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May 3, 2024

Honorable Debbie-Anne A. Reese Acting Secretary Federal Energy Regulatory Commission 888 First Street, N.E., Room 1A Washington, D.C. 20426-0001

Re: PJM Interconnection, L.L.C., Docket No. ER24-1942-000 Clean-Up Filing for Tariff, Schedule 12-Appendix, Schedule 12-Appendix A, and Schedule 12-Appendix C

Dear Acting Secretary Reese:

PJM Interconnection, L.L.C. ("PJM") hereby submits this ministerial clean-up filing¹ to ensure that the PJM Open Access Transmission Tariff ("Tariff"),² Schedule 12-Appendix, Schedule 12-Appendix A, and Schedule 12-Appendix C (collectively, the "Schedule 12 Appendices") correctly reflect previously-approved cost responsibility assignments for baseline transmission facilities included in the PJM Regional Transmission Expansion Plan ("RTEP"). PJM requests that these revisions be made effective as described below.

¹ PJM submits this filing pursuant to section 205 of the Federal Power Act ("FPA"), 16 U.S.C. § 824d, and Part 35 of the Commission's ("FERC" or "Commission") regulations, 18 C.F.R. Part 35, as well as the Commission's directive in its February 27, 2024 order in Docket No. ER24-786, *PJM Interconnection, L.L.C.*, 186 FERC ¶ 61,148, at P 29 (2024) ("February 2024 Order").

² All capitalized terms that are not otherwise defined herein have the meaning as defined in the Tariff, Amended and Restated Operating Agreement of PJM Interconnection, L.L.C., ("Operating Agreement"), and Reliability Assurance Agreement ("RAA") among Load Serving Entities in the PJM Region. The Tariff, Operating Agreement and RAA are collectively referred to in this filing as the "Governing Documents."

I. BACKGROUND

A. Routine RTEP-Related Filings Necessitating this Clean-Up Filing

Each year, PJM submits several filings to revise the Schedule 12 Appendices, which set forth the cost responsibility assignments for all baseline transmission facilities that have been approved for inclusion in the PJM RTEP.³

First, PJM is required to annually update the cost responsibility assignments for Regional Facilities,⁴ Necessary Lower Voltage Facilities,⁵ Lower Voltage Facilities,⁶ and State Agreement Public Policy Projects,⁷ beginning with the calendar year in which the enhancement or expansion is scheduled to enter service and thereafter annually at the beginning of each calendar year ("Annual Update Filings").⁸ Typically, when PJM submits Annual Update Filings, it proposes revisions to nearly every section of each of the Schedule 12 Appendices. Consistent with the requirements of the Tariff, PJM requests that the annually-updated cost responsibility assignments

³ Cost responsibility assignments for all projects included in the RTEP prior to February 1, 2013, are located in Schedule 12-Appendix; cost responsibility assignments for all projects in the RTEP after February 1, 2013, are included in Tariff, Schedule 12-Appendix A; and cost responsibility assignments for all State Agreement Public Policy Projects constructed in accordance with Amended and Restated Operating Agreement of PJM Interconnection, L.L.C. ("Operating Agreement"), Schedule 6, section 1.5.9, are included in Tariff, Schedule 12-Appendix C.

⁴ Under Tariff, Schedule 12-Appendix, "Regional Facilities" include new transmission enhancements and expansions that will operate at or above 500 kilovolts ("kV"). Under Tariff, Schedule 12-Appendix A, Regional Facilities include: (i) new transmission enhancements and expansions that are alternating current ("A.C.") facilities that operate at or above 500 kV; (ii) single enhancements and expansions comprised of 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; (iii) A.C. or direct current ("D.C.") shunt reactive resources connected to a Transmission Facility described in (i) or (ii); or (iv) D.C. facilities.

⁵ "Necessary Lower Voltage Facilities" are defined the same for Tariff, Schedule 12-Appendix and Tariff, Schedule 12-Appendix A, and include new transmission enhancements and expansions that will operate below 500 kV that must be constructed or strengthened to support new Regional Facilities. *See* Tariff, Schedule 12, section (b)(i).

⁶ "Lower Voltage Facilities" are facilities that are not Regional Facilities or Necessary Lower Voltage Facilities. *See* Tariff, Schedule 12, section (b)(ii).

⁷ A "State Agreement Public Policy Project," as defined in Schedule 12 to the PJM Tariff, is a transmission enhancement or expansion proposed pursuant to Operating Agreement, Schedule 6, section 1.5.9(a) that is not a Supplemental Project. PJM Tariff, Schedule 12, section (b)(xii)(B).

⁸ See Tariff, Schedule 12, section (b)(iii)(H)(2).

set forth in the Annual Update Filings be made effective as of January 1 of the applicable calendar year.

Second, within 30 days of approval by the PJM Board of Managers ("PJM Board") of each RTEP, or addition to the RTEP, PJM is required to designate in Tariff, Schedule 12-Appendix A and/or Tariff, Schedule 12-Appendix C, as applicable,⁹ the cost responsibility assignments for transmission enhancements and expansions included in the RTEP.¹⁰ Typically, the PJM Board meets four times per year to approve additions to the RTEP, and, as such, PJM typically amends Tariff, Schedule 12-Appendices A and C four times per year to reflect additions to the RTEP ("Board Update Filings"). Notably, PJM does not file revisions to each section of Tariff, Schedule 12-Appendices A and C update Filings. Rather, only those sections that include a new baseline upgrade or a revision to an existing baseline upgrade approved by the PJM Board are filed with the Commission. For each such Board Update Filing, PJM requests an effective date that is 90 days after the date of filing.¹¹

As PJM has previously explained,¹² due to overlapping timing in the submission and effective dates of the Annual Update Filings and subsequent periodic Board Update Filings, PJM often has two or more filings affecting the same sections pending before the Commission at the same time. The Commission has directed PJM to make a timely clean-up filing after issuance of

⁹ See supra n.3.

¹⁰ See Tariff, Schedule 12(b)(viii); Operating Agreement, Schedule 6, section 1.6. See also Tariff, Schedule 12(b)(xii); Operating Agreement, Schedule 6, section 1.5.9.

¹¹ Tariff, Schedule 12(b)(viii) provides that customers designated to be responsible for assignments of cost responsibility shall have 30 days from the date of such filing to seek review regarding the proposed cost responsibility assignments. To accommodate such a comment date, PJM requests an effective date that is 90 days after the date of filing.

¹² See PJM Interconnection, L.L.C., Motion for Leave to Answer and Answer of PJM Interconnection, L.L.C., Docket No. ER24-786-000, at 8-9 (Feb. 6, 2024).

the Commission orders on such overlapping filings to ensure the rates on file are accurate.¹³ Consistent with the Commission's direction, PJM submits this clean-up filing to ensure that cost responsibility assignments recently approved by the Commission are accurate.¹⁴

B. Additional Filing Necessitating this Clean-Up Filing

PJM submits other filings that require revisions to the Schedule 12 Appendices. In November 2023, for example, PJM submitted a filing proposing amendments to the PJM Governing Documents in connection with the integration of FirstEnergy Pennsylvania Electric Company ("FE PA"), and Keystone Appalachian Transmission Company ("KATCo") into PJM as a result of FirstEnergy Corp.'s ("FirstEnergy's") internal corporate reorganization ("Transaction").¹⁵ In the November 2023 Governing Documents Filing, PJM revised Tariff, Schedule 12-Appendix and Schedule 12-Appendix A by adding two new sections to the Schedule 12 Appendices (*i.e.*, new Tariff, Schedule 12-Appendix, section 25 (KATCo) and new Tariff, Schedule 12-Appendix-A, section 33 (KATCo)) to reflect that KATCo will own and operate West Penn's transmission assets in the APS Transmission Zone, and will be the transmission owner for purposes of these schedules. In corresponding revisions, PJM also removed references to West Penn from the headings for the existing Schedule 12-Appendix and Schedule 12-Appendix A sections for APS, and removed West Penn's assets from the existing Schedule 12-Appendix and Schedule 12-Appendix A sections (*i.e.*, Tariff, Schedule 12-Appendix, section 14 (Monongahela

¹³ *PJM Interconnection, L.L.C.*, 186 FERC ¶ 61,148, at P 29 (2024).

¹⁴ PJM anticipates that it will be submitting additional clean-up filings to ensure that the Appendices to Tariff, Schedule 12 reflect all Commission-accepted revisions on historical and going forward bases.

¹⁵ See PJM Interconnection, L.L.C., Revisions to PJM OATT, Operating Agreement, and RAA, Docket Nos. ER24-284-000, *et al.* (Nov. 1, 2023) ("November 2023 Governing Documents Filing"); *PJM Interconnection, L.L.C.*, Docket Nos. ER24-284-000, *et al.* (Dec. 18, 2023) (letter order accepting the November 2023 Governing Documents Filing).

Power Company ("MonPower")) and Tariff, Schedule 12-Appendix A (MonPower), respectively).

At the time of the November 2023 Governing Documents Filing, FE PA and KATCo anticipated that the Transaction would close on January 1, 2024, but the exact date was not certain. Thus, PJM requested an open-ended effective date of 12/31/9998 for the Governing Documents revisions attached to the November 2023 Governing Documents Filing, including the revisions to Tariff, Schedule 12-Appendix and Schedule 12-Appendix A described above.¹⁶ Subsequently, following consummation of the Transaction,¹⁷ PJM notified the Commission that the effective date for the revisions to the PJM Governing Documents already accepted by the Commission, including the revisions to Tariff, Schedule 12-Appendix and Schedule 12-Appendix A described above, are effective as of January 1, 2024.¹⁸

II. DESCRIPTION OF CLEAN-UP FILING

As relevant to this filing, PJM has submitted several filings recently in which it proposed revisions to the same sections of the Schedule 12 Appendices.

First, as described above, on November 1, 2023, PJM submitted the November 2023 Governing Documents Filing. Among other sections of various Governing Documents, and as relevant here, in that filing, PJM submitted proposed revisions to PJM Tariff, Schedule 12-Appendix and Schedule 12-Appendix A in connection with the integration of FE PA and KATCo

¹⁶ See November 2023 Governing Documents Filing at 2.

¹⁷ The Transaction was approved by the Commission in Docket No. EC23-59-000. *See FirstEnergy Corp., et al.*, 184 FERC ¶ 61,094 (2023).

¹⁸ See PJM Interconnection, L.L.C., Revisions to PJM Open Access Transmission Tariff, Operating Agreement, Reliability Assurance Agreement, and Consolidated Transmission Owners Agreement For FirstEnergy Pennsylvania Electric Company and Keystone Appalachian Transmission Company, Docket Nos. ER24-284-001, *et al.* (Jan. 29, 2024).

into PJM as a result of FirstEnergy's internal corporate reorganization.¹⁹ The Commission accepted the proposed revisions, which became effective on January 1, 2024.²⁰

Second, on November 2, 2023, PJM submitted proposed revisions to PJM Tariff, Schedule 12-Appendix A, to incorporate cost responsibility assignments for baseline upgrades approved by the PJM Board on October 3, 2023.²¹ On January 30, 2024, the Commission accepted the cost responsibility assignments set forth in the November 2023 Board Update Filing to be effective January 31, 2024.²²

Third, following the submission of the November 2023 Governing Documents Filing and November 2023 Board Update Filing, and prior to the Commission's acceptance of these filings with effective dates of January 1, 2024 and January 31, 2024, PJM submitted its Annual Update Filing to reflect cost responsibility assignments for PJM RTEP baseline projects for calendar year 2024. Specifically, on December 29, 2023,²³ PJM filed the 2024 Annual Update Filing, proposing revisions to PJM Tariff, Schedule 12-Appendix, Schedule 12-Appendix A, and Schedule 12-Appendix C to update annual cost responsibility assignments for Regional Facilities,

¹⁹ As relevant to this clean-up filing, in the November 2023 Governing Documents Filing, PJM proposed revisions to two (2) sections of Tariff, Schedule 12-Appendix (*i.e.*, Section 14 – MonPower and Section 25 - KATCo) and two (2) sections of Tariff, Schedule 12-Appendix A (*i.e.*, Section 14 – MonPower and Section 33 - KATCo).

²⁰ See supra, n.15. See also, PJM Interconnection, L.L.C., Revisions to PJM Open Access Transmission Tariff, Operating Agreement, Reliability Assurance Agreement, and Consolidated Transmission Owners Agreement For FirstEnergy Pennsylvania Electric Company and Keystone Appalachian Transmission Company, Notice of Effective Date of Governing Document Revisions, Docket Nos. ER24-284-001, *et al.* (Jan. 29, 2024).

²¹ *PJM Interconnection, L.L.C.*, Revisions to Incorporate Cost Responsibility Assignments for Regional Transmission Expansion Plan Baseline Upgrades, Docket No. ER24-321-000 (Nov. 2, 2023) ("November 2023 Board Update Filing"). As relevant to this clean-up filing, in the November 2023 Board Update Filing, PJM proposed revisions to the following two (2) sections of Tariff, Schedule 12-Appendix A: Schedule 7, Mid-Atlantic Interstate Transmission, LLC for the Pennsylvania Electric Company Zone ("Penelec"); and Schedule 14, Monongahela Power Company, the Potomac Edison Company, and West Penn Power Company for the Allegheny Power ("Mon Power") Zone.

²² *PJM Interconnection, L.L.C.*, 186 FERC ¶ 61,079 (2024).

²³ *PJM Interconnection, L.L.C.*, 2024 Annual Update, Docket No. ER24-786-000 (Dec. 29, 2023) ("2024 Annual Update Filing").

Necessary Lower Voltage Facilities, Lower Voltage Facilities and State Agreement Public Policy Projects, consistent with PJM Tariff, Schedule 12. As relevant to this clean-up filing, the 2024 Annual Update Filing included revisions to many sections of Tariff, Schedule 12-Appendices A and C. On February 27, 2024, the Commission accepted the revisions proposed in the 2024 Annual Update Filing to be effective January 1, 2024.²⁴

Fourth, following the submission of the 2024 Annual Update Filing, and prior to acceptance of the November 2023 Board Update Filing and the 2024 Annual Update Filing, PJM proposed revisions to reflect cost responsibility assignments for new RTEP projects approved by the PJM Board on December 11, 2023. Specifically, on January 10, 2024, PJM submitted proposed revisions to several sections of PJM Tariff, Schedule 12-Appendices A and C, to incorporate cost responsibility assignments for baseline upgrades in the update to the RTEP approved by the PJM Board on December 11, 2023.²⁵ On April 8, 2024, the Commission accepted the cost allocation assignments set forth in the January 2024 Board Update Filing, to be effective April 9, 2024.²⁶

Thus, as shown in the chart included as Attachment C²⁷ to this filing, PJM filed revisions

to:

• two (2) section of Tariff, Schedule 12-Appendix in the 2024 Annual Update Filing (made effective January 1, 2024) to which PJM also proposed revisions in the November 2023 Governing Documents Filing (made effective January 1, 2024);

²⁴ PJM Interconnection, L.L.C., 186 FERC ¶ 61,148 (2024), reh'g pending.

²⁵ PJM Interconnection, L.L.C., Revisions to Incorporate Cost Responsibility Assignments for Regional Transmission Expansion Plan Baseline Upgrades, Docket No. ER24-843-000 (Jan. 10, 2024) ("January 2024 Board Update Filing"). As relevant to this clean-up filing, in the January 2024 Board Update Filing, PJM proposed revisions to the following nine (9) sections of Tariff, Schedule 12-Appendix A; Section 2, Baltimore Gas & Electric Company ("BG&E"); Section 3, Delmarva Power & Light Company ("Delmarva"); Section 5, Metropolitan Edison Company ("MetEd"); Section 8, PECO Energy Company ("PECO"); Section 9, PPL Electric Utilities Corporation ("PPL"); Section 12, Public Service Electric and Gas Company ("PSE&G"); Section 14, Mon Power; Section 17, AEP; Section 20, VEPCO. PJM also proposed revisions to Tariff, Schedule 12-Appendix C.

²⁶ *PJM Interconnection, L.L.C.*, 187 FERC ¶ 61,012 (2024).

²⁷ Attachment C summarizes the subsequent versions being updated, the respective effective dates, the docket in which the version was initially accepted, and the versions being incorporated with this clean-up filing.

- eleven (11) sections of Tariff, Schedule 12-Appendix A in the 2024 Annual Update Filing (made effective January 1, 2024) to which PJM also proposed revisions in the November 2023 Governing Documents Filing (made effective January 1, 2024), as well as the November 2023 and January 2024 Board Update Filings (made effective January 31, 2024 and April 9, 2024, respectively); and
- one (1) section of Tariff, Schedule 12-Appendix C in the 2024 Annual Update Filing (made effective January 1, 2024) and in the January 2024 Board Update Filing (made effective April 9, 2024).

Due to the overlapping timing of and respective effective dates associated with the November 2023 Governing Documents Filing, the November 2023 Board Update Filing, the 2024 Annual Update Filing, and the January 2024 Board Update Filing, the revisions accepted by the Commission in those dockets will not be reflected correctly in the Schedule 12 Appendices absent this ministerial clean-up.

III. REQUEST FOR WAIVER AND EFFECTIVE DATE

PJM requests waiver of the FPA's and the Commission's 60 days' notice requirement²⁸ to allow the Commission to accept these ministerial corrections effective on the dates shown in the chart above. Good cause exists for granting such waiver. The Commission has already accepted the cost responsibility assignments set forth on the Tariff sections to be effective as of the dates shown above. Allowing the updated versions of Tariff, Schedule 12-Appendix, Schedule 12-Appendix A, and Schedule 12-Appendix C to be effective on those dates is appropriate because it will ensure that Tariff, Schedule 12-Appendix, Schedule 12-Appendix A, and Schedule 12-Appendix C consistently and continuously reflect the correct, Commission-accepted Tariff records on the effective dates granted by the Commission. Further, PJM is not proposing any new revisions

²⁸ See 16 U.S.C. § 824d(d); 18 C.F.R. § 35.3.

Honorable Debbie-Anne A. Reese May 3, 2024 Page 9

to Tariff, Schedule 12-Appendix, Schedule 12-Appendix A, or Schedule 12-Appendix C.

Accordingly, the Commission should accept this filing with the requested effective dates.

IV. DOCUMENTS ENCLOSED

PJM encloses the following documents with this filing:

- 1. This transmittal letter;
- 2. Attachment A Restored Tariff, Schedule 12-Appendix, Schedule 12-Appendix A, and Schedule 12-Appendix C in clean format (identified by additional cover pages);²⁹
- 3. Attachment B Copies of previously submitted and accepted redlines that are being incorporated (identified by additional cover pages); and
- 4. Attachment C Chart summarizing the Tariff, Schedule 12 Appendices that are being updated as part of this clean-up filing.

V. COMMUNICATIONS

The following individuals are designated for inclusion on the official service list in this

proceeding and for receipt of any communications regarding this filing:

Craig Glazer	Jessica M. Lynch
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VI. SERVICE

PJM has served a copy of this filing on all PJM Members and on all state utility regulatory commissions in the PJM Region by posting this filing electronically. In accordance with the

²⁹ Because PJM is simply combining accepted language into singular versions of eTariff records, no language is being changed from what was filed before and accepted by the Commission, thus PJM is submitting these eTariff records in clean format only.

Commission's regulations,³⁰ PJM will post a copy of this filing to the FERC filings section of its internet site, located at the following link: <u>https://www.pjm.com/library/filing-order</u> with a specific link to the newly-filed document, and will send an e-mail on the same date as this filing to all PJM Members and all state utility regulatory commissions in the PJM Region³¹ alerting them that this filing has been made by PJM and is available by following such link. If the document is not immediately available by using the referenced link, the document will be available through the referenced link within 24 hours of the filing. Also, a copy of this filing will be available on FERC's eLibrary website located at the following link: <u>http://www.ferc.gov/docs-filing/elibrary.asp</u> in accordance with the Commission's regulations and Order No. 714.

VII. CONCLUSION

PJM respectfully requests that the Commission accept this clean-up filing with the requested effective dates as set forth above and in Attachment C.

Respectfully submitted,

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³⁰ See 18 C.F.R. §§ 35.2(e) and 385.2010(f)(3) (2022).

³¹ PJM already maintains, updates and regularly uses e-mail lists for all PJM Members and affected state commissions.

Attachment A

PJM Open Access Transmission Tariff Schedule 12-Appendix, Schedule 12-Appendix A, and Schedule 12-Appendix C

Cleaned-Up

(Identified by Additional Cover Pages)

 PJM Open Access Transmission Tariff Schedule 12-Appendix
 Section 14 – Monongahela Power Co. Effective January 1, 2024 Version 30.0.1

SCHEDULE 12 – APPENDIX

(14) Monongahela Power Company and The Potomac Edison Company, doing business as Allegheny Power

Required 7	Fransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0216	Install -100/+525 MVAR dynamic reactive device at Black Oak	As specified under the procedures detailed in Attachment H-18B, Section 1.b	Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%)
			DFAX Allocation: APS (31.22%) / BGE (10.26%) / Dominion (45.55%) / PEPCO (12.97%)
b0218	Install third Wylie Ridge 500/345 kV transformer	As specified under the procedures detailed in Attachment H-18B, Section 1.b	AEC (11.83%) / DPL (19.40%) / Dominion (13.81%) / JCPL (15.56%) / PECO (39.40%)
b0220	Upgrade coolers on Wylie Ridge 500/345 kV #7		AEC (11.83%) / DPL (19.40%) / Dominion (13.81%) / JCPL (15.56%) / PECO (39.40%)
b0229	Install fourth Bedington 500/138 kV		APS (50.98%) / BGE (13.42%) / DPL (2.03%) / Dominion (14.50%) / ME (1.43%) / PEPCO (17.64%)
b0230	Install fourth Meadowbrook 500/138 kV	As specified under the procedures detailed in Attachment H-18B, Section 1.b	APS (79.16%) / BGE (3.61%) / DPL (0.86%) / Dominion (11.75%) / ME (0.67%) / PEPCO (3.95%)

Required 7	Fransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0238	Reconductor Doubs – Dickerson and Doubs – Aqueduct 1200 MVA	As specified under the procedures detailed in Attachment H-18B, Section 1.b	BGE (16.66%) / Dominion (33.66%) / PEPCO (49.68%)
b0240	Open the Black Oak #3 500/138 kV transformer for the loss of Hatfield – Back Oak 500 kV line		APS (100%)
b0245	Replacement of the existing 954 ACSR conductor on the Bedington – Nipetown 138 kV line with high temperature/low sag conductor		APS (100%)
b0246	Rebuild of the Double Tollgate – Old Chapel 138 kV line with 954 ACSR conductor	As specified under the procedures detailed in Attachment H-18B, Section 1.b	APS (100%)
b0273	Open both North Shenandoah #3 transformer and Strasburg – Edinburgh 138 kV line for the loss of Mount Storm – Meadowbrook 572 500 kV		APS (100%)
b0322	Convert Lime Kiln substation to 230 kV operation		APS (100%)
b0323	Replace the North Shenandoah 138/115 kV transformer	As specified under the procedures detailed in Attachment H-18B, Section 1.b	APS (100%)

Required Tra	insmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
			Load-Ratio Share Allocation:
b0328.2	Build new Meadow Brook – Loudoun 500 kV circuit (20 of 50 miles)	As specified under the procedures detailed in Attachment H-18B, Section 1.b	AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE
			(0.24%) DFAX Allocation: APS (6.50%) / BGE (6.33%) / Dominion (78.04%) / PEPCO (9.13%)
b0343	Replace Doubs 500/230 kV transformer #2	As specified under the procedures detailed in Attachment H-18B, Section 1.b	AEC (1.85%) / BGE (21.49%) / DPL (3.91%) / Dominion (28.86%) / ME (2.97%) / PECO (5.73%) / PEPCO (35.19%)
b0344	Replace Doubs 500/230 kV transformer #3	As specified under the procedures detailed in Attachment H-18B, Section 1.b	AEC (1.86%) / BGE (21.50%) / DPL (3.91%) / Dominion (28.82%) / ME (2.97%) / PECO (5.74%) / PEPCO (35.20%)
b0345	Replace Doubs 500/230 kV transformer #4	As specified under the procedures detailed in Attachment H-18B, Section 1.b	AEC (1.85%) / BGE (21.49%) / DPL (3.90%) / Dominion (28.83%) / ME (2.98%) / PECO (5.75%) / PEPCO (35.20%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tr	ansmission Enhancements A	Annual Revenue Requirement	Responsible Customer(s)
b0347.1	Build new Mt. Storm – 502 Junction 500 kV circuit	As specified under the procedures detailed in Attachment H-18B, Section 1.b	Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: APS (31.98%) / BGE (10.86%) / Dominion (39.86%) / PEPCO (17.30%)
b0347.2	Build new Mt. Storm – Meadow Brook 500 kV circuit	As specified under the procedures detailed in Attachment H-18B, Section 1.b	Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: APS (21.84%) / BGE (7.08%) / Dominion (60.14%) / PEPCO (10.94%)

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Required Tr	ansmission Enhancements A	Annual Revenue Requirement	Responsible Customer(s)
b0347.4	Upgrade Meadow Brook 500 kV substation	As specified under the procedures detailed in Attachment H-18B, Section 1.b	Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: APS (21.84%) / BGE (7.08%) / Dominion (60.14%) / PEPCO (10.94%)

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Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
			Load-Ratio Share Allocation:
			AEC (1.65%) / AEP (14.29%) /
			APS (5.82%) / ATSI (7.49%) /
			BGE (4.01%) / ComEd (14.06%)
			/ Dayton (2.03%) / DEOK
			(3.21%) / DL (1.59%) / DPL
			(2.55%) / Dominion (13.89%) /
			EKPC (2.35%) / JCPL (3.59%) /
	D 1 11 500		ME (1.81%) / NEPTUNE*
b0347.5	Replace Harrison 500		(0.42%) / OVEC (0.06%) /
	kV breaker HL-3		PECO (5.11%) / PENELEC
			(1.73%) / PEPCO (3.68%) / PPL
			(4.43%) / PSEG (5.99%) / RE
			(0.24%)
			DFAX Allocation:
			APS (31.98%) / BGE (10.86%) /
			Dominion (39.86%) / PEPCO
			(17.30%)
			(17.5070)
			Load-Ratio Share Allocation:
			AEC (1.65%) / AEP (14.29%) /
			APS (5.82%) / ATSI (7.49%) /
			BGE (4.01%) / ComEd (14.06%)
			/ Dayton (2.03%) / DEOK
			(3.21%) / DL (1.59%) / DPL
			(2.55%) / Dominion (13.89%) /
			EKPC (2.35%) / JCPL (3.59%) /
	Upgrade (per ABB		ME (1.81%) / NEPTUNE*
b0347.6	inspection) breaker HL-6		(0.42%) / OVEC (0.06%) /
	inspection) breaker HE-0		PECO (5.11%) / PENELEC
			(1.73%) / PEPCO (3.68%) / PPL
			(4.43%) / PSEG (5.99%) / RE
			(0.24%)
			DFAX Allocation:
			APS (31.98%) / BGE (10.86%) /
			Dominion (39.86%) / PEPCO
			(17.30%)
			× ′

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Require	d Tra	ansmission Enhancements A	Annual Revenue Requirement	Responsible Customer(s)
				Load-Ratio Share Allocation:
				AEC (1.65%) / AEP (14.29%) /
				APS (5.82%) / ATSI (7.49%) /
				BGE (4.01%) / ComEd (14.06%)
				/ Dayton (2.03%) / DEOK
				(3.21%) / DL (1.59%) / DPL
				(2.55%) / Dominion (13.89%) /
				EKPC (2.35%) / JCPL (3.59%) /
1.024		Upgrade (per ABB		ME (1.81%) / NEPTUNE*
b034	././	inspection) breaker HL-7		(0.42%) / OVEC (0.06%) / PECO
				(5.11%) / PENELEC (1.73%) /
				PEPCO (3.68%) / PPL (4.43%) /
				PSEG (5.99%) / RE (0.24%)
				DFAX Allocation:
				APS (31.98%) / BGE (10.86%) /
				Dominion (39.86%) / PEPCO
				(17.30%)
				(17.5070)
				Load-Ratio Share Allocation:
				AEC (1.65%) / AEP (14.29%) /
				APS (5.82%) / ATSI (7.49%) /
				BGE (4.01%) / ComEd (14.06%)
				/ Dayton (2.03%) / DEOK
				(3.21%) / DL (1.59%) / DPL
				(2.55%) / Dominion (13.89%) /
				EKPC (2.35%) / JCPL (3.59%) /
b034	78	Upgrade (per ABB		ME (1.81%) / NEPTUNE*
0034	1.0	inspection) breaker HL-8		(0.42%) / OVEC (0.06%) / PECO
				(5.11%) / PENELEC (1.73%) /
				PEPCO (3.68%) / PPL (4.43%) /
				PSEG (5.99%) / RE (0.24%)
				DFAX Allocation:
				APS (31.98%) / BGE (10.86%) /
				Dominion (39.86%) / PEPCO
				(17.30%)
				()

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tra	nsmission Enhancements A	nnual Revenue Requirement Responsible Customer(s)
		Load-Ratio Share Allocation:
		AEC (1.65%) / AEP (14.29%) / APS
		(5.82%) / ATSI (7.49%) / BGE
		(4.01%) / ComEd (14.06%) / Dayton
		(2.03%) / DEOK (3.21%) / DL
		(1.59%) / DPL (2.55%) / Dominion
		(13.89%) / EKPC (2.35%) / JCPL
		(3.59%) / ME (1.81%) /
	Upgrade (per ABB	NEPTUNE* (0.42%) / OVEC
b0347.9	inspection) breaker HL-	(0.06%) / PECO (5.11%) /
	10	PENELEC (1.73%) / PEPCO
		(3.68%) / PPL (4.43%) / PSEG
		(5.99%) / RE (0.24%)
		DFAX Allocation:
		APS (31.98%) / BGE (10.86%) / Dominion (20.86%) / DEPCO
		Dominion (39.86%) / PEPCO
		(17.30%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Requir	red Tran	smission Enhancements A	Annual Revenue Requireme	nt Responsible Customer(s)
b03	47.17	Replace Meadow Brook 138 kV breaker 'MD-10'		Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation:
				APS (21.84%) / BGE (7.08%) / Dominion (60.14%) / PEPCO (10.94%) Load-Ratio Share Allocation:
ь03	47.18	Replace Meadow Brook 138 kV breaker 'MD-11'		AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%)
				DFAX Allocation: APS (21.84%) / BGE (7.08%) / Dominion (60.14%) / PEPCO (10.94%)

Required Tran	nsmission Enhancements A	Annual Revenue Requirement Responsible Customer(s)	
		Load-Ratio Share Allocati	
		AEC (1.65%) / AEP (14.299	%)/
		APS (5.82%) / ATSI (7.49%	/
		BGE (4.01%) / ComEd (14.0	/
		Dayton (2.03%) / DEOK (3.2	/
		DL (1.59%) / DPL (2.55%	/
		Dominion (13.89%) / EKF	
		(2.35%) / JCPL (3.59%) / N	
1 02 47 10	Replace Meadow	(1.81%) / NEPTUNE* (0.42	/
b0347.19	Brook 138 kV breaker	OVEC (0.06%) / PECO (5.11	,
	'MD-12'	PENELEC (1.73%) / PEPC	
		(3.68%) / PPL (4.43%) / PS	EG
		(5.99%) / RE (0.24%)	
		DFAX Allocation:	
		APS (21.84%) / BGE (7.089	(a)
		Dominion (60.14%) / PEPO	/
		(10.94%)	.0
		(10.9470)	
		Load-Ratio Share Allocati	
		Loud Ratio Share Anocat	on:
		AEC (1.65%) / AEP (14.299	
			%)/
		AEC (1.65%) / AEP (14.299 APS (5.82%) / ATSI (7.49% BGE (4.01%) / ComEd (14.06	%) / %) / 5%) /
		AEC (1.65%) / AEP (14.299 APS (5.82%) / ATSI (7.49% BGE (4.01%) / ComEd (14.00 Dayton (2.03%) / DEOK (3.2	%) / %) / 6%) / 1%) /
		AEC (1.65%) / AEP (14.299 APS (5.82%) / ATSI (7.499 BGE (4.01%) / ComEd (14.00 Dayton (2.03%) / DEOK (3.2 DL (1.59%) / DPL (2.55%	%) / %) / 6%) / 1%) /) /
		AEC (1.65%) / AEP (14.299 APS (5.82%) / ATSI (7.49% BGE (4.01%) / ComEd (14.00 Dayton (2.03%) / DEOK (3.2 DL (1.59%) / DPL (2.55% Dominion (13.89%) / EKE	%) / %) / 5%) / 1%) /) / PC
		AEC (1.65%) / AEP (14.299 APS (5.82%) / ATSI (7.49% BGE (4.01%) / ComEd (14.00 Dayton (2.03%) / DEOK (3.2 DL (1.59%) / DPL (2.55% Dominion (13.89%) / EKP (2.35%) / JCPL (3.59%) / N	%) / %) / 5%) / 1%) /) / PC ME
1.02.47.20	Replace Meadow	AEC (1.65%) / AEP (14.299 APS (5.82%) / ATSI (7.49% BGE (4.01%) / ComEd (14.00 Dayton (2.03%) / DEOK (3.2 DL (1.59%) / DPL (2.55% Dominion (13.89%) / EKF (2.35%) / JCPL (3.59%) / N (1.81%) / NEPTUNE* (0.42	%) / 6%) / 1%) /) / °C ME %) /
b0347.20	Brook 138 kV breaker	AEC (1.65%) / AEP (14.299 APS (5.82%) / ATSI (7.49% BGE (4.01%) / ComEd (14.00 Dayton (2.03%) / DEOK (3.2 DL (1.59%) / DPL (2.55% Dominion (13.89%) / EKF (2.35%) / JCPL (3.59%) / N (1.81%) / NEPTUNE* (0.42 OVEC (0.06%) / PECO (5.11)	%) / %) / 5%) / 1%) / 1%) / PC ME %) / [%) /
b0347.20	1	AEC (1.65%) / AEP (14.299 APS (5.82%) / ATSI (7.49% BGE (4.01%) / ComEd (14.00 Dayton (2.03%) / DEOK (3.2 DL (1.59%) / DPL (2.55% Dominion (13.89%) / EKF (2.35%) / JCPL (3.59%) / M (1.81%) / NEPTUNE* (0.42 OVEC (0.06%) / PECO (5.11) PENELEC (1.73%) / PEPC	%) / 6) / 5%) / 1%) /) / PC ME %) / L%) / CO
ь0347.20	Brook 138 kV breaker	AEC (1.65%) / AEP (14.299 APS (5.82%) / ATSI (7.49% BGE (4.01%) / ComEd (14.00 Dayton (2.03%) / DEOK (3.2 DL (1.59%) / DPL (2.55% Dominion (13.89%) / EKF (2.35%) / JCPL (3.59%) / M (1.81%) / NEPTUNE* (0.42 OVEC (0.06%) / PECO (5.11) PENELEC (1.73%) / PEPC (3.68%) / PPL (4.43%) / PS	%) / 6) / 5%) / 1%) /) / PC ME %) / L%) / CO
b0347.20	Brook 138 kV breaker	AEC (1.65%) / AEP (14.299 APS (5.82%) / ATSI (7.49% BGE (4.01%) / ComEd (14.00 Dayton (2.03%) / DEOK (3.2 DL (1.59%) / DPL (2.55% Dominion (13.89%) / EKF (2.35%) / JCPL (3.59%) / M (1.81%) / NEPTUNE* (0.42 OVEC (0.06%) / PECO (5.11) PENELEC (1.73%) / PEPC	%) / 6) / 5%) / 1%) /) / PC ME %) / L%) / CO
b0347.20	Brook 138 kV breaker	AEC (1.65%) / AEP (14.299 APS (5.82%) / ATSI (7.49% BGE (4.01%) / ComEd (14.00 Dayton (2.03%) / DEOK (3.2 DL (1.59%) / DPL (2.55% Dominion (13.89%) / EKF (2.35%) / JCPL (3.59%) / N (1.81%) / NEPTUNE* (0.42 OVEC (0.06%) / PECO (5.11) PENELEC (1.73%) / PEPO (3.68%) / PPL (4.43%) / PS (5.99%) / RE (0.24%)	%) / 6) / 5%) / 1%) /) / PC ME %) / L%) / CO
ь0347.20	Brook 138 kV breaker	AEC (1.65%) / AEP (14.299 APS (5.82%) / ATSI (7.49% BGE (4.01%) / ComEd (14.00 Dayton (2.03%) / DEOK (3.2 DL (1.59%) / DPL (2.55% Dominion (13.89%) / EKF (2.35%) / JCPL (3.59%) / N (1.81%) / NEPTUNE* (0.42 OVEC (0.06%) / PECO (5.11 PENELEC (1.73%) / PEPC (3.68%) / PPL (4.43%) / PS (5.99%) / RE (0.24%) DFAX Allocation:	%) / 6%) / 1%) /) / PC ME %) / 1%) / CO EG
b0347.20	Brook 138 kV breaker	AEC (1.65%) / AEP (14.299 APS (5.82%) / ATSI (7.49% BGE (4.01%) / ComEd (14.00 Dayton (2.03%) / DEOK (3.2 DL (1.59%) / DPL (2.55% Dominion (13.89%) / EKF (2.35%) / JCPL (3.59%) / N (1.81%) / NEPTUNE* (0.42 OVEC (0.06%) / PECO (5.11) PENELEC (1.73%) / PEPO (3.68%) / PPL (4.43%) / PS (5.99%) / RE (0.24%) DFAX Allocation: APS (21.84%) / BGE (7.089	%) / 6) / 5%) / 1%) / PC ME %) / CO EG
60347.20	Brook 138 kV breaker	AEC (1.65%) / AEP (14.299 APS (5.82%) / ATSI (7.49% BGE (4.01%) / ComEd (14.00 Dayton (2.03%) / DEOK (3.2 DL (1.59%) / DPL (2.55% Dominion (13.89%) / EKF (2.35%) / JCPL (3.59%) / N (1.81%) / NEPTUNE* (0.42 OVEC (0.06%) / PECO (5.11 PENELEC (1.73%) / PEPO (3.68%) / PPL (4.43%) / PS (5.99%) / RE (0.24%) DFAX Allocation: APS (21.84%) / BGE (7.089 Dominion (60.14%) / PEPO	%) / 6) / 5%) / 1%) / PC ME %) / CO EG
b0347.20	Brook 138 kV breaker	AEC (1.65%) / AEP (14.299 APS (5.82%) / ATSI (7.49% BGE (4.01%) / ComEd (14.00 Dayton (2.03%) / DEOK (3.2 DL (1.59%) / DPL (2.55% Dominion (13.89%) / EKF (2.35%) / JCPL (3.59%) / N (1.81%) / NEPTUNE* (0.42 OVEC (0.06%) / PECO (5.11) PENELEC (1.73%) / PEPO (3.68%) / PPL (4.43%) / PS (5.99%) / RE (0.24%) DFAX Allocation: APS (21.84%) / BGE (7.089	%) / 6) / 5%) / 1%) / PC ME %) / CO EG

