocation Mechanism
- Model Calibration with Historical Retail Prices

ICF uses its long-term wholesale market price forecasts for energy, capacity, ancillary services, and other applicable market products (RECs and similar clean energy products) in conjunction with the utility's load forecasts to estimate a utility's electricity generation-related or supply procurement costs.

ICF models the utility procurement plans with the above supply costs and uses the utility's cost allocation mechanism for a specific rate class (residential, commercial, and industrial) and their rate tariffs or schedules to develop the forecasts for the supply component of the utility retail rate.

The modelling inputs include assumptions and forecasts developed by ICF which include

- Regional and utility load
- Wholesale energy, capacity, and renewable energy credit prices
- Cost allocation information provided by the utility and state PUC in the ratemaking process.

Tranches in PPL Solicitations – Retail Customers

- Like other Pennsylvania utilities, PPL hedges its supply procurement through periodic solicitations prior to the actual delivery for different customer rate groups.

Tranches in PPL Solicitations									
Customer Group	Product Term	Solicitation							
		#1	#2	#3	#4	#5	#6	#7	#8
Residential	6-month	8	8	8	8	8	8	8	8
	12-month	16	16	16	16	16	16	16	16
Small Commercial and Industrial	6-month	9	9	9	9	9	9	9	9
	12-month	6	5	6	5	6	5	6	5
Large Commercial and Industrial	Spot Market (12-month)	10		10		10		10	

A tranche represents a share of the Default Service Load for that Customer Group

<https://www.puc.pa.gov/pcdocs/1342769.pdf>: Page 8 provides more context to PPL utility procurement by Tranche

Source: PPL DSP V



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PPL Electric Utilities Corporation
Response to the Set II Data Requests of the
Office of Consumer Advocate
A-2024-3051167
Dated February 20, 2025

Q. OCA II-3. Please refer to the February 11 Public Input Hearing at 1:00, specifically transcript pages 86-87, the testimony of David Best. Please confirm or deny that Mr. Best's property is adjacent to the existing Otter Creek to Conastone right-of-way. If confirmed, please explain why Mr. Best has not been contacted by PPL.

A. OCA II-3. The Conastone-Doubs 500 kV Transmission Line right-of-way is not located on, or adjacent to Mr. Best's property. Therefore, PPL Electric was not required to notify Mr. Best of the proposed project. PPL Electric has communicated with Mr. Best and informed him that his property is not encumbered by nor does it border the subject transmission line.

VERIFICATION

I, JOSEPH B. LOOKUP, being the Vice President – Transmission & Distribution Planning and Asset Management at PPL Services Corporation, hereby state that the facts above set forth are true and correct to the best of my knowledge, information and belief and that I expect PPL Electric Utilities Corporation to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. § 4904 relating to unsworn falsification to authorities.

Date: 03/12/2025


Joseph Lookup (Mar 12, 2025 09:20 EDT)
Joseph B. Lookup