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Trai	nsmission Enhancements A	Annual Revenue Requirement	t Responsible Customer(s)
			Load-Ratio Share Allocation:
			AEC (1.65%) / AEP (14.29%) /
			APS (5.82%) / ATSI (7.49%) /
			BGE (4.01%) / ComEd (14.06%) /
			Dayton (2.03%) / DEOK (3.21%) /
			DL (1.59%) / DPL (2.55%) /
			Dominion (13.89%) / EKPC
			(2.35%) / JCPL (3.59%) / ME
1 02 47 21	Replace Meadow		(1.81%) / NEPTUNE* (0.42%) /
b0347.21	Brook 138 kV breaker		OVEC (0.06%) / PECO (5.11%) /
	'MD-14'		PENELEC (1.73%) / PEPCO
			(3.68%) / PPL (4.43%) / PSEG
			(5.99%) / RE (0.24%)
		-	DFAX Allocation:
			APS (21.84%) / BGE (7.08%) /
			Dominion (60.14%) / PEPCO
			(10.94%)
			(10.9470)
			Load-Ratio Share Allocation:
			Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) /
			AEC (1.65%) / AEP (14.29%) /
			AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) /
			AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) /
			AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC
			AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) /
	Replace Meadow		AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) /
b0347.22	Brook 138 kV breaker		AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME
b0347.22	1		AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO
b0347.22	Brook 138 kV breaker		AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG
b0347.22	Brook 138 kV breaker		AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO
b0347.22	Brook 138 kV breaker		AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%)
b0347.22	Brook 138 kV breaker		AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation:
b0347.22	Brook 138 kV breaker		AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: APS (21.84%) / BGE (7.08%) /
b0347.22	Brook 138 kV breaker		AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: APS (21.84%) / BGE (7.08%) / Dominion (60.14%) / PEPCO
b0347.22	Brook 138 kV breaker		AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: APS (21.84%) / BGE (7.08%) /

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required	Tra	nsmission Enhancements	Annual Revenue Requiremen	t Responsible Customer(s)
b0347	23	Replace Meadow Brook 138 kV breaker 'MD-16'		Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: APS (21.84%) / BGE (7.08%) / Dominion (60.14%) / PEPCO (10.94%)
b0347	24	Replace Meadow Brook 138 kV breaker 'MD-17'		Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) Dominion (60.14%) / PEPCO (10.94%)

Required Tran	smission Enhancements A	Annual Revenue Requirement	Responsible Customer(s)	
			Load-Ratio Share Allocation:	
			AEC (1.65%) / AEP (14.29%) /	
			APS (5.82%) / ATSI (7.49%) /	
			BGE (4.01%) / ComEd (14.06%) /	
			Dayton (2.03%) / DEOK (3.21%) /	
			DL (1.59%) / DPL (2.55%) /	
			Dominion (13.89%) / EKPC	
			(2.35%) / JCPL (3.59%) / ME	
	Replace Meadow		(1.81%) / NEPTUNE* (0.42%) /	
b0347.25	Brook 138 kV breaker		OVEC (0.06%) / PECO (5.11%) /	
	'MD-18'		PENELEC (1.73%) / PEPCO	
			(3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%)	
			(3.68%) / PPL (4.43%) / PSEG	
			(101) 1/0)	
			Load-Ratio Share Allocation:	
			AEC (1.65%) / AEP (14.29%) /	
			AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) /	
			AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) /	
			AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) /	
			AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) /	
			AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC	
	Poplace Meedow		AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME	
b0347.26	Replace Meadow		AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) /	
b0347.26	Brook 138 kV breaker		AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) /	
b0347.26	1	AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) /		
b0347.26	Brook 138 kV breaker		AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG	
ь0347.26	Brook 138 kV breaker		AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO	
b0347.26	Brook 138 kV breaker		AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%)	
ь0347.26	Brook 138 kV breaker		AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation:	
b0347.26	Brook 138 kV breaker		AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: APS (21.84%) / BGE (7.08%) /	
b0347.26	Brook 138 kV breaker		AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation:	

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Trai	nsmission Enhancements A	Annual Revenue Requirement Responsible Customer(s)
		Load-Ratio Share Allocation:
		AEC (1.65%) / AEP (14.29%) / AP
		(5.82%) / ATSI (7.49%) / BGE
		(4.01%) / ComEd (14.06%) / Dayto
		(2.03%) / DEOK (3.21%) / DL
		(1.59%) / DPL (2.55%) / Dominior
		(13.89%) / EKPC (2.35%) / JCPL
	Devile of Mee down	(3.59%) / ME (1.81%) /
h0247.27	Replace Meadow	NEPTUNE* (0.42%) / OVEC
b0347.27	Brook 138 kV breaker 'MD-4'	(0.06%) / PECO (5.11%) /
	IVID-4	
		(5.99%) / RE (0.24%)
		DEAX Allocation:
		Load-Ratio Share Allocation:
		PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: APS (21.84%) / BGE (7.08%) / Dominion (60.14%) / PEPCO (10.94%) Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL
		AEC (1.65%) / AEP (14.29%) / AP (5.82%) / ATSI (7.49%) / BGE
		AEC (1.65%) / AEP (14.29%) / AP (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayto
		AEC (1.65%) / AEP (14.29%) / AP (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayto (2.03%) / DEOK (3.21%) / DL
		AEC (1.65%) / AEP (14.29%) / AP (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayto (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion
		AEC (1.65%) / AEP (14.29%) / AP (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayto (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL
	Replace Meadow	AEC (1.65%) / AEP (14.29%) / AP (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayto (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominior (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) /
b0347.28	Replace Meadow Brook 138 kV breaker	AEC (1.65%) / AEP (14.29%) / AP (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayto (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominior (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC
b0347.28	Brook 138 kV breaker	AEC (1.65%) / AEP (14.29%) / AP (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayto (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominior (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) /
b0347.28	1	AEC (1.65%) / AEP (14.29%) / AP (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayto (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominior (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO
b0347.28	Brook 138 kV breaker	AEC (1.65%) / AEP (14.29%) / AP (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayto (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG
b0347.28	Brook 138 kV breaker	AEC (1.65%) / AEP (14.29%) / AP (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayto (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominior (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO
b0347.28	Brook 138 kV breaker	AEC (1.65%) / AEP (14.29%) / AP (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayto (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG
b0347.28	Brook 138 kV breaker	AEC (1.65%) / AEP (14.29%) / AP (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayto (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominior (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%)
b0347.28	Brook 138 kV breaker	AEC (1.65%) / AEP (14.29%) / AP (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayto (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation:
ь0347.28	Brook 138 kV breaker	AEC (1.65%) / AEP (14.29%) / AP (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayto (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominior (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: APS (21.84%) / BGE (7.08%) /

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Trar	nsmission Enhancements A	Annual Revenue Requirement	nt Responsible Customer(s)
			Load-Ratio Share Allocation:
			AEC (1.65%) / AEP (14.29%) / APS
			(5.82%) / ATSI (7.49%) / BGE
			(4.01%) / ComEd (14.06%) / Dayton
			(2.03%) / DEOK (3.21%) / DL
			(1.59%) / DPL (2.55%) / Dominion
			(13.89%) / EKPC (2.35%) / JCPL
			(3.59%) / ME (1.81%) /
	Replace Meadowbrook		NEPTUNE* (0.42%) / OVEC
b0347.29	138 kV breaker 'MD-6'		(0.06%) / PECO (5.11%) /
			PENELEC (1.73%) / PEPCO
			(3.68%) / PPL (4.43%) / PSEG
			(5.99%) / RE (0.24%)
			DFAX Allocation:
			APS (21.84%) / BGE (7.08%) /
			Dominion (60.14%) / PEPCO
			(10.94%)
			(1009 170)
			Load-Ratio Share Allocation:
			AEC (1.65%) / AEP (14.29%) / APS
			AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE
			AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton
			AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL
			AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion
			AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL
			AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) /
b0347 30	Replace Meadowbrook		AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC
b0347.30	Replace Meadowbrook 138 kV breaker 'MD-7'		AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) /
b0347.30	1		AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO
b0347.30	1		AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG
b0347.30	1		AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO
b0347.30	1		AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG
b0347.30	1		AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%)
b0347.30	1		AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: APS (21.84%) / BGE (7.08%) /
b0347.30	1		AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation:

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tran	nsmission Enhancements A	Annual Revenue Requirement	Responsible Customer(s)
b0347.31	Replace Meadowbrook 138 kV breaker 'MD-8'		Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) Dominion (60.14%) / PEPCO (10.94%)
b0347.32	Replace Meadowbrook 138 kV breaker 'MD-9'		Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: APS (21.84%) / BGE (7.08%) / Dominion (60.14%) / PEPCO (10.94%)

b0347.33	Replace Meadow Brook	
	138 kV breaker 'MD-1'	APS (100%)
b0347.34	Replace Meadow Brook 138 kV breaker 'MD-2'	
	138 KV Dreaker MID-2	APS (100%)
	Upgrade Stonewall –	
b0348	Inwood 138 kV with	
	954 ACSR conductor	APS (100%)
	Convert Doubs –	AEC (1.82%) / APS (76.84%) /
b0373	Monocacy 138 kV	DPL (2.64%) / JCPL (4.53%) /
00575	facilities to 230 kV	ME (9.15%) / NEPTUNE*
	operation	(0.42%) / PPL (4.60%)
		Load-Ratio Share Allocation:
		AEC (1.65%) / AEP (14.29%) /
		APS (5.82%) / ATSI (7.49%) /
		APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) /
		APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) /
		APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) /
	Replace terminal	APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC
b0393	equipment at Harrison	APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) /
b0393	equipment at Harrison 500 kV and Belmont	APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME
b0393	equipment at Harrison	APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) /
b0393	equipment at Harrison 500 kV and Belmont	APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG
b0393	equipment at Harrison 500 kV and Belmont	APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO
b0393	equipment at Harrison 500 kV and Belmont	APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation:
b0393	equipment at Harrison 500 kV and Belmont	APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

require		Annual Revenue Requirement	
b0407	7.1 Replace Marlowe 138 kV breaker "#1 transf"		APS (100%)
b0407	7.2 Replace Marlowe 138 kV breaker "MBO"		APS (100%)
b0407	7.3 Replace Marlowe 138 kV breaker "BMA"		APS (100%)
b0407	7.4 Replace Marlowe 138 kV breaker "BMR"		APS (100%)
b0407	7.5 Replace Marlowe 138 kV breaker "WC-1"		APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

		I filliadi Revenue Requirement	
b0407.6	Replace Marlowe 138 kV breaker "R11"		APS (100%)
b0407.7	Replace Marlowe 138 kV breaker "W"		APS (100%)
b0407.8	Replace Marlowe 138 kV breaker "138 kV bus tie"		APS (100%)
b0408.1	Replace Trissler 138 kV breaker "Belmont 604"		APS (100%)
b0408.2	Replace Trissler 138 kV breaker "Edgelawn 90"		APS (100%)
b0409.1	Replace Weirton 138 kV breaker "Wylie Ridge 210"		APS (100%)
60409.2	Replace Weirton 138 kV breaker "Wylie Ridge 216"		APS (100%)
b0410	Replace Glen Falls 138 kV breaker "McAlpin 30"		APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required 7	Fransmission Enhancements	Annual Revenue Require	ement Responsible Customer(s)
	Install a breaker failure auto-restoration scheme		Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL
b0419	at Bedington 500 kV for the failure of the #1 and #2 breakers		(3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: APS (100%)
b0420	Operating Procedure to open the Black Oak 500/138 kV transformer #3 for the loss of Hatfield – Ronco 500 kV and the Hatfield #3 Generation		APS (100%)
b0445	Upgrade substation equipment and reconductor the Tidd – Mahans Lane – Weirton 138 kV circuit with 954 ACSR		APS (100%)

Required Tr	ansmission Enhancements	Annual Revenue Requirement	t Responsible Customer(s)	
b0460	Raise limiting structures on Albright – Bethelboro 138 kV to raise the rating to 175 MVA normal 214 MVA emergency		APS (100%)	
b0491	Construct an Amos to Welton Spring to WV state line 765 kV circuit (APS equipment)	As specified under the procedures detailed in Attachment H-19B	Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation:	
			DFAX Allocation: AEC (5.01%) / AEP (4.39%) / APS (9.26%) / BGE (4.43%) / DL (0.02%) / DPL (6.91%) / Dominion (10.82%) / JCPL (11.64%) / ME (2.94%) / NEPTUNE* (1.12%) / PECO (14.51%) / PEPCO (6.11%) / PPL (6.39%) / PSEG (15.86%) / RE (0.59%)	

Required Tra	insmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0492	Construct a Welton Spring to Kemptown 765 kV line (APS equipment)	As specified under the procedures detailed in Attachment H-19B	Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: AEC (5.01%) / AEP (4.39%) / APS (9.26%) / BGE (4.43%) / DL (0.02%) / DPL (6.91%) / Dominion (10.82%) / JCPL (11.64%) / ME (2.94%) / NEPTUNE* (1.12%) / PECO (14.51%) / PEPCO (6.11%) / PPL (6.39%) / PSEG (15.86%) / RE (0.59%)
b0492.3	Replace Eastalco 230 kV breaker D-26		APS (100%)
b0492.4	Replace Eastalco 230 kV breaker D-28		APS (100%)

Required Tra	ansmission Enhancements	Annual Revenue Requi	rement Responsible Customer(s)
10402 5	Replace Eastalco 230 kV breaker D-		A.D.C. (1009/)
b0492.5	31		APS (100%) Load-Ratio Share Allocation:
Ь0495	Replace existing Kammer 765/500 kV transformer with a new larger transformer		AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%)
			DFAX Allocation: AEP (21.66%) / APS (0.01%) / BGE (7.14%) / DEOK (0.01%) / Dominion (62.25%)/ PEPCO (8.93%)
b0533	Reconductor the Powell Mountain – Sutton 138 kV line		APS (100%)
b0534	Install a 28.61 MVAR capacitor on Sutton 138 kV		APS (100%)
b0536	Replace Doubs circuit breaker DJ1		APS (100%)
b0537	Replace Doubs circuit breaker DJ7		APS (100%)
b0538	Replace Doubs circuit breaker DJ10		APS (100%)
b0539	Replace Doubs circuit breaker DJ11		APS (100%)
b0540	Replace Doubs circuit breaker DJ12		APS (100%)
b0541	Replace Doubs circuit breaker DJ13		APS (100%)
b0542	Replace Doubs circuit breaker DJ20		APS (100%)

Required Tr	ansmission Enhancements	Annual Revenue Requirement Responsible Customer(s)
b0543	Replace Doubs circuit breaker DJ21	APS (100%)
b0544	Remove instantaneous reclose from Eastalco circuit breaker D-26	APS (100%)
b0559	Install 200 MVAR capacitor at Meadow Brook 500 kV substation	Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / COMED (14.06%) / DAYTON (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / DOMINION (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: APS (21.84%) / BGE (7.08%) / DOMINION (60.14%) / PEPCO (10.94%)
b0560	Install 250 MVAR capacitor at Kemptown 500 kV substation	Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: AEC (5.01%) / AEP (4.39%) / APS (9.26%) / BGE (4.43%) / DL (0.02%) / DPL (6.91%) / Dominion (10.82%) / JCPL (11.64%) / ME (2.94%) / NEPTUNE* (1.12%) / PECO (14.51%) / PEPCO (6.11%) / PPL (6.39%) / NEPTUNE* (1.12%) / PECO (14.51%) / PEPCO (6.11%) / PPL (6.39%) /

	nnual Revenue Requirement	Responsible Customer(s)
Reconductor Albright –		
-		
		APS (100%)
Mettiki – Williams –		
Parsons – Loughs Lane		
138 kV with 954 ACSR		APS (100%)
Reconfigure circuits in		
Butler – Cabot 138 kV		
area		APS (100%)
		Load-Ratio Share Allocation:
		AEC (1.65%) / AEP (14.29%) /
		APS (5.82%) / ATSI (7.49%) /
		BGE (4.01%) / ComEd (14.06%) /
		Dayton (2.03%) / DEOK (3.21%) /
		DL (1.59%) / DPL (2.55%) /
		Dominion (13.89%) / EKPC
Replace Fort Martin 500		(2.35%) / JCPL (3.59%) / ME
kV breaker FL-1		(1.81%) / NEPTUNE* (0.42%) /
		OVEC (0.06%) / PECO (5.11%) /
		PENELEC (1.73%) / PEPCO
		(3.68%) / PPL (4.43%) / PSEG
		(5.99%) / RE (0.24%)
		(3.3370) / KE (0.2470)
		DFAX Allocation:
		APS (100%)
	Reconductor Albright – Mettiki – Williams – Parsons – Loughs Lane 138 kV with 954 ACSRReconductor Albright – Mettiki – Williams – Parsons – Loughs Lane 138 kV with 954 ACSRReconfigure circuits in Butler – Cabot 138 kV areaReplace Fort Martin 500	Reconductor Albright – Mettiki – Williams – Parsons – Loughs Lane 138 kV with 954 ACSR Reconductor Albright – Mettiki – Williams – Parsons – Loughs Lane 138 kV with 954 ACSR Reconfigure circuits in Butler – Cabot 138 kV area Replace Fort Martin 500

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required In		nnual Revenue Requirement	Responsible Customer(s)
b0588	Install a 40.8 MVAR 138 kV capacitor at Grassy Falls		APS (100%)
b0589	Replace five 138 kV breakers at Cecil		APS (100%)
b0591	Install a 25.2 MVAR capacitor at Seneca Caverns 138 kV		APS (100%)
b0674	Construct new Osage – Whiteley 138 kV circuit		APS (97.68%) / DL (0.96%) / PENELEC (1.09%) / ECP** (0.01%) / PSEG (0.25%) / RE (0.01%)
b0674.1	Replace the Osage 138 kV breaker 'CollinsF126'		APS (100%)
b0675.1	Convert Monocacy - Walkersville 138 kV to 230 kV		AEC (1.02%) / APS (81.96%) / DPL (0.85%) / JCPL (1.75%) / ME (6.37%) / NEPTUNE* (0.15%) / PECO (3.09%) / PPL (2.24%) / PSEG (2.42%) / RE (0.09%) / ECP** (0.06%)
b0675.2	Convert Walkersville - Catoctin 138 kV to 230 kV		AEC (1.02%) / APS (81.96%) / DPL (0.85%) / JCPL (1.75%) / ME (6.37%) / NEPTUNE* (0.15%) / PECO (3.09%) / PPL (2.24%) / PSEG (2.42%) / RE (0.09%) / ECP** (0.06%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

*Neptune Regional Transmission System, LLC **East Coast Power, L.L.C.

Required Tra	nsmission Enhancements A	nnual Revenue Requirement	Responsible Customer(s)
			AEC (1.02%) / APS (81.96%) /
	Convert Ringgold -		DPL (0.85%) / JCPL (1.75%) /
b0675.3	Catoctin 138 kV to 230		ME (6.37%) / NEPTUNE*
00075.5	kV		(0.15%) / PECO (3.09%) / PPL
			(2.24%) / PSEG (2.42%) / RE
			(0.09%) / ECP** (0.06%)
			AEC (1.02%) / APS (81.96%) /
	Convert Catoctin -		DPL (0.85%) / JCPL (1.75%) /
b0675.4	Carroll 138 kV to 230		ME (6.37%) / NEPTUNE*
00073.4	kV		(0.15%) / PECO (3.09%) / PPL
			(2.24%) / PSEG (2.42%) / RE
			(0.09%) / ECP** (0.06%)
			AEC (1.02%) / APS (81.96%) /
	Convert portion of		DPL (0.85%) / JCPL (1.75%) /
b0675.5	Ringgold Substation		ME (6.37%) / NEPTUNE*
00075.5	from 138 kV to 230 kV		(0.15%) / PECO (3.09%) / PPL
			(2.24%) / PSEG (2.42%) / RE
			(0.09%) / ECP** (0.06%)
			AEC (1.02%) / APS (81.96%) /
	Convert Catoctin		DPL (0.85%) / JCPL (1.75%) /
b0675.6	Substation from 138 kV		ME (6.37%) / NEPTUNE*
00075.0	to 230 kV		(0.15%) / PECO (3.09%) / PPL
			(2.24%) / PSEG (2.42%) / RE
			(0.09%) / ECP** (0.06%)
			AEC (1.02%) / APS (81.96%) /
	Convert portion of		DPL (0.85%) / JCPL (1.75%) /
b0675.7	Carroll Substation from		ME (6.37%) / NEPTUNE*
00075.7	138 kV to 230 kV		(0.15%) / PECO (3.09%) / PPL
			(2.24%) / PSEG (2.42%) / RE
			(0.09%) / ECP** (0.06%)
			AEC (1.02%) / APS (81.96%) /
	Convert Monocacy		DPL (0.85%) / JCPL (1.75%) /
b0675.8	Substation from 138 kV		ME (6.37%) / NEPTUNE*
00070.0	to 230 kV		(0.15%) / PECO (3.09%) / PPL
			(2.24%) / PSEG (2.42%) / RE
			(0.09%) / ECP** (0.06%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

*Neptune Regional Transmission System, LLC

**East Coast Power, L.L.C.

lequired Tra	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Convert Walkersville Substation from 138 kV		AEC (1.02%) / APS (81.96%) / DPL (0.85%) / JCPL (1.75%) / ME (6.37%) / NEPTUNE*
b0675.9	to 230 kV		(0.15%) / PECO (3.09%) / PPL (2.24%) / PSEG (2.42%) / RE
			(0.09%) / ECP** (0.06%)
	Reconductor Doubs -		AEC (0.64%) / APS (86.70%) / DPL (0.53%) / JCPL (1.93%)
	Lime Kiln (#207) 230		/ ME (4.04%) / NEPTUNE*
b0676.1	kV		(0.18%) / PECO (1.93%) /
			PENELEC (0.93%) / PSEG
			(2.92%) / RE (0.12%) / ECP**
			(0.08%)
	Reconductor Doubs - Lime Kiln (#231) 230 kV		AEC (0.64%) / APS (86.70%) / DPL (0.53%) / JCPL (1.93%)
		/ ME (4.04%) / NEPTUNE*	
b0676.2		(0.18%) / PECO (1.93%) /	
00070.2		PENELEC (0.93%) / PSEG	
			(2.92%) / RE (0.12%) / ECP**
			(0.08%)
	Reconductor Double		
b0677	Toll Gate – Riverton		
	with 954 ACSR		APS (100%)
	Reconductor Glen Falls -		
b0678	Oak Mound 138 kV with	1	
	954 ACSR		APS (100%)
10070	Reconductor Grand		
b0679	Point – Letterkenny with 954 ACSR		APS (100%)
	Reconductor Greene –		Ar 5 (10070)
b0680	Letterkenny with 954		
00000	ACSR		APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

*Neptune Regional Transmission System, LLC

**East Coast Power, L.L.C.

Required Tr	ransmission Enhancements A	Annual Revenue Requirement	Responsible Customer(s)
b0685	Replace Ringgold 230/138 kV #3 with larger transformer		APS (71.93%) / JCPL (4.17%) / ME (6.79%) / NEPTUNE* (0.38%) / PECO (4.05%) / PENELEC (5.88%) / ECP** (0.18%) / PSEG (6.37%) / RE (0.25%)
b0797	Advance n0321 (Replace Doubs Circuit Breaker DJ2)		APS (100%)
b0798	Advance n0322 (Replace Doubs Circuit Breaker DJ3)		APS (100%)
b0799	Advance n0323 (Replace Doubs Circuit Breaker DJ6)		APS (100%)
ь0800	Advance n0327 (Replace Doubs Circuit Breaker DJ16)		APS (100%)
b0941	Replace Opequon 138 kV breaker 'BUSTIE'		APS (100%)
b0956	Replace Pruntytown 138 kV breaker 'P-9'		APS (100%)
b0957	Replace Pruntytown 138 kV breaker 'P-12'		APS (100%)
b0958	Replace Pruntytown 138 kV breaker 'P-15'		APS (100%)

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*Neptune Regional Transmission System, LLC **East Coast Power, L.L.C.

b0960	Replace Pruntytown 138 kV breaker 'P-2'	APS (100%)
b0961	Replace Pruntytown 138 kV breaker 'P-5'	APS (100%)
b0964	Replace Pruntytown 138 kV breaker 'P-11'	APS (100%)
b0966	Replace Pruntytown 138 kV breaker 'P-8'	APS (100%)
b0967	Replace Pruntytown 138 kV breaker 'P-14'	APS (100%)
b0968	Replace Ringgold 138 kV breaker '#3 XFMR BANK'	APS (100%)
b0970	Replace Rivesville 138 kV breaker '#8 XFMR BANK'	APS (100%)
b0972	Replace Belmont 138 kV breaker 'B-16'	APS (100%)
b0977	Replace Belmont 138 kV breaker 'B-17'	APS (100%)
b0984	Replace Rivesville 138 kV breaker '#10 XFMR BANK'	APS (100%)
b0985	Replace Belmont 138 kV breaker 'B-14'	APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

tequirea in		Annual Revenue Requirement	
b0989	Replace Edgelawn 138 kV breaker 'GOFF RUN #632'		APS (100%)
b0991	Change reclosing on Belmont 138 kV breaker 'B-7'		APS (100%)
b0992	Change reclosing on Belmont 138 kV breaker 'B-12'		APS (100%)
b0993	Change reclosing on Belmont 138 kV breaker 'B-9'		APS (100%)
b0994	Change reclosing on Belmont 138 kV breaker 'B-19'		APS (100%)
b0995	Change reclosing on Belmont 138 kV breaker 'B-21'		APS (100%)
b0996	Change reclosing on Willow Island 138 kV breaker 'FAIRVIEW #84'		APS (100%)
b0999	Replace Redbud 138 kV breaker 'BUS TIE'		APS (100%)
b1022.1	Reconfigure the Peters to Bethel Park 138 kV line and Elrama to Woodville 138 kV line to create a 138 kV path from Woodville to Peters and a 138 kV path from Elrama to Bethel Park		APS (96.98%) / DL (3.02%)
b1023.3	Construct a new 502 Junction - Osage 138 kV line		APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)	
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		Requirement Responsible Customer(s)
	Construct Braddock 138	
	kV breaker station that	
	connects the Charleroi -	
	Gordon 138 kV line,	
b1023.4	Washington - Franklin	
	138 kV line and the	
	Washington - Vanceville	
	138 kV line including a	
	66 MVAR capacitor	APS (100%)
	Raise three structures on	
b1028	the Osage - Collins Ferry	
01028	138 kV line to increase	
	the line rating	APS (100%)
	Reconductor the	
	Edgewater – Vasco Tap;	
b1128	Edgewater – Loyalhanna	
	138 kV lines with 954	
	ACSR	APS (100%)
	Reconductor the East	
b1129	Waynesboro – Ringgold	
01129	138 kV line with 954	
	ACSR	APS (100%)
	Upgrade Double Tollgate	
b1131	 Meadowbrook MDT 	
	Terminal Equipment	APS (100%)
	Upgrade Double	
b1132	Tollgate-Meadowbrook	
01132	MBG terminal	
	equipment	APS (100%)
11122	Upgrade terminal	
b1133	equipment at Springdale	APS (100%)
	Reconductor the	
	Bartonville –	
b1135	Meadowbrook 138 kV	
	line with high	
	temperature conductor	APS (100%)
		· · · · · · · · · · · · · · · · · · ·

tequirea II		Requirement Responsible Customer(3)
	Reconductor the Eastgate	
b1137	– Luxor 138 kV;	APS (78.59%) / PENELEC
01157	Eastgate – Sony 138 kV	(14.08%) / ECP** (0.23%) /
	line with 954 ACSR	PSEG (6.83%) / RE (0.27%)
	Reconductor the King	
b1138	Farm – Sony 138 kV line	
	with 954 ACSR	APS (100%)
	Reconductor the Yukon	
b1139	– Waltz Mills 138 kV	
01139	line with high	
	temperature conductor	APS (100%)
	Reconductor the Bracken	
b1140	Junction – Luxor 138 kV	
	line with 954 ACSR	APS (100%)
	Reconductor the	
	Sewickley – Waltz Mills	
b1141	Tap 138 kV line with	
	high temperature	
	conductor	APS (100%)
	Reconductor the	
	Bartonsville –	
b1142	Stephenson 138 kV;	
01142	Stonewall – Stephenson	
	138 kV line with 954	
	ACSR	APS (100%)
	Reconductor the	
b1143	Youngwood – Yukon	
01145	138 kV line with high	APS (89.92%) / PENELEC
	temperature conductor	(10.08%)
	Reconductor the Bull	
b1144	Creek Junction – Cabot	
01144	138 kV line with high	
	temperature conductor	APS (100%)
*Fact Co	ast Power IIC	

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

**East Coast Power, L.L.C.

Quilla II		Annual Revenue Requirement	Responsible Customer(s)
	Reconductor the Lawson		
b1145	Junction – Cabot 138 kV		
	line with high		
	temperature conductor		APS (100%)
	Replace Layton -		
b1146	Smithton #61 138 kV		
01140	line structures to increase		
	line rating		APS (100%)
	Replace Smith – Yukon		
b1147	138 kV line structures to		
	increase line rating		APS (100%)
	Reconductor the		
b1148	Loyalhanna – Luxor 138		
	kV line with 954 ACSR		APS (100%)
	Reconductor the Luxor –		
b1149	Stony Springs Junction		
01149	138 kV line with 954		
	ACSR		APS (100%)
b1150	Upgrade terminal		
01130	equipment at Social Hall		APS (100%)
	Reconductor the		
b1151	Greenwood – Redbud		
01131	138 kV line with 954		
	ACSR		APS (100%)
b1152	Reconductor Grand Point		
01132	– South Chambersburg		APS (100%)
	Replace Double Toll		
b1162	Gate 138 kV breaker		
	'DRB-2'		APS (100%)
	Replace Double Toll		
b1163	Gate 138 kV breaker		
	'DT 138 kV OCB'		APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

b1166	Replace Wylie Ridge	
	138 kV breaker 'W-9'	APS (100%)
b1167	Replace Reid 138 kV	
01107	breaker 'RI-2'	APS (100%)
	Install the second Black	
	Oak 500/138 kV	BGE (20.76%) / DPL (3.14%) /
b1171.1	transformer, two 138 kV	Dominion (39.55%) / ME
	breaker, and related	(2.71%) / PECO (3.36%) /
	substation work	PEPCO (30.48%)
		AEC (1.65%) / AEP (14.29%) /
		APS (5.82%) / ATSI (7.49%) /
		BGE (4.01%) / ComEd (14.06%)
		/ Dayton (2.03%) / DEOK
		(3.21%) / DL (1.59%) / DPL
	Install six 500 kV	(2.55%) / Dominion (13.89%) /
b1171.3	breakers and remove	EKPC (2.35%) / JCPL (3.59%) /
011/1.5	BOL1 500 kV breaker at	ME (1.81%) / NEPTUNE*
	Black Oak	(0.42%) / OVEC (0.06%) /
		PECO (5.11%) / PENELEC
		(1.73%) / PEPCO (3.68%) / PPL
		(4.43%) / PSEG (5.99%) / RE
		(0.24%)
	Reconductor Double Toll	
b1200	Gate – Greenwood 138	
	kV with 954 ACSR	
	conductor	APS (100%)
1 1 2 2 1 1	Convert Carbon Center	
b1221.1	from 138 kV to a 230 kV	
	ring bus	APS (100%)
	Construct Bear Run 230	
b1221.2	kV substation with	
	230/138 kV transformer	APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

	initial Revenue Requirement	
Loop Carbon Center		
Junction – Williamette		
line into Bear Run		APS (100%)
Carbon Center – Carbon		
Center Junction &		
Carbon Center Junction		
– Bear Run conversion		
from 138 kV to 230 kV		APS (100%)
Reconductor Willow-		
Eureka & Eurkea-St		
Mary 138 kV lines		APS (100%)
		AEC (1.40%) / APS (75.74%) /
		DPL (1.92%) / JCPL (2.92%) /
		ME (6.10%) / NEPTUNE*
		(0.27%) / PECO (4.40%) /
ACCR		PENELEC (3.26%) / PPL
		(3.99%)
Upgrade terminal		
10		
		APS (100%)
		APS (100%)
		APS (30.25%) / BGE (16.10%)
		/ Dominion (30.51%) / PEPCO
		(23.14%)
breaker disconnects and		
· 1		
line		APS (100%)
MVAR capacitor at		
	Loop Carbon Center Junction – Williamette line into Bear Run Carbon Center – Carbon Center Junction & Carbon Center Junction – Bear Run conversion from 138 kV to 230 kV Reconductor Willow- Eureka & Eurkea-St Mary 138 kV lines Reconductor Nipetown – Reid 138 kV with 1033 ACCR Upgrade terminal equipment at Washington Replace structures between Ridgeway and Paper city Reconductor the Albright – Black Oak AFA 138 kV line with 795 ACSS/TW Upgrade terminal equipment at Albright, replace bus and line side breaker disconnects and leads, replace breaker risers, upgrade RTU and	Loop Carbon Center Junction – Williamette line into Bear Run Carbon Center – Carbon Center Junction & Carbon Center Junction – Bear Run conversion from 138 kV to 230 kV Reconductor Willow- Eureka & Eurkea-St Mary 138 kV lines Reconductor Nipetown – Reid 138 kV with 1033 ACCR Upgrade terminal equipment at Washington Replace structures between Ridgeway and Paper city Reconductor the Albright – Black Oak AFA 138 kV line with 795 ACSS/TW Upgrade terminal equipment at Albright, replace bus and line side breaker disconnects and leads, replace Browner ine

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

<u>equileu I</u>	ransmission Ennancements	Annual Revenue Requirement	Responsible Customer(s)
	Install a 138 kV 44		
b1239	MVAR capacitor at		
	Ridgeway substation		APS (100%)
	Install a 138 kV 44		
b1240	MVAR capacitor at Elko		
	Substation		APS (100%)
	Upgrade terminal		
	equipment at		
b1241	Washington substation		
	on the GE		
	Plastics/DuPont terminal		APS (100%)
	Replace structures		
b1242	between Collins Ferry		
	and West Run		APS (100%)
	Reconductor		
	approximately 2.17 miles	\$	
b1384	of Bedington –		
	Shepherdstown 138 kV		
	with 954 ACSR		APS (100%)
	Reconductor Halfway –		
b1385	Paramount 138 kV with		
	1033 ACCR		APS (100%)
	Reconductor Double		
b1386	Tollgate – Meadow		
01380	Brook 138 kV ckt 2 with		APS (93.33%) / BGE (3.39%) /
	1033 ACCR		PEPCO (3.28%)
	Reconductor Double		
b1387	Tollgate – Meadow		APS (93.33%) / BGE (3.39%) /
	Brook 138 kV		PEPCO (3.28%)
	Reconductor Feagans		
b1388	Mill – Millville 138 kV		
	with 954 ACSR		APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tr	ransmission Enhancements Annual Revenue Requirement	Responsible Customer(s)
b1389	Reconductor Bens Run – St. Mary's 138 kV with 954 ACSR	AEP (12.40%) / APS (17.80%) / DL (69.80%)
b1390	Replace Bus Tie Breaker at Opequon	APS (100%)
b1391	Replace Line Trap at Gore	APS (100%)
b1392	Replace structure on Belmont – Trissler 138 kV line	APS (100%)
b1393	Replace structures Kingwood – Pruntytown 138 kV line	APS (100%)
b1395	Upgrade Terminal Equipment at Kittanning	APS (100%)
b1401	Change reclosing on Pruntytown 138 kV breaker 'P-16' to 1 shot at 15 seconds	APS (100%)
b1402	Change reclosing on Rivesville 138 kV breaker 'Pruntytown #34' to 1 shot at 15 seconds	APS (100%)

	Replace the Weirton 138	
b1408	kV breaker 'Tidd 224'	
	with a 40 kA breaker	APS (100%)
		Load-Ratio Share Allocation:
		AEC (1.65%) / AEP (14.29%) /
		APS (5.82%) / ATSI (7.49%) /
		BGE (4.01%) / ComEd (14.06%)
		/ Dayton (2.03%) / DEOK
		(3.21%) / DL (1.59%) / DPL
		(2.55%) / Dominion (13.89%) /
		EKPC (2.35%) / JCPL (3.59%) /
	Terminal Equipment	ME (1.81%) / NEPTUNE*
b1507.2	upgrade at Doubs	(0.42%) / OVEC (0.06%) /
	substation	PECO (5.11%) / PENELEC
		(1.73%) / PEPCO (3.68%) / PPL
		(4.43%) / PSEG (5.99%) / RE
		(0.24%)
		DFAX Allocation:
		APS (21.30%) / BGE (6.62%) /
		Dominion (64.59%) / PEPCO
		(7.49%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tra	nsmission Enhancements A	nnual Revenue Requirement	Responsible Customer(s)
b1507.3	Mt. Storm – Doubs transmission line rebuild in Maryland – Total line mileage for APS is 2.71 miles		Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: APS (21.30%) / BGE (6.62%) / Dominion (64.59%) / PEPCO (7.49%)
b1510	Install 59.4 MVAR capacitor at Waverly		APS (100%)

avirad Transmission Enhancements Annual Devenue Dequirement Desponsible Customer(s) D

Required Tra	nsmission Enhancements	Annual Revenue Requiremen	nt Responsible Customer(s)
b1803	Build a 300 MVAR Switched Shunt at Doubs 500 kV and increase (~50 MVAR) in size the existing Switched Shunt at Doubs 500 kV		Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: APS (21.30%) / BGE (6.62%) / Dominion (64.59%) / PEPCO (7.49%)
Ь1804	Install a new 600 MVAR SVC at Meadowbrook 500 kV		Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%)
			DFAX Allocation: APS (21.84%) / BGE (7.08%) / Dominion (60.14%) / PEPCO (10.94%)
b1816.1	Replace relaying at the Mt. Airy substation on the Carroll - Mt. Airy 230 kV line		APS (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Adjust the control		
	settings of all existing		
	capacitors at Mt Airy		
	34.5 kV, Monocacy 138		
	kV, Ringgold 138 kV		
b1816.2	served by Potomac		
	Edison's Eastern 230 kV		
	network to ensure that		
	all units will be on		
	during the identified N-		
	1-1 contingencies		APS (100%)
	Replace existing		
	unidirectional LTC		
b1816.3	controller on the No. 4,		
01010.5	230/138 kV transformer		
	at Carroll substation		
	with a bidirectional unit		APS (100%)
	Isolate and bypass the		
b1816.4	138 kV reactor at		
	Germantown Substation		APS (100%)
	Replace 336.4 ACSR		
	conductor on the		
	Catoctin - Carroll 138		
	kV line using 556.5		
	ACSR (26/7) or		
	equivalent on existing		
b1816.6	structures (12.7 miles),		
	800 A wave traps at		
	Carroll and Catoctin		
	with 1200 A units, and		
	556.5 ACSR SCCIR		
	(Sub-conductor) line		
	risers and bus traps with		
	795 ACSR or equivalent		APS (100%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1822	Replace the 1200 A wave trap, line risers, breaker risers with 1600 A capacity terminal equipment at Reid 138 kV SS		A.D.C. (1000/)
b1823	Replace the 800 A wave trap with a 1200 A wave trap at Millville 138 kV substation		APS (100%) APS (100%)
b1824	Reconductor Grant Point - Guilford 138 kV line approximately 8 miles of 556 ACSR with 795 ACSR		APS (100%)
b1826	Change the CT ratio at Double Toll Gate 138 kV SS on MDT line		APS (100%)
b1827	Change the CT ratio at Double Toll Gate 138 kV SS on MBG line		APS (100%)
b1828.1	Reconductor the Bartonville – Stephenson 3.03 mile 138 kV line of 556 ACSR with 795 ACSR		APS (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Reconductor the		
	Stonewall – Stephenson		
b1828.2	2.08 mile 138 kV line of		
	556 ACSR with 795		
	ACSR		APS (100%)
	Replace the existing 138		
	kV 556.5 ACSR		
	substation conductor		
b1829	risers with 954 ACSR at		
01629	the Redbud 138 kV		
	substation, including but		
	not limited to the line		
	side disconnect leads		APS (100%)
	Replace 1200 A wave		
	trap and 1024 ACAR		
	breaker risers at Halfway	7	
b1830	138 kV substation, and		
01830	replace 1024 ACAR		
	breaker risers at		
	Paramount 138 kV		
	substation		APS (100%)
	Replace the 1200 A line		
	side and bus side		
	disconnect switches with		
	1600 A switches, replace		
b1832	bus side, line side, and		
	disconnect leads at Lime		
	Kiln SS on the Doubs -		
	Lime Kiln 1 (207) 230		
	kV line terminal		APS (100%)
	Replace the 1200 A line		
	side and bus side		
	disconnect switches with		
	1600 A switches, replace		
b1833	bus side, line side, and		
	disconnect leads at Lime		
	Kiln SS on the Doubs -		
	Lime Kiln 2 (231) 230		
	kV line terminal		APS (100%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Reconductor 14.3 miles		
	of 556 ACSR with 795		
	ACSR from Old Chapel		
	to Millville 138 kV and		
b1835	upgrade line risers at Old	1	APS (37.68%) / Dominion
	Chapel 138 kV and		(34.46%) / PEPCO (13.69%) /
	Millville 138 kV and		BGE (11.45%) / ME (2.01%) /
	replace 1200 A wave		PENELEC (0.53%) / DL
	trap at Millville 138 kV		(0.18%)
	Replace 1200 A wave		
b1836	trap with 1600 A wave		
	trap at Reid 138 kV SS		APS (100%)
	Replace 750 CU breaker		
	risers with 795 ACSR at		
	Marlowe 138 kV and		
b1837	replace 1200 A wave		
	traps with 1600 A wave		
	traps at Marlowe 138 kV		
	and Bedington 138 kV		APS (100%)
	Replace the 1200 A		
	Bedington 138 kV line		
	air switch and the 1200		
b1838	A 138 kV bus tie air		
	switch at Nipetown 138		
	kV with 1600 A		
	switches		APS (100%)

Required Tr	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1840	Construct a 138 kV line between Buckhannon and Weston 138 kV substations		APS (100%)
b1902	Replace line trap at Stonewall on the Stephenson 138 kV line terminal		APS (100%)
b1942	Change the CT ratio at Millville to improve the Millville – Old Chapel 138 kV line ratings		APS (100%)
b1987	Reconductor the Osage- Collins Ferry 138 kV line with 795 ACSS. Upgrade terminal equipment at Osage and Collins Ferry		APS (100%)

Lequired Tr	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Raise structures between		
	Lake Lynn and West		
b1988	Run to eliminate the		
01988	clearance de-rates on the		
	West Run – Lake Lynn		
	138 kV line		APS (100%)
	Raise structures between		
	Collins Ferry and West		
b1989	Run to eliminate the		
01707	clearance de-rates on the		
	Collins Ferry - West Run	1	
	138 kV line		APS (100%)
	Replace Weirt 138 kV		
b2095	breaker 'S-		
02095	TORONTO226' with 63		
	kA rated breaker		APS (100%)
	Revise the reclosing of		
b2096	Weirt 138 kV breaker		
	'2&5 XFMR'		APS (100%)
	Replace Ridgeley 138		
b2097	kV breaker '#2 XFMR		
	OCB'		APS (100%)
	Revise the reclosing of		
b2098	Ridgeley 138 kV breaker		
	'AR3' with 40 kA rated		
	breaker		APS (100%)
1 2000	Revise the reclosing of		
b2099	Ridgeley 138 kV breaker		
	'RC1'		APS (100%)
1 2 1 0 0	Replace Ridgeley 138		
b2100	kV breaker 'WC4' with		
	40 kA rated breaker		APS (100%)
	Replace Ridgeley 138		
b2101	kV breaker '1 XFMR		
-	OCB' with 40 kA rated		
	breaker		APS (100%)

lequired Tr	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Replace Wylie Ridge		
b2106	345 kV breaker 'WK-1'		
	with 63 kA rated breaker		APS (100%)
	Replace Wylie Ridge		
b2107	345 kV breaker 'WK-2'		
	with 63 kA rated breaker		APS (100%)
	Replace Wylie Ridge		
b2108	345 kV breaker 'WK-3'		
	with 63 kA rated breaker		APS (100%)
	Replace Wylie Ridge		
b2109	345 kV breaker 'WK-4'		
	with 63 kA rated breaker		APS (100%)
	Replace Wylie Ridge		
b2110	345 kV breaker 'WK-6'		
	with 63 kA rated breaker		APS (100%)
	Replace Wylie Ridge		
b2111	138 kV breaker 'WK-7'		
	with 63 kA rated breaker		APS (100%)
b2112	Replace Wylie Ridge		
02112	345 kV breaker 'WK-5'		APS (100%)
	Replace Weirton 138 kV		
b2113	breaker 'NO 6 XFMR'		
	with 63 kA rated breaker		APS (100%)
	Replace Armstrong 138		
b2114	kV breaker 'Bus-Tie'		
02117	(Status On-Hold pending		
	retirement)		APS (100%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2124.1	Add a new 138 kV line exit		APS (100%)
b2124.2	Construct a 138 kV ring bus and install a 138/69 kV autotransformer		APS (100%)
b2124.4	Construct approximately 5.5 miles of 138 kV line		APS (100%)
b2165	Replace 800A wave trap at Stonewall with a 1200 A wave trap		APS (100%)
b2166	Reconductor the Millvill – Sleepy Hollow 138 kV 4.25 miles of 556 ACSR with 795 ACSR, upgrade line risers at Sleepy Hollow, and change 1200 A CT tap at Millville to 800		APS (100%)
b2168	For Grassy Falls 138 kV Capacitor bank adjust turn-on voltage to 1.0 pu with a high limit of 1.04 pu, For Crupperneck and Powell Mountain 138 kV Capacitor Banks adjust turn-on voltage to 1.01 p with a high limit of 1.035 pu	u	APS (100%)

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Required Tr	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2171	Replace/Raise structures on the Parsons-William 138 kV line section to eliminate clearance de-		
	rate		APS (100%)
b2172	Replace/Raise structures on the Parsons - Loughs Lane 138 kV line section to eliminate clearance		
	de-rate		APS (100%)

PJM Open Access Transmission Tariff Schedule 12-Appendix
Section 25 – Keystone Appalachian Transmission Co.
Effective January 1, 2024 Version 0.0.1

SCHEDULE 12 – APPENDIX

(25) Keystone Appalachian Transmission Company

Required Tra	Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)			
b0347.1	Build new Mt. Storm – 502 Junction 500 kV circuit	As specified under the procedures detailed in Attachment H- 18B, Section 1.b	Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: APS (31.08%) / PCE (10.86%) /	
b0347.3	Build new 502 Junction 500 kV substation	As specified under the procedures detailed in Attachment H- 18B, Section 1.b	APS (31.98%) / BGE (10.86%) / Dominion (39.86%) / PEPCO (17.30%) Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: APS (31.98%) / BGE (10.86%) / Dominion (39.86%) / PEPCO (17.30%)	

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)			
b0347.10	Upgrade (per ABB Inspection) Hatfield 500 kV breakers HFL-1	Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: APS (31.98%) / BGE (10.86%) / Dominion (39.86%) / PEPCO (17.30%)	
b0347.11	Upgrade (per ABB Inspection) Hatfield 500 kV breakers HFL-3	Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: APS (31.98%) / BGE (10.86%) / Dominion (39.86%) / PEPCO (17.30%)	

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)			
b0347.12	Upgrade (per ABB Inspection) Hatfield 500 kV breakers HFL-4	Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: APS (31.98%) / BGE (10.86%) / Dominion (39.86%) / PEPCO (17.30%)	
b0347.13	Upgrade (per ABB Inspection) Hatfield 500 kV breakers HFL-6	Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: APS (31.98%) / BGE (10.86%) / Dominion (39.86%) / PEPCO (17.30%)	

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)			
b0347.14	Upgrade (per ABB Inspection) Hatfield 500 kV breakers HFL-7	Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: APS (31.98%) / BGE (10.86%) / Dominion (39.86%) / PEPCO (17.30%)	
b0347.15	Upgrade (per ABB Inspection) Hatfield 500 kV breakers HFL-9	Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: APS (31.98%) / BGE (10.86%) / Dominion (39.86%) / PEPCO (17.30%)	

Required Tr	ansmission Enhancements	Annual Revenue I	Requirement	Responsible Customer(s)
b0347.16	Upgrade (per ABB inspection) Harrison 500 kV breaker 'HL-3'		Load-Ra AEC (1.65% (5.82%) ((4.01%) / C (2.03%) (1.59%) / I (13.89%) / (3.59%) / (3.59%) ((3.69%) ((3.68%) ((5.9%) DF APS (31.9%)	htio Share Allocation: %) / AEP (14.29%) / APS / ATSI (7.49%) / BGE omEd (14.06%) / Dayton / DEOK (3.21%) / DL DPL (2.55%) / Dominion / EKPC (2.35%) / JCPL %) / ME (1.81%) / NE* (0.42%) / OVEC %) / PECO (5.11%) / EC (1.73%) / PEPCO / PPL (4.43%) / PSEG 9%) / RE (0.24%) FAX Allocation: 98%) / BGE (10.86%) / on (39.86%) / PEPCO (17.30%)

Required Tr	ansmission Enhancements Annu	al Revenue Requirement Responsible Customer(s)
b0406.1	Replace Mitchell 138 kV breaker "#4 bank"	APS (100%)
b0406.2	Replace Mitchell 138 kV breaker "#5 bank"	APS (100%)
b0406.3	Replace Mitchell 138 kV breaker "#2 transf"	APS (100%)
b0406.4	Replace Mitchell 138 kV breaker "#3 bank"	APS (100%)
b0406.5	Replace Mitchell 138 kV breaker "Charlerio #2"	APS (100%)
b0406.6	Replace Mitchell 138 kV breaker "Charlerio #1"	APS (100%)
b0406.7	Replace Mitchell 138 kV breaker "Shepler Hill Jct"	APS (100%)
b0406.8	Replace Mitchell 138 kV breaker "Union Jct"	APS (100%)
b0406.9	Replace Mitchell 138 kV breaker "#1-2 138 kV bus tie"	APS (100%)
b0417	Reconductor Mitchell – Shepler Hill Junction 138 kV with 954 ACSR	APS (100%)
b0418	Install a breaker failure auto-restoration scheme at Cabot 500 kV for the failure of the #6 breaker	AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%)
b0460	Raise limiting structures on Albright – Bethelboro 138 kV to raise the rating to 175 MVA normal 214 MVA emergency Regional Transmission System, L	APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required In	ansinission Enhancements Annua	ai Revenue Requirement	Kesponsiole Customer(s)
b0535	Install a 44 MVAR capacitor on Dutch Fork 138 kV		APS (100%)
b0584	Install 33 MVAR 138 kV capacitor at Necessity 138 kV		APS (100%)
b0585	Increase Cecil 138 kV capacitor size to 44 MVAR, replace five 138 kV breakers at Cecil due to increased short circuit fault duty as a result of the addition of the Prexy substation		APS (100%)
b0586	Increase Whiteley 138 kV capacitor size to 44 MVAR		APS (100%)
b0587	Reconductor AP portion of Tidd – Carnegie 138 kV and Carnegie – Weirton 138 kV with 954 ACSR		APS (100%)
b0590	Replace #1 and #2 breakers at Charleroi 138 kV		APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tra	ansmission Enhancements Annua	al Revenue Requireme	ent Responsible Customer(s)
b0673	Rebuild Elko – Carbon Center Junction using 230 kV construction		APS (100%)
b0681	Replace 600/5 CT's at Franklin 138 kV		APS (100%)
b0682	Replace 600/5 CT's at Whiteley 138 kV		APS (100%)
b0684	Reconductor Guilford – South Chambersburg with 954 ACSR		APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required I	ransmission Enhancements Annu	al Revenue Requirement Responsible Customer(s)
b0704	Install a third Cabot 500/138 kV transformer	APS (74.36%) / DL (2.73%) PENELEC (22.91%)
b0942	Replace Butler 138 kV breaker '#1 BANK'	APS (100%)
b0943	Replace Butler 138 kV breaker '#2 BANK'	APS (100%)
b0944	Replace Yukon 138 kV breaker 'Y-8'	APS (100%)
b0945	Replace Yukon 138 kV breaker 'Y-3'	APS (100%)
b0946	Replace Yukon 138 kV breaker 'Y-1'	APS (100%)
b0947	Replace Yukon 138 kV breaker 'Y-5'	APS (100%)
b0948	Replace Yukon 138 kV breaker 'Y-2'	APS (100%)
b0949	Replace Yukon 138 kV breaker 'Y-19'	APS (100%)
b0950	Replace Yukon 138 kV breaker 'Y-4'	APS (100%)
b0951	Replace Yukon 138 kV breaker 'Y-9'	APS (100%)
b0952	Replace Yukon 138 kV breaker 'Y-11'	APS (100%)
b0953	Replace Yukon 138 kV breaker 'Y-13'	APS (100%)
b0954	Replace Charleroi 138 kV breaker '#1 XFMR BANK'	APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required IT	ansmission Enhancements Annual Revenue Requirement	Responsible Customer(s)
b0955	Replace Yukon 138 kV breaker 'Y-7'	APS (100%)
b0959	Replace Charleroi 138 kV breaker '#2 XFMR BANK'	APS (100%)
b0962	Replace Yukon 138 kV breaker 'Y- 18'	APS (100%)
b0963	Replace Yukon 138 kV breaker 'Y- 10'	APS (100%)
b0965	Replace Springdale 138 kV breaker '138E'	APS (100%)
b0969	Replace Springdale 138 kV breaker '138C'	APS (100%)
b0971	Replace Springdale 138 kV breaker '138F'	APS (100%)
b0973	Replace Springdale 138 kV breaker '138G'	APS (100%)
b0974	Replace Springdale 138 kV breaker '138V'	APS (100%)
b0975	Replace Armstrong 138 kV breaker 'BROOKVILLE'	APS (100%)
b0976	Replace Springdale 138 kV breaker '138P'	APS (100%)
b0978	Replace Springdale 138 kV breaker '138U'	APS (100%)
b0979	Replace Springdale 138 kV breaker '138D'	APS (100%)
b0980	Replace Springdale 138 kV breaker '138R'	APS (100%)
b0981	Replace Yukon 138 kV breaker 'Y- 12'	APS (100%)
b0982	Replace Yukon 138 kV breaker 'Y- 17'	APS (100%)
b0983	Replace Yukon 138 kV breaker 'Y- 14'	APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tr	ansmission Enhancements Annual Revenu	a Requirement Responsible Customer(s)
b0986	Replace Armstrong 138 kV breaker 'RESERVE BUS'	APS (100%)
b0987	Replace Yukon 138 kV breaker 'Y- 16'	APS (100%)
b0988	Replace Springdale 138 kV breaker '138T'	APS (100%)
b0990	Change reclosing on Cabot 138 kV breaker 'C-9'	APS (100%)
b0997	Change reclosing on Cabot 138 kV breaker 'C-4'	APS (100%)
b0998	Change reclosing on Cabot 138 kV breaker 'C-1'	APS (100%)
b1022.3	Add static capacitors at Smith 138 kV	APS (96.98%) / DL (3.02%)
b1022.4	Add static capacitors at North Fayette 138 kV	APS (96.98%) / DL (3.02%)
b1022.5	Add static capacitors at South Fayette 138 kV	APS (96.98%) / DL (3.02%)
b1022.6	Add static capacitors at Manifold 138 kV	APS (96.98%) / DL (3.02%)
b1022.7	Add static capacitors at Houston 138 kV	APS (96.98%) / DL (3.02%)
b1023.1	Install a 500/138 kV transformer at 502 Junction	APS (100%)
b1023.2	Construct a new Franklin - 502 Junction 138 kV line including a rebuild of the Whiteley - Franklin 138 kV line to double circuit	APS (100%)
b1027	Increase the size of the shunt capacitors at Enon 138 kV	APS (100%)
b1159	Replace Peters 138 kV breaker 'Bethel P OCB'	APS (100%)
b1160	Replace Peters 138 kV breaker 'Cecil OCB'	APS (100%)
b1161	Replace Peters 138 kV breaker 'Union JctOCB'	APS (100%)
b1164	Replace Cecil 138 kV breaker 'Enlow OCB'	APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required I	Tansinission Enhancements Annual Revenue R	equitement	Responsible Customer(s)
b1165	Replace Cecil 138 kV breaker 'South Fayette'		APS (100%)
b1243	Install a 138 kV capacitor at Potter Substation		APS (100%)
b1261	Replace Butler 138 kV breaker '1-2 BUS 138'		APS (100%)
b1383	Install 2nd 500/138 kV transformer at 502 Junction		APS (93.27%) / DL (5.39%) / PENELEC (1.34%)
b1403	Change reclosing on Yukon 138 kV breaker 'Y21 Shepler' to 1 shot at 15 seconds		APS (100%)
b1404	Replace the Kiski Valley 138 kV breaker 'Vandergrift' with a 40 kA breaker		APS (100%)
b1405	Change reclosing on Armstrong 138 kV breaker 'GARETTRJCT' at 1 shot at 15 seconds		APS (100%)
b1406	Change reclosing on Armstrong 138 kV breaker 'KITTANNING' to 1 shot at 15 seconds		APS (100%)
b1407	Change reclosing on Armstrong 138 kV breaker 'BURMA' to 1 shot at 15 seconds		APS (100%)
b1409	Replace the Cabot 138 kV breaker 'C9 Kiski Valley' with a 40 kA breaker		APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required 1	Tanshinssion Enhancements Annual Revenue Requirement	Responsible Customer(s)
b1672	Install a 230 kV breaker at Carbon Center	APS (100%)
b1825	Replace the 800 Amp line trap at Butler 138 kV Sub on the Cabot East 138 kV line	APS (100%)
b1839	Install additional 33 MVAR capacitors at Grand Point 138 kV SS and Guildford 138 kV SS	APS (100%)
b1941	Loop the Homer City-Handsome Lake 345 kV line into the Armstrong substation and install a 345/138 kV transformer at Armstrong	APS (67.86%) / PENELEC (32.14%)
b1964	Convert Moshannon substation to a 4 breaker 230 kV ring bus	APS (41.06%) / DPL (6.68%) / JCPL (5.48%) / ME (10.70%) / NEPTUNE* (0.53%) / PECO (15.53%) / PPL (20.02%)
b1965	Install a 44 MVAR 138 kV capacitor at Luxor substation	APS (100%)
b1986	Upgrade the AP portion of the Elrama – Mitchell 138 kV line by replace breaker risers on the Mitchell 138 kV bus on the Elrama terminal	APS (100%)
b2102	Replace Armstrong 138 kV breaker 'GARETTRJCT' with 40 kA rated breaker	APS (100%)
b2103	Replace Armstrong 138 kV breaker'BURMA' with 40 kA rated breaker	APS (100%)
b2104	Replace Armstrong 138 kV breaker 'KITTANNING' with 40 kA rated breaker	APS (100%)
b2105	Replace Armstrong 138 kV breaker 'KISSINGERJCT' with 40 kA rated breaker	APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required The		Requirement Re.	sponsiole customer(s)
b2124.3	Add new 138 kV line exit and install a 138/25 kV transformer		APS (100%)
b2124.5	Convert approximately 7.5 miles of 69 kV to 138 kV		APS (100%)
b2156	Install a 75 MVAR 230 kV capacitor at Shingletown Substation		APS (100%)
b2169	Replace/Raise structures on the Yukon- Smithton 138 kV line section to eliminate clearance de-rate		APS (100%)
b2170	Replace/Raise structures on the Smithton-Shepler Hill Jct 138 kV line section to eliminate clearance de-rate		APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

PJM Open Access Transmission Tariff Schedule 12-Appendix A Section 2 – Baltimore Gas and Electric Co. Effective April 9, 2024 Version 24.0.1

SCHEDULE 12 – APPENDIX A

(2) Baltimore Gas and Electric Company

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Annual Revenue Requirement	Responsible Customer(s)

			•
	Install a 115 kV tie		
	breaker at Wagner to		
b2219	create a separation from		
	line 110535 and		
	transformer 110-2		BGE (100%)
b2220	Install four 115 kV		
02220	breakers at Chestnut Hill		BGE (100%)
	Install an SPS to trip		
b2221	approximately 19 MW		
02221	load at Green St. and		
	Concord		BGE (100%)
	Install a 230/115 kV		
	transformer at Raphael		
	Rd and construct		
	approximately 3 miles of		
b2307	115 kV line from		
	Raphael Rd. to		
	Joppatowne. Construct a		
	115 kV three breaker		
	ring at Joppatowne		BGE (100%)
	Build approximately 3		
	miles of 115 kV		
	underground line from		
	Bestgate tap to Waugh		
b2308	Chapel. Create two		
	breaker bay at Waugh		
	Chapel to accommodate		
	the new underground		
	circuit		BGE (100%)
	Build a new Camp Small		
b2396	115 kV station and install		
	30 MVAR capacitor		BGE (100%)

		inidal recvende receptionent	
1.000 6 1	Install a tie breaker at		
b2396.1	Mays Chapel 115 kV		
	substation		BGE (100%)
	Upgrade the Riverside		
	115 kV substation strain		
	bus conductors on		
	circuits 115012 and		
b2567	115011 with double		
	bundled 1272 ACSR to		
	achieve ratings of		
	491/577 MVA SN/SE on		
	both transformer leads		BGE (100%)
	Reconductor Northwest –		
	Northwest #2 115 kV		
10500	110574 substation tie		
b2568	circuit with 2167 ACSR		
	to achieve ratings of		
	400/462 MVA SN/SE		BGE (100%)
	Conastone 230 kV		
	substation tie-in work		
	(install a new circuit		AEP (6.46%) / APS (8.74%) /
10750 (breaker at Conastone		BGE (19.74%) / ComEd (2.16%)
b2752.6	230 kV and upgrade any		/ Dayton (0.59%) / DEOK
	required terminal		(1.02%) / DL (0.01%) /
	equipment to terminate		Dominion (39.95%) / EKPC
	the new circuit)		(0.45%) / PEPCO (20.88%)
1			
b2752.7			
	10		
	equipment on both ends		
	Replace the Conastone		
1 2752 0	230 kV '2322 B5'		
02/52.8	breaker with a 63 kA		
	breaker		BGE (100%)
b2752.7 b2752.8	Reconductor/Rebuild the two Conastone – Northwest 230 kV lines and upgrade terminal equipment on both ends Replace the Conastone 230 kV '2322 B5' breaker with a 63 kA		AEP (6.46%) / APS (8.74%) / BGE (19.74%) / ComEd (2.16%) / Dayton (0.59%) / DEOK (1.02%) / DL (0.01%) / Dominion (39.95%) / EKPC (0.45%) / PEPCO (20.88%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

			1	
b2752.9	Replace the Conastone 230 kV '2322 B6' breaker with a 63 kA breaker			BGE (100%)
b2766.1	Upgrade substation equipment at Conastone 500 kV to increase facility rating to 2826 MVA normal and 3525 MVA emergency		AEC APS BGE / I (3.2 (2.55 EKPC MI (0.42% (5.11 PEPC PSI BC (24.57 (7.90% PEN	BGE (100%) d-Ratio Share Allocation: (1.65%) / AEP (14.29%) / (5.82%) / ATSI (7.49%) / (4.01%) / ComEd (14.06%) Dayton (2.03%) / DEOK (21%) / DL (1.59%) / DPL (5%) / Dominion (13.89%) / C (2.35%) / JCPL (3.59%) / E (1.81%) / NEPTUNE* %) / OVEC (0.06%) / PECO 1%) / PENELEC (1.73%) / CO (3.68%) / PPL (4.43%) / EG (5.99%) / RE (0.24%) DFAX Allocation: GE (12.36%) / Dominion 7%) / DPL (25.17%) / JCPL %) / NEPTUNE* (0.88%) / NELEC (1.60%) / PEPCO 2%) / PSEG (14.57%) / RE
			(12.3	(0.63%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required II	Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)			
b2816	Re-connect the Crane – Windy Edge 110591 & 110592 115 kV circuits into the Northeast Substation with the addition of a new			
	115 kV 3-breaker bay	BGE (100%)		
b2992.1	Reconductor the Conastone to Graceton 230 kV 2323 & 2324 circuits. Replace 7 disconnect switches at Conastone substation	AEP (2.25%) / APS (2.58%) / BGE (44.61%) / ComEd (0.51%) / Dayton (0.40%) / DEOK (1.39%) / DL (0.14%) / Dominion (27.05%) / EKPC (0.52%) / PENELEC (0.02%) / PEPCO (20.53%)		
b2992.2	Add Bundle conductor on the Graceton – Bagley – Raphael Road 2305 & 2313 230 kV circuits	AEP (2.25%) / APS (2.58%) / BGE (44.61%) / ComEd (0.51%) / Dayton (0.40%) / DEOK (1.39%) / DL (0.14%) / Dominion (27.05%) / EKPC (0.52%) / PENELEC (0.02%) / PEPCO (20.53%)		
b2992.3	Replacing short segment of substation conductor on the Windy Edge to Glenarm 110512 115 kV circuit	AEP (2.25%) / APS (2.58%) / BGE (44.61%) / ComEd (0.51%) / Dayton (0.40%) / DEOK (1.39%) / DL (0.14%) / Dominion (27.05%) / EKPC (0.52%) / PENELEC (0.02%) / PEPCO (20.53%)		
b2992.4	Reconductor the Raphael Road – Northeast 2315 & 2337 230 kV circuits	AEP (2.25%) / APS (2.58%) / BGE (44.61%) / ComEd (0.51%) / Dayton (0.40%) / DEOK (1.39%) / DL (0.14%) / Dominion (27.05%) / EKPC (0.52%) / PENELEC (0.02%) / PEPCO (20.53%)		
b3228	Replace two (2) relays at Center substation to increase ratings on the Westport to Center 110552 115 kV circuit	BGE (100%)		
b3305	Replace Pumphrey 230/115 kV transformer	BGE (100%)		

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required II		an Revenue Requiremente	nt Responsible Customer(s)
	Upgrade Windy Edge 115		
	kV substation conductor to		
b3668	increase ratings of the		
	Windy Edge – Chesco Park		
	110501 115 kV line		BGE (100%)
	Rebuild 1.4 miles of		
	existing single circuit 230		
	kV tower line between		
	BGE's Graceton substation		
1 2 7 7 0	to the Brunner Island PPL		
b3770	tie-line at the MD/PA state		
	line to double circuit steel		
	pole line with one circuit		
	installed to uprate 2303		BGE (99.98%) / ME (0.01%) /
	circuit		PPL (0.01%)
	Reconductor two (2) 230		
b3771	kV circuits from Conastone		BGE (70.70%) / PEPCO
	to Northwest #2		(29.30%)
			Load-Ratio Share Allocation:
			AEC (1.65%) / AEP (14.29%) /
			APS (5.82%) / ATSI (7.49%) /
			BGE (4.01%) / ComEd
			(14.06%) / Dayton (2.03%) /
			DEOK (3.21%) / DL (1.59%) /
			DPL (2.55%) / Dominion
			(13.89%) / EKPC (2.35%) /
			JCPL (3.59%) / ME (1.81%) /
	Peach Bottom to Graceton		NEPTUNE* (0.42%) / OVEC
b3780.4	(BGE) 500 kV transmission		(0.06%) / PECO (5.11%) /
05700.1	line. New rating is 4503		PENELEC (1.73%) / PEPCO
	MVA SN/ 5022 MVA SE		(3.68%) / PPL (4.43%) / PSEG
			(5.99%) / RE (0.24%)
			DFAX Allocation:
			ATSI (0.03%) / BGE (28.40%)
			/ DPL (0.02%) / DOminion
			(33.36%) / JCPL (6.36%) /
			NEPTUNE* (0.73%) / PEPCO
			(17.90%) / PSEG (12.69%) /
			RE (0.51%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tra	Insmission Enhancements Annual Reven	ue Requirement	Responsible Customer(s)
	Build 230 kV Solley Road		
	substation and STATCOM.		
b3780.5	New STATCOM rating: 350		
	MVAR. Add 4x 230 kV breakers		
	bays		BGE (100%)
	Build 230 kV Granite substation and		
	STATCOM.		
b3780.6	New STATCOM rating: 350		
	MVAR. Add 4x 230 kV breaker		
	bays		BGE (100%)
	Build Batavia Road 230 kV		
b3780.7	substation. Add 4x 230 kV breaker		
03700.7	bays		BGE (100%)
	Graceton 500 kV substation		BGE (10070)
	expansion: Add 3x 500 kV breaker		
	bays, two 500/230 kV auto		
b3780.8	transformers, and one 250 MVAR		
03780.8			
	capacitor. New transformer rating: 1559 MVA SN / 1940 MVA SE.		
			DCE(91.020/)/DEDCO(19.090/)
	New capacitor rating: 250 MVAR		BGE (81.92%) / PEPCO (18.08%)
1.2790.0	Build Graceton to Batavia Road 230		
b3780.9	kV double circuit line. New rating:		DCE(1000/)
	1331 MVA SN/ 1594 MVA SE		BGE (100%)
			Load-Ratio Share Allocation:
			AEC (1.65%) / AEP (14.29%) / APS
			(5.82%) / ATSI (7.49%) / BGE
			(4.01%) / ComEd (14.06%) / Dayton
			(2.03%) / DEOK (3.21%) / DL
			(1.59%) / DPL (2.55%) / Dominion
	Install new 350 MVAR capacitor at		(13.89%) / EKPC (2.35%) / JCPL
b3780.10	Conastone 500 kV substation		(3.59%) / ME (1.81%) /
			NEPTUNE* (0.42%) / OVEC
			(0.06%) / PECO (5.11%) /
			PENELEC (1.73%) / PEPCO
			(3.68%) / PPL (4.43%) / PSEG
			(5.99%) / RE (0.24%)
			DFAX Allocation:
			BGE (100.00%)
	Reconductor Batavia Road to		
b3780.13	Riverside 230 kV line. New rating:		
	1941 MVA SN / 2181 MVA SE		BGE (51.24%) / PEPCO (48.76%)
Nontuno De	<u>1941 MVA SN / 2181 MVA SE</u> egional Transmission System, LLC		BGE (51.24%) / PEPCO (48.76%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

n Enhancements Annual Reve	enue Requirement	Responsible Customer(s)
tter Creek to Doubs 500 kV D Border - PSEG cation Point). Rebuild and existing approximately 6 f Otter Creek - Conastone line to become a double- 500 kV and 230 kV lines.		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (13.16%) / BGE (0.79%) /
ligh Ridge 500 kV substation bay breaker and half ration		Dominion (74.28%) / DPL (0.41%) / PECO (0.77%) / PEPCO (10.59%) This upgrade ID is only for tracking purpose. Cost allocation details are available from b3800.27 ~ b3800.33
idge 500 kV substation (cut ighton - Waugh Chapel 500) - Waugh Chapel side		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation:

Required Tra	unsmission Enhancements Annual Rev	enue Requirement	Responsible Customer(s)
b3800.28	High Ridge 500 kV substation (cut into Brighton - Waugh Chapel 500 kV line) - Brighton side		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (0.68%) / BGE (97.41%) / Dominion (1.01%)
b3800.29	High Ridge termination for the North Delta - High Ridge 500 kV line		Dominion (1.91%) Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: BGE (2.58%) / Dominion (59.28%) / DPL (0.02%) / PEPCO (28.48%) / PSEG (9.24%) / RE (0.40%)
b3800.30	High Ridge - Install two 500/230 kV transformers	7	BGE (62.75%) / PEPCO (37.25%)

Required Tra	ansmission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
b3800.32	Build new North Delta – High Ridge 500 kV line (approximate 59 miles)	ly	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: BGE (2.58%) / Dominion (59.28%) / DPL (0.02%) / PEPCO (28.48%) / PSEG (9.24%) / RE (0.40%)
b3800.34	Rebuild 5012 (existing Peach Bottom - Conastone) (new Grac - Conastone) 500 kV line on sin circuit structures within existing right-of-way (ROW) and cut int North Delta 500 kV and Graceto 500 kV stations	gle ; o	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: BGE (12.36%) / Dominion (24.57%) / DPL (25.17%) / JCPL (7.90%) / NEPTUNE* (0.88%) / PENELEC (1.60%) / PEPCO (12.32%) / PSEG (14.57%) / RE (0.63%)

Required Tra	ansmission Enhancements Annual Reven	nue Requirement Responsible Customer(s)
b3800.36	Rebuild 5012 (existing Peach Bottom - Conastone) (new North Delta - Graceton BGE) 500 kV line on single circuit structures within existing ROW and cut into North Delta 500 kV and Graceton 500 kV stations	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: BGE (51.35%) / Dominion (32.44%) / DPL (0.01%) / JCPL (0.01%) / PEPCO (16.17%) / PSEG (0.02%)
b3800.37	Replace terminal equipment limitations at Conastone 500 kV - on the existing Peach Bottom – Conastone, future Graceton – Conastone, 500 kV line	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: BGE (12.36%) / Dominion (24.57%) / DPL (25.17%) / JCPL (7.90%) / NEPTUNE* (0.88%) / PENELEC (1.60%) / PEPCO (12.32%) / PSEG (14.57%) / RE (0.63%)

Required Tr	ansmission Enhancements Annual Reven	ue Requirement	Responsible Customer(s)
b3800.41	Conastone - Brighton 500 kV line (5011 line) - Replace terminal equipment limitations at Conastone 500 kV substation		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: BGE (9.65%) / Dominion (63.04%) / DPL (0.02%) / PEPCO (27.29%)

PJM Open Access Transmission Tariff Schedule 12-Appendix A Section 3 – Delmarva Power & Light Co. Effective April 9, 2024 Version 25.0.1

SCHEDULE 12 – APPENDIX A

(3) Delmarva Power & Light Company

$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	Required Trai	ISTINSSION ENHAncements Ann	ual Revenue Requirement	Responsible Customer(s)
Wattsville DPL (100%) b2395 Reconductor the Harmony – Chapel St 138 kV circuit DPL (100%) Replace Terminal equipment at Silverside 69 kV substation DPL (100%) b2569 Replace Terminal equipment at Silverside 69 kV substation DPL (100%) ket (1.65%) Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DEVL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PECO (3.68%) / PEL (4.43%) / PECO (3.68%) / PECO (5.11%) / PENELEC (1.73%) / PECO (3.68%) / PECO (5.11%) / PENELEC (1.73%) / PECO (3.68%) / PECO (3.68%) / PECO (3.68%) / PECO (3.68%) / DPL (4.43%) / PSEG (5.99%) / ICPL (13.85%) / DPL (12.99%) / JCPL (13.85%) / DPL (12.9%) / JCPL (13.85%) / PET (14.85%) / PECO (17.62%) / PL (14.85%) / PECO (17.62%) / PL (14.85%) / PEG (20.79%)				
b2395 Reconductor the Harmony - Chapel St 138 kV circuit DPL (100%) B2569 Replace Terminal equipment at Silverside 69 kV substation DPL (100%) b2569 Equipment at Silverside 69 kV substation DPL (100%) k Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DECK (3.21%) / Dayton (2.03%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) b2633.10 Interconnect the new Silver Run 230 kV substation with existing Red Lion - Cartanza and Red Lion - Cedar Creek AEC (8.01%) / DPL (19.98%) / JCPL (14.85%) / PECO (17.62%) / PPL (14.85%) / PECO (17.62%) /	b2288			
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$		Wattsville		DPL (100%)
circuit DPL (100%) b2569 Replace Terminal equipment at Silverside 69 kV substation DPL (100%) Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / DPL (2.55%) / Deninion (13.89%) / EFPC (3.59%) / DPL (2.55%) / Deninion (13.89%) / EFPC (2.35%) / DPL (2.55%) / Deninion (13.89%) / EFPC (3.59%) / DPL (2.55%) / Deninion (13.89%) / EFPC (3.59%) / DFPC (3.68%) / PEPC (5.11%) / PEC (3.68%) / PEPC (5.11%) / DFPC (3.68%) / PEPC (5.11%) / DFPC (0.01%) JCPL (0.01%) JCPL (0.01%) JCPL (0.01%) / JCPL (0.01%) / JCPL (0.01%) / JCPL (0.01%) / JCPL (0.01%) / JCPL (12.99%) / JCPL (13.85%) / ME (5.88%) / NEPTUNE* (3.45%) / PEC (17.62%) / PPL (14.85%) / PEC (17.62%) / PPL (14.85%) / PSEG (20.79%)		Reconductor the Harmony		
b2569Replace Terminal equipment at Silverside 69 kV substationDPL (100%)b2633.7Implement high speed relaying utilizing OPGW on Red Lion – Hope Creek 500 kV lineLoad-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%)b2633.10Interconnect the new Silver Run 230 kV substation with existing Red Lion – Cedar CreekAEC (8.01%) / BGE (1.94%) / ME (1.85%) / PECO (17.62%) / PPL (14.85%) / PSEG (20.79%)	b2395	– Chapel St 138 kV		
$ b2569 equipment at Silverside 69 kV substation DPL (100%) \\ \hline Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: AEC (0.01%) / DPL (99.98%) / JCPL (0.01%) BGE (1.94%) / NEPTUNE* (3.45%) / NEPTUNE* (3.45%) / PECO (17.62%) / PL (14.85%) / PSEG (20.79%) (3.45%) / PSEG (20.79%) (3.45%) / PSEG (20.79%) (3.45%) / PSEG (20.79%) (3.45%) / PSEG (20.79%) (4.43%) / PSEG (20.79%) (3.45%) / PECO (17.62%) / PPL (14.85%) / PSEG (20.79%) (3.45%) / PSEG (20.79%) (4.43%) / PSEG (20.79%) (3.45%) / PECO (17.62%) / PPL (14.85%) / PSEG (20.79%) (3.45%) / PSEG (20.79%) (4.43%) / PSEG (20.79%) (3.45%) / PSEG (20.79%) $		circuit		DPL (100%)
69 kV substation DPL (100%) Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) b2633.10 Interconnect the new Silver Run 230 kV substation with existing Red Lion - Cartanza and Red Lion - Cedar Creek AEC (8.01%) / BGE (1.94%) / DPL (12.99%) / JCPL (13.85%)		Replace Terminal		
b2633.7 Implement high speed relaying utilizing OPGW on Red Lion – Hope Creek 500 kV line Implement high speed (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) b2633.10 Interconnect the new Silver Run 230 kV substation with existing Red Lion – Cartanza and Red Lion – Cedar Creek AEC (8.01%) / BEC (1.94%) / DPL (12.99%) / JCPL (13.85%) / ME (5.88%) / NEPTUNE* (3.45%) / PECO (17.62%) / PPL (14.85%) / PSEG (20.79%)	b2569	equipment at Silverside		
b2633.7 Implement high speed relaying utilizing OPGW on Red Lion – Hope Creek 500 kV line Implement high speed relaying utilizing OPGW on Red Lion – Hope Creek 500 kV line Implement high speed (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) b2633.10 Interconnect the new Silver Run 230 kV substation with existing Red Lion – Cartanza and Red Lion – Cedar Creek AEC (8.01%) / BGE (1.94%) / DPL (12.99%) / JCPL (13.85%) / ME (5.88%) / NEPTUNE* (3.45%) / PECO (17.62%) / PPL (14.85%) / PSEG (20.79%)		69 kV substation		DPL (100%)
b2633.7 Implement high speed relaying utilizing OPGW on Red Lion – Hope Creek 500 kV line Implement high speed (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) b2633.10 Interconnect the new Silver Run 230 kV substation with existing Red Lion – Cartanza and Red Lion – Cedar Creek AEC (8.01%) / BGE (1.94%) / DPL (12.99%) / JCPL (13.85%) / ME (5.88%) / NEPTUNE* (3.45%) / PECO (17.62%) / PPL (14.85%) / PSEG (20.79%)				Load-Ratio Share Allocation:
b2633.7 Implement high speed relaying utilizing OPGW on Red Lion – Hope Creek 500 kV line BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) b2633.10 Interconnect the new Silver Run 230 kV substation with existing Red Lion – Cartanza and Red Lion – Cedar Creek AEC (8.01%) / BGE (1.94%) / DPL (12.99%) / JCPL (13.85%) / ME (5.88%) / NEPTUNE* (3.45%) / PECO (17.62%) / PPL (14.85%) / PSEG (20.79%)				AEC (1.65%) / AEP (14.29%) /
b2633.7 Implement high speed relaying utilizing OPGW on Red Lion – Hope Creek 500 kV line Implement high speed relaying utilizing OPGW on Red Lion – Hope Creek 500 kV line Implement high speed (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) b2633.10 Interconnect the new Silver Run 230 kV substation with existing Red Lion – Cartanza and Red Lion – Cedar Creek AEC (8.01%) / BGE (1.94%) / DPL (12.99%) / JCPL (13.85%) / ME (5.88%) / NEPTUNE* (3.45%) / PECO (17.62%) / PPL (14.85%) / PSEG (20.79%)				APS (5.82%) / ATSI (7.49%) /
b2633.7 Implement high speed relaying utilizing OPGW on Red Lion – Hope Creek 500 kV line DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) b2633.10 Interconnect the new Silver Run 230 kV substation with existing Red Lion – Cartanza and Red Lion – Cedar Creek AEC (8.01%) / BGE (1.94%) / DPL (12.99%) / JCPL (13.85%) / ME (5.88%) / NEPTUNE* (3.45%) / PECO (17.62%) / PPL (14.85%) / PSEG (20.79%)				BGE (4.01%) / ComEd
b2633.7 Implement high speed relaying utilizing OPGW on Red Lion – Hope Creek 500 kV line DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) b2633.10 Interconnect the new Silver Run 230 kV substation with existing Red Lion – Cartanza and Red Lion – Cedar Creek AEC (8.01%) / BGE (1.94%) / DPL (12.99%) / JCPL (13.85%) / ME (5.88%) / NEPTUNE* (3.45%) / PECO (17.62%) / PPL (14.85%) / PSEG (20.79%)				(14.06%) / Dayton (2.03%) /
b2633.7 Implement high speed relaying utilizing OPGW on Red Lion – Hope Creek 500 kV line (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) b2633.10 Interconnect the new Silver Run 230 kV substation with existing Red Lion – Cartanza and Red Lion – Cedar Creek AEC (8.01%) / BGE (1.94%) / DPL (12.99%) / JCPL (13.85%) / ME (5.88%) / NEPTUNE* (3.45%) / PECO (17.62%) / PPL (14.85%) / PSEG (20.79%)		relaying utilizing OPGW on Red Lion – Hope		DEOK (3.21%) / DL (1.59%) /
b2633.7 relaying utilizing OPGW on Red Lion – Hope Creek 500 kV line relaying utilizing OPGW on Red Lion – Hope Creek 500 kV line relaying utilizing OPGW on Red Lion – Hope Creek 500 kV line relaying utilizing OPGW JCPL (3.59%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) b2633.10 Interconnect the new Silver Run 230 kV substation with existing Red Lion – Cartanza and Red Lion – Cedar Creek AEC (8.01%) / BGE (1.94%) / DPL (12.99%) / JCPL (13.85%) b2633.10 Interconnect Creek PPL (14.85%) / PECO (17.62%) / PPL (14.85%) / PSEG (20.79%)				DPL (2.55%) / Dominion
b2633.7 relaying utilizing OPGW on Red Lion – Hope Creek 500 kV line JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) b2633.10 Interconnect the new Silver Run 230 kV substation with existing Red Lion – Cartanza and Red Lion – Cedar Creek AEC (8.01%) / BGE (1.94%) / DPL (12.99%) / JCPL (13.85%) / ME (5.88%) / NEPTUNE* (3.45%) / PECO (17.62%) / PPL (14.85%) / PSEG (20.79%)				(13.89%) / EKPC (2.35%) /
Creek 500 kV line NEPTONE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: AEC (0.01%) / DPL (99.98%) / JCPL (0.01%) JCPL (0.01%) substation with existing AEC (8.01%) / BGE (1.94%) / Silver Run 230 kV DPL (12.99%) / JCPL (13.85%) substation with existing / ME (5.88%) / NEPTUNE* Red Lion – Cartanza and (3.45%) / PECO (17.62%) / PPL (14.85%) / PSEG (20.79%) PPL (14.85%) / PSEG (20.79%)	b2633.7			JCPL (3.59%) / ME (1.81%) /
b2633.10 Interconnect the new B2633.10 Interconnect the				NEPTUNE* (0.42%) / OVEC
b2633.10 Interconnect the new substation with existing AEC (8.01%) / BGE (1.94%) / B2633.10 Interconnect content and Red Lion – Cedar Creek				(0.06%) / PECO (5.11%) /
b2633.10 Interconnect the new substation with existing AEC (8.01%) / BGE (1.94%) / B2633.10 Interconnect the new B2633.10				PENELEC (1.73%) / PEPCO
b2633.10 Interconnect the new substation with existing AEC (8.01%) / BGE (1.94%) / B2633.10 Interconnect the new B2633.10				(3.68%) / PPL (4.43%) / PSEG
AEC (0.01%) / DPL (99.98%) / JCPL (0.01%) Interconnect the new Silver Run 230 kV AEC (8.01%) / BGE (1.94%) / DPL (12.99%) / JCPL (13.85%) b2633.10 substation with existing Red Lion – Cartanza and Red Lion – Cedar Creek / ME (5.88%) / NEPTUNE* (3.45%) / PECO (17.62%) / PPL (14.85%) / PSEG (20.79%)				(5.99%) / RE (0.24%)
JCPL (0.01%) JCPL (0.01%) Interconnect the new Silver Run 230 kV substation with existing Red Lion – Cartanza and Red Lion – Cedar Creek PPL (14.85%) / PSEG (20.79%)				DFAX Allocation:
b2633.10 Interconnect the new Silver Run 230 kV AEC (8.01%) / BGE (1.94%) / DPL (12.99%) / JCPL (13.85%) b2633.10 substation with existing Red Lion – Cartanza and Red Lion – Cedar Creek / ME (5.88%) / NEPTUNE* (3.45%) / PECO (17.62%) / PPL (14.85%) / PSEG (20.79%)				AEC (0.01%) / DPL (99.98%) /
b2633.10Silver Run 230 kV substation with existing Red Lion - Cartanza and Red Lion - Cedar CreekDPL (12.99%) / JCPL (13.85%) / ME (5.88%) / NEPTUNE* (3.45%) / PECO (17.62%) / PPL (14.85%) / PSEG (20.79%)				
b2633.10substation with existing Red Lion - Cartanza and Red Lion - Cedar Creek/ ME (5.88%) / NEPTUNE* (3.45%) / PECO (17.62%) / PPL (14.85%) / PSEG (20.79%)		Interconnect the new		
b2633.10 Red Lion – Cartanza and Red Lion – Cedar Creek (3.45%) / PECO (17.62%) / PPL (14.85%) / PSEG (20.79%)	b2622 10			
Red Lion – Cartanza and Red Lion – Cedar Creek $(3.45\%) / PECO (17.62\%) / PPL (14.85\%) / PSEG (20.79\%)$		substation with existing		/ ME (5.88%) / NEPTUNE*
	02033.10			
230 kV lines / RE (0.62%)		Red Lion – Cedar Creek		PPL (14.85%) / PSEG (20.79%)
		230 kV lines		/ RE (0.62%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tra	nsmission Enhancements Annu	al Revenue Requirement	Responsible Customer(s)
	Rebuild Worcester –		
b2695	Ocean Pine 69 kV ckt. 1 to		
02095	1400A capability summer		
	emergency		DPL (100%)
	Convert existing Preston		
b2946	69 kV substation to DPL's		
02740	current design standard of		
	a 3-breaker ring bus		DPL (100%)
	Upgrade terminal		
b2947.1	equipment at DPL's		
02747.1	Naamans substation		
	(Darley - Naamans 69 kV)		DPL (100%)
	Reconductor 0.11 mile		
b2947.2	section of Darley -		
	Naamans 69 kV circuit		DPL (100%)
	Upgrade terminal		
	equipment at DPL's		
b2948	Silverside Road substation		
	(Dupont Edge Moor –		
	Silver R. 69 kV)		DPL (100%)
	Install a 30 MVAR		
	capacitor bank at DPL's		
	Cool Springs 69 kV		
b2987	substation. The capacitor		
	bank would be installed in		
	two separate 15 MVAR		
	stages allowing DPL		
	operational flexibility		DPL (100%)
L2142 1	Reconductor the Silverside		
b3143.1	Road – Darley 69 kV		
	circuit		DPL (100%)
b3143.2	Reconductor the Darley –		
03143.2	Naamans 69 kV circuit		DPL (100%)
	Replace three (3) existing		
	1200 A disconnect		
	switches with 2000 A		
b3143.3	disconnect switches and		
	install three (3) new 2000		
	A disconnect switches at		
	Silverside 69 kV station		DPL (100%)
L	- 1		

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Trar	nsmission Enhancements Annu	al Revenue Requirement	Responsible Customer(s)
	Replace two (2) 1200 A		
	disconnect switches with		
	2000 A disconnect		
	switches. Replace existing		
	954 ACSR and 500 SDCU		
	stranded bus with two (2)		
b3143.4	954 ACSR stranded bus.		
03143.4	Reconfigure four (4) CTs		
	from 1200 A to 2000 A		
	and install two (2) new		
	2000 A disconnect		
	switches and two (2) new		
	954 ACSR stranded bus at		
	Naamans 69 kV station		DPL (100%)
	Replace four (4) 1200 A		
	disconnect switches with		
	2000 A disconnect		
	switches. Replace existing		
	954 ACSR and 1272		
	MCM AL stranded bus		
	with two (2) 954 ACSR		
	stranded bus. Reconfigure		
b3143.5	eight (8) CTs from 1200 A		
	to 2000 A and install four		
	(4) new 2000 A (310 MVA		
	SE / 351 MVA WE)		
	disconnect switches and		
	two (2) new 954 ACSR		
	(331 MVA SE / 369 MVA		
	WE) stranded bus at		
	Darley 69 kV station		DPL (100%)
	Rebuild approx. 12 miles		
b3155	of Wye Mills –		
	Stevensville line		DPL (100%)
	Replace a disconnect		
	switch and reconductor a		
b3224	short span of the Mt.		
	Pleasant – Middletown tap		
	138 kV line		DPL (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required 11a	Ismission enhancements Annual Reve	nue Requirement	
b3326	Rebuild the Vienna - Nelson 138 kV line		DPL (100%)
b3327	Upgrade the disconnect switch at Kent 69 kV station		DPL (100%)
b3328	Upgrade the disconnect switch and CT at Vienna 138 kV station		DPL (100%)
b3329	Rebuild the Farmview - Milford 138 kV line		DPL (100%)
b3330	Rebuild the Farmview - S. Harrington 138 kV line		DPL (100%)
b3331	Upgrade stranded bus and relay at Seaford 138 kV station		DPL (100%)
b3332	Rebuild the Steel - Milford 230 kV line		DPL (100%)
b3669.1	Replace terminal equipment (stranded bus, disconnect switch and circuit breaker) at Church 138 kV substation		DPL (100%)
b3669.2	Replace terminal equipment (circuit breaker) at Townsend 138 kV substation		DPL (100%)
b3670	Upgrade terminal equipment on the Loretto – Fruitland 69 kV circuit. Replace the 477 ACSR stranded bus on the 6711 line terminal inside Loretto 69 KV substation and the 500 SDCU stranded bus on the 6711 line terminal inside 69 kV Fruitland substation with 954 ACSR conductor		DPL (100%)
b3688	Replace the 4/0 SDCU stranded bus with 954 ACSR and a 600 A disconnect switch with a 1200 A disconnect switch on the 6716 line terminal inside Todd substation on Preston – Todd 69 kV line		DPL (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

	Rebuild the New	
b3749	Church - Piney Grove	
	138 kV line	DPL (100%)
b3800.39	Red Lion - Hope Creek 500 kV - Replace terminal equipment at Red Lion substation	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) Dominion (48.61%) / DPL (9.46%) / JCPL (0.03%) / PEPCO (18.96%) / PSEG (0.03%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

PJM Open Access Transmission Tariff Schedule 12-Appendix A Section 5 – Metropolitan Edison Co. Effective April 9, 2024 Version 28.0.1

SCHEDULE 12 – APPENDIX A

(5) Mid-Atlantic Interstate Transmission, LLC for the Metropolitan Edison Company Zone

Required Tran	smission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
			Load-Ratio Share
			Allocation:
			AEC (1.65%) / AEP (14.29%)
			/ APS (5.82%) / ATSI (7.49%)
			/ BGE (4.01%) / ComEd
			(14.06%) / Dayton (2.03%) /
			DEOK (3.21%) / DL (1.59%) /
	Loop the 2026 (TMI –		DPL (2.55%) / Dominion
b2006.1.1	Hosensack 500 kV) line		(13.89%) / EKPC (2.35%) /
	in to the Lauschtown		JCPL (3.59%) / ME (1.81%) /
			NEPTUNE* (0.42%) / OVEC
			(0.06%) / PECO (5.11%) /
			PENELEC (1.73%) / PEPCO
			(3.68%) / PPL (4.43%) / PSEG
			(5.99%) / RE (0.24%)
			DFAX Allocation:
			BGE (20.30%) / PPL (79.70%)
	Upgrade relay at South		
b2006.2.1	Reading on the 1072 230		
	V line		ME (100%)
	Replace the South		
b2006.4	Reading 69 kV '81342'		
02000.1	breaker with 40 kA		
	breaker		ME (100%)
	Replace the South		
b2006.5	Reading 69 kV '82842'		
02000.5	breaker with 40 kA		
	breaker		ME (100%)
			APS (8.30%) / BGE (14.70%)
b2452	Install 2nd Hunterstown		/ DEOK (0.48%) / Dominion
02.02	230/115 kV transformer		(36.92%) / ME (23.85%) /
			PEPCO (15.75%)

Required Trar	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2452.1	Reconductor Hunterstown - Oxford 115 kV line		APS (8.30%) / BGE (14.70%) / DEOK (0.48%) / Dominion (36.92%) / ME (23.85%) / PEPCO (15.75%)
b2452.3	Replace the Hunterstown 115 kV breaker '96192' with 40 kA		ME (100%)
b2588	Install a 36.6 MVAR 115 kV capacitor at North Bangor substation		ME (100%)
b2637	Convert Middletown Junction 230 kV substation to nine bay double breaker configuration.		ME (100%)
b2644	Install a 28.8 MVAR 115 kV capacitor at the Mountain substation		ME (100%)
b2688.1	Lincoln Substation: Upgrade the bus conductor and replace CTs		AEP (12.91%) / APS (19.04%)/ ATSI (1.24%) / ComEd (0.35%) / Dayton (1.45%) / DEOK (2.30%) / DL (1.11%)/ Dominion (44.85%) / EKPC (0.78%)/ PEPCO (15.85%) / RE (0.12%)
b2688.2	Germantown Substation: Replace 138/115 kV transformer with a 135/180/224 MVA bank. Replace Lincoln 115 kV breaker, install new 138 kV breaker, upgrade bus conductor and adjust/replace CTs		AEP (12.91%) / APS (19.04%)/ ATSI (1.24%) / ComEd (0.35%) / Dayton (1.45%) / DEOK (2.30%) / DL (1.11%)/ Dominion (44.85%) / EKPC (0.78%)/ PEPCO (15.85%) / RE (0.12%)

Required Tran	nsmission Enhancements A	nnual Revenue Requirement	Responsible Customer(s)
b2743.4	Upgrade terminal equipment at Hunterstown 500 kV on the Conemaugh – Hunterstown 500 kV circuit		AEP (6.46%) / APS (8.74%) / BGE (19.74%) / ComEd (2.16%) / Dayton (0.59%) / DEOK (1.02%) / DL (0.01%) / Dominion (39.95%) / EKPC (0.45%) / PEPCO (20.88%)
b2752.4	Upgrade terminal equipment and required relay communication at TMI 500 kV: on the Beach Bottom – TMI 500 kV circuit		AEP (6.46%) / APS (8.74%) / BGE (19.74%) / ComEd (2.16%) / Dayton (0.59%) / DEOK (1.02%) / DL (0.01%) / Dominion (39.95%) / EKPC (0.45%) / PEPCO (20.88%)
b2749	Replace relay at West Boyertown 69 kV station on the West Boyertown – North Boyertown 69 kV circuit		ME (100%)
b2765	Upgrade bus conductor at Gardners 115 kv substation; Upgrade bus conductor and adjust CT ratios at Carlisle Pike 115 kV		ME (100%)
b2950	Upgrade limiting 115 kV switches on the 115 kV side of the 230/115 kV Northwood substation and adjust setting on limiting ZR relay		ME (100%)
b3136	Replace bus conductor at Smith 115 kV substation		ME (100%)
b3145	Rebuild the Hunterstown – Lincoln 115 kV Line No. 962 (approx. 2.6 miles). Upgrade limiting terminal equipment at Hunterstown and Lincoln		AEP (16.60%) / APS (8.09%) / BGE (2.74%) / Dayton (2.00%) / DEOK (0.35%) / DL (1.31%) / Dominion (52.77%) / EKPC (1.54%) / OVEC (0.06%) / PEPCO (14.54%)
b3311	Install a 120.75 kV 79.4 MVAR capacitor bank at Yorkana 115 kV		ME (100%)

Required Tran	smission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Rebuild approximately 3.6		
	miles of North Boyertown	-	
	West Boyertown 69 kV		
	line. Upgrade terminal		
b3671	equipment (circuit breaker,		
030/1	disconnect switches,		
	substation conductor) and		
	relays at North Boyertown		
	and West Boyertown 69 kV	7	
	substation		ME (100%)
	Install a new Allen four		
	breaker ring bus switchyard	1	
	near the existing ME Allen		
	substation on adjacent		
b3715.3	property presently owned		
03713.3	by FirstEnergy. Terminate		
	the Round Top-Allen and		
	the Allen-PPGI (PPG		
	Industries) 115 kV lines		
	into the new switchyard		ME (100%)
	Rebuild/Reconductor the		
	Germantown – Lincoln 115		
b3768	kV line. Upgrade limiting		
05700	terminal equipment at		
	Lincoln, Germantown and		
	Straban stations		ME (100%)
b3769	Install second TMI 500/230		
	kV transformer with		
	additional 500 kV and 230		
	kV bus expansions		ME (45.74%) / PPL (54.26%)

Required Tran	smission Enhancements Annua	I Revenue Requirement	Res	ponsible Customer(s)
				Load-Ratio Share
				Allocation:
				AEC (1.65%) / AEP (13.68%)
				/ APS (5.76%) / ATSI (8.04%)
				/ BGE (4.11%) / ComEd
				(13.39%) / Dayton (2.12%) /
				DEOK (3.25%) / DL (1.71%) /
				Dominion (13.32%) / DPL
	Dreal the existing Three			(2.60%) / EKPC (1.89%) /
	Break the existing Three Mile Island - Peach Bottom			JCPL (3.86%) / ME (1.90%) /
b3800.2				NEPTUNE* (0.42%) / OVEC
03800.2	500 kV line and terminate			(0.08%) / PECO (5.40%) /
	into adjacent Otter Creek 500 kV switchyard			PENELEC (1.78%) / PEPCO
				(3.67%) / PPL (4.72%) / PSEG
				(6.39%) / RE (0.26%)
				DFAX Allocation:
				APS (13.16%) / BGE (0.71%)
				/ Dominion (74.28%) / DPL
				(0.36%) / PECO (0.68%) /
				PEPCO (10.59%) / PPL
				(0.22%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tran	smission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
			Load-Ratio Share
			Allocation:
			AEC (1.65%) / AEP (13.68%)
			/ APS (5.76%) / ATSI (8.04%)
			/ BGE (4.11%) / ComEd
			(13.39%) / Dayton (2.12%) /
			DEOK (3.25%) / DL (1.71%) /
			Dominion (13.32%) / DPL
			(2.60%) / EKPC (1.89%) /
			JCPL (3.86%) / ME (1.90%) /
	Replace terminal equipment		NEPTUNE* (0.42%) / OVEC
b3800.6	at TMI Peach Bottom - TMI		(0.08%) / PECO (5.40%) /
03800.0	500 kV line		PENELEC (1.78%) / PEPCO
	JOO KV IIIC		(3.67%) / PPL (4.72%) / PSEG
			(6.39%) / RE (0.26%)
			DFAX Allocation:
			APS (7.41%) / BGE (15.50%)
			/ Dominion (45.08%) / DPL
			(2.46%) / JCPL (0.80%) / ME
			(0.34%) / NEPTUNE* (0.09%)
			/ PECO (10.72%) / PEPCO
			(15.72%) / PPL (0.43%) /
			PSEG (1.39%) / RE (0.06%)
	Rebuild the Germantown -		
b3800.10	Lincoln 115 kV line for 230		
	kV double circuit		
	construction		ME (100%)
	Rebuild the Hunterstown -		
b3800.11	Lincoln 115 kV line for 230		
	kV double circuit		ME (1000/)
	construction		ME (100%)
	Rebuild the Germantown -		
h2800 12	Carroll 138 kV line for 230		
b3800.12	kV double circuit		
	construction (MAIT Section)		ME (100%)
	Construct new 230 kV		ME (100%)
1,2000 14	Hunterstown - Carroll line		
b3800.14			ADS (00 860/) / ME (0 140/)
L	(MAIT Section)		APS (99.86%) / ME (0.14%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
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b3800.18	Add a new 230 kV breaker at the Hunterstown 230 kV substation for the new Hunterstown - Carroll 230 kV termination	APS (99.86%) / ME (0.14%)
b3800.19	Reconductor Lincoln - Orrtanna 115 kV line	ME (100%)
b3800.22	Install DTT relaying at Straban 115 kV substation	ME (100%)
b3800.23	Revise Relay Settings at Lincoln 115 kV substation	ME (100%)
b3800.24	Revise Relay Settings at Germantown 115 kV substation	ME (100%)

PJM Open Access Transmission Tariff Schedule 12-Appendix A Section 7 – Penelec Effective January 31, 2024 Version 31.0.1

SCHEDULE 12 – APPENDIX A

(7) Mid-Atlantic Interstate Transmission, LLC for the Pennsylvania Electric Company Zone

Required Tr	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2212	Shawville Substation: Relocate 230 kV and 115 kV controls from the generating station building		$\mathbf{DENELEC}(1000/)$
b2293	to new control building Replace the Erie South 115 kV breaker 'Buffalo Rd' with 40 kA breaker		PENELEC (100%) PENELEC (100%)
b2294	Replace the Johnstown 115 kV breaker 'Bon Aire' with 40 kA breaker		PENELEC (100%)
b2302	Replace the Erie South 115 kV breaker 'French #2' with 40 kA breaker		PENELEC (100%)
b2304	Replace the substation conductor and switch at South Troy 115 kV substation		PENELEC (100%)
b2371	Install 75 MVAR capacitor at the Erie East 230 kV substation		PENELEC (100%)
b2441	Install +250/-100 MVAR SVC at the Erie South 230 kV station		PENELEC (100%)
b2442	Install three 230 kV breakers on the 230 kV side of the Lewistown #1, #2 and #3 transformers		PENELEC (100%)
b2450	Construct a new 115 kV line from Central City West to Bedford North		PENELEC (100%)
b2463	Rebuild and reconductor 115 kV line from East Towanda to S. Troy and upgrade terminal equipment at East Towanda, Tennessee Gas and South Troy		PENELEC (100%)

Mid-Atlantic Interstate Transmission, LLC for the Pennsylvania Electric Company Zone (cont.)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Construct Warren 230 kV		
b2494	ring bus and install a		
02494	second Warren 230/115		
	kV transformer		PENELEC (100%)
	Reconductor the North		
	Meshoppen – Oxbow-		
b2552.1	Lackawanna 230 kV		
02332.1	circuit and upgrade		
	terminal equipment		
	(MAIT portion)		PENELEC (100.00%)
	Replace the Warren 115		
b2573	kV 'B12' breaker with a		
	40 kA breaker		PENELEC (100%)
	Reconfigure Pierce Brook		
	345 kV station to a ring		
b2587	bus and install a 125		
	MVAR shunt reactor at		
	the station		PENELEC (100%)
	Replace relays at East		, , , , , , , , , , , , , , , , , , ,
b2621	Towanda and East Sayre		
02021	115 kV substations		
	(158/191 MVA SN/SE)		PENELEC (100%)
	Replace wave trap, bus		
	conductor and relay at		
b2677	Hilltop 115 kV substation.		
	Replace relays at Prospect		
	and Cooper substations		PENELEC (100%)
	Convert the East Towanda		
b2678	115 kV substation to		
02078	breaker and half		
	configuration		PENELEC (100%)
	Install a 115 kV Venango		
b2679	Jct. line breaker at		
	Edinboro South		PENELEC (100%)
b2680	Install a 115 kV breaker		
	on Hooversville #1 115/23		
	kV transformer		PENELEC (100%)
	Install a 115 kV breaker		
b2681	on the Eclipse #2 115/34.5		
	kV transformer		PENELEC (100%)

Mid-Atlantic Interstate Transmission, LLC for the Pennsylvania Electric Company Zone (cont.)

	ansmission Ennancements Ann	ual Revenue Requirement	Responsible Customer(s)
	Install two 21.6 MVAR		
b2682	capacitors at the Shade Gap		
	115 kV substation		PENELEC (100%)
	Install a 36 MVAR 115 kV		
b2683	capacitor and associated		
02085	equipment at Morgan		
	Street substation		PENELEC (100%)
	Install a 36 MVAR 115 kV		
b2684	capacitor at Central City		
	West substation		PENELEC (100%)
	Install a second 115 kV		
b2685	3000A bus tie breaker at		
	Hooversville substation		PENELEC (100%)
	Replace the Warren 115		
b2735	kV 'NO. 2 XFMR' breaker		
	with 40 kA breaker		PENELEC (100%)
	Replace the Warren 115		
b2736	kV 'Warren #1' breaker		
	with 40 kA breaker		PENELEC (100%)
	Replace the Warren 115		
b2737	kV 'A TX #1' breaker with		
	40 kA breaker		PENELEC (100%)
	Replace the Warren 115		
b2738	kV 'A TX #2' breaker with		
	40 kA breaker		PENELEC (100%)
	Replace the Warren 115		
b2739	kV 'Warren #2' breaker		
	with 40 kA breaker		PENELEC (100%)
b2740	Revise the reclosing of the		
	Hooversville 115 kV		
	'Ralphton' breaker		PENELEC (100%)
	Revise the reclosing of the		
b2741	Hooversville 115 kV		
	'Statler Hill' breaker		PENELEC (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Mid-Atlantic Interstate Transmission, LLC for the Pennsylvania Electric Company Zone (cont.)

Required Tra	ansmission Enhancements Ann	ual Revenue Requirement	Responsible Customer(s)
b2743.2	Tie in new Rice substation to Conemaugh – Hunterstown 500 kV		AEP (6.46%) / APS (8.74%) / BGE (19.74%) / ComEd (2.16%) / Dayton (0.59%) / DEOK (1.02%) / DL (0.01%) / Dominion (39.95%) / EKPC (0.45%) / PEPCO (20.88%)
b2743.3	Upgrade terminal equipment at Conemaugh 500 kV on the Conemaugh – Hunterstown 500 kV circuit		AEP (6.46%) / APS (8.74%) / BGE (19.74%) / ComEd (2.16%) / Dayton (0.59%) / DEOK (1.02%) / DL (0.01%) / Dominion (39.95%) / EKPC (0.45%) / PEPCO (20.88%)
b2748	Install two 28 MVAR capacitors at Tiffany 115 kV substation		PENELEC (100%)
b2767	Construct a new 345 kV breaker string with three (3) 345 kV breakers at Homer City and move the North autotransformer connection to this new breaker string		PENELEC (100%)
b2803	Reconductor 3.7 miles of the Bethlehem – Leretto 46 kV circuit and replace terminal equipment at Summit 46 kV		PENELEC (100%)
b2804	Install a new relay and replace 4/0 CU bus conductor at Huntingdon 46 kV station, on the Huntingdon – C tap 46 kV circuit		PENELEC (100%)
b2805	Install a new relay and replace 4/0 CU & 250 CU substation conductor at Hollidaysburg 46 kV station, on the Hollidaysburg – HCR Tap 46 kV circuit		PENELEC (100%)

Required Transmission Enhancements A	Annual Revenue Requirement	Responsible Customer(s)
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Required II		luai Revenue Requirement	Responsible Customer(s)
	Install a new relay and		
b2806	replace meter at the		
	Raystown 46 kV		
02000	substation, on the		
	Raystown – Smithfield 46		
	kV circuit		PENELEC (100%)
	Replace the CHPV and		
	CRS relay, and adjust the		
	IAC overcurrent relay trip		
b2807	setting; or replace the relay		
	at Eldorado 46 kV		
	substation, on the Eldorado		
	– Gallitzin 46 kV circuit		PENELEC (100%)
	Adjust the JBC overcurrent		
	relay trip setting at		
	Raystown 46 kV, and		
	replace relay and 4/0 CU		
b2808	bus conductor at		
	Huntingdon 46 kV		
	substations, on the		
	Raystown – Huntingdon 46		
	kV circuit		PENELEC (100%)
	Replace Seward 115 kV		
b2865	breaker "Jackson Road"		
	with 63 kA breaker		PENELEC (100%)
	Replace Seward 115 kV		
b2866	breaker "Conemaugh N."		
	with 63 kA breaker		PENELEC (100%)
	Replace Seward 115 kV		
b2867	breaker "Conemaugh S."		
	with 63 kA breaker		PENELEC (100%)
<u> </u>	Replace Seward 115 kV		
b2868	breaker "No.8 Xfmr" with		
	63 kA breaker		PENELEC (100%)
	Install two 345 kV 80		
b2944	MVAR shunt reactors at		
	Mainesburg station		PENELEC (100%)
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requirea II		tai i te venue i tequirement	
b2951	Seward, Blairsville East, Shelocta work		PENELEC (100%)
b2951.1	Upgrade Florence 115 kV line terminal equipment at Seward SS		PENELEC (100%)
b2951.2	Replace Blairsville East / Seward 115 kV line tuner, coax, line relaying and carrier set at Shelocta SS		PENELEC (100%)
b2951.3	Replace Seward / Shelocta 115 kV line CVT, tuner, coax, and line relaying at Blairsville East SS		PENELEC (100%)
b2952	Replace the North Meshoppen #3 230/115 kV transformer eliminating the old reactor and installing two breakers to complete a 230 kV ring bus at North Meshoppen		PENELEC (100%)
b2953	Replace the Keystone 500 kV breaker "NO. 14 Cabot" with 50 kA breaker		PENELEC (100%)
b2954	Replace the Keystone 500 kV breaker "NO. 16 Cabot" with 50 kA breaker		PENELEC (100%)
b2984	Reconfigure the bus at Glory and install a 50.4 MVAR 115 kV capacitor		PENELEC (100%)
b3007.2	Reconductor the Blairsville East to Social Hall 138 kV line and upgrade terminal equipment - PENELEC portion. 4.8 miles total. The new conductor will be 636 ACSS replacing the existing 636 ACSR conductor. At Blairsville East, the wave trap and breaker disconnects will be replaced		PENELEC (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required II		al Revenue Requirement	Responsible Customer(s)
	Upgrade Blairsville East		
	138/115 kV transformer		
	terminals. This project is an		
	upgrade to the tap of the		
b3008	Seward – Shelocta 115 kV		
	line into Blairsville		
	substation. The project will		
	replace the circuit breaker		
	and adjust relay settings		PENELEC (100%)
	Upgrade Blairsville East		
b3009	115 kV terminal equipment.		
03009	Replace 115 kV circuit		
	breaker and disconnects		PENELEC (100%)
	Replace the existing		
b3014	Shelocta 230/115 kV		
03014	transformer and construct a		
	230 kV ring bus		PENELEC (100%)
	Upgrade terminal equipment		
	at Corry East 115 kV to		
b3016	increase rating of Four Mile		
	to Corry East 115 kV line.		
	Replace bus conductor		PENELEC (100%)
	Rebuild Glade to Warren		
	230 kV line with hi-temp		
	conductor and substation		
b3017.1	terminal upgrades. 11.53		
	miles. New conductor will		
	be 1033 ACSS. Existing		
	conductor is 1033 ACSR		PENELEC (100%)
	Glade substation terminal		· · · · ·
1-2017-2	upgrades. Replace bus		
b3017.2	conductor, wave traps, and		
	relaying		PENELEC (100%)
	Warren substation terminal		
1.2017.2	upgrades. Replace bus		
b3017.3	conductor, wave traps, and		
	relaying		PENELEC (100%)
	Replace Saxton 115 kV		
b3022	breaker 'BUS TIE' with a		
	40 kA breaker		PENELEC (100%)

Required Ir	ansmission Enhancements Annua	al Revenue Requirement	Responsible Customer(s)
	Upgrade terminal equipment		
	at Corry East 115 kV to		
b3024	increase rating of Warren to		
	Corry East 115 kV line.		
	Replace bus conductor		PENELEC (100%)
	Install one 115 kV 36		
b3043	MVAR capacitor at West		
	Fall 115 kV substation		PENELEC (100%)
	Replace the Blairsville East		
	138/115 kV transformer and		
b3073	associated equipment such		
	as breaker disconnects and		
	bus conductor		PENELEC (100%)
	Reconductor the Franklin		
b3077	Pike B – Wayne 115 kV line		
	(6.78 miles)		PENELEC (100%)
	Reconductor the 138 kV bus		
	and replace the line trap,		
b3078	relays Morgan Street.		
	Reconductor the 138 kV bus		
	at Venango Junction		PENELEC (100%)
b3082	Construct 4-breaker 115 kV		
05002	ring bus at Geneva		PENELEC (100%)
	Rebuild 20 miles of the East		
b3137	Towanda – North		
	Meshoppen 115 kV line		PENELEC (100%)
	Upgrade bus conductor and		
b3144	relay panels of the Jackson		
00111	Road – Nanty Glo 46 kV		
	SJN line		PENELEC (100%)
	Upgrade line relaying and		
b3144.1	substation conductor on the		
	46 kV Nanty Glo line exit at		
	Jackson Road substation		PENELEC (100%)
	Upgrade line relaying and		
b3144.2	substation conductor on the		
	46 kV Jackson Road line		
	exit at Nanty Glo substation		PENELEC (100%)
10154	Install one (1) 13.2 MVAR		
b3154	46 kV capacitor at the		
	Logan substation		PENELEC (100%)

Required Tr	ansmission Enhancements Annu	al Revenue Requirement	Responsible Customer(s)
	Replace the existing No. 2		
	cap bank breaker at		
b3231	Huntingdon substation with		
	a new breaker with higher		
	interrupting capability		PENELEC (100%)
	Replace the existing		
	Williamsburg, ALH		
	(Hollidaysburg) and bus		
b3232	section breaker at the		
	Altoona substation with a		
	new breaker with higher		
	interrupting capability		PENELEC (100%)
	Install one (1) 34 MVAR		
	115 kV shunt reactor and		
1 2 2 2 2	breaker. Install one (1) 115		
b3233	kV circuit breaker to expand		
	the substation to a 4-breaker		
	ring bus		PENELEC (100%)
	Install two (2) 46 kV 6.12		
b3237	MVAR capacitors effective		
	at Mt. Union		PENELEC (100%)
	Construct a new breaker-		
	and-a-half substation near		
	Tiffany substation. All		
	transmission assets and lines		
	will be relocated to the new		
b3245	substation. The two (2)		
	distribution transformers		
	will be fed via two (2)		
	dedicated 115 kV feeds to		
	the existing Tiffany		
	substation		PENELEC (100%)
	Install a second 125 MVAR		- (-••••)
	345 kV shunt reactor and		
	associated equipment at		
b3306	Pierce Brook substation.		
05500	Install a 345 kV breaker on		
	the high side of the $345/230$		
	kV transformer #1		PENELEC (100%)
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Required Transmission Enhancements Annual Revenue Requirement	Responsible Customer(s)
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Replace several pieces of 1033.5 AAC substation conductor at East Towanda 230 kV station on East Towanda - Canyon 230 kV linePENELEC (100%)Install dual reactors and expand existing ring bus at Marshall 230 kV substationPENELEC (100%)b3666Install dual reactors and expand existing ring bus at Marshall 230 kV substationPENELEC (100%)b3667Install second 230/115 kV transformer at Pierce Brook substationPENELEC (100%)b3667Rebuild 2.5 miles of East Towanda-North Meshoppen 115 kV line with 1113 ACSS conductor using single circuit construction. Upgrade all terminal equipment to the rating of 1113 ACSSPENELEC (100%)b3673Replace the relay panels at Bethlehem 33 46 kV substation on the Cambria Prison linePENELEC (100%)cReplace the Shawville 230/115/17.2 kV transformer with a new Shawville 230/115 kV transformer with a new Shawville 230/115 kV transformer with a neger 230/17.2 kV transformerPENELEC (100%)b3700Upgrade Seward terminal equipment of Seward – Blairsville 115 kV line to increase the line rating such that the transmission line conductor is the limiting componentPENELEC (100%)	Required II		al Revenue Requirement	Responsible Customer(s)
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b36/3 substation on the Cambria Prison line PENELEC (100%) Replace the Shawville 230/115/17.2 kV transformer with a new Shawville 230/115 kV PENELEC (100%) b3708 transformer and associated facilities. Replace the plant's No. 2B 115/17.2 kV transformer with a larger 230/17.2 kV transformer PENELEC (100%) Upgrade Seward terminal equipment of Seward – Blairsville 115 kV line to increase the line rating such that the transmission line conductor is the limiting PENELEC (100%)		Replace the relay panels at		
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Replace the Shawville 230/115/17.2 kV transformer with a new Shawville 230/115 kV transformer and associated facilities. Replace the plant's No. 2B 115/17.2 kV transformer with a larger 230/17.2 kV transformer PENELEC (100%) Upgrade Seward terminal equipment of Seward – Blairsville 115 kV line to increase the line rating such that the transmission line conductor is the limiting	03075	substation on the Cambria		
230/115/17.2 kV transformer with a new Shawville 230/115 kV b3708 transformer and associated facilities. Replace the plant's No. 2B 115/17.2 kV transformer with a larger 230/17.2 kV transformer PENELEC (100%) Upgrade Seward terminal equipment of Seward – Blairsville 115 kV line to increase the line rating such that the transmission line conductor is the limiting		Prison line		PENELEC (100%)
transformer with a new Shawville 230/115 kV transformer and associated facilities. Replace the plant's No. 2B 115/17.2 kV transformer with a larger 230/17.2 kV transformerPENELEC (100%)Upgrade Seward terminal equipment of Seward – Blairsville 115 kV line to increase the line rating such that the transmission line conductor is the limitingPENELEC (100%)		Replace the Shawville		
b3708Shawville 230/115 kV transformer and associated facilities. Replace the plant's No. 2B 115/17.2 kV transformer with a larger 230/17.2 kV transformerPENELEC (100%)Upgrade Seward terminal equipment of Seward – Blairsville 115 kV line to increase the line rating such that the transmission line conductor is the limitingPENELEC (100%)		230/115/17.2 kV		
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230/17.2 kV transformer PENELEC (100%) Upgrade Seward terminal equipment of Seward – Blairsville 115 kV line to increase the line rating such that the transmission line conductor is the limiting		No. 2B 115/17.2 kV		
b3750 Upgrade Seward terminal equipment of Seward – Blairsville 115 kV line to increase the line rating such that the transmission line conductor is the limiting		transformer with a larger		
 equipment of Seward – Blairsville 115 kV line to increase the line rating such that the transmission line conductor is the limiting 		230/17.2 kV transformer		PENELEC (100%)
 equipment of Seward – Blairsville 115 kV line to increase the line rating such that the transmission line conductor is the limiting 		Upgrade Seward terminal		
b3750 Blairsville 115 kV line to increase the line rating such that the transmission line conductor is the limiting		equipment of Seward –		
that the transmission line conductor is the limiting				
that the transmission line conductor is the limiting	b3750	increase the line rating such		
		-		
		conductor is the limiting		
		component		PENELEC (100%)

Rebuild 6.4 miles of Roxbury – Shade Gap 115 kV line from Roxbury to the AE1-071 115 kV ring bus with single circuit 115 kV constructionPENELEC (100%)Rebuild 7.2 miles of the Shade Gap – AE1-071 115 b3752Rebuild 7.2 miles of the Roxbury – Shade Gap 115 kV line section of the Roxbury – Shade Gap 115 kV linePENELEC (100%)a new standard 75 MVA top rated bank and upgrade the entire terminal to minimum 100 MVA capability for both SN and SE ratingPENELEC (100%)b3753Construct a new three breaker ring bus to tie into the LLK line at Maclane TapPENELEC (100%)b3765Purchase one 80 MVAR 345 kV spare reactor, to be located at the Mainesburg 345 kV stationPENELEC (100%)b3783Supply, separate AC station service, separate protection and controls schemes, and review and adjust relay protection settingsPENELEC (100%)	require II		ai Revenue Requirement	Responsible Customer(s)
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Cut and remove the 345 kV and 230 kV generator lead lines at Homer City station. Install new station service supply, separate AC station service, separate protection and controls schemes, and review and adjust relay	03703	5		
 and 230 kV generator lead lines at Homer City station. Install new station service supply, separate AC station service, separate protection and controls schemes, and review and adjust relay 				PENELEC (100%)
 lines at Homer City station. Install new station service supply, separate AC station service, separate protection and controls schemes, and review and adjust relay 		Cut and remove the 345 kV		
b3783 Install new station service supply, separate AC station service, separate protection and controls schemes, and review and adjust relay		and 230 kV generator lead		
b3783 supply, separate AC station service, separate protection and controls schemes, and review and adjust relay		lines at Homer City station.		
service, separate protection and controls schemes, and review and adjust relay		Install new station service		
service, separate protection and controls schemes, and review and adjust relay	b3783	supply, separate AC station		
and controls schemes, and review and adjust relay				
		review and adjust relay		
		· · ·		PENELEC (100%)

PJM Open Access Transmission Tariff Schedule 12-Appendix A Section 8 – PECO Energy Co. Effective April 9, 2024 Version 26.0.1

SCHEDULE 12 – APPENDIX A

(8) **PECO Energy Company**

lequired Tra		Annual Revenue Requirement	Responsible Customer(s)
	Replace Waneeta 138 kV		
b2130	breaker '15' with 63 kA		
	rated breaker		PECO (100%)
	Replace Waneeta 138 kV		
b2131	breaker '35' with 63 kA		
	rated breaker		PECO (100%)
	Replace Waneeta 138 kV		
b2132	breaker '875' with 63 kA		
	rated breaker		PECO (100%)
	Replace Waneeta 138 kV		
b2133	breaker '895' with 63 kA		
	rated breaker		PECO (100%)
1	Plymouth Meeting 230 kV		
b2134	breaker '115' with 63 kA		
	rated breaker		PECO (100%)
b2222	Install a second Eddystone		
	230/138 kV transformer		PECO (100%)
	Replace the Eddystone 138		
b2222.1	kV #205 breaker with 63		
	kA breaker		PECO (100%)
	Increase Rating of		
b2222.2	Eddystone #415 138 kV		
	Breaker		PECO (100%)
b2236	50 MVAR reactor at		
02230	Buckingham 230 kV		PECO (100%)
	Replace Whitpain 230 kV		
b2527	breaker '155' with 80 kA		
	breaker		PECO (100%)
	Replace Whitpain 230 kV		
b2528	breaker '525' with 80 kA		
	breaker		PECO (100%)
	Replace Whitpain 230 kV		
b2529	breaker '175' with 80 kA		
	breaker		PECO (100%)
	Replace terminal		
	equipment inside		
b2549	Chichester substation on		
	the 220-36 (Chichester –		
	Eddystone) 230 kV line		PECO (100%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Replace terminal		
	equipment inside		
1.2550	Nottingham substation on		
b2550	the 220-05 (Nottingham –		
	Daleville- Bradford) 230		
	kV line		PECO (100%)
	Replace terminal		``````````````````````````````````````
	equipment inside		
b2551	Llanerch substation on the		
	130-45 (Eddystone to		
	Llanerch) 138 kV line		PECO (100%)
	Replace the Peach Bottom		``````````````````````````````````````
b2572	500 kV '#225' breaker		
	with a 63 kA breaker		PECO (100%)
			AEC (3.97%)/ AEP (5.77%)/
			APS (4.27%)/ ATSI (6.15%)/
			BGE (1.63%)/ ComEd
			(0.72%) Dayton $(1.06%)$
	Increase ratings of Peach		DEOK (1.97%)/ DL (2.25%)/
	Bottom 500/230 kV		Dominion (0.35%)/ DPL
b2694	transformer to 1479 MVA		(14.29%)/ ECP** (0.69%)/
	normal/1839 MVA		EKPC (0.39%)/ HTP***
	emergency		(0.96%)/ JCPL (6.84%) MetEd
	emergeney		(3.28%)/ NEPTUNE* (2.14%)/
			PECO (16.42%)/ PENELEC
			(3.94%)/ PPL (8.32%)/ PSEG
			(14.13%)/ RE (0.44%)
			AEP (6.46%) / APS (8.74%) /
			BGE (19.74%) / ComEd
	Tie in new Furnace Run		(2.16%) / Dayton (0.59%) /
b2752.2	substation to Peach		DEOK (1.02%) / DL (0.01%) /
	Bottom – TMI 500 kV		Dominion (39.95%) / EKPC
			(0.45%) / PEPCO (20.88%)
	Upgrade terminal		AEP (6.46%) / APS (8.74%) /
	equipment and required		BGE (19.74%) / ComEd
b2752.3	relay communication at		(2.16%) / Dayton $(0.59%)$ /
	Peach Bottom 500 kV: on		DEOK (1.02%) / DL (0.01%) /
	the Beach Bottom – TMI		Deok (1.02%) / DL (0.01%) / Dominion (39.95%) / EKPC
	500 kV circuit		(0.45%) / PEPCO (20.88%)
kNI antran a Da			(0.4370) / FEFCO (20.8876)

*Neptune Regional Transmission System, LLC ** East Coast Power, L.L.C. ***Hudson Transmission Partners, LLC

Required Tr	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
			Load-Ratio Share
			Allocation:
			AEC (1.65%) / AEP
			(14.29%) / APS (5.82%) /
			ATSI (7.49%) / BGE
			(4.01%) / ComEd (14.06%) /
			Dayton (2.03%) / DEOK
			(3.21%) / DL (1.59%) / DPL
	Upgrade substation equipment at Peach Bottom 500 kV to increase facility rating to 2826 MVA normal and 3525 MVA emergency		(2.55%) / Dominion
			(13.89%) / EKPC (2.35%) /
b2766.2			JCPL (3.59%) / ME (1.81%)
			/ NEPTUNE* (0.42%) /
			OVEC (0.06%) / PECO
			(5.11%) / PENELEC
			(1.73%) / PEPCO (3.68%) /
			PPL (4.43%) / PSEG
			(5.99%) / RE (0.24%)
			DFAX Allocation:
			AEC (11.03%)BGE
			(37.40%) / DPL (22.91%) /
			PEPCO (28.66%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Reconductor the Emilie -		
b2774	Falls 138 kV line, and		
02774	replace station cable and		
	relay		PECO (100%)
b2775	Reconductor the Falls -		
02773	U.S. Steel 138 kV line		PECO (100%)
	Replace the Waneeta		
b2850	230 kV "285" with 63 kA		
	breaker		PECO (100%)
	Replace the Chichester		
b2852	230 kV "195" with 63 kA		
	breaker		PECO (100%)
	Replace the North		
b2854	Philadelphia 230 kV "CS		
	775" with 63 kA breaker		PECO (100%)
	Replace the North		
b2855	Philadelphia 230 kV "CS		
	885" with 63 kA breaker		PECO (100%)
	Replace the Parrish		
b2856	230 kV "CS 715" with 63		
	kA breaker		PECO (100%)
	Replace the Parrish		
b2857	230 kV "CS 825" with 63		
	kA breaker		PECO (100%)
	Replace the Parrish 230		
b2858	kV "CS 935" with 63 kA		
	breaker		PECO (100%)
	Replace the Plymouth		
b2859	Meeting 230 kV "215"		
	with 63 kA breaker		PECO (100%)
	Replace the Plymouth		
b2860	Meeting 230 kV "235"		
	with 63 kA breaker		PECO (100%)
	Replace the Plymouth		
b2861	Meeting 230 kV "325"		
	with 63 kA breaker		PECO (100%)
	Replace the Grays Ferry		
b2862	230 kV "705" with 63 kA		
	breaker		PECO (100%)

equired Tr	ansmission Enhancements Annual Revenue Requ	uirement Responsible Customer(s)
	Replace the Grays Ferry 230	
b2863	kV "985" with 63 kA	
	breaker	PECO (100%)
	Replace the Grays Ferry 230	
b2864	kV "775" with 63 kA	
	breaker	PECO (100%)
	Replace the China Tap 230	
b2923	kV 'CS 15' breaker with a	
	63 kA breaker	PECO (100%)
	Replace the Emilie 230 kV	
b2924	'CS 15' breaker with 63 kA	
	breaker	PECO (100%)
	Replace the Emilie 230 kV	
b2925	'CS 25' breaker with 63 kA	
	breaker	PECO (100%)
	Replace the Chichester 230	
b2926	kV '215' breaker with 63	
	kA breaker	PECO (100%)
	Replace the Plymouth	
b2927	Meeting 230 kV '125'	
	breaker with 63 kA breaker	PECO (100%)
	Replace the 230 kV CB	
	#225 at Linwood Substation	
b2985	(PECO) with a double	
02705	circuit breaker (back to back	
	circuit breakers in one	
	device)	PECO (100%)
	Peach Bottom – Furnace	
b3041	Run 500 kV terminal	
	equipment	PECO (100%)
	Replace the Whitpain 230	
b3120	kV breaker "125" with a 63	
	kA breaker	PECO (100%)
	Move 2 MVA load from the	
	Roxborough to Bala	
b3138	substation. Adjust the tap	
	setting on the Master 138/69	
	kV transformer #2	PECO (100%)
	Upgrade the Richmond 69	
b3146	kV breaker "140" with 40	
	kA breaker	PECO (100%)

equired Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Replace station conductor		
	and metering inside		
	Whitpain and Plymouth		
b3697	230 kV substations to		
	increase the ratings of the		
	Whitpain – Plymouth 230		
	kV line		PECO (100%)
			Load-Ratio Share
			Allocation:
			AEC (1.65%) / AEP (14.29%
			/ APS (5.82%) / ATSI (7.49%
			/ BGE (4.01%) / ComEd
			(14.06%) / Dayton (2.03%)
	Replace 4 meters and bus work inside Peach Bottom substation on the 500 kV		DEOK (3.21%) / DL (1.59%)
			DPL (2.55%) / Dominion
			(13.89%) / EKPC (2.35%) /
			JCPL (3.59%) / ME (1.81%)
			NEPTUNE* (0.42%) / OVE
b3728.2			(0.06%) / PECO (5.11%) /
03728.2	Line 5012 (Conastone –		PENELEC (1.73%) / PEPCO
	Peach Bottom)		(3.68%) / PPL (4.43%) / PSE
			(5.99%) / RE (0.24%)
			DFAX Allocation:
			APS (3.94%) / ATSI (0.03%)
			BGE (20.78%) / DL (0.01%)
			DPL (0.02%) / Dominion
			(31.75%) / JCPL (6.99%) /
			NEPTUNE* (0.80%) / PECO
			(0.98%) / PEPCO (17.52%)
			PPL (2.69%) / PSEG (13.93%
			/ RE (0.56%)

Required Tra	nsmission Enhancements Annu	al Revenue Requirement Responsible Customer(s)
		Load-Ratio Share Allocation:
		AEC (1.65%) / AEP (14.29%) / APS
		(5.82%) / ATSÍ (7.49%) / BGE (4.01%) /
		ComEd (14.06%) / Dayton (2.03%) /
		DEOK (3.21%) / DL (1.59%) / DPL
		(2.55%) / Dominion (13.89%) / EKPC
		(2.35%) / JCPL (3.59%) / ME (1.81%) /
	Peach Bottom North upgrades	NEPTUNE* (0.42%) / OVEC (0.06%) /
b3780.1	– 500 kV substation work.	PECO (5.11%) / PENELEC (1.73%) /
	Add 3x 500 kV breakers to	PEPCO (3.68%) / PPL (4.43%) / PSÉG
	form a breaker-and-a-half bay	(5.99%) / RE (0.24%)
		DFAX Allocation:
		ATSI (0.02%) / BGE (28.40%) /
		Dominion (33.36%) / DPL (0.02%) /
		JCPL (6.36%) / NEPTUNE* (0.73%) /
		PECO (0.01%) / PEPCO (17.90%) /
		PSEG (12.69%) / RE (0.51%)
		Load-Ratio Share Allocation:
		AEC (1.65%) / AEP (14.29%) / APS
		(5.82%) / ATSI (7.49%) / BGE (4.01%) /
		ComEd (14.06%) / Dayton (2.03%) /
		DEOK (3.21%) / DL (1.59%) / DPL
		(2.55%) / Dominion (13.89%) / EKPC
	Peach Bottom to Graceton	(2.35%) / JCPL (3.59%) / ME (1.81%) /
	(PECO) new 500 kV	NEPTUNE* (0.42%) / OVEC (0.06%) /
b3780.2	transmission line. New rating:	PECO (5.11%) / PENELEC (1.73%) /
	4503 MVA SN/5022 MVA	PEPCO (3.68%) / PPL (4.43%) / PSEG
	SE	(5.99%) / RE (0.24%)
		DFAX Allocation:
		ATSI (0.02%) / BGE (28.40%) /
		Dominion (33.36%) / DPL (0.02%) /
		JCPL (6.36%) / NEPTUNE* (0.73%) /
		PECO (0.01%) / PEPCO (17.90%) /
		PSEG (12.69%) / RE (0.51%)
	West Cooper substation work	
	includes 3 breaker ring,	
	500/230 kV transformer,	
b3780.3	control house, substation	
03/00.3	build, and reconfigure Cooper	
	distribution station feed. New	
	transformer rating: 1559	
	MVA SN/ 1940 MVA SE	DPL (41.52%) / PECO (58.48%)

Required Tra	nsmission Enhancements	Annual Revenue Require	ement Responsible Customer(s)
63800.5	Replace terminal equipment at Peach Bottom on Peach Bottom - TMI 500 kV line		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: AEC (6.40%) / BGE (20.32%) / DPL (9.76%) / JCPL (17.57%) / NEPTUNE* (1.73%) / PECO (6.33%) / PEPCO (7.48%) / PSEG (29.15%) / RE (1.26%)
b3800.31	Build new North Delta – High Ridge 500 kV line		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: Dominion (60.85%) / DPL (0.01%) / PECO (0.01%) / PEPCO (29.24%) / PSEG (9.48%) / RE (0.41%)

Required Tra	uired Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)			
b3800.35	Rebuild 5012 (existing Peach Bottom - Conastone) (new North Delta - Graceton PECO) 500 kV line on single circuit structures within existing ROW and cut into North Delta 500 kV and Graceton 500 kV stations	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: BGE (49.42%) / Dominion (31.22%) / DPL (0.01%) / JCPL (0.01%) / PECO (3.75%) / PEPCO (15.57%) / PSEG		
b3800.42	Peach Bottom North 500 kV bus upgrade - Replace 11 instances of strain bus conductor used for breaker drops or CT drops, seven 500 kV disconnect switches, seven Free Standing CTs, one 500 kV breaker, two breaker relays or meters	(0.02%) Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: BGE (62.82%) / DPL (7.25%) / JCPL (0.09%) / NEPTUNE* (0.01%) / PECO (0.01%) / PEPCO (29.63%) / PSEG (0.18%) / RE (0.01%)		

Required Tra	nsmission Enhancements An	nual Revenue Requirement Responsible Customer(s)
		Load-Ratio Share Allocation:
		AEC (1.65%) / AEP (13.68%) / APS
		(5.76%) / ATSI (8.04%) / BGE
		(4.11%) / ComEd (13.39%) / Dayton
		(2.12%) / DEOK (3.25%) / DL
		(1.71%) / Dominion (13.32%) / DPL
	North Delta termination	(2.60%) / EKPC $(1.89%)$ / JCPL (2.869%) / ME $(1.009%)$ / NEPTLINE*
b3800.44	for the North Delta -	(3.86%) / ME (1.90%) / NEPTUNE*
03800.44	High Ridge 500 kV line	(0.42%) / OVEC (0.08%) / PECO
	(PECO work)	(5.40%) / PENELEC (1.78%) / PENELEC (2.67%) / PENELEC (1.78%) / PENELEC (2.67%) / PENELEC (2.6%%) /
		PEPCO (3.67%) / PPL (4.72%) / PSEC (6.20%) / PE (0.26%)
		PSEG (6.39%) / RE (0.26%)
		DFAX Allocation:
		Dominion (60.85%) / DPL (0.01%) /
		PECO (0.01%) / PEPCO (29.24%) /
		PSEG (9.48%) / RE (0.41%)
		Load-Ratio Share Allocation:
		AEC (1.65%) / AEP (13.68%) / APS
		(5.76%) / ATSI (8.04%) / BGE
		(4.11%) / ComEd (13.39%) / Dayton
		(2.12%) / DEOK (3.25%) / DL
		(1.71%) / Dominion (13.32%) / DPL
		(2.60%) / EKPC (1.89%) / JCPL
	North Delta 500 kV	(3.86%) / ME (1.90%) / NEPTUNE*
	termination for the Rock	(0.42%) / OVEC (0.08%) / PECO
b3800.45	Springs 500 kV line	(5.40%) / PENELEC (1.78%) /
	(5034/5014 line) (PECO	PEPCO (3.67%) / PPL (4.72%) /
	work)	PSEG (6.39%) / RE (0.26%)
		DFAX Allocation:
		AEC (17.65%) / BGE (4.43%) /
		Dominion (9.87%) / DPL (22.25%) /
		JCPL (3.16%) / NÉPTUNE* (0.36%) /
		PECO (2.98%) / PENELEC (0.44%) /
		PEPCO (3.80%) / PPL (5.99%) /
		PSEG (27.86%) / RE (1.21%)

Required Tran	nsmission Enhancements An	nual Revenue Requirement Responsible Customer(s)
b3800.46	North Delta 500 kV termination for the new Peach Bottom - North Delta 500 kV line (PECO work)	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: AEC (11.03%) / BGE (37.40%) / DPL (22.91%) / PEPCO (28.66%)
b3800.47	Build new Peach Bottom South - North Delta 500 kV line – cut in to Peach Bottom tie No.1 and extending line to North Delta (Approximately 1.25 miles new ROW)	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: AEC (11.03%) / BGE (37.40%) / DPL (22.91%) / PEPCO (28.66%)

PJM Open Access Transmission Tariff Schedule 12-Appendix A Section 9 – PPL Electric Utilities Effective April 9, 2024 Version 28.0.1

SCHEDULE 12 – APPENDIX A

(9) **PPL Electric Utilities Corporation**

Required Tran	nsmission Enhancements	Annual Revenue Requirement	t Responsible Customer(s)
b1813.12	Replace the Blooming Grove 230 kV breaker 'Peckville'		PPL (100%)
b2223	Rebuild and reconductor 2.6 miles of the Sunbury - Dauphin 69 kV circuit		PPL (100%)
b2224	Add a 2nd 150 MVA 230/69 kV transformer at Springfield		PPL (100%)
b2237	150 MVAR shunt reactor at Alburtis 500 kV	E	Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC 1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: PPL (100%)
b2238	100 MVAR shunt reactor at Elimsport 230 kV		PPL (100%)

Required T	ransmission Enhancements	Annual Revenue Requirem	nent Responsible Customer(s)
	Rebuild approximately 23.7 miles of the		
	Susquehanna - Jenkins		
	230 kV circuit. This		
b2269	replaces a temporary SPS		
	that is already planned to		
	mitigate the violation		
	until this solution is		
	implemented		PPL (100%)
b2282	Rebuild the Siegfried- Frackville 230 kV line		PPL (100%)
	Rebuild Stanton-		/
b2406.1	Providence 69 kV 2&3		
0210011	9.5 miles with 795 SCSR		PPL (100%)
	Reconductor 7 miles of		
b2406.2	the Lackawanna -		
	Providence 69 kV #1 and		
	#2 with 795 ACSR		PPL (100%)
	Rebuild SUB2 Tap 1		
b2406.3	(Lackawanna - Scranton		
	1) 69 kV 1.5 miles 556 ACSR		PPL (100%)
	Rebuild SUB2 Tap 2		FFL (10076)
	(Lackawanna - Scranton		
b2406.4	1) 69 kV 1.6 miles 556		
	ACSR		PPL (100%)
	Create Providence -		
1.0.10.5 -	Scranton 69 kV #1 and		
b2406.5	#2, 3.5 miles with 795		
	ACSR		PPL (100%)
	Debuild Drowider of 60		
b2406.6	Rebuild Providence 69 kV switchyard		
	k v switchyard		PPL (100%)
	Install 2 - 10.8 MVAR		· · ·
b2406.7	capacitors at EYNO 69		
	kV		PPL (100%)
b2406.8	Rebuild Stanton 230 kV		
02-100.0	yard		PPL (100%)
			1112 (10070)

lequireu i		Annual Revenue Requirem	icht Kesponsiole Customer(s)
b2446	Replace wave trap and protective relays at Montour		PPL (100%)
b2447	Replace wave trap and protective relays at Montour		PPL (100%)
b2448	Install a 2nd Sunbury 900 MVA 500-230 kV transformer and associated equipment		PPL (100%)
b2552.2	Reconductor the North Meshoppen - Oxbow – Lackawanna 230 kV circuit and upgrade terminal equipment (PPL portion)		PENELEC (98.86%) / PPL (1.14%)
b2574	Replace the Sunbury 230 kV 'MONTOUR NORT' breaker with a 63 kA breaker		PPL (100%)
b2690	Reconductor two spans of the Graceton – Safe Harbor 230 kV transmission line. Includes termination point upgrades		PPL (100%)
b2691	Reconductor three spans limiting Brunner Island – Yorkana 230 kV line, add 2 breakers to Brunner Island switchyard, upgrade associated terminal equipment		PPL (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required T	ransmission Enhancements	Annual Revenue Requirement Responsible Customer(s)
b2716	Add a 200 MVAR shunt reactor at Lackawanna 500 kV substation	Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: PPL (100%)
b2754.1	Install 7 miles of optical ground wire (OPGW) between Gilbert and Springfield 230 kV substations	PPL (100%)
b2754.4	Use ~ 40 route miles of existing fibers on PPL 230 kV system to establish direct fiber circuits	PPL (100%)
b2754.5	Upgrade relaying at Martins Creek 230 kV	PPL (100%)
b2756	Install 2% reactors at Martins Creek 230 kV	PPL (100%)
b2813	Expand existing Lycoming 69 kV yard to double bus double breaker arrangement	PPL (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement Responsible Customer(s)
b2824	Reconfigure/Expand the Lackawanna 500 kV substation by adding a third bay with three breakers	Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: PPL (100%)
b2838	Build a new 230/69 kV substation by tapping the Montour – Susquehanna 230 kV double circuits and Berwick – Hunlock & Berwick – Colombia 69 kV circuits	PPL (100%)
b2979	Replace Martins Creek 230 kV circuit breakers with 80 kA rating	PPL (100%)
b3221	Replace terminal equipment (bus conductor) on the 230 kV side of the Steel City 500/230 kV Transformer #1	PPL (100%)
b3222	Install one (1) 7.2 MVAR fixed cap bank on the Lock Haven – Reno 69 kV line and one (1) 7.2 MVAR fixed cap bank on the Lock Haven – Flemington 69 kV line near the Flemington 69/12 kV substation Regional Transmission Syst	PPL (100%)

Required Transmission Enhancements		Annual Revenue Require	ement Responsible Customer(s)
b3664	Replace the limiting 230 kV T2 transformer leads, bay conductor and bus conductor with double bundle 1590 ACSR at the Juniata station; Replace the limiting 1200 A MODs on the bus tie breaker with 3000 A MODs		PPL (100%)
b3698	Reconductor the 14.2 miles of the existing Juniata –Cumberland 230 kV line with 1272 ACSS/TW HS285 "Pheasant" conductor		AEC (4.17%) / BGE (13.18%) / DEOK (1.22%) / Dominion (3.25%) / DPL (9.14%) / ECP** (0.11%) / EKPC (0.22%) / HTP*** (0.20%) /JCPL (1.15%) / ME (27.02%) / NEPTUNE* (0.64%) / PECO (18.88%) / PEPCO (4.68%) / PSEG (16.14%)
b3715.1	Install a new 300 MVA 230/115 kV transformer at the existing PPL Williams Grove substation		ME (100%)
b3715.2	Construct a new approximately 3.4 miles 115 kV single circuit transmission line from Williams Grove to Allen substation		ME (100%)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)

* Neptune Regional Transmission System, LLC **East Coast Power, L.L.C.

***Hudson Transmission Partners, LLC

Required 1	ransmission Enhancements	Annual Revenue Require	ement Responsible Customer(s)
b3774	Upgrade terminal equipment at Brunner Island station on Brunner Island – Yorkana 230 kV line		PPL (100%)
b3800.1	Build a New Otter Creek 500 kV (Collinsville) switching station with two bay three breaker configuration		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (13.16%) / BGE (0.71%) / Dominion (74.28%) / DPL (0.36%) / PECO (0.68%) / PEPCO (10.59%) / PPL (0.22%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required T	ransmission Enhancements	Annual Revenue Requirem	nent Responsible Customer(s)
Required T b3800.3	New Otter Creek (Collinsville) to Doubs 500 kV Line (Otter Creek 500 kV - MD Border). Rebuild and expand existing approximately 12 miles of Otter Creek - Conastone 230 kV line to become a double-circuit 500 and 230 kV lines		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation:
	become a double-circuit		(6.39%) / RE (0.26%)
			APS (13.16%) / BGE (0.71%) /
			Dominion (74.28%) / DPL
			(0.36%) / PECO (0.68%) / PEPCO (10.59%) / PPL (0.22%)

PJM Open Access Transmission Tariff Schedule 12-Appendix A Section 12 – Public Service Electric & Gas Co. Effective April 9, 2024 Version 32.0.1

SCHEDULE 12 – APPENDIX A

(12) **Public Service Electric and Gas Company**

Required Tra	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2218	Rebuild 4 miles of overhead line from Edisor - Meadow Rd - Metuchen (Q 1317)		PSEG (100%)
b2239	50 MVAR reactor at Saddlebrook 230 kV		PSEG (100%)
b2240	50 MVAR reactor at Athenia 230 kV		PSEG (100%)
b2241	50 MVAR reactor at Bergen 230 kV		PSEG (100%)
b2242	50 MVAR reactor at Hudson 230 kV		PSEG (100%)
b2243	Two 50 MVAR reactors a Stanley Terrace 230 kV	t	PSEG (100%)
b2244	50 MVAR reactor at West Orange 230 kV	t	PSEG (100%)
b2245	50 MVAR reactor at Aldene 230 kV		PSEG (100%)
b2246	150 MVAR reactor at Camden 230 kV		PSEG (100%)
b2247	150 MVAR reactor at Gloucester 230 kV		PSEG (100%)
b2248	50 MVAR reactor at Clarksville 230 kV		PSEG (100%)
b2249	50 MVAR reactor at Hinchmans 230 kV		PSEG (100%)
b2250	50 MVAR reactor at Beaverbrook 230 kV		PSEG (100%)
b2251	50 MVAR reactor at Cox' Corner 230 kV	S	PSEG (100%)

The Annual Revenue Requirement for all Public Service Electric and Gas Company Projects (Required Transmission Enhancements) in this Section 12 shall be as specified in Attachment 7 of Attachment H-10A and under the procedures detailed in Attachment H-10B.

Required Tran	nsmission Enhancements A	nnual Revenue Requirement	t Responsible Customer(s)
b2276	Eliminate the Sewaren 138 kV bus by installing a new 230 kV bay at Sewaren		
	230 kV		PSEG (95.85%) / RE (4.15%)
b2276.1	Convert the two 138 kV circuits from Sewaren – Metuchen to 230 kV circuits including Lafayette and Woodbridge substation		PSEG (95.85%) / RE (4.15%)
b2276.2	Reconfigure the Metuchen 230 kV station to accommodate the two converted circuits		PSEG (95.85%) / RE (4.15%)
b2290	Replace disconnect switches at Kilmer, Lake Nilson and Greenbrook 230 kV substations on the Raritian River - Middlesex (I-1023) circuit		PSEG (100%)
b2291	Replace circuit switcher at Lake Nelson 230 kV substation on the Raritian River - Middlesex (W- 1037) circuit		PSEG (100%)
b2295	Replace the Salem 500 kV breaker 10X with 63 kA breaker		PSEG (100%)
b2421	Install all 69 kV lines to interconnect Plainfield, Greenbrook, and Bridgewater stations and establish the 69 kV network		PSEG (100%)
b2421.1	Install two 18 MVAR capacitors at Plainfield and S. Second St substation		PSEG (100%)

Required Tran	nsmission Enhancements	Annual Revenue Requirement Responsible Customer(s)
b2421.2	Install a second four (4) breaker 69 kV ring bus at Bridgewater Switching Station	PSEG (100%)
b2436.10	Convert the Bergen – Marion 138 kV path to double circuit 345 kV and associated substation upgrades	Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: PSEG (95.85%) / RE (4.15%)
b2436.21	Convert the Marion - Bayonne "L" 138 kV circuit to 345 kV and any associated substation upgrades	Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: PSEG (95.85%) / RE (4.15%)

Required Tran	nsmission Enhancements Annu	al Revenue Requirement Responsibl	le Customer(s)
b2436.22	Convert the Marion - Bayonne "C" 138 kV circuit to 345 kV and any associated substation upgrades	AEC (1.65 APS (5.82 BGE (4.019 / Dayton (3.21%)/ (2.55%)/J EKPC (2.3 ME (1.8 (0.42%) PECO (5 (1.73%)/P (4.43%)/	io Share Allocation: i%) / AEP (14.29%) / i%) / ATSI (7.49%) / i%) / ComEd (14.06%) in (2.03%) / DEOK / DL (1.59%) / DPL Dominion (13.89%) / 5%) / JCPL (3.59%) / 5%) / JCPL (3.59%) / 5%) / NEPTUNE* / OVEC (0.06%) / 5.11%) / PENELEC PEPCO (3.68%) / PPL PSEG (5.99%) / RE (0.24%) X Allocation: 5.85%) / RE (4.15%)
b2436.33	Construct a new Bayway – Bayonne 345 kV circuit and any associated substation upgrades		5.85%) / RE (4.15%)
b2436.34	Construct a new North Ave – Bayonne 345 kV circuit and any associated substation upgrades		5.85%) / RE (4.15%)

Required Tran	nsmission Enhancements	Annual Revenue Requiremen	t Responsible Customer(s)
b2436.50	Construct a new North Ave - Airport 345 kV circuit and any associated substation upgrades		PSEG (95.85%) / RE (4.15%)
b2436.60	Relocate the underground portion of North Ave - Linden "T" 138 kV circuit to Bayway, convert it to 345 kV, and any associated substation upgrades		PSEG (95.85%) / RE (4.15%)
b2436.70	Construct a new Airport - Bayway 345 kV circuit and any associated substation upgrades		PSEG (95.85%) / RE (4.15%)
b2436.81	Relocate the overhead portion of Linden - North Ave "T" 138 kV circuit to Bayway, convert it to 345 kV, and any associated substation upgrades		Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: PSEG (95.85%) / RE (4.15%)

Required Trar	nsmission Enhancements A	nnual Revenue Requirement Responsible Customer(s)
		Load-Ratio Share Allocation:
		AEC (1.65%) / AEP (14.29%) /
		APS (5.82%) / ATSI (7.49%) /
		BGE (4.01%) / ComEd (14.06%)
		/ Dayton (2.03%) / DEOK
	Constant the Deservor	(3.21%) / DL (1.59%) / DPL
	Convert the Bayway - Linden "Z" 138 kV circuit	(2.55%) / Dominion (13.89%) /
b2436.83	to 345 kV and any	EKPC (2.35%) / JCPL (3.59%) /
02430.85	associated substation	ME (1.81%) / NEPTUNE*
	upgrades	(0.42%) / OVEC $(0.06%)$ /
	upgrades	PECO (5.11%) / PENELEC
		(1.73%) / PEPCO (3.68%) / PPL
		(4.43%) / PSEG (5.99%) / RE
		(0.24%)
		DFAX Allocation:
		PSEG (95.85%) / RE (4.15%)
	Convert the Bayway – Linden "W" 138 kV	Load-Ratio Share Allocation:
		AEC (1.65%) / AEP (14.29%) /
		APS (5.82%) / ATSI (7.49%) /
		BGE (4.01%) / ComEd (14.06%)
		/ Dayton (2.03%) / DEOK
		(3.21%) / DL (1.59%) / DPL
		(2.55%) / Dominion (13.89%) /
b2436.84		EKPC (2.35%) / JCPL (3.59%) /
02430.84	circuit to 345 kV and any associated substation	ME (1.81%) / NEPTUNE*
		(0.42%) / OVEC (0.06%) /
	upgrades	PECO (5.11%) / PENELEC
		(1.73%) / PEPCO (3.68%) / PPL
		(4.43%) / PSEG (5.99%) / RE
		(0.24%)
		DFAX Allocation:
		PSEG (95.85%) / RE (4.15%)

Required Tran	nsmission Enhancements A	nnual Revenue Requireme	nt Responsible Customer(s)
b2436.85	Convert the Bayway – Linden "M" 138 kV circuit to 345 kV and any associated substation upgrades		Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: DEEC (05 \$5%) / DE (4.15%)
b2436.90	Relocate Farragut - Hudson "B" and "C" 345 kV circuits to Marion 345 kV and any associated substation upgrades		PSEG (95.85%) / RE (4.15%) Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: PSEG (100%)
b2436.91	Relocate the Hudson 2 generation to inject into the 345 kV at Marion and any associated upgrades		PSEG (100%)

Required That	ISTRISSION ENHAncements Annu	lai Kevenue Kequiremeni	Responsible Customer(s)
	New Bergen 345/230 kV		
b2437.10	transformer and any		
02437.10	associated substation		
	upgrades		PSEG (95.85%) / RE (4.15%)
	New Bergen 345/138 kV		
b2437.11	transformer #1 and any		
02437.11	associated substation		
	upgrades		PSEG (95.85%) / RE (4.15%)
	New Bayway 345/138 kV		
b2437.20	transformer #1 and any		
02437.20	associated substation		
	upgrades		PSEG (95.85%) / RE (4.15%)
	New Bayway 345/138 kV		
b2437.21	transformer #2 and any		
02437.21	associated substation		
	upgrades		PSEG (95.85%) / RE (4.15%)
	New Linden 345/230 kV		
b2437.30	transformer and any		
02437.30	associated substation		
	upgrades		PSEG (95.85%) / RE (4.15%)
	New Bayonne 345/69 kV		
b2437.33	transformer and any		
02437.33	associated substation		
	upgrades		PSEG (95.85%) / RE (4.15%)
b2438	Install two reactors at		
02438	Tosco 230 kV		PSEG (100%)
	Replace the Tosco 138 kV		
b2439	breaker 'CB1/2 (CBT)'		
	with 63 kA		PSEG (100%)
b2474	Rebuild Athenia 138 kV to		
024/4	80 kA		PSEG (100%)
	Install a 100 MVAR 230		
b2589	kV shunt reactor at Mercer		
	station		PSEG (100%)
	Install two 75 MVAR 230		
b2590	kV capacitors at Sewaren		
	station		PSEG (100%)
L			1220 (10070)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tran	nsmission Enhancements Annu	al Revenue Requirement Responsible Customer(s)
		Load-Ratio Share Allocation:
		AEC (1.65%) / AEP (14.29%) /
		APS (5.82%) / ATSI (7.49%) /
		BGE (4.01%) / ComEd (14.06%)
		Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: AEC (1.65%) / AEP (14.29%) / JCPL (0.01%) Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC
		(3.21%) / DL (1.59%) / DPL
		(2.55%) / Dominion (13.89%) /
	Install an SVC at New	EKPC (2.35%) / JCPL (3.59%) /
b2633.3	Freedom 500 kV	ME (1.81%) / NEPTUNE*
	substation	(0.42%) / OVEC (0.06%) /
		PECO (5.11%) / PENELEC
		(1.73%) / PEPCO (3.68%) / PPL
		(4.43%) / PSEG (5.99%) / RE
		(0.24%)
		DFAX Allocation:
		AEC (0.01%) / DPL (99.98%) /
	Add a new 500 kV bay at	
b2633.4	Hope Creek (Expansion of	
	Hope Creek substation)	 (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: AEC (0.01%) / DPL (99.98%) / JCPL (0.01%) Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: AEC (8.01%) / BGE (1.94%) /
		DPL (12.99%) / JCPL (13.85%)
		/ ME (5.88%) / NEPTUNE*
		(3.45%) / PECO (17.62%) / PPL
		(14.85%) / PSEG (20.79%) / RE
		(0.62%)

Required Tra	nsmission Enhancements Ann	ual Revenue Requirement Responsible Customer(s)
b2633.5	Add a new 500/230 kV autotransformer at Hope Creek and a new Hope Creek 230 kV substation	AEC (8.01%) / BGE (1.94%) / DPL (12.99%) / JCPL (13.85%) / ME (5.88%) / NEPTUNE* (3.45%) / PECO (17.62%) / PPL (14.85%) / PSEG (20.79%) / RE (0.62%)
b2633.8	Implement high speed relaying utilizing OPGW on Salem – Orchard 500 kV, Hope Creek – New Freedom 500 kV, New Freedom - Salem 500 kV, Hope Creek – Salem 500 kV, and New Freedom – Orchard 500 kV lines	Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)

Required Tra	nsmission Enhancements Annua	al Revenue Requirement	Responsible Customer(s)
b2633.91	Implement changes to the tap settings for the two Salem units' step up transformers		AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)
b2633.92	Implement changes to the tap settings for the Hope Creek unit's step up transformers		AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)
Ь2702	Install a 350 MVAR reactor at Roseland 500 kV		Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: PSEG (100%)
b2703	Install a 100 MVAR reactor at Bergen 230 kV		PSEG (100%)
b2704	Install a 150 MVAR reactor at Essex 230 kV		PSEG (100%)
b2705	Install a 200 MVAR reactor (variable) at Bergen 345 kV		PSEG (100%)
b2706	Install a 200 MVAR reactor (variable) at Bayway 345 kV		PSEG (100%)
b2707	Install a 100 MVAR reactor at Bayonne 345 kV		PSEG (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Trai	nsmission Enhancements Annua	il Revenue Requirement	Responsible Customer(s)
b2712	Replace the Bergen 138 kV '40P'breaker with 80 kA		
	breaker		PSEG (100%)
b2713	Replace the Bergen 138 kV '90P' breaker with 80 kA breaker		PSEG (100%)
b2722	Reconductor the 1 mile Bergen – Bergen GT 138 kV circuit (B-1302)		PSEG (100%)
b2755	Build a third 345 kV source into Newark Airport		PSEG (95.85%) / RE (4.15%)
b2810.1	Install second 230/69 kV transformer at Cedar Grove		PSEG (95.85%) / RE (4.15%)
b2810.2	Build a new 69 kV circuit from Cedar Grove to Great Notch		PSEG (95.85%) / RE (4.15%)
b2811	Build 69 kV circuit from Locust Street to Delair		PSEG (95.85%) / RE (4.15%)
b2812	Construct River Road to Tonnelle Avenue 69kV Circuit		PSEG (95.85%) / RE (4.15%)
b2825.1	Install 2X50 MVAR shunt reactors at Kearny 230 kV substation		PSEG (100%)
b2825.2	Increase the size of the Hudson 230 kV, 2X50 MVAR shunt reactors to 2X100 MVAR		PSEG (100%)
b2825.3	Install 2X100 MVAR shunt reactors at Bayway 345 kV substation		PSEG (100%)
b2825.4	Install 2X100 MVAR shunt reactors at Linden 345 kV substation		PSEG (100%)
b2835	Convert the R-1318 and Q1317 (Edison – Metuchen) 138 kV circuits to one 230 kV circuit		See sub-IDs for cost allocations

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tra	nsmission Enhancements Annua	al Revenue Requirement	Responsible Customer(s)
	Conver the R-1318 and Q-		
	1317 (Edison – Metuchen)		
b2835.1	138 kV circuits to one 230		AEC (14.94%) / PECO
	kV circuit (Brunswick –		(44.49%) / PSEG (38.89%) /
	Meadow Road)		RE (1.68%)
	Convert the R-1318 and Q-		X X
	1317 (Edison - Metuchen)		
b2835.2	138 kV circuits to one 230		AEC (13.15%) / PECO
	kV circuit (Meadow Road -		(39.12%) / PSEG (45.75%) /
	Pierson Ave)		RE (1.98%)
	Convert the R-1318 and Q-		
	1317 (Edison - Metuchen)		
b2835.3	138 kV circuits to one 230		AEC (11.57%) / PECO
	kV circuit (Pierson Ave -		(34.41%) / PSEG (51.78%) /
	Metuchen)		RE (2.24%)
	Convert the N-1340 and T-		
10000	1372/D-1330 (Brunswick –		
b2836	Trenton) 138 kV circuits to		
	230 kV circuits		See sub-IDs for cost allocations
	Convert the N-1340 and T-		
	1372/D-1330 (Brunswick -		
b2836.1	Trenton) 138 kV circuits to		AEC (8.23%) / NEPTUNE*
	230 kV circuits (Brunswick		(43.36%) / PECO (30.19%) /
	- Hunterglen)		PSEG (17.46%) / RE (0.76%)
	Convert the N-1340 and T-		
	1372/D-1330 (Brunswick -		
b2836.2	Trenton) 138 kV circuits to		AEC (2.14%) / NEPTUNE*
	230 kV circuits (Hunterglen		(11.80%) / PECO (7.72%) /
	- Trenton)		PSEG (75.09%) / RE (3.25%)
	Convert the N-1340 and T-		
	1372/D-1330 (Brunswick -		
b2836.3	Trenton) 138 kV circuits to		AEC (6.98%) / NEPTUNE*
	230 kV circuits (Brunswick		(64.26%) / PECO (25.38%) /
	- Devils Brook)		PSEG (3.24%) / RE (0.14%)
	Convert the N-1340 and T-		
	1372/D-1330 (Brunswick -		
b2836.4	Trenton) 138 kV circuits to		AEC (5.13%) / NEPTUNE*
	230 kV circuits (Devils		(28.43%) / PECO (18.69%) /
	Brook - Trenton)		PSEG (45.77%) / RE (1.98%)
¥ NI 4 D	agional Transmission System		

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Ita		a Revenue Requirement	Responsible Customen(s)
	Convert the F-1358/Z1326		
	and K1363/Y-1325		
b2837	(Trenton – Burlington) 138		
l I	kV circuits to 230 kV		
	circuits		See sub-IDs for cost allocations
	Convert the F-1358/Z-1326		
	and K-1363/Y-1325		
b2837.1	(Trenton - Burlington) 138		
02037.1	kV circuits to 230 kV		
	circuits (Trenton - Yardville		NEPTUNE* (10.75%) / PSEG
	K)		(85.55%) / RE (3.70%)
	Convert the F-1358/Z-1326		
	and K-1363/Y-1325		
b2837.2	(Trenton - Burlington) 138		
02857.2	kV circuits to 230 kV		
	circuits (Yardville - Ward		NEPTUNE* (8.84%) / PSEG
	Ave K)		(87.38%) / RE (3.78%)
	Convert the N-1340 and T-		
	1372/D-1330 (Brunswick -		
b2837.3	Trenton) 138 kV circuits to		
	230 kV circuits (Brunswick		NEPTUNE* (8.24%) / PSEG
	- Devils Brook)		(87.95%) / RE (3.81%)
	Convert the F-1358/Z-1326		
	and K-1363/Y-1325		
b2837.4	(Trenton - Burlington) 138		
02037.4	kV circuits to 230 kV		
	circuits (Crosswicks -		NEPTUNE* (6.96%) / PSEG
	Bustleton Y)		(89.18%) / RE (3.86%)
	Convert the F-1358/Z-1326		
	and K-1363/Y-1325		
b2837.5	(Trenton - Burlington) 138		
02037.3	kV circuits to 230 kV		
	circuits (Bustleton -		NEPTUNE* (5.95%) / PSEG
	Burlington Y)		(90.15%) / RE (3.90%)
	Convert the F-1358/Z-1326		
	and K-1363/Y-1325		
b2837.6	(Trenton - Burlington) 138		
02037.0	kV circuits to 230 kV		
	circuits (Trenton - Yardville		NEPTUNE* (12.83%) / PSEG
	F)		(83.55%) / RE (3.62%)
* Nontuna I	Regional Transmission System		

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Ira	nsmission Enhancements Annua	al Revenue Requirement	Responsible Customer(s)
	Convert the F-1358/Z-1326		
	and K-1363/Y-1325		
b2837.7	(Trenton - Burlington) 138		
02837.7	kV circuits to 230 kV		
	circuits (Yardville - Ward		NEPTUNE* (9.98%) / PSEG
	Ave F)		(86.29%) / RE (3.73%)
	Convert the F-1358/Z-1326		
	and K-1363/Y-1325		
1.2027.0	(Trenton - Burlington) 138		
b2837.8	kV circuits to 230 kV		
	circuits (Ward Ave -		NEPTUNE* (9.98%) / PSEG
	Crosswicks Z)		(86.29%) / RE (3.73%)
	Convert the F-1358/Z-1326		
	and K-1363/Y-1325		
1.2027.0	(Trenton - Burlington) 138		
b2837.9	kV circuits to 230 kV		
	circuits (Crosswicks -		NEPTUNE* (8.01%) / PSEG
	Williams Z)		(88.18%) / RE (3.81%)
	Convert the F-1358/Z-1326		
	and K-1363/Y-1325		
b2837.10	(Trenton - Burlington) 138		
02857.10	kV circuits to 230 kV		
	circuits (Williams -		NEPTUNE* (7.16%) / PSEG
	Bustleton Z)		(88.99%) / RE (3.85%)
	Convert the F-1358/Z-1326		
	and K-1363/Y-1325		
b2837.11	(Trenton - Burlington) 138		
02037.11	kV circuits to 230 kV		
	circuits (Bustleton -		NEPTUNE* (5.54%) / PSEG
	Burlington Z)		(90.54%) / RE (3.92%)
	Build new 138/26 kV		
	Newark GIS station in a		
	building (layout #1A)		
b2870	located adjacent to the		
	existing Newark Switch and		
	demolish the existing		
	Newark Switch		PSEG (100%)
	Third Source for		
b2933	Springfield Rd. and Stanley		
	Terrace Stations		PSEG (95.85%) / RE (4.15%)
* Nentune R	Regional Transmission System.	UC	

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Trai	nsmission Enhancements Annua	al Revenue Requirement	Responsible Customer(s)
b2933.1	Construct a 230/69 kV station at Springfield		PSEG (95.85%) / RE (4.15%)
b2933.2	Construct a 230/69 kV station at Stanley Terrace		PSEG (95.85%) / RE (4.15%)
b2933.31	Construct a 69 kV network between Front Street, Springfield and Stanley Terrace (Front Street - Springfield)		PSEG (95.85%) / RE (4.15%)
b2933.32	Construct a 69 kV network between Front Street, Springfield and Stanley Terrace (Springfield – Stanley Terrace)		PSEG (95.85%) / RE (4.15%)
b2934	Build a new 69 kV line between Hasbrouck Heights and Carlstadt		PSEG (95.85%) / RE (4.15%)
b2935	Third Supply for Runnemede 69 kV and Woodbury 69 kV		PSEG (95.85%) / RE (4.15%)
b2935.1	Build a new 230/69 kV switching substation at Hilltop utilizing the PSE&G property and the K-2237 230 kV line		PSEG (95.85%) / RE (4.15%)
b2935.2	Build a new line between Hilltop and Woodbury 69 kV providing the 3rd supply		PSEG (95.85%) / RE (4.15%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tra	nsmission Enhancements Annual Revenue Required	ment Responsible Customer(s)
b2935.3	Convert Runnemede's straight bus to a ring bus and construct a 69 kV line from Hilltop to Runnemede 69 kV	PSEG (95.85%) / RE (4.15%)
b2955	Wreck and rebuild the VFT – Warinanco – Aldene 230 kV circuit with paired conductor	PSEG (95.85%) / RE (4.15%)
b2956	Replace existing cable on Cedar Grove - Jackson Rd. with 5000 kcmil XLPE cable	PSEG (95.85%) / RE (4.15%)
b2982	Construct a 230/69 kV station at Hillsdale Substation and tie to Paramus and Dumont at 69 kV	PSEG (95.85%) / RE (4.15%)
b2982.1	Install a 69 kV ring bus and one (1) 230/69 kV transformer at Hillsdale	PSEG (95.85%) / RE (4.15%)
b2982.2	Construct a 69 kV network between Paramus, Dumont, and Hillsdale Substation using existing 69 kV circuits	PSEG (95.85%) / RE (4.15%)
b2983	Convert Kuller Road to a 69/13 kV station	PSEG (95.85%) / RE (4.15%)
b2983.1	Install 69 kV ring bus and two (2) 69/13 kV transformers at Kuller Road	PSEG (95.85%) / RE (4.15%)
b2983.2	Construct a 69 kV network between Kuller Road, Passaic, Paterson, and Harvey (new Clifton area switching station)	PSEG (95.85%) / RE (4.15%)
b2986	Replace the existing Roseland – Branchburg – Pleasant Valley 230 kV corridor with new structures	See sub-IDs for cost allocations

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tran	nsmission Enhancements Annua	al Revenue Requirement	Responsible Customer(s)
	Roseland-Branchburg 230		
b2986.11	kV corridor rebuild		
	(Roseland - Readington)		PSEG (95.85%) / RE (4.15%)
	Roseland-Branchburg 230		
b2986.12	kV corridor rebuild		JCPL (58.66%) / PSEG
	(Readington - Branchburg)		(39.62%) / RE (1.72%)
	Branchburg-Pleasant Valley		
b2986.21	230 kV corridor rebuild		NEPTUNE* (0.37%) / PECO
02980.21	(Branchburg - East		(98.94%) / PSEG (0.66%) / RE
	Flemington)		(0.03%)
	Branchburg-Pleasant Valley		
b2986.22	230 kV corridor rebuild		NEPTUNE* (5.83%) / PECO
02980.22	(East Flemington - Pleasant		(83.73%) / PSEG (10.01%) /
	Valley)		RE (0.43%)
	Branchburg-Pleasant Valley		
b2986.23	230 kV corridor rebuild		JCPL (26.89%) / NEPTUNE*
02980.23	(Pleasant Valley -		(4.81%) / PECO (8.88%) /
	Rocktown)		PSEG (56.96%) / RE (2.46%)
	Branchburg-Pleasant Valley		
b2986.24	230 kV corridor rebuild		JCPL (33.60%) / NEPTUNE*
02980.24	(the PSEG portion of		(4.40%) / PECO (6.02%) /
	Rocktown - Buckingham)		PSEG (53.66%) / RE (2.32%)
1.0.0.0	Construct a 230/69 kV		
b3003	station at Maywood		PSEG (95.85%) / RE (4.15%)
	Purchase properties at		
b3003.1	Maywood to accommodate		
05005.1	new construction		PSEG (95.85%) / RE (4.15%)
	Extend Maywood 230 kV		
b3003.2	bus and install one (1) 230		
05005.2	kV breaker		PSEG (95.85%) / RE (4.15%)
	Install one (1) 230/69 kV		1220 (20.0020) / 102 (1.1070)
b3003.3	transformer at Maywood		
	transformer at Waywood		PSEG (95.85%) / RE (4.15%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Trai	ismission Ennancements Annua	il Revenue Requirement	Responsible Customer(s)
b3003.4	Install Maywood 69 kV ring bus		PSEG (95.85%) / RE (4.15%)
b3003.5	Construct a 69 kV network between Spring Valley Road, Hasbrouck Heights, and Maywood		PSEG (95.85%) / RE (4.15%)
b3004	Construct a 230/69/13 kV station by tapping the Mercer – Kuser Rd 230 kV circuit		PSEG (95.85%) / RE (4.15%)
b3004.1	Install a new Clinton 230 kV ring bus with one (1) 230/69 kV transformer Mercer - Kuser Rd 230 kV circuit		PSEG (95.85%) / RE (4.15%)
b3004.2	Expand existing 69 kV ring bus at Clinton Ave with two (2) additional 69 kV breakers		PSEG (95.85%) / RE (4.15%)
b3004.3	Install two (2) 69/13 kV transformers at Clinton Ave		PSEG (95.85%) / RE (4.15%)
b3004.4	Install 18 MVAR capacitor bank at Clinton Ave 69 kV		PSEG (95.85%) / RE (4.15%)
b3025	Construct two (2) new 69/13 kV stations in the Doremus area and relocate the Doremus load to the new stations		PSEG (95.85%) / RE (4.15%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

onsible Customer(s)
EG (95.85%) / RE (4.15%)
EG (95.85%) / RE (4.15%)
EG (95.85%) / RE (4.15%)
· · · · · · · · · · · · · · · · · · ·
PSEG (100%)
PSEG (100%)
EG (95.85%) / RE (4.15%)
PSEG (100%)
PSEG (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Trai	nsmission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
b3719	Replace the two existing 1200A Bergen 138 kV circuit switchers with two 138 kV disconnect switches to achieve a minimum summer normal device rating of 298 MVA and a minimum summer emergency rating of 454 MVA		PSEG (100%)
b3757	Convert existing Medford 69 kV straight bus to seven- breaker ring bus, construct a new 230/69 kV transformer at Cox's Corner station and a new 69 kV line from Cox's Corner station to Medford station		PSEG (100%)
b3800.7	Construct 38 miles of 500 kV overhead AC line between the Conastone vicinity and the Doubs substations (BGE zone portion)		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (13.16%) / BGE (0.79%) / Dominion (74.28%) / DPL (0.41%) / PECO (0.77%) / PEPCO (10.59%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Trar	smission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
			Load-Ratio Share Allocation:
			AEC (1.65%) / AEP (13.68%) /
			APS (5.76%) / ATSI (8.04%) /
			BGE (4.11%) / ComEd (13.39%)
			/ Dayton (2.12%) / DEOK
			(3.25%) / DL (1.71%) / Dominion
			(13.32%) / DPL (2.60%) / EKPC
	Construct 31.5 miles of	500	(1.89%) / JCPL (3.86%) / ME
	kV overhead AC line		(1.90%) / NEPTUNE* (0.42%) /
b3800.43	between the Conastone		OVEC (0.08%) / PECO (5.40%) /
	vicinity and the Doubs		PENELEC (1.78%) / PEPCO
	substations (APS Section	n)	(3.67%) / PPL (4.72%) / PSEG
			(6.39%) / RE (0.26%)
			DFAX Allocation:
			APS (13.16%) / BGE (0.79%) /
			Dominion (74.28%) / DPL
			(0.41%) / PECO (0.77%) /
			PEPCO (10.59%)

PJM Open Access Transmission Tariff Schedule 12-Appendix A
Section 14 – Monongahela Power Co. Effective January 1, 2024 Version 31.0.1

SCHEDULE 12 – APPENDIX A

Required Tra	nsmission Enhancements A	nnual Revenue Requirement	Responsible Customer(s)
	Reconductor 0.33 miles of the Parkersburg - Belpre		
b2117	line and upgrade		
02117	Parkersburg terminal		
	equipment		APS (100%)
	Add 44 MVAR Cap at		M 5 (10070)
b2118	New Martinsville		APS (100%)
	Replace Weirton 138 kV		7 H S (10070)
b2142	breaker "Wylie Ridge 210"	,	
02112	with 63 kA breaker		APS (100%)
	Replace Weirton 138 kV		
b2143	breaker "Wylie Ridge 216'	,	
	with 63 kA breaker		APS (100%)
	Albright Substation: Install		
	a new control building in		
	the switchyard and relocate		
b2214	controls and SCADA		
	equipment from the		
	generating station building		
	the new control center		APS (100%)
	Rivesville Switching		
	Station: Relocate controls		
b2215	and SCADA equipment		
02210	from the generating station		
	building to new control		
	building		APS (100%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2216	Willow Island: Install a new 138 kV cross bus at Belmont Substation and reconnect and reconfigure the 138 kV lines to facilitate removal of the equipment at Willow Islan switching station	d	APS (100%)
b2235	130 MVAR reactor at Monocacy 230 kV		APS (100%)
b2260	Install a 32.4 MVAR capacitor at Bartonville		APS (100%)
b2261	Install a 33 MVAR capacitor at Damascus		APS (100%)
b2267	Replace 1000 Cu substatic conductor and 1200 amp wave trap at Marlowe	n	APS (100%)
b2268	Reconductor 6.8 miles of 138kV 336 ACSR with 33 ACSS from Double Toll Gate to Riverton	6	APS (100%)
b2299	Reconductor from Collins Ferry - West Run 138 kV with 556 ACSS		APS (100%)
b2300	Reconductor from Lake Lynn - West Run 138 kV		APS (100%)
b2342	Construct a new 138 kV switching station (Shuman Hill substation), which is next the Mobley 138 kV substation and install a 31. MVAR capacitor		APS (100%)
b2343	Install a 31.7 MVAR capacitor at West Union 138 kV substation		APS (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2433.1	Install breaker and a half 138 kV substation (Waldo Run) with 4 breakers to accommodate service to MarkWest Sherwood Facility including metering which is cut into Glen Falls		
	Lamberton 138 kV line		APS (100%)
b2433.2	Install a 70 MVAR SVC at the new WaldoRun 138 kV substation		APS (100%)
b2433.3	Install two 31.7 MVAR capacitors at the new WaldoRun 138 kV substation		APS (100%)
b2424	Replace the Weirton 138 kV breaker 'WYLIE RID210' with 63 kA breakers		APS (100%)
b2425	Replace the Weirton 138 kV breaker 'WYLIE RID216' with 63 kA breakers		APS (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Replace the Oak Grove 13	8	
b2426	kV breaker 'OG1' with 63		
	kA breakers		APS (100%)
	Replace the Oak Grove 13	8	
b2427	kV breaker 'OG2' with 63		
	kA breakers		APS (100%)
	Replace the Oak Grove 13	8	
b2428	kV breaker 'OG3' with 63		
	kA breakers		APS (100%)
	Replace the Oak Grove 13	8	
b2429	kV breaker 'OG4' with 63		
	kA breakers		APS (100%)
	Replace the Oak Grove 13	8	
b2430	kV breaker 'OG5' with 63		
	kA breakers		APS (100%)
	Replace the Oak Grove 13	8	
b2431	kV breaker 'OG6' with 63		
	kA breakers		APS (100%)
	Replace the Ridgeley 138		
b2432	kV breaker 'RC1' with a 40)	
	kA rated breaker		APS (100%)
	Replace the Ringgold 138		
b2472	kV breaker 'RCM1' with		
	40kA breakers		APS (100%)
	Replace the Ringgold 138		
b2473	kV breaker '#4 XMFR'		
	with 40kA breakers		APS (100%)
	Construct a new line		
b2475	between Oak Mound 138		
02475	kV substation and Waldo		
	Run 138 kV substation		APS (100%)
	Construct a new 138 kV		
	substation (Shuman Hill		
b2545.1	substation) connected to the	e	
	Fairview – Willow Island		
	(84) 138 kV line		APS (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requiremen	nt Responsible Customer(s)
b2545.2	Install a ring bus station with five active positions and two 52.8 MVAR		
	capacitors with 0.941 mH reactors		APS (100%)
b2545.3	Install a +90/-30 MVAR SVC protected by a 138 kV breaker		APS (100%)
b2545.4	Remove the 31.7 MVAR capacitor bank at Mobley 138 kV		APS (100%)
b2548	Eliminate clearance de-rate on Wylie Ridge – Smith 138 kV line and upgrade terminals at Smith 138 kV, new line ratings 294 MVA (Rate A)/350 MVA (Rate B)		APS (100%)
b2672	Change CT Ratio at Seneca Caverns from 120/1 to 160/1 and adjust relay settings accordingly		APS (100%)
b2688.3	Carroll Substation: Replace the Germantown 138 kV wave trap, upgrade the bus conductor and adjust CT ratios	(DH E	EP (12.91%) / APS (19.04%) / ATSI (1.24%) / ComEd (0.35%) / Dayton (1.45%) / EOK (2.30%) / DL (1.11%) / Dominion (44.85%) / EKPC (0.78%) / PEPCO (15.85%) / RECO (0.12%)
b2700	Remove existing Black Oak SPS		APS (100%)
b2743.6	Reconfigure the Ringgold 230 kV substation to double bus double breaker scheme	(DH E	EP (6.46%) / APS (8.74%) / BGE (19.74%) / ComEd 2.16%) / Dayton (0.59%) / EOK (1.02%) / DL (0.01%) / Dominion (39.95%) / EKPC 0.45%) / PEPCO (20.88%)

Required Tra	nsmission Enhancements	Annual Revenue Requirement	t Responsible Customer(s)
b2743.6.1	Replace the two Ringgold 230/138 kV transformers		AEP (6.46%) / APS (8.74%) / BGE (19.74%) / ComEd (2.16%) / Dayton (0.59%) / DEOK (1.02%) / DL (0.01%) / Dominion (39.95%) / EKPC (0.45%) / PEPCO (20.88%)
b2743.7	Rebuild/Reconductor the Ringgold – Catoctin 138 kV circuit and upgrade terminal equipment on both ends		AEP (6.46%) / APS (8.74%) / BGE (19.74%) / ComEd (2.16%) / Dayton (0.59%) / DEOK (1.02%) / DL (0.01%) / Dominion (39.95%) / EKPC (0.45%) / PEPCO (20.88%)
b2747.1	Relocate the FirstEnergy Pratts 138 kV terminal CVTs at Gordonsville substation to allow for the installation of a new motor operated switch being installed by Dominion		APS (100%)
b2764	Upgrade Fairview 138 kV breaker risers and disconnect leads; Replace 500 CU breaker risers and 556 ACSR disconnect leads with 795 ACSR		APS (100%)
b2964.1	Replace terminal equipment at Pruntytown and Glen Falls 138 kV station		APS (100%)
b2964.2	Reconductor approximately 8.3 miles of the McAlpin - White Hall Junction 138 kV circuit		APS (100%)

Required Tra	insmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2970	Ringgold – Catoctin Solution		APS (100%)
b2970.1	Install two new 230 kV positions at Ringgold for 230/138 kV transformers		APS (100%)
b2970.2	Install new 230 kV position for Ringgold – Catoctin 230 kV line		APS (100%)
b2970.3	Install one new 230 kV breaker at Catoctin substation		APS (100%)
b2970.4	Install new 230/138 kV transformer at Catoctin substation. Convert Ringgold – Catoctin 138 kV line to 230 kV operation		APS (100%)

Required Tra	Insmission Enhancements Annu	al Revenue Requirement	Responsible Customer(s)
b2970.5	Convert Garfield 138/12.5 kV		
02970.3	substation to 230/12.5 kV		APS (100%)
1-2006	Construct new Flint Run		See sub-IDs for cost
b2996	500/138 kV substation		allocations
	Construct a new 500/138 kV		
	substation as a 4-breaker ring		
	bus with expansion plans for		
	double-breaker-double-bus on		
	the 500 kV bus and breaker-and-		
	a-half on the 138 kV bus to		
	provide EHV source to the		
	Marcellus shale load growth		
	area. Projected load growth of		
	additional 160 MVA to current		
	plan of 280 MVA, for a total		
	load of 440 MVA served from		
b2996.1	Waldo Run substation. Construct		
	additional 3-breaker string at		
	Waldo Run 138 kV bus.		
	Relocate the Sherwood #2 line		
	terminal to the new string.		
	Construct two single circuit Flint		
	Run - Waldo Run 138 kV lines		
	using 795 ACSR (approximately		
	3 miles). After terminal		
	relocation on new 3-breaker		
	string at Waldo Run, terminate		
	new Flint Run 138 kV lines onto		
	the two open terminals		APS (100%)
	Loop the Belmont – Harrison		110 (10070)
	500 kV line into and out of the		
	new Flint Run 500 kV substation		
b2996.2	(less than 1 mile). Replace		
02770.2	primary relaying and carrier sets		
	on Belmont and Harrison 500		
	kV remote end substations		APS (100%)
	Upgrade two (2) existing 138 kV		110 (10070)
	breakers (Rider 50 and #1/4		
b2996.3	transformer breaker) at Glen		
	Falls with 63 kA 3000A units		APS (100%)
L			1

	Upgrade substation	
b3028	disconnect leads at William	
	138 kV substation	APS (100%)
b3051.1	Ronceverte cap bank and	
03031.1	terminal upgrades	APS (100%)
	Install a 138 kV capacitor	
b3052	(29.7 MVAR effective) at	
	West Winchester 138 kV	APS (100%)
b3079	Replace the Wylie Ridge	ATSI (72.30%) / DL
	500/345 kV transformer #7	(27.70%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

cequired Tra	insmission Enhancements Annual Revenue Requirement	ni Responsible Customer(s)
	Relocate 34.5 kV lines from	
b3128	generating station roof R. Paul	
	Smith 138 kV station	APS (100%)
	Upgrade Cherry Run and Morgan	
b3240	terminals to make the transmission	
	line the limiting component	APS (100%)
	Install 138 kV, 36 MVAR capacitor	
	and a 5 uF reactor protected by a	
	138 kV capacitor switcher. Install a	
b3241	breaker on the 138 kV Junction	
	terminal. Install a 138 kV 3.5 uF	
	reactor on the existing Hardy 138	
	kV capacitor	APS (100%)
	Reconfigure Stonewall 138 kV	
	substation from its current	
b3242	configuration to a six-breaker,	
03242	breaker-and-a-half layout and add	
	two (2) 36 MVAR capacitors with	
	capacitor switchers	APS (100%)
	Reconductor the existing 556.5	
	ACSR line segments on the Messick	
	Road – Ridgeley 138 kV line with	
b3683	954 45/7 ACSR to achieve 308/376	
03083	MVA SN/SE and 349/445 MVA	
	WN/WE ratings. Replace the remote	
	end equipment for the line. The total	
	length of the line is 5.02 miles	APS (100%)
	Replace terminal equipment at	
b3701	French's Mill and Junction 138 kV	
	substations	APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required IIu		ende Requirement	responsible c	
	At Bedington substation:			
	Replace substation conductor,			
	wave trap, Current Transformers			
	(CT's) and upgrade relaying			
	At Cherry Run substation:			
b3743	Replace substation conductor,			
05715	wave trap, CT's, disconnect			
	switches, circuit breaker and			
	upgrade relaying			
	At Marlowe substation: Replace			
	substation conductor, wave trap,			
	CT's and upgrade relaying			APS (100%)
	Install redundant relaying at			
b3746	Meadow Brook 500 kV			
	substation			APS (100%)
b3747	Install redundant relaying at			
03747	Bedington 500 kV substation			APS (100%)
	Reconductor 27.3 miles of the			
	Messick Road – Morgan 138 kV			
	line from 556 ACSR to 954			
	ACSR. At Messick Road			
b3772	substation, replace 138 kV wave			
03772	trap, circuit breaker, CT's,			
	disconnect switch, and			
	substation conductor and			
	upgrade relaying. At Morgan			
	substation, upgrade relaying			APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

PJM Open Access Transmission Tariff Schedule 12-Appendix A
Section 14 – Monongahela Power Co. Effective January 31, 2024 Version 30.0.1

SCHEDULE 12 – APPENDIX A

Required Tra	nsmission Enhancements A	nnual Revenue Requirement	Responsible Customer(s)
	Reconductor 0.33 miles of the Parkersburg - Belpre		
b2117	line and upgrade		
	Parkersburg terminal		
	equipment		APS (100%)
b2118	Add 44 MVAR Cap at		
02118	New Martinsville		APS (100%)
	Replace Weirton 138 kV		
b2142	breaker "Wylie Ridge 210"		
	with 63 kA breaker		APS (100%)
	Replace Weirton 138 kV		
b2143	breaker "Wylie Ridge 216"		
	with 63 kA breaker		APS (100%)
	Albright Substation: Install		
	a new control building in		
	the switchyard and relocate		
b2214	controls and SCADA		
	equipment from the		
	generating station building		
	the new control center		APS (100%)
	Rivesville Switching		
	Station: Relocate controls		
b2215	and SCADA equipment		
	from the generating station		
	building to new control		ADS (100%)
	building		APS (100%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2216	Willow Island: Install a new 138 kV cross bus at Belmont Substation and reconnect and reconfigure the 138 kV lines to facilitate removal of the equipment at Willow Islan switching station	d	APS (100%)
b2235	130 MVAR reactor at Monocacy 230 kV		APS (100%)
b2260	Install a 32.4 MVAR capacitor at Bartonville		APS (100%)
b2261	Install a 33 MVAR capacitor at Damascus		APS (100%)
b2267	Replace 1000 Cu substatic conductor and 1200 amp wave trap at Marlowe	n	APS (100%)
b2268	Reconductor 6.8 miles of 138kV 336 ACSR with 33 ACSS from Double Toll Gate to Riverton	6	APS (100%)
b2299	Reconductor from Collins Ferry - West Run 138 kV with 556 ACSS		APS (100%)
b2300	Reconductor from Lake Lynn - West Run 138 kV		APS (100%)
b2342	Construct a new 138 kV switching station (Shuman Hill substation), which is next the Mobley 138 kV substation and install a 31. MVAR capacitor		APS (100%)
b2343	Install a 31.7 MVAR capacitor at West Union 138 kV substation		APS (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2433.1	Install breaker and a half 138 kV substation (Waldo Run) with 4 breakers to accommodate service to MarkWest Sherwood Facility including metering which is cut into Glen Falls		
	Lamberton 138 kV line		APS (100%)
b2433.2	Install a 70 MVAR SVC at the new WaldoRun 138 kV substation		APS (100%)
b2433.3	Install two 31.7 MVAR capacitors at the new WaldoRun 138 kV substation		APS (100%)
b2424	Replace the Weirton 138 kV breaker 'WYLIE RID210' with 63 kA breakers		APS (100%)
b2425	Replace the Weirton 138 kV breaker 'WYLIE RID216' with 63 kA breakers		APS (100%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Replace the Oak Grove 13	8	
b2426	kV breaker 'OG1' with 63		
	kA breakers		APS (100%)
	Replace the Oak Grove 13	8	
b2427	kV breaker 'OG2' with 63		
	kA breakers		APS (100%)
	Replace the Oak Grove 13	8	
b2428	kV breaker 'OG3' with 63		
	kA breakers		APS (100%)
	Replace the Oak Grove 13	8	
b2429	kV breaker 'OG4' with 63		
	kA breakers		APS (100%)
	Replace the Oak Grove 13	8	
b2430	kV breaker 'OG5' with 63		
	kA breakers		APS (100%)
	Replace the Oak Grove 13	8	
b2431	kV breaker 'OG6' with 63		
	kA breakers		APS (100%)
	Replace the Ridgeley 138		
b2432	kV breaker 'RC1' with a 40)	
	kA rated breaker		APS (100%)
	Replace the Ringgold 138		
b2472	kV breaker 'RCM1' with		
	40kA breakers		APS (100%)
	Replace the Ringgold 138		
b2473	kV breaker '#4 XMFR'		
	with 40kA breakers		APS (100%)
	Construct a new line		
b2475	between Oak Mound 138		
	kV substation and Waldo		
	Run 138 kV substation		APS (100%)
	Construct a new 138 kV		
	substation (Shuman Hill		
b2545.1	substation) connected to th	le	
	Fairview – Willow Island		
	(84) 138 kV line		APS (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requiremen	nt Responsible Customer(s)
b2545.2	Install a ring bus station with five active positions and two 52.8 MVAR		
	capacitors with 0.941 mH reactors		APS (100%)
b2545.3	Install a +90/-30 MVAR SVC protected by a 138 kV breaker		APS (100%)
b2545.4	Remove the 31.7 MVAR capacitor bank at Mobley 138 kV		APS (100%)
b2548	Eliminate clearance de-rate on Wylie Ridge – Smith 138 kV line and upgrade terminals at Smith 138 kV, new line ratings 294 MVA (Rate A)/350 MVA (Rate B)		APS (100%)
b2672	Change CT Ratio at Seneca Caverns from 120/1 to 160/1 and adjust relay settings accordingly		APS (100%)
b2688.3	Carroll Substation: Replace the Germantown 138 kV wave trap, upgrade the bus conductor and adjust CT ratios	(DH E	EP (12.91%) / APS (19.04%) / ATSI (1.24%) / ComEd (0.35%) / Dayton (1.45%) / EOK (2.30%) / DL (1.11%) / Dominion (44.85%) / EKPC (0.78%) / PEPCO (15.85%) / RECO (0.12%)
b2700	Remove existing Black Oak SPS		APS (100%)
b2743.6	Reconfigure the Ringgold 230 kV substation to double bus double breaker scheme	(DH E	EP (6.46%) / APS (8.74%) / BGE (19.74%) / ComEd 2.16%) / Dayton (0.59%) / EOK (1.02%) / DL (0.01%) / Dominion (39.95%) / EKPC 0.45%) / PEPCO (20.88%)

Required Tra	nsmission Enhancements	Annual Revenue Requirement	t Responsible Customer(s)
b2743.6.1	Replace the two Ringgold 230/138 kV transformers		AEP (6.46%) / APS (8.74%) / BGE (19.74%) / ComEd (2.16%) / Dayton (0.59%) / DEOK (1.02%) / DL (0.01%) / Dominion (39.95%) / EKPC (0.45%) / PEPCO (20.88%)
b2743.7	Rebuild/Reconductor the Ringgold – Catoctin 138 kV circuit and upgrade terminal equipment on both ends		AEP (6.46%) / APS (8.74%) / BGE (19.74%) / ComEd (2.16%) / Dayton (0.59%) / DEOK (1.02%) / DL (0.01%) / Dominion (39.95%) / EKPC (0.45%) / PEPCO (20.88%)
b2747.1	Relocate the FirstEnergy Pratts 138 kV terminal CVTs at Gordonsville substation to allow for the installation of a new motor operated switch being installed by Dominion		APS (100%)
b2764	Upgrade Fairview 138 kV breaker risers and disconnect leads; Replace 500 CU breaker risers and 556 ACSR disconnect leads with 795 ACSR		APS (100%)
b2964.1	Replace terminal equipment at Pruntytown and Glen Falls 138 kV station		APS (100%)
b2964.2	Reconductor approximately 8.3 miles of the McAlpin - White Hall Junction 138 kV circuit		APS (100%)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b2970	Ringgold – Catoctin Solution		APS (100%)
b2970.1	Install two new 230 kV positions at Ringgold for 230/138 kV transformers		APS (100%)
b2970.2	Install new 230 kV position for Ringgold – Catoctin 230 kV line		APS (100%)
b2970.3	Install one new 230 kV breaker at Catoctin substation		APS (100%)
b2970.4	Install new 230/138 kV transformer at Catoctin substation. Convert Ringgold – Catoctin 138 kV line to 230 kV operation		APS (100%)

Required Tra	Insmission Enhancements Annu	al Revenue Requirement	Responsible Customer(s)
b2970.5	Convert Garfield 138/12.5 kV		
02970.3	substation to 230/12.5 kV		APS (100%)
1 2007	Construct new Flint Run		See sub-IDs for cost
b2996	500/138 kV substation		allocations
	Construct a new 500/138 kV		
	substation as a 4-breaker ring		
	bus with expansion plans for		
	double-breaker-double-bus on		
	the 500 kV bus and breaker-and-		
	a-half on the 138 kV bus to		
	provide EHV source to the		
	Marcellus shale load growth		
	area. Projected load growth of		
	additional 160 MVA to current		
	plan of 280 MVA, for a total		
	load of 440 MVA served from		
b2996.1	Waldo Run substation. Construct		
	additional 3-breaker string at		
	Waldo Run 138 kV bus.		
	Relocate the Sherwood #2 line		
	terminal to the new string.		
	Construct two single circuit Flint		
	Run - Waldo Run 138 kV lines		
	using 795 ACSR (approximately		
	3 miles). After terminal		
	relocation on new 3-breaker		
	string at Waldo Run, terminate		
	new Flint Run 138 kV lines onto		
	the two open terminals		APS (100%)
	Loop the Belmont – Harrison		110 (10070)
	500 kV line into and out of the		
	new Flint Run 500 kV substation		
b2996.2	(less than 1 mile). Replace		
02770.2	primary relaying and carrier sets		
	on Belmont and Harrison 500		
	kV remote end substations		APS (100%)
	Upgrade two (2) existing 138 kV		110(10070)
	breakers (Rider 50 and #1/4		
b2996.3	transformer breaker) at Glen		
	Falls with 63 kA 3000A units		APS (100%)
	I and with 05 KA 5000A units		ALD (10070)

	Upgrade substation	
b3028	disconnect leads at William	
	138 kV substation	APS (100%)
b3051.1	Ronceverte cap bank and	
03031.1	terminal upgrades	APS (100%)
	Install a 138 kV capacitor	
b3052	(29.7 MVAR effective) at	
	West Winchester 138 kV	APS (100%)
b3079	Replace the Wylie Ridge	ATSI (72.30%) / DL
	500/345 kV transformer #7	(27.70%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

	smission Ennancements Annual Revenue	requirement	
	Relocate 34.5 kV lines from		
b3128	generating station roof R. Paul		
	Smith 138 kV station		APS (100%)
	Upgrade Cherry Run and Morgan		
b3240	terminals to make the transmission		
	line the limiting component		APS (100%)
	Install 138 kV, 36 MVAR capacitor		
	and a 5 uF reactor protected by a		
	138 kV capacitor switcher. Install a		
b3241	breaker on the 138 kV Junction		
	terminal. Install a 138 kV 3.5 uF		
	reactor on the existing Hardy 138		
	kV capacitor		APS (100%)
	Reconfigure Stonewall 138 kV		
	substation from its current		
b3242	configuration to a six-breaker,		
03242	breaker-and-a-half layout and add		
	two (2) 36 MVAR capacitors with		
	capacitor switchers		APS (100%)
	Reconductor the existing 556.5		
	ACSR line segments on the Messick		
	Road – Ridgeley 138 kV line with		
b3683	954 45/7 ACSR to achieve 308/376		
03083	MVA SN/SE and 349/445 MVA		
	WN/WE ratings. Replace the remote		
	end equipment for the line. The total		
	length of the line is 5.02 miles		APS (100%)
	Replace terminal equipment at		
b3701	French's Mill and Junction 138 kV		
	substations		APS (100%)
b3717.1	Install a series reactor on Cheswick -		
03/1/.1	Springdale 138 kV line		APS (1.93%) / DL (98.07%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

	Ismission Enhancements Annual Rev	chue Requirement	Responsible C	usioniei(s)
	At Bedington substation:			
	Replace substation conductor,			
	wave trap, Current Transformers			
	(CT's) and upgrade relaying			
	At Cherry Run substation:			
b3743	Replace substation conductor,			
05745	wave trap, CT's, disconnect			
	switches, circuit breaker and			
	upgrade relaying			
	At Marlowe substation: Replace			
	substation conductor, wave trap,			
	CT's and upgrade relaying			APS (100%)
	Install redundant relaying at			
b3746	Meadow Brook 500 kV			
	substation			APS (100%)
b3747	Install redundant relaying at			
03/4/	Bedington 500 kV substation			APS (100%)
	Reconductor 27.3 miles of the			
	Messick Road – Morgan 138 kV			
	line from 556 ACSR to 954			
	ACSR. At Messick Road			
b3772	substation, replace 138 kV wave			
03772	trap, circuit breaker, CT's,			
	disconnect switch, and			
	substation conductor and			
	upgrade relaying. At Morgan			
	substation, upgrade relaying			APS (100%)
	Adjust relay settings at Riverton			
b3782	substation on the Riverton-			
	Bethel Tap 138 kV line			APS (100%)

PJM Open Access Transmission Tariff Schedule 12-Appendix A
Section 14 – Monongahela Power Co. Effective April 9, 2024 Version 32.0.1

SCHEDULE 12 – APPENDIX A

Required Tra	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Reconductor 0.33 miles of		
10117	the Parkersburg - Belpre		
b2117	line and upgrade		
	Parkersburg terminal		A DG (1000()
	equipment		APS (100%)
b2118	Add 44 MVAR Cap at		
	New Martinsville		APS (100%)
	Replace Weirton 138 kV		
b2142	breaker "Wylie Ridge 210	"	
	with 63 kA breaker		APS (100%)
	Replace Weirton 138 kV		
b2143	breaker "Wylie Ridge 216	"	
	with 63 kA breaker		APS (100%)
	Albright Substation: Instal	1	
	a new control building in		
	the switchyard and relocat	e	
b2214	controls and SCADA		
	equipment from the		
	generating station building	5	
	the new control center		APS (100%)
	Rivesville Switching		
	Station: Relocate controls		
b2215	and SCADA equipment		
02213	from the generating station	1	
	building to new control		
	building		APS (100%)

Required Tra	insmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Willow Island: Install a new 138 kV cross bus at Belmont Substation and		
	reconnect and reconfigure		
b2216	the 138 kV lines to		
	facilitate removal of the		
	equipment at Willow Islan	d	
	switching station		APS (100%)
b2235	130 MVAR reactor at		A DC (1000/)
	Monocacy 230 kV Install a 32.4 MVAR		APS (100%)
b2260	capacitor at Bartonville		APS (100%)
1.00.64	Install a 33 MVAR		/H S (10070)
b2261	capacitor at Damascus		APS (100%)
	Replace 1000 Cu substatio	n	
b2267	conductor and 1200 amp		
	wave trap at Marlowe		APS (100%)
	Reconductor 6.8 miles of		
b2268	138kV 336 ACSR with 33 ACSS from Double Toll	6	
	Gate to Riverton		APS (100%)
	Reconductor from Collins		1115(10070)
b2299	Ferry - West Run 138 kV		
	with 556 ACSS		APS (100%)
b2300	Reconductor from Lake		APS (100%)
02500	Lynn - West Run 138 kV		1115 (10070)
	Construct a new 138 kV		
	switching station (Shuman Hill substation), which is		
b2342	next the Mobley 138 kV		
	substation and install a 31.	7	
	MVAR capacitor	,	APS (100%)
	Install a 31.7 MVAR		
b2343	capacitor at West Union		
	138 kV substation		APS (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2433.1	Install breaker and a half 138 kV substation (Waldo Run) with 4 breakers to accommodate service to MarkWest Sherwood Facility including metering which is cut into Glen Falls		
	Lamberton 138 kV line		APS (100%)
b2433.2	Install a 70 MVAR SVC at the new WaldoRun 138 kV substation		APS (100%)
b2433.3	Install two 31.7 MVAR capacitors at the new WaldoRun 138 kV substation		APS (100%)
b2424	Replace the Weirton 138 kV breaker 'WYLIE RID210' with 63 kA breakers		APS (100%)
b2425	Replace the Weirton 138 kV breaker 'WYLIE RID216' with 63 kA breakers		APS (100%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Replace the Oak Grove 13	8	
b2426	kV breaker 'OG1' with 63		
	kA breakers		APS (100%)
	Replace the Oak Grove 13	8	
b2427	kV breaker 'OG2' with 63		
	kA breakers		APS (100%)
	Replace the Oak Grove 13	8	
b2428	kV breaker 'OG3' with 63		
	kA breakers		APS (100%)
	Replace the Oak Grove 13	8	
b2429	kV breaker 'OG4' with 63		
	kA breakers		APS (100%)
	Replace the Oak Grove 13	8	
b2430	kV breaker 'OG5' with 63		
	kA breakers		APS (100%)
	Replace the Oak Grove 13	8	
b2431	kV breaker 'OG6' with 63		
	kA breakers		APS (100%)
	Replace the Ridgeley 138		
b2432	kV breaker 'RC1' with a 40	0	
	kA rated breaker		APS (100%)
	Replace the Ringgold 138		
b2472	kV breaker 'RCM1' with		
	40kA breakers		APS (100%)
	Replace the Ringgold 138		
b2473	kV breaker '#4 XMFR'		
	with 40kA breakers		APS (100%)
	Construct a new line		
b2475	between Oak Mound 138		
02475	kV substation and Waldo		
	Run 138 kV substation		APS (100%)
	Construct a new 138 kV		
	substation (Shuman Hill		
b2545.1	substation) connected to the	ne	
	Fairview – Willow Island		
	(84) 138 kV line		APS (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requirem	nent Responsible Customer(s)
b2545.2	Install a ring bus station with five active positions and two 52.8 MVAR capacitors with 0.941 mH		
	reactors		APS (100%)
b2545.3	Install a +90/-30 MVAR SVC protected by a 138 kV breaker		APS (100%)
b2545.4	Remove the 31.7 MVAR capacitor bank at Mobley 138 kV		APS (100%)
b2548	Eliminate clearance de-rate on Wylie Ridge – Smith 138 kV line and upgrade terminals at Smith 138 kV, new line ratings 294 MVA (Rate A)/350 MVA (Rate B)		APS (100%)
b2672	Change CT Ratio at Seneca Caverns from 120/1 to 160/1 and adjust relay settings accordingly		APS (100%)
b2688.3	Carroll Substation: Replace the Germantown 138 kV wave trap, upgrade the bus conductor and adjust CT ratios		AEP (12.91%) / APS (19.04%) / ATSI (1.24%) / ComEd (0.35%) / Dayton (1.45%) / DEOK (2.30%) / DL (1.11%) / Dominion (44.85%) / EKPC (0.78%) / PEPCO (15.85%) / RECO (0.12%)
b2700	Remove existing Black Oak SPS		APS (100%)
b2743.6	Reconfigure the Ringgold 230 kV substation to double bus double breaker scheme		AEP (6.46%) / APS (8.74%) / BGE (19.74%) / ComEd (2.16%) / Dayton (0.59%) / DEOK (1.02%) / DL (0.01%) / Dominion (39.95%) / EKPC (0.45%) / PEPCO (20.88%)

Required Tra	nsmission Enhancements	Annual Revenue Requirement	t Responsible Customer(s)
b2743.6.1	Replace the two Ringgold 230/138 kV transformers		AEP (6.46%) / APS (8.74%) / BGE (19.74%) / ComEd (2.16%) / Dayton (0.59%) / DEOK (1.02%) / DL (0.01%) / Dominion (39.95%) / EKPC (0.45%) / PEPCO (20.88%)
b2743.7	Rebuild/Reconductor the Ringgold – Catoctin 138 kV circuit and upgrade terminal equipment on both ends		AEP (6.46%) / APS (8.74%) / BGE (19.74%) / ComEd (2.16%) / Dayton (0.59%) / DEOK (1.02%) / DL (0.01%) / Dominion (39.95%) / EKPC (0.45%) / PEPCO (20.88%)
b2747.1	Relocate the FirstEnergy Pratts 138 kV terminal CVTs at Gordonsville substation to allow for the installation of a new motor operated switch being installed by Dominion		APS (100%)
b2764	Upgrade Fairview 138 kV breaker risers and disconnect leads; Replace 500 CU breaker risers and 556 ACSR disconnect leads with 795 ACSR		APS (100%)
b2964.1	Replace terminal equipment at Pruntytown and Glen Falls 138 kV station		APS (100%)
b2964.2	Reconductor approximately 8.3 miles of the McAlpin - White Hall Junction 138 kV circuit		APS (100%)

Required Tra	insmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2970	Ringgold – Catoctin Solution		APS (100%)
b2970.1	Install two new 230 kV positions at Ringgold for 230/138 kV transformers		APS (100%)
b2970.2	Install new 230 kV position for Ringgold – Catoctin 230 kV line		APS (100%)
b2970.3	Install one new 230 kV breaker at Catoctin substation		APS (100%)
b2970.4	Install new 230/138 kV transformer at Catoctin substation. Convert Ringgold – Catoctin 138 kV line to 230 kV operation		APS (100%)

Required Tra	Insmission Enhancements Annu	ual Revenue Requirement	Responsible Customer(s)
b2970.5	Convert Garfield 138/12.5 kV		
02970.3	substation to 230/12.5 kV		APS (100%)
1.2000	Construct new Flint Run		See sub-IDs for cost
b2996	500/138 kV substation		allocations
	Construct a new 500/138 kV		
	substation as a 4-breaker ring		
	bus with expansion plans for		
	double-breaker-double-bus on		
	the 500 kV bus and breaker-and-		
	a-half on the 138 kV bus to		
	provide EHV source to the		
	Marcellus shale load growth		
	area. Projected load growth of		
	additional 160 MVA to current		
	plan of 280 MVA, for a total		
	load of 440 MVA served from		
b2996.1	Waldo Run substation. Construct		
0200001	additional 3-breaker string at		
	Waldo Run 138 kV bus.		
	Relocate the Sherwood #2 line		
	terminal to the new string.		
	Construct two single circuit Flint		
	Run - Waldo Run 138 kV lines		
	using 795 ACSR (approximately		
	3 miles). After terminal		
	relocation on new 3-breaker		
	string at Waldo Run, terminate		
	new Flint Run 138 kV lines onto		
	the two open terminals		APS (100%)
	Loop the Belmont – Harrison		AI 5 (10070)
	500 kV line into and out of the		
	new Flint Run 500 kV substation		
b2996.2			
02990.2	(less than 1 mile). Replace primary relaying and carrier sets		
	on Belmont and Harrison 500		
			ADS(1000/)
	kV remote end substations		APS (100%)
	Upgrade two (2) existing 138 kV		
b2996.3	breakers (Rider 50 and #1/4		
	transformer breaker) at Glen		
	Falls with 63 kA 3000A units		APS (100%)

	Upgrade substation	
b3028	disconnect leads at William	
	138 kV substation	APS (100%)
b3051.1	Ronceverte cap bank and	
03031.1	terminal upgrades	APS (100%)
	Install a 138 kV capacitor	
b3052	(29.7 MVAR effective) at	
	West Winchester 138 kV	APS (100%)
b3079	Replace the Wylie Ridge	ATSI (72.30%) / DL
	500/345 kV transformer #7	(27.70%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required IIu	nsmission Ennancements Annual Revenue Require	ment Responsible Customer(s)
	Relocate 34.5 kV lines from	
b3128	generating station roof R. Paul	
	Smith 138 kV station	APS (100%)
	Upgrade Cherry Run and Morgan	
b3240	terminals to make the transmission	
	line the limiting component	APS (100%)
	Install 138 kV, 36 MVAR capacitor	
	and a 5 uF reactor protected by a	
	138 kV capacitor switcher. Install a	
b3241	breaker on the 138 kV Junction	
	terminal. Install a 138 kV 3.5 uF	
	reactor on the existing Hardy 138	
	kV capacitor	APS (100%)
	Reconfigure Stonewall 138 kV	
	substation from its current	
1.2242	configuration to a six-breaker,	
b3242	breaker-and-a-half layout and add	
	two (2) 36 MVAR capacitors with	
	capacitor switchers	APS (100%)
	Reconductor the existing 556.5	
	ACSR line segments on the Messick	
	Road – Ridgeley 138 kV line with	
b3683	954 45/7 ACSR to achieve 308/376	
03083	MVA SN/SE and 349/445 MVA	
	WN/WE ratings. Replace the remote	
	end equipment for the line. The total	
	length of the line is 5.02 miles	APS (100%)
	Replace terminal equipment at	
b3701	French's Mill and Junction 138 kV	
	substations	APS (100%)
h2717 1	Install a series reactor on Cheswick -	
b3717.1	Springdale 138 kV line	APS (1.93%) / DL (98.07%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required fild	ismission Ennancements Annual Rev	chuc Requirement	Responsible C	
	At Bedington substation:			
	Replace substation conductor,			
	wave trap, Current Transformers			
	(CT's) and upgrade relaying			
	At Cherry Run substation:			
b3743	Replace substation conductor,			
05715	wave trap, CT's, disconnect			
	switches, circuit breaker and			
	upgrade relaying			
	At Marlowe substation: Replace			
	substation conductor, wave trap,			
	CT's and upgrade relaying			APS (100%)
	Install redundant relaying at			
b3746	Meadow Brook 500 kV			
	substation			APS (100%)
b3747	Install redundant relaying at			
05747	Bedington 500 kV substation			APS (100%)
	Reconductor 27.3 miles of the			
	Messick Road – Morgan 138 kV			
	line from 556 ACSR to 954			
	ACSR. At Messick Road			
b3772	substation, replace 138 kV wave			
05772	trap, circuit breaker, CT's,			
	disconnect switch, and			
	substation conductor and			
	upgrade relaying. At Morgan			
	substation, upgrade relaying			APS (100%)
	Adjust relay settings at Riverton			
b3782	substation on the Riverton-			
	Bethel Tap 138 kV line			APS (100%)

Required Tran	nsmission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
			Load-Ratio Share
			Allocation:
			AEC (1.65%) / AEP
			(13.68%) / APS (5.76%) /
			ATSI (8.04%) / BGE
			(4.11%) / ComEd
			(13.39%) / Dayton
			(2.12%) / DEOK (3.25%)
			/ DL (1.71%) / Dominion
			(13.32%) / DPL (2.60%) /
			EKPC (1.89%) / JCPL
	Reconfigure Doubs 500 kV		(3.86%) / ME (1.90%) /
b3800.8	station and upgrade terminal		NEPTUNE* (0.42%) /
	equipment to new line		OVEC (0.08%) / PECO
			(5.40%) / PENELEC
			(1.78%) / PEPCO (3.67%)
			/ PPL (4.72%) / PSEG
			(6.39%) / RE (0.26%)
			DFAX Allocation:
			APS (13.16%) / BGE
			(0.79%) / Dominion
			(74.28%) / DPL (0.41%) /
			PECO (0.77%) / PEPCO
			(10.59%)
	Rebuild the existing		
	Hunterstown - Carroll		
	115/138 kV Corridor as		
b3800.9	double circuit using 230 kV		This upgrade ID is only
03000.9	construction standards. New		for tracking purpose. Cost
	circuit will be operated at		allocation details are
	230 kV. Existing circuit to		available from $b3800.10 \sim$
	remain at 115/138 kV		b3800.18

Required that	ISTITISSION Enhancements Annual	Revenue Requirement	Kespolisiole Customer(s)
	Rebuild the Germantown -		
	Carroll 138 kV line to 230		
b3800.13	kV double circuit		
	construction (APS - PE		APS (82.49%) / ME
	Section)		(17.51%)
	Construct new 230 kV		
b3800.15	Hunterstown - Carroll line		APS (99.86%) / ME
	(APS - PE Section)		(0.14%)
h2800 16	Expand Carroll 230 kV		APS (99.86%) / ME
b3800.16	substation to ring bus		(0.14%)
b3800.17	Network upgrade at Carroll		APS (99.86%) / ME
03800.17	230 kV substation		(0.14%)
	Fayetteville - Grand Point		
b3800.20	138 kV - Replace line trap at		
	Grand Point 138 kV station		APS (100%)
	Reid - Ringgold 138 kV line		
	- Replace line trap,		
b3800.21	substation conductor,		
	breaker, relaying and CTs at		
	Ringgold station		APS (100%)
b3800.25	Taneytown 138 kV		
03800.23	substation terminal upgrade		APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tran	smission Enhancements A	nnual Revenue Requirement	Responsible Customer(s)
			Load-Ratio Share
			Allocation:
			AEC (1.65%) / AEP
			(13.68%) / APS
			(5.76%) / ATSI
			(8.04%) / BGE (4.11%)
			/ ComEd (13.39%) /
			Dayton (2.12%) /
			DEOK (3.25%) / DL
			(1.71%) / Dominion
			(13.32%) / DPL
			(2.60%) / EKPC
	502 Junction substation t	wo	(1.89%) / JCPL
b3800.101	500 kV circuit breaker		(3.86%) / ME (1.90%) /
	expansion		NEPTUNE* (0.42%) /
			OVEC (0.08%) / PECO
			(5.40%) / PENELEC
			(1.78%) / PEPCO
			(3.67%) / PPL (4.72%)
			/ PSEG (6.39%) / RE
			(0.26%)
			DFAX Allocation:
			APS (25.59%) / BGE
			(9.79%) / Dominion
			(51.94%) / PEPCO
			(12.68%)

Doquirad Transmission Enhancements Annual Devenue Dequirement Desponsible Customer(s)

Required Tran	smission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
			Load-Ratio Share
			Allocation:
			AEC (1.65%) / AEP
			(13.68%) / APS (5.76%)
			/ ATSI (8.04%) / BGE
			(4.11%) / ComEd
			(13.39%) / Dayton
			(2.12%) / DEOK (3.25%)
			/ DL (1.71%) / Dominion
	Debuild annovine staly 16		(13.32%) / DPL (2.60%)
	Rebuild approximately 16 miles of the Gore - Stonewall	newall V	/ EKPC (1.89%) / JCPL
	138 kV line with 500 kV		(3.86%) / ME (1.90%) /
b3800.103			NEPTUNE* (0.42%) /
	overbuild (502 Junction to Woodside 500 kV line		OVEC (0.08%) / PECO
			(5.40%) / PENELEC
	section)		(1.78%) / PEPCO
			(3.67%) / PPL (4.72%) /
			PSEG (6.39%) / RE
			(0.26%)
			DFAX Allocation:
			APS (25.59%) / BGE
			(9.79%) / Dominion
			(51.94%) / PEPCO
			(12.68%)

Required Tran	smission Enhancements	Annual	Revenue Requirement	Responsible Customer(s)
				Load-Ratio Share
				Allocation:
				AEC (1.65%) / AEP
				(13.68%) / APS (5.76%)
				/ ATSI (8.04%) / BGE
				(4.11%) / ComEd
				(13.39%) / Dayton
				(2.12%) / DEOK (3.25%)
				/ DL (1.71%) / Dominion
	D - 1 '1 -1	- 15		(13.32%) / DPL (2.60%)
	Rebuild approximately miles of the Stonewall			/ EKPC (1.89%) / JCPL
				(3.86%) / ME (1.90%) /
b3800.104	Millville 138 kV line v			NEPTUNE* (0.42%) /
	500 kV overbuild (502			OVEC (0.08%) / PECO
	Junction to Woodside	300		(5.40%) / PENELEC
	kV line section)			(1.78%) / PEPCO
				(3.67%) / PPL (4.72%) /
				PSEG (6.39%) / RE
				(0.26%)
				DFAX Allocation:
				APS (9.18%) / BGE
				(7.21%) / Dominion
				(72.52%) / PEPCO
				(11.09%)

•		Load-Ratio Share
		Allocation:
		AEC (1.65%) / AEP
		(13.68%) / APS
		(5.76%) / ATSI
		(8.04%) / BGE (4.11%
		/ ComEd (13.39%) /
		Dayton (2.12%) /
		DEOK (3.25%) / DL
		(1.71%) / Dominion
		(13.32%) / DPL
	Rebuild approximately 6	(2.60%) / EKPC
	miles of the Millville -	(1.89%) / JCPL
b3800.105	Doubs 138 kV line with 500	(3.86%) / ME (1.90%)
	kV overbuild (502 Junction	NEPTUNE* (0.42%)
	to Woodside 500 kV line	OVEC (0.08%) / PEC
	section)	(5.40%) / PENELEC
		(1.78%) / PEPCO
		(3.67%) / PPL (4.72%
		/ PSEG (6.39%) / RE
		(0.26%)
		(0.2070)
		DFAX Allocation:
		APS (9.18%) / BGE
		(7.21%) / Dominion
		(72.52%) / PEPCO
		(11.09%)
b3800.111	Construct the Woodside -	
03000.111	Stonewall 138 kV No. 1 line	APS (100%)
b3800.112	Construct the Woodside -	
03800.112	Stonewall 138 kV No. 2 line	APS (100%)
	Stonewall 138 kV substation	
b3800.114	two 138 kV breaker	
	expansion	APS (100%)

Required Tran	smission Enhancements Ann	ual Revenue Requirement	Responsible Customer(s)
			Load-Ratio Share
			Allocation:
			AEC (1.65%) / AEP
			(13.68%) / APS
			(5.76%) / ATSI
			(8.04%) / BGE (4.11%)
			/ ComEd (13.39%) /
			Dayton (2.12%) /
			DEOK (3.25%) / DL
			(1.71%) / Dominion
			(13.32%) / DPL
	Line work for terminating		(2.60%) / EKPC
	Doubs to Bismark line for		(1.89%) / JCPL
b3800.116	Doubs side at Woodside 50	00	(3.86%) / ME (1.90%) /
	kV substation		NEPTUNE* (0.42%) /
	(FE Portion)		OVEC (0.08%) / PECO
			(5.40%) / PENELEC
			(1.78%) / PEPCO
			(3.67%) / PPL (4.72%)
			/ PSEG (6.39%) / RE
			(0.26%)
			DFAX Allocation:
			APS (27.49%) / BGE
			(9.83%) / Dominion
			(53.78%) / PEPCO
			(8.90%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tran	smission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
			Load-Ratio Share
			Allocation:
			AEC (1.65%) / AEP
			(13.68%) / APS
			(5.76%) / ATSI
			(8.04%) / BGE (4.11%)
			/ ComEd (13.39%) /
			Dayton (2.12%) /
			DEOK (3.25%) / DL
	Rebuild 500 kV line No. 514		(1.71%) / Dominion
	from Doubs - Goose Creek		(13.32%) / DPL
	500 kV line. The Doubs -		(2.60%) / EKPC
b3800.122	Goose Creek 500 kV line		(1.89%) / JCPL
03000.122	will be rebuilt and the Doubs		(3.86%) / ME (1.90%) /
	- Dickerson 230 kV will be		NEPTUNE* (0.42%) /
	relocated and underbuilt on		OVEC (0.08%) / PECO
	the same structure		(5.40%) / PENELEC
			(1.78%) / PEPCO
			(3.67%) / PPL (4.72%)
			/ PSEG (6.39%) / RE
			(0.26%)
			DFAX Allocation:
			APS (0.08%) /
			Dominion (99.90%) /
			PEPCO (0.02%)

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Required Tran	smission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
			Load-Ratio Share
			Allocation:
			AEC (1.65%) / AEP
			(13.68%) / APS
			(5.76%) / ATSI
			(8.04%) / BGE (4.11%)
	Doubs substation work - Re-		/ ComEd (13.39%) /
	terminate the rebuilt Doubs -		Dayton (2.12%) /
	Goose Creek 500 kV line in		DEOK (3.25%) / DL
	its existing bay, terminate the		(1.71%) / Dominion
	new Doubs - Aspen 500 kV		(13.32%) / DPL
	line in the open bay at		(2.60%) / EKPC
b3800.123	Doubs, Replace three 500 kV		(1.89%) / JCPL
03000.125	breakers, Replace 500 kV		(3.86%) / ME (1.90%) /
	terminal equipment including		NEPTUNE* (0.42%) /
	disconnect switches, CTs and		OVEC (0.08%) / PECO
	substation conductor &		(5.40%) / PENELEC
	Replace relaying (APS Portion)		(1.78%) / PEPCO
			(3.67%) / PPL (4.72%)
	(AI 5 I official)		/ PSEG (6.39%) / RE
			(0.26%)
			DFAX Allocation:
			APS (0.08%) /
			Dominion (99.90%) /
			PEPCO (0.02%)

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smission Enhancements Annual	Revenue Requirement	
		Load-Ratio Share
		Allocation:
		AEC (1.65%) / AEP
		(13.68%) / APS
		(5.76%) / ATSI
		(8.04%) / BGE (4.11%)
		/ ComEd (13.39%) /
		Dayton (2.12%) /
		DEOK (3.25%) / DL
		(1.71%) / Dominion
		(13.32%) / DPL
		(2.60%) / EKPC
New Doubs to Aspen 500 kV		(1.89%) / JCPL
		(3.86%) / ME (1.90%) /
		NEPTUNE* (0.42%) /
		OVEC (0.08%) / PECO
		(5.40%) / PENELEC
		(1.78%) / PEPCO
		(3.67%) / PPL (4.72%)
		/ PSEG (6.39%) / RE
		(0.26%)
		(0.2070)
		DFAX Allocation:
		APS (0.08%) /
		Dominion (99.90%) /
		PEPCO (0.02%)
Rebuild the Doubs -		
Dickerson 230 kV line. This		
will be underbuilt on the new		
Doubs - Goose Creek 500		
		PEPCO (100%)
Rebuild the Doubs -		
will be underbuilt on the new		
Doubs - Aspen 500 kV line		
1		
	New Doubs to Aspen 500 kV line (APS Portion) Rebuild the Doubs - Dickerson 230 kV line. This will be underbuilt on the new Doubs - Goose Creek 500 kV line (APS Portion) Rebuild the Doubs - Aqueduct 230 kV line. This will be underbuilt on the new	New Doubs to Aspen 500 kV line (APS Portion) Rebuild the Doubs - Dickerson 230 kV line. This will be underbuilt on the new Doubs - Goose Creek 500 kV line (APS Portion) Rebuild the Doubs - Aqueduct 230 kV line. This will be underbuilt on the new

Doquirad Transmission Enhancements Annual Devenue Dequirement Desponsible Customer(s)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

		ree venue reequirement	respensiele Custoniel(s)
	Rebuild the Dickerson -		
	Aqueduct 230 kV line. This		
b3800.127	will be underbuilt on the new		
	Doubs - Aspen 500 kV line		
	(APS Portion)		PEPCO (100%)
	Replace Double Toll Gate		
b3800.413	138 kV breaker MDT 138		
03800.415	OCB with a breaker rated 40		
	kA		APS (100%)
	Replace Doubs 500 kV		
b3800.414	breaker DL-55 522LIN with		
	a breaker rated 60 kA		APS (100%)

PJM Open Access Transmission Tariff Schedule 12-Appendix A Section 17 – American Electric Power Service Corp. Effective April 9, 2024 Version 44.0.1

SCHEDULE 12 – APPENDIX A

(17) American Electric Power Service Corporation on behalf of its affiliate companies: AEP Appalachian Transmission Company, Inc.; AEP Indiana Michigan Transmission Company, Inc.; AEP Ohio Transmission Company, Inc.; AEP West Virginia Transmission Company, Inc.; Appalachian Power Company; Indiana Michigan Power Company; Kingsport Power Company; Ohio Power Company and Wheeling Power Company

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b1570.4	Add a 345 kV breaker at Marysville station and a 0.1 mile 345 kV line extension from Marysville to the new 345/69 kV Dayton transformer		AEP (100%)
b1660.1	Cloverdale: install 6-765 kV breakers, incremental work for 2 additional breakers, reconfigure and relocate miscellaneous facilities, establish 500 kV station and 500 kV tie with 765 kV station		Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: AEP (37.66%) / BGE (26.21%) / Dayton (0.01%) / DEOK (0.02%) / EKPC (0.01%) / PEPCO (36.09%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Iran	smission Enhancements Annua	ll Revenue Requirement	Responsible Customer(s)
			Load-Ratio Share Allocation:
			AEC (1.65%) / AEP (14.29%) /
			APS (5.82%) / ATSI (7.49%) /
			BGE (4.01%) / ComEd
			(14.06%) / Dayton (2.03%) /
			DEOK (3.21%) / DL (1.59%) /
			DPL (2.55%) / Dominion
			(13.89%) / EKPC (2.35%) /
	Reconductor the AEP		JCPL (3.59%) / ME (1.81%) /
b1797.1	portion of the Cloverdale -		NEPTUNE* (0.42%) / OVEC
01/9/.1	Lexington 500 kV line with		(0.06%) / PECO (5.11%) /
	2-1780 ACSS		PENELEC (1.73%) / PEPCO
			(3.68%) / PPL (4.43%) / PSEG
			(5.99%) / RE (0.24%)
			DFAX Allocation:
			AEP (0.06%) / BGE (19.46%) /
			Dayton (0.02%) / DEOK
			(0.04%) / Dominion (53.61%) /
			EKPC (0.02%) / PEPCO
			(26.79%)
b2055	Upgrade relay at Brues		
02033	station		AEP (100%)
	Upgrade terminal		
	equipment at Howard on		
b2122.3	the Howard - Brookside		
	138 kV line to achieve		
	ratings of 252/291 (SN/SE)		AEP (100%)
b2122.4	Perform a sag study on the		
	Howard - Brookside 138		
ļ	kV line		AEP (100%)
b2229	Install a 300 MVAR		
	reactor at Dequine 345 kV		AEP (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

AEC (1.65%) / AEP (14.29%) APS (5.82%) / ATSI (7.49%) BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) /	Required Tra	nsmission Enhancements Annua	al Revenue Requirement	Responsible Customer(s)
b2230 Replace existing 150 MVAR reactor at Amos 765 BCE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) b2230 MVAR reactor at Amos 765 kV substation on Amos - N. Proctorville - Hanging Rock with 300 MVAR reactor With 300 MVAR reactor JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEC (5.99%) / RE (0.24%)				Load-Ratio Share Allocation:
b2230 Replace existing 150 MVAR reactor at Amos 765 MVAR reactor at Amos 765 kV substation on Amos - N. Proctorville - Hanging Rock with 300 MVAR reactor JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEC (5.99%) / RE (0.24%) (0.24%)				AEC (1.65%) / AEP (14.29%) /
b2230 Replace existing 150 MVAR reactor at Amos 765 MVAR reactor at Amos 765 kV substation on Amos - N. Proctorville - Hanging Rock with 300 MVAR reactor MVAR reactor (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEC (5.99%) / RE (0.24%)				APS (5.82%) / ATSI (7.49%) /
b2230 Replace existing 150 MVAR reactor at Amos 765 kV substation on Amos - N. Proctorville - Hanging Rock with 300 MVAR reactor DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEC (5.99%) / RE (0.24%)				BGE (4.01%) / ComEd
b2230 Replace existing 150 MVAR reactor at Amos 765 DPL (2.55%) / Dominion kV substation on Amos - N. Proctorville - Hanging Rock with 300 MVAR reactor NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEC (5.99%) / RE (0.24%)				(14.06%) / Dayton (2.03%) /
b2230 MVAR reactor at Amos 765 b2230 kV substation on Amos - N. Proctorville - Hanging Rock JCPL (3.59%) / ME (1.81%) / with 300 MVAR reactor NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEC (5.99%) / RE (0.24%)		Deplace existing 150		DEOK (3.21%) / DL (1.59%) /
b2230 kV substation on Amos - N. Proctorville - Hanging Rock with 300 MVAR reactor (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEC (5.99%) / RE (0.24%)		1 0		
Proctorville - Hanging Rock with 300 MVAR reactor JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEC (5.99%) / RE (0.24%)	b2230			
with 300 MVAR reactor (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEC (5.99%) / RE (0.24%)	02230			
(0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEC (5.99%) / RE (0.24%)				
(3.68%) / PPL (4.43%) / PSEC (5.99%) / RE (0.24%)		with 500 Wi v Alt leactor		
(5.99%) / RE (0.24%)				
DFAX Allocation:				
AEP (100%)				AEP (100%)
Install 765 kV reactor				
b2231 breaker at Dumont 765 kV	b2231			
substation on the Dumont -	02231			
Wilton Center lineAEP (100%)				AEP (100%)
Install 765 kV reactor				
breaker at Marysville 765		-		
b2232 kV substation on the	b2232			
Marysville - Maliszewski				
line AEP (100%)	ļ			AEP (100%)
Change transformer tap		U 1		
b2233 settings for the Baker	b2233	e		
765/345 kV transformer AEP (100%)				AEP (100%)
Loop the North Muskingum				
- Crooksville 138 kV line				
b2252 into AEP's Philo 138 kV	h2252			
station which lies				
approximately 0.4 miles				
from the line AEP (100%) *Nexture Regional Transmission System, LLC		from the line		AEP (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

	L + 11 OC A MULA D	
1 00 50	Install an 86.4 MVAR	
b2253	capacitor bank at Gorsuch	
	138 kV station in Ohio	AEP (100%)
	Rebuild approximately 4.9	
b2254	miles of Corner - Degussa	
	138 kV line in Ohio	AEP (100%)
	Rebuild approximately 2.8	
b2255	miles of Maliszewski -	
	Polaris 138 kV line in Ohio	AEP (100%)
	Upgrade approximately 36	
	miles of 138 kV through	
b2256	path facilities between	
	Harrison 138 kV station and	
	Ross 138 kV station in Ohio	AEP (100%)
	Rebuild the Pokagon -	
	Corey 69 kV line as a	
	double circuit 138 kV line	
b2257	with one side at 69 kV and	
	the other side as an express	
	circuit between Pokagon	
	and Corey stations	AEP (100%)
	Rebuild 1.41 miles of #2	
	CU 46 kV line between	
1.00.00	Tams Mountain - Slab Fork	
b2258	to 138 kV standards. The	
	line will be strung with	
	1033 ACSR	AEP (100%)
	Install a new 138/69 kV	
	transformer at George	
	Washington 138/69 kV	
b2259	substation to provide	
	support to the 69 kV system	
	in the area	AEP (100%)
	in the area	ALI (10070)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required In	ansmission Enhancements Annua	a Revenue Requirement	Responsible Customer(s)
	Rebuild 4.7 miles of		
	Muskingum River - Wolf		
b2286	Creek 138 kV line and		
02280	remove the 138/138 kV		
	transformer at Wolf Creek		
	Station		AEP (100%)
	Loop in the Meadow Lake -		
b2287	Olive 345 kV circuit into		
02287	Reynolds 765/345 kV		
	station		AEP (100%)

Required Tra		il Revenue Requirement	Responsible Customer(s)
	Establish a new 138/12 kV station, transfer and		
b2344.1	consolidate load from its		
	Nicholsville and Marcellus		
	34.5 kV stations at this new		
	station		AEP (100%)
	Tap the Hydramatic –		
1.00.4.4.0	Valley 138 kV circuit (~		
b2344.2	structure 415), build a new		
	138 kV line (~3.75 miles) to		
	this new station		AEP (100%)
	From this station, construct		
b2344.3	a new 138 kV line (~1.95		
02311.3	miles) to REA's Marcellus		
	station		AEP (100%)
	From REA's Marcellus		
	station construct new 138		
b2344.4	kV line (~2.35 miles) to a		
02344.4	tap point on Valley –		
	Hydramatic 138 kV ckt		
	(~structure 434)		AEP (100%)
	Retire sections of the 138		
b2344.5	kV line in between structure		
	415 and 434 (~ 2.65 miles)		AEP (100%)
	Retire AEP's Marcellus		
	34.5/12 kV and Nicholsville		
b2344.6	34.5/12 kV stations and also		
	the Marcellus – Valley 34.5		
	kV line		AEP (100%)
	Construct a new 69 kV line		
b2345.1	from Hartford to Keeler (~8		
	miles)		AEP (100%)
	Rebuild the 34.5 kV lines		
1.0245.0	between Keeler - Sister		
b2345.2	Lakes and Glenwood tap		
	switch to 69 kV (~12 miles)		AEP (100%)
		· · · · · ·	

	Implement in - out at Keeler	
b2345.3	and Sister Lakes 34.5 kV	
	stations	AEP (100%)
	Retire Glenwood tap switch	
	and construct a new	
b2345.4	Rothadew station. These	
	new lines will continue to	
	operate at 34.5 kV	AEP (100%)
	Perform a sag study for	
	Howard - North Bellville -	
b2346	Millwood 138 kV line	
	including terminal	
	equipment upgrades	AEP (100%)
	Replace the North Delphos	
	600A switch. Rebuild	
	approximately 18.7 miles of	
b2347	138 kV line North Delphos	
	- S073. Reconductor the	
	line and replace the existing	
	tower structures	AEP (100%)
	Construct a new 138 kV	
	line from Richlands Station	
b2348	to intersect with the Hales	
	Branch - Grassy Creek 138	
	kV circuit	AEP (100%)
	Change the existing CT	
	ratios of the existing	
b2374	equipment along Bearskin -	
	Smith Mountain 138kV	
	circuit	AEP (100%)
	Change the existing CT	
	ratios of the existing	
b2375	equipment along East	
	Danville-Banister 138kV	
	circuit	 AEP (100%)

b2376	Replace the Turner 138 kV breaker 'D'	AEP (100%)
b2377	Replace the North Newark 138 kV breaker 'P'	AEP (100%)
b2378	Replace the Sporn 345 kV breaker 'DD'	AEP (100%)
b2379	Replace the Sporn 345 kV breaker 'DD2'	AEP (100%)
b2380	Replace the Muskingum 345 kV breaker 'SE'	AEP (100%)
b2381	Replace the East Lima 138 kV breaker 'E1'	AEP (100%)
b2382	Replace the Delco 138 kV breaker 'R'	AEP (100%)
b2383	Replace the Sporn 345 kV breaker 'AA2'	AEP (100%)
b2384	Replace the Sporn 345 kV breaker 'CC'	AEP (100%)
b2385	Replace the Sporn 345 kV breaker 'CC2'	AEP (100%)
b2386	Replace the Astor 138 kV breaker '102'	AEP (100%)
b2387	Replace the Muskingum 345 kV breaker 'SH'	AEP (100%)
b2388	Replace the Muskingum 345 kV breaker 'SI'	AEP (100%)
b2389	Replace the Hyatt 138 kV breaker '105N'	AEP (100%)
b2390	Replace the Muskingum 345 kV breaker 'SG'	AEP (100%)
b2391	Replace the Hyatt 138 kV breaker '101C'	AEP (100%)
b2392	Replace the Hyatt 138 kV breaker '104N'	AEP (100%)
b2393	Replace the Hyatt 138 kV breaker '104S'	AEP (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

b2394	Replace the Sporn 345 kV breaker 'CC1'	AEP (100%)
b2409	Install two 56.4 MVAR capacitor banks at the Melmore 138 kV station in Ohio	AEP (100%)
b2410	Convert Hogan Mullin 34.5 kV line to 138 kV, establish 138 kV line between Jones Creek and Strawton, rebuild existing Mullin Elwood 34.5 kV and terminate line into Strawton station, retire Mullin station	AEP (100%)
b2411	Rebuild the 3/0 ACSR portion of the Hadley - Kroemer Tap 69 kV line utilizing 795 ACSR conductor	AEP (100%)
b2423	Install a 300 MVAR shunt reactor at AEP's Wyoming 765 kV station	Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: AEP (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

*Neptune Regional Transmission System, LLC

Willow - Eureka 138 kV line: Reconductor 0.26 mile of 4/0 CU with 336 ACSSAEP (100%)Complete a sag study of b2445Complete a sag study of Tidd - Mahans Lake 138 kV lineAEP (100%)b2449Rebuild the 7-mile 345 kV line between Meadow Lake and Reynolds 345 kV stationsAEP (100%)b2462Add two 138 kV circuit breakers at Fremont station to fix tower contingency '408_2'AEP (100%)	
of 4/0 CU with 336 ACSSAEP (100%)Complete a sag study of Tidd - Mahans Lake 138 kV lineAEP (100%)b2445Tidd - Mahans Lake 138 kV lineAEP (100%)b2449Rebuild the 7-mile 345 kV line between Meadow Lake and Reynolds 345 kV stationsAEP (100%)b2462Add two 138 kV circuit breakers at Fremont station to fix tower contingency '408_2'AEP (100%)	
b2445Complete a sag study of Tidd - Mahans Lake 138 kV lineAEP (100%)b2445Rebuild the 7-mile 345 kV line between Meadow Lake and Reynolds 345 kV stationsAEP (100%)b2462Add two 138 kV circuit breakers at Fremont station to fix tower contingency '408_2'AEP (100%)	
b2445Tidd - Mahans Lake 138 kV lineAEP (100%)b2449Rebuild the 7-mile 345 kV line between Meadow Lake and Reynolds 345 kV stationsAEP (100%)b2462Add two 138 kV circuit breakers at Fremont station to fix tower contingency '408_2'AEP (100%)	
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b2449line between Meadow Lake and Reynolds 345 kV stationsAEP (100%)b2462Add two 138 kV circuit breakers at Fremont station to fix tower contingency '408_2'AEP (100%)	
b2449 and Reynolds 345 kV AEP (100%) stations Add two 138 kV circuit b2462 breakers at Fremont station to fix tower contingency '408_2'	
and Reynolds 345 kV stations AEP (100%) b2462 Add two 138 kV circuit breakers at Fremont station b2462 fix tower contingency AEP (100%)	
b2462Add two 138 kV circuit breakers at Fremont station to fix tower contingency '408_2'AEP (100%)	
b2462 breakers at Fremont station to fix tower contingency '408_2' AEP (100%)	
b2462 to fix tower contingency '408_2' AEP (100%)	
to fix tower contingency '408_2' AEP (100%)	
Construct a new 138/69 kV	
Yager station by tapping 2-	
b2501 138 kV FE circuits	
(Nottingham-Cloverdale,	
Nottingham-Harmon) AEP (100%)	
Build a new 138 kV line	
b2501.2 from new Yager station to	
Azalea station AEP (100%)	
Close the 138 kV loop back	
b2501.3 into Yager 138 kV by	
b2501.3 converting part of local 69	
kV facilities to 138 kV AEP (100%)	
Build 2 new 69 kV exits to	
reinforce 69 kV facilities	
b2501.4 and upgrade conductor	
b2501.4 between Irish Run 69 kV	
Switch and Bowerstown 69	
kV Switch AEP (100%)	

Required Tra	nsmission Enhancements Annua	ll Revenue Requirement	Responsible Customer(s)
	Construct new 138 kV		
	switching station		
	Nottingham tapping 6-138		
	kV FE circuits (Holloway-		
	Brookside, Holloway-		
b2502.1	Harmon #1 and #2,		
	Holloway-Reeds,		
	Holloway-New Stacy,		
	Holloway-Cloverdale). Exit		
	a 138 kV circuit from new		
	station to Freebyrd station		AEP (100%)
b2502.2	Convert Freebyrd 69 kV to		
02302.2	138 kV		AEP (100%)
	Rebuild/convert Freebyrd-		
b2502.3	South Cadiz 69 kV circuit		
	to 138 kV		AEP (100%)
b2502.4	Upgrade South Cadiz to 138		
02302.4	kV breaker and a half		AEP (100%)
	Replace the Sporn 138 kV		
b2530	breaker 'G1' with 80 kA		
	breaker		AEP (100%)
	Replace the Sporn 138 kV		
b2531	breaker 'D' with 80 kA		
	breaker		AEP (100%)
	Replace the Sporn 138 kV		
b2532	breaker 'O1' with 80 kA		
	breaker		AEP (100%)
	Replace the Sporn 138 kV		
b2533	breaker 'P2' with 80 kA		
	breaker		AEP (100%)
	Replace the Sporn 138 kV		
b2534	breaker 'U' with 80 kA		
	breaker		AEP (100%)
	Replace the Sporn 138 kV		
b2535	breaker 'O' with 80 kA		
	breaker		AEP (100%)

	Danlage the Snown 129 IrV	1	
10506	Replace the Sporn 138 kV		
b2536	breaker 'O2' with 80 kA		
	breaker		AEP (100%)
	Replace the Robinson Park		
	138 kV breakers A1, A2,		
b2537	B1, B2, C1, C2, D1, D2,		
	E1, E2, and F1 with 63 kA		
	breakers		AEP (100%)
	Reconductor 0.5 miles		
	Tiltonsville – Windsor 138		
	kV and string the vacant		
b2555	side of the 4.5 mile section		
	using 556 ACSR in a six		AED (1000/)
	wire configuration		AEP (100%)
	Install two 138 kV prop		
	structures to increase the		
b2556	maximum operating		
02000	temperature of the Clinch		
	River- Clinch Field 138 kV		
	line		AEP (100%)
	Temporary operating		
	procedure for delay of		
	upgrade b1464. Open the		
	Corner 138 kV circuit		
	breaker 86 for an overload		
1.0.001	of the Corner – Washington		
b2581	MP 138 kV line. The tower		
	contingency loss of		
	Belmont – Trissler 138 kV		
	and Belmont – Edgelawn		
	138 kV should be added to		
	Operational contingency		AEP (100%)

requirea ira		evenue requirement	Responsible Customer(s)
	Construct a new 69 kV line		
	approximately 2.5 miles from		
b2591	Colfax to Drewry's. Construct		
02371	a new Drewry's station and		
	install a new circuit breaker at		
	Colfax station.		AEP (100%)
	Rebuild existing East		
	Coshocton – North Coshocton		
	double circuit line which		
b2592	contains Newcomerstown – N.		
	Coshocton 34.5 kV Circuit		
	and Coshocton – North		
	Coshocton 69 kV circuit		AEP (100%)
	Rebuild existing West Bellaire		
	– Glencoe 69 kV line with 138		
b2593	kV & 69 kV circuits and		
	install 138/69 kV transformer		
	at Glencoe Switch		AEP (100%)
	Rebuild 1.0 mile of Brantley –		
b2594	Bridge Street 69 kV Line with		
02374	1033 ACSR overhead		
	conductor		AEP (100%)
	Rebuild 7.82 mile Elkhorn		
b2595.1	City – Haysi S.S 69 kV line		
02373.1	utilizing 1033 ACSR built to		
	138 kV standards		AEP (100%)
	Rebuild 5.18 mile Moss –		
b2595.2	Haysi SS 69 kV line utilizing		
02373.2	1033 ACSR built to 138 kV		
	standards		AEP (100%)
	Move load from the 34.5 kV		
	bus to the 138 kV bus by		
b2596	installing a new 138/12 kV XF		
	at New Carlisle station in		
	Indiana		AEP (100%)

Required Tha	Ismission Enhancements Annua	a Revenue Requirement	Responsible Customer(s)
	Rebuild approximately 1		
	mi. section of Dragoon-		
	Virgil Street 34.5 kV line		
	between Dragoon and		
b2597	Dodge Tap switch and		
	replace Dodge switch		
	MOAB to increase thermal		
	capability of Dragoon-		
	Dodge Tap branch		AEP (100%)
	Rebuild approximately 1		
	mile section of the Kline-		
	Virgil Street 34.5 kV line		
b2598	between Kline and Virgil		
02390	Street tap. Replace MOAB		
	switches at Beiger, risers at		
	Kline, switches and bus at		
	Virgil Street		AEP (100%)
	Rebuild approximately 0.1		
b2599	miles of 69 kV line between		
	Albion and Albion tap		AEP (100%)
b2600	Rebuild Fremont – Pound		
02000	line as 138 kV		AEP (100%)
b2601	Fremont Station		
02001	Improvements		AEP (100%)
	Replace MOAB towards		`````
b2601.1	Beaver Creek with 138 kV		
	breaker		AEP (100%)
	Replace MOAB towards		``````````````````````````````````````
b2601.2	Clinch River with 138 kV		
	breaker		AEP (100%)
10(01.2	Replace 138 kV Breaker A		`````
b2601.3	with new bus-tie breaker		AEP (100%)
	Re-use Breaker A as high		
b2601.4	side protection on		
	transformer #1		AEP (100%)
L			

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	Install two (2) circuit switchers	
b2601.5	on high side of transformers # 2	
	and 3 at Fremont Station	AEP (100%)
10(00.1	Install 138 kV breaker E2 at	· · · · ·
b2602.1	North Proctorville	AEP (100%)
	Construct 2.5 Miles of 138 kV	
	1033 ACSR from East	
b2602.2	Huntington to Darrah 138 kV	
	substations	AEP (100%)
	Install breaker on new line exit	
b2602.3	at Darrah towards East	
02002.5		A E D (1000/)
	Huntington	AEP (100%)
1.2002.4	Install 138 kV breaker on new	
b2602.4	line at East Huntington towards	
 	Darrah	AEP (100%)
	Install 138 kV breaker at East	
b2602.5	Huntington towards North	
	Proctorville	AEP (100%)
b2603	Boone Area Improvements	
02005	-	 AEP (100%)
	Purchase approximately a	
b2603.1	200X300 station site near	
02003.1	Slaughter Creek 46 kV station	
	(Wilbur Station)	AEP (100%)
	Install 3 138 kV circuit	
b2603.2	breakers, Cabin Creek to	
	Hernshaw 138 kV circuit	AEP (100%)
	Construct 1 mi. of double	
	circuit 138 kV line on Wilbur –	
	Boone 46 kV line with 1590	
	ACSS 54/19 conductor @ 482	
b2603.3	Degree design temp. and 1-159	
	12/7 ACSR and one 86	
	Sq.MM. 0.646" OPGW Static	
	wires	AEP (100%)
	Bellefonte Transformer	
b2604	Addition	A = D (1000/)
	Auuition	AEP (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

AEP Service Corporation on behalf of its Affiliate Companies: AEP Indiana Michigan Transmission Company, AEP Ohio Transmission Company, AEP West Virginia Transmission Company, Appalachian Power Company, Indiana Michigan Power Company, Kingsport Power Company, Ohio Power Company and Wheeling Power Company (cont.)

	Remove approximately 11.32	•	
1.0.00.4.1	miles of the 69 kV line		
b2604.1	between Millbrook Park and		
	Franklin Furnace		AEP (100%)
	At Millbrook Park station,		
	add a new 138/69 kV		
	Transformer #2 (90 MVA)		
	with 3000 A 40 kA breakers		
b2604.2	on the high and low side.		
	Replace the 600 A MOAB		
	switch and add a 3000 A		
	circuit switcher on the high		
	side of Transformer #1		AEP (100%)
	Replace Sciotoville 69 kV		
	station with a new 138/12 kV		
1-2604-2	in-out station (Cottrell) with		
b2604.3	2000 A line MOABs facing		
	Millbrook Park and East		
	Wheelersburg 138 kV station		AEP (100%)
	Tie Cottrell switch into the		
	Millbrook Park – East		
b2604.4	Wheelersburg 138 kV circuit		
02004.4	by constructing 0.50 mile of		
	line using 795 ACSR 26/7		
	Drake (SE 359 MVA)		AEP (100%)
	Install a new 2000 A 3-way		
b2604.5	PoP switch outside of Texas		
02004.5	Eastern 138 kV substation		
	(Sadiq switch)		AEP (100%)
	Replace the Wheelersburg 69		
	kV station with a new 138/12		
	kV in-out station (Sweetgum)		
b2604.6	with a 3000 A 40 kA breaker		
	facing Sadiq switch and a		
	2000 A 138 kV MOAB		
	facing Althea		AEP (100%)

	Isinission Lindercentents Annua	Responsible Customer(s)
	Build approximately 1.4 miles of new 138 kV line	
	using 795 ACSR 26/7	
b2604.7	Drake (SE 359 MVA)	
	between the new Sadiq	
	switch and the new	
	Sweetgum 138 kV station	AEP (100%)
b2604.8	Remove the existing 69 kV	
02004.8	Hayport Road switch	AEP (100%)
	Rebuild approximately 2.3	
	miles along existing Right-	
	Of-Way from Sweetgum to	
	the Hayport Road switch 69	
	kV location as 138 kV	
	single circuit and rebuild	
	approximately 2.0 miles	
b2604.9	from the Hayport Road	
02004.9	switch to Althea 69 kV with	
	double circuit 138 kV	
	construction, one side	
	operated at 69 kV to	
	continue service to K.O.	
	Wheelersburg, using 795	
	ACSR 26/7 Drake (SE 359	
	MVA)	AEP (100%)
	Build a new station (Althea)	
	with a 138/69 kV, 90 MVA	
	transformer. The 138 kV	
b2604.10	side will have a single 2000	
02007.10	A 40 kA circuit breaker and	
	the 69 kV side will be a	
	2000 A 40 kA three breaker	
	ring bus	AEP (100%)
	Remote end work at	
b2604.11	Hanging Rock, East	
0200111	Wheelersburg and North	
	Haverhill 138 kV	AEP (100%)

Itequilea IIu		evenue Requirement	Responsible Customer(s)
	Rebuild and reconductor		
	Kammer – George		
	Washington 69 kV circuit and		
b2605	George Washington –		
02003	Moundsville ckt #1, designed		
	for 138 kV. Upgrade limiting		
	equipment at remote ends and		
	at tap stations		AEP (100%)
	Convert Bane –		
b2606	Hammondsville from 23 kV to		
	69 kV operation		AEP (100%)
1.2(07	Dine Can Dalar Limit Lange		
b2607	Pine Gap Relay Limit Increase		AEP (100%)
1.2(00	Dishlanda Dalam I.J		
b2608	Richlands Relay Upgrade		AEP (100%)
	Thorofare – Goff Run –		
b2609	Powell Mountain 138 kV		
	Build		AEP (100%)
b2610	Rebuild Pax Branch –		
02010	Scaraboro as 138 kV		AEP (100%)
b2611	Skin Fork Area Improvements		
02011	-		AEP (100%)
	New 138/46 kV station near		
b2611.1	Skin Fork and other		
	components		AEP (100%)
	Construct 3.2 miles of 1033		
	ACSR double circuit from		
b2611.2	new Station to cut into		
	Sundial-Baileysville 138 kV		
	line		AEP (100%)
	Replace metering BCT on		
	Tanners Creek CB T2 with a		
	slip over CT with higher		
b2634.1	thermal rating in order to		
	remove 1193 MVA limit on		
	facility (Miami Fort-Tanners		
	Creek 345 kV line)		AEP (100%)

	*	1
Replace the Darrah 138 kV breaker 'L' with 40 kA		
rated breaker		AEP (100%)
Ohio Central 138 kV Loop		AEP (100%)
Replace the Muskingum 138 kV bus # 1 and 2		AEP (100%)
Reconductor Dequine to Meadow Lake 345 kV circuit #1 utilizing dual 954 ACSR 54/7 cardinal conductor		AEP (98.19%) / OVEC (1.81%)
Replace the bus/risers at Dequine 345 kV station		AEP (100%)
Install a second 345/138 kV transformer at Desoto		AEP (100%)
Replace switch at Elk Garden 138 kV substation (on the Elk Garden – Lebanon 138 kV circuit)		AEP (100%)
Replace/upgrade/add terminal equipment at Bradley, Mullensville, Pinnacle Creek, Itmann, and Tams Mountain 138 kV substations. Sag study on Mullens – Wyoming and Mullens – Tams Mt. 138 kV circuits		AEP (100%)
	breaker 'L' with 40 kA rated breaker Ohio Central 138 kV Loop Replace the Muskingum 138 kV bus # 1 and 2 Reconductor Dequine to Meadow Lake 345 kV circuit #1 utilizing dual 954 ACSR 54/7 cardinal conductor Replace the bus/risers at Dequine 345 kV station Install a second 345/138 kV transformer at Desoto Replace switch at Elk Garden 138 kV substation (on the Elk Garden – Lebanon 138 kV circuit) Replace/upgrade/add terminal equipment at Bradley, Mullensville, Pinnacle Creek, Itmann, and Tams Mountain 138 kV substations. Sag study on Mullens – Wyoming and	breaker 'L' with 40 kA rated breaker Ohio Central 138 kV Loop Replace the Muskingum 138 kV bus # 1 and 2 Reconductor Dequine to Meadow Lake 345 kV circuit #1 utilizing dual 954 ACSR 54/7 cardinal conductor Replace the bus/risers at Dequine 345 kV station Install a second 345/138 kV transformer at Desoto Replace switch at Elk Garden 138 kV substation (on the Elk Garden – Lebanon 138 kV circuit) Replace/upgrade/add terminal equipment at Bradley, Mullensville, Pinnacle Creek, Itmann, and Tams Mountain 138 kV substations. Sag study on Mullens – Wyoming and Mullens – Tams Mt. 138 kV

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
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		Load-Ratio Share Allocation:
		AEC (1.65%) / AEP (14.29%) /
		APS (5.82%) / ATSI (7.49%) /
		BGE (4.01%) / ComEd
		(14.06%) / Dayton (2.03%) /
		DEOK (3.21%) / DL (1.59%) /
	Install a +/- 450 MVAR	DPL (2.55%) / Dominion
b2687.1		(13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) /
02007.1	SVC at Jacksons Ferry 765 kV substation	
k v substation	NEPTUNE* (0.42%) / OVEC	
		(0.06%) / PECO (5.11%) /
		PENELEC (1.73%) / PEPCO
		(3.68%) / PPL (4.43%) / PSEG
		(5.99%) / RE (0.24%)
		DFAX Allocation:
		AEP (100%)

*Neptune Regional Transmission System, LLC

Required Trai	nsmission Enhancements Annua	ll Revenue Requirement	Responsible Customer(s)
			Load-Ratio Share Allocation:
			AEC (1.65%) / AEP (14.29%) /
			APS (5.82%) / ATSI (7.49%) /
			BGE (4.01%) / ComEd
			(14.06%) / Dayton (2.03%) /
	Install a 300 MVAR shunt		DEOK (3.21%) / DL (1.59%) /
	line reactor on the		DPL (2.55%) / Dominion
b2687.2	Broadford end of the		(13.89%) / EKPC (2.35%) /
02087.2	Broadford – Jacksons Ferry		JCPL (3.59%) / ME (1.81%) /
	765 kV line		NEPTUNE* (0.42%) / OVEC
			(0.06%) / PECO (5.11%) /
			PENELEC (1.73%) / PEPCO
			(3.68%) / PPL (4.43%) / PSEG
			(5.99%) / RE (0.24%)
			DFAX Allocation:
			AEP (100%)
	Mitigate violations		
	identified by sag study to		
	operate Fieldale-Thornton-		
b2697.1	Franklin 138 kV overhead		
02077.1	line conductor at its max.		
	operating temperature. 6		
	potential line crossings to		
	be addressed		AEP (100%)
	Replace terminal equipment		
	at AEP's Danville and East		
b2697.2	Danville substations to		
02077.2	improve thermal capacity of		
	Danville – East Danville		
	138 kV circuit		AEP (100%)
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Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

*Neptune Regional Transmission System, LLC

IISTIISSION Ennancements Annuar		Responsible Cusionier(s)
Replace relays at AEP's		
• •		
Cloverdale – Jackson's Ferry		
765 kV line		AEP (100%)
Construct Herlan station as		
breaker and a half		
configuration with 9-138 kV		
CB's on 4 strings and with 2-		
28.8 MVAR capacitor banks		AEP (100%)
Construct new 138 kV line		
from Herlan station to Blue		
Racer station. Estimated		
approx. 3.2 miles of 1234		
ACSS/TW Yukon and		
OPGW		AEP (100%)
Install 1-138 kV CB at Blue		
Racer to terminate new		
Herlan circuit		AEP (100%)
Rebuild/upgrade line		
between Glencoe and		
Willow Grove Switch 69 kV		AEP (100%)
Build approximately 11.5		
miles of 34.5 kV line with		
556.5 ACSR 26/7 Dove		
conductor on wood poles		
from Flushing station to		
Smyrna station		AEP (100%)
Replace the South Canton		
138 kV breakers 'K', 'J',		
'J1', and 'J2' with 80 kA		
breakers		AEP (100%)
-	Replace relays at AEP's Cloverdale and Jackson's Ferry substations to improve the thermal capacity of Cloverdale – Jackson's Ferry 765 kV line Construct Herlan station as breaker and a half configuration with 9-138 kV CB's on 4 strings and with 2- 28.8 MVAR capacitor banks Construct new 138 kV line from Herlan station to Blue Racer station. Estimated approx. 3.2 miles of 1234 ACSS/TW Yukon and OPGW Install 1-138 kV CB at Blue Racer to terminate new Herlan circuit Rebuild/upgrade line between Glencoe and Willow Grove Switch 69 kV Build approximately 11.5 miles of 34.5 kV line with 556.5 ACSR 26/7 Dove conductor on wood poles from Flushing station to Smyrna station Replace the South Canton 138 kV breakers 'K', 'J', 'J1', and 'J2' with 80 kA	Replace relays at AEP'sCloverdale and Jackson'sFerry substations to improvethe thermal capacity ofCloverdale – Jackson's Ferry765 kV lineConstruct Herlan station asbreaker and a halfconfiguration with 9-138 kVCB's on 4 strings and with 2-28.8 MVAR capacitor banksConstruct new 138 kV linefrom Herlan station to BlueRacer station. Estimatedapprox. 3.2 miles of 1234ACSS/TW Yukon andOPGWInstall 1-138 kV CB at BlueRacer to terminate newHerlan circuitRebuild/upgrade linebetween Glencoe andWillow Grove Switch 69 kVBuild approximately 11.5miles of 34.5 kV line with556.5 ACSR 26/7 Doveconductor on wood polesfrom Flushing station toSmyrna stationReplace the South Canton138 kV breakers 'K', 'J','J1', and 'J2' with 80 kA

Required Tra	nsmission Ennancements Annual	Revenue Requirement	Responsible Customer(s)
	Convert the Sunnyside –		
	East Sparta – Malvern 23 kV		
b2731	sub-transmission network to		
	69 kV. The lines are already		
	built to 69 kV standards		AEP (100%)
	Replace South Canton 138		
b2733	kV breakers 'L' and 'L2'		
	with 80 kA rated breakers		AEP (100%)
	Retire Betsy Layne		
	138/69/43 kV station and		
b2750.1	replace it with the greenfield		
02750.1	Stanville station about a half		
	mile north of the existing		
	Betsy Layne station		AEP (100%)
	Relocate the Betsy Layne		
	capacitor bank to the		
b2750.2	Stanville 69 kV bus and		
	increase the size to 14.4		
	MVAR		AEP (100%)
	Replace existing George		
	Washington station 138 kV		
	yard with GIS 138 kV		
b2753.1	breaker and a half yard in		
	existing station footprint.		
	Install 138 kV revenue		
	metering for new IPP		AED (1009/)
	connection		AEP (100%)
	Replace Dilles Bottom 69/4 kV Distribution station as		
	breaker and a half 138 kV		
b2753.2	yard design including AEP Distribution facilities but		
	initial configuration will		
	constitute a 3 breaker ring		
	bus		AED (100%)
	Jus		AEP (100%)

Required 11a	IISTIISSION Ennancements Annual	Revenue Requirement	Responsible Customer(3)
	Connect two 138 kV 6-wired		
	circuits from "Point A"		
	(currently de-energized and		
	owned by FirstEnergy) in		
b2753.3	circuit positions previously		
02755.5	designated Burger #1 &		
	Burger #2 138 kV. Install		
	interconnection settlement		
	metering on both circuits		
	exiting Holloway		AEP (100%)
	Build double circuit 138 kV		
	line from Dilles Bottom to		
	"Point A". Tie each new		
	AEP circuit in with a 6-wired		
b2753.6	line at Point A. This will		
	create a Dilles Bottom –		
	Holloway 138 kV circuit and		
	a George Washington –		
	Holloway 138 kV circuit		AEP (100%)
	Retire line sections (Dilles		
	Bottom – Bellaire and		
	Moundsville – Dilles Bottom		
	69 kV lines) south of		
b2753.7	FirstEnergy 138 kV line		
02755.7	corridor, near "Point A". Tie		
	George Washington –		
	Moundsville 69 kV circuit to		
	George Washington – West		
	Bellaire 69 kV circuit		AEP (100%)
	Rebuild existing 69 kV line		
	as double circuit from		
	George Washington – Dilles		
b2753.8	Bottom 138 kV. One circuit		
02755.0	will cut into Dilles Bottom		
	138 kV initially and the other		
	will go past with future plans		
	to cut in		AEP (100%)

required file	IISIIIISSIOII LAIIIdai Certicitits Affiliadi F	evenue Requirement	
	Perform a Sag Study of the Saltville – Tazewell 138 kV		
b2760			
	line to increase the thermal		
	rating of the line		AEP (100%)
	Perform a Sag Study of the		
b2761.2	Hazard – Wooten 161 kV line		
02,0112	to increase the thermal rating		
	of the line		AEP (100%)
	Rebuild the Hazard – Wooton		
b2761.3	161 kV line utilizing 795 26/7		
02701.5	ACSR conductor (300 MVA		
	rating)		AEP (100%)
	Perform a Sag Study of Nagel		
b2762	– West Kingsport 138 kV line		
02/02	to increase the thermal rating		
	of the line		AEP (100%)
	Reconductor the entire		
b2776	Dequine – Meadow Lake 345		
	kV circuit #2		AEP (98.19%) / OVEC (1.81%)
	Reconductor the entire		
b2777	Dequine – Eugene 345 kV		
	circuit #1		AEP (100%)
	Construct a new 138 kV		
b2779.1	station, Campbell Road,		
02//9.1	tapping into the Grabill –		
	South Hicksville138 kV line		AEP (100%)
	Reconstruct sections of the		
	Butler-N.Hicksville and		
1.0770.0	Auburn-Butler 69 kV circuits		
b2779.2	as 138 kV double circuit and		
	extend 138 kV from		
	Campbell Road station		AEP (100%)
			· · · · · · · · · · · · · · · · · · ·

required fra	Institussion Linderteenen Annual	reevenue reequiremente	
b2779.3	Construct a new 345/138 kV SDI Wilmington Station which will be sourced from Collingwood 345 kV and serve the SDI load at 345 kV		
	and 138 kV, respectively		AEP (100%)
b2779.4	Loop 138 kV circuits in-out of the new SDI Wilmington 138 kV station resulting in a direct circuit to Auburn 138 kV and an indirect circuit to Auburn and Rob Park via Dunton Lake, and a circuit to Campbell Road; Reconductor 138 kV line section between Dunton Lake – SDI Wilmington		AEP (100%)
b2779.5	Expand Auburn 138 kV bus		AEP (100%)
b2779.6	Construct a 345 kV ring bus at Dunton Lake to serve Steel Dynamics, Inc. (SDI) load at 345 kV via two (2) circuits		AEP (100%)
b2779.7	Retire Collingwood 345 kV station		AEP (100%)
b2787	Reconductor 0.53 miles (14 spans) of the Kaiser Jct Air Force Jct. Sw section of the Kaiser - Heath 69 kV circuit/line with 336 ACSR to match the rest of the circuit (73 MVA rating, 78% loading)		AEP (100%)

Required 11a	Institussion Enhancements Annual	Revenue Requirement	Responsible Customer(s)
	Install a new 3-way 69 kV		
	line switch to provide service		
	to AEP's Barnesville		
b2788	distribution station. Remove a		
	portion of the #1 copper T-		
	Line from the 69 kV through-		
	path		AEP (100%)
	Rebuild the Brues - Glendale		
b2789	Heights 69 kV line section (5		
02/89	miles) with 795 ACSR (128		
	MVA rating, 43% loading)		AEP (100%)

Required I rai	nsmission Enhancements A	Annual Revenue Requirem	nent Responsible Customer(s)
	Install a 3 MVAR, 34.5 kV		
b2790	cap bank at Caldwell		
	substation		AEP (100%)
b2791	Rebuild Tiffin – Howard, new		
02/91	transformer at Chatfield		AEP (100%)
	Rebuild portions of the East		
	Tiffin - Howard 69 kV line		
	from East Tiffin to West		
b2791.1	Rockaway Switch (0.8 miles)		
	using 795 ACSR Drake		
	conductor (129 MVA rating,		
	50% loading)		AEP (100%)
	Rebuild Tiffin - Howard 69		
	kV line from St. Stephen's		
	Switch to Hinesville (14.7		
b2791.2	miles) using 795 ACSR		
	Drake conductor (90 MVA		
	rating, non-conductor limited,		
	38% loading)		AEP (100%)
	New 138/69 kV transformer		
b2791.3	with 138/69 kV protection at		
	Chatfield		AEP (100%)
b2791.4	New 138/69 kV protection at		
02/91.4	existing Chatfield transformer		AEP (100%)
	Replace the Elliott		
	transformer with a 130 MVA		
	unit, reconductor 0.42 miles		
b2792	of the Elliott – Ohio		
	University 69 kV line with		
02192	556 ACSR to match the rest		
	of the line conductor (102		
	MVA rating, 73% loading)		
	and rebuild 4 miles of the		
	Clark Street – Strouds R		AEP (100%)

Required Tra	nsmission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
b2793	Energize the spare Fremont Center 138/69 kV 130 MVA transformer #3. Reduces overloaded facilities to 46% loading		AEP (100%)
b2794	Construct new 138/69/34 kV station and 1-34 kV circuit (designed for 69 kV) from new station to Decliff station, approximately 4 miles, with 556 ACSR conductor (51 MVA rating)		AEP (100%)
b2795	Install a 34.5 kV 4.8 MVAR capacitor bank at Killbuck 34.5 kV station		AEP (100%)
b2796	Rebuild the Malvern - Oneida Switch 69 kV line section with 795 ACSR (1.8 miles, 125 MVA rating, 55% loading)		AEP (100%)
b2797	Rebuild the Ohio Central - Conesville 69 kV line section (11.8 miles) with 795 ACSR conductor (128 MVA rating, 57% loading). Replace the 50 MVA Ohio Central 138/69 kV XFMR with a 90 MVA unit		AEP (100%)
b2798	Install a 14.4 MVAR capacitor bank at West Hicksville station. Replace ground switch/MOAB at West Hicksville with a circuit switcher		AEP (100%)
b2799	Rebuild Valley - Almena, Almena - Hartford, Riverside - South Haven 69 kV lines. New line exit at Valley Station. New transformers at Almena and Hartford		AEP (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requireme	ent Responsible Customer(s)
b2799.1	Rebuild 12 miles of Valley – Almena 69 kV line as a double circuit 138/69 kV line using 795 ACSR conductor (360 MVA rating) to introduce a new 138 kV source into the 69 kV load pocket around Almena station		AEP (100%)
b2799.2	Rebuild 3.2 miles of Almena to Hartford 69 kV line using 795 ACSR conductor (90 MVA rating)		AEP (100%)
b2799.3	Rebuild 3.8 miles of Riverside – South Haven 69 kV line using 795 ACSR conductor (90 MVA rating)		AEP (100%)
b2799.4	At Valley station, add new 138 kV line exit with a 3000 A 40 kA breaker for the new 138 kV line to Almena and replace CB D with a 3000 A 40 kA breaker		AEP (100%)
b2799.5	At Almena station, install a 90 MVA 138/69 kV transformer with low side 3000 A 40 kA breaker and establish a new 138 kV line exit towards Valley		AEP (100%)
b2799.6	At Hartford station, install a second 90 MVA 138/69 kV transformer with a circuit switcher and 3000 A 40 kA low side breaker		AEP (100%)

Required Tra	Insmission Enhancements	Annual Revenue Requirement Responsible Customer(s)
b2817	Replace Delaware 138 kV breaker 'P' with a 40 kA	
	breaker	AEP (100%)
	Replace West Huntington 138	
b2818	kV breaker 'F' with a 40 kA	
	breaker	AEP (100%)
	Replace Madison 138 kV	
b2819	breaker 'V' with a 63 kA	
	breaker	AEP (100%)
	Replace Sterling 138 kV	
b2820	breaker 'G' with a 40 kA	
	breaker	AEP (100%)
	Replace Morse 138 kV	
b2821	breakers '103', '104', '105',	
02021	and '106' with 63 kA	
	breakers	AEP (100%)
	Replace Clinton 138 kV	
b2822	breakers '105' and '107' with	
	63 kA breakers	AEP (100%)
	Install 300 MVAR reactor at	
b2826.1	Ohio Central 345 kV	
	substation	AEP (100%)

	Install 300 MVAR reactor at	
b2826.2	West Bellaire 345 kV	
	substation	AEP (100%)
	Upgrade the Tanner Creek –	DFAX Allocation:
b2831.1	Miami Fort 345 kV circuit	AEP (24.63%) / Dayton (38.63%)
	(AEP portion)	/ DEOK (36.74%)
	Six wire the Kyger Creek –	
b2832	Sporn 345 kV circuits #1 and	
02832	#2 and convert them to one	
	circuit	AEP (100%)
	Reconductor the Maddox	
b2833	Creek – East Lima 345 kV	
02833	circuit with 2-954 ACSS	DFAX Allocation:
	Cardinal conductor	AEP (75.78%) / Dayton (24.22%)
	Reconductor and string open	
b2834	position and sixwire 6.2 miles	
02034	of the Chemical – Capitol Hill	
	138 kV circuit	AEP (100%)
	Replace the South Canton 138	
b2872	kV breaker 'K2' with a 80 kA	
	breaker	AEP (100%)
	Replace the South Canton 138	
b2873	kV breaker "M" with a 80 kA	
	breaker	AEP (100%)
	Replace the South Canton 138	
b2874	kV breaker "M2" with a 80	
	kA breaker	AEP (100%)
b2878	Upgrade the Clifty Creek	
02070	345 kV risers	AEP (100%)
	Rebuild approximately 4.77	
	miles of the Cannonsburg –	
b2880	South Neal 69 kV line section	
	utilizing 795 ACSR	
	conductor (90 MVA rating)	AEP (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2881	Rebuild ~1.7 miles of the Dunn Hollow – London 46 kV line section utilizing 795 26/7 ACSR conductor (58 MVA rating, non-conductor limited)		AEP (100%)
b2882	Rebuild Reusens - Peakland Switch 69 kV line. Replace Peakland Switch		AEP (100%)
b2882.1	Rebuild the Reusens - Peakland Switch 69 kV line (approximately 0.8 miles) utilizing 795 ACSR conductor (86 MVA rating, non-conductor limited)		AEP (100%)
b2882.2	Replace existing Peakland S.S. with new 3 way switch phase over phase structure		AEP (100%)
b2883	Rebuild the Craneco – Pardee – Three Forks – Skin Fork 46 kV line section (approximately 7.2 miles) utilizing 795 26/7 ACSR conductor (108 MVA rating)		AEP (100%)
b2884	Install a second transformer at Nagel station, comprised of 3 single phase 250 MVA 500/138 kV transformers. Presently, TVA operates their end of the Boone Dam – Holston 138 kV interconnection as normally open preemptively for the loss of the existing Nagel		AEP (100%)
b2885	New delivery point for City of Jackson		AEP (100%)

Required Tran	nsmission Enhancements A	Annual Revenue Requirement Responsible Customer(s)	
	Install a new Ironman Switch		
	to serve a new delivery point		
b2885.1	requested by the City of		
	Jackson for a load increase		
	request	AEP (100%)	
	Install a new 138/69 kV		
	station (Rhodes) to serve as a		
b2885.2	third source to the area to help		
	relieve overloads caused by		
	the customer load increase	AEP (100%)	
	Replace Coalton Switch with		
b2885.3	a new three breaker ring bus		
	(Heppner)	AEP (100%)	
	Install 90 MVA 138/69 kV		
	transformer, new transformer		
b2886	high and low side 3000 A 40		
02000	kA CBs, and a 138 kV 40 kA		
	bus tie breaker at West End		
	Fostoria	AEP (100%)	
	Add 2-138 kV CB's and		
	relocate 2-138 kV circuit exits		
b2887	to different bays at Morse		
02007	Road. Eliminate 3 terminal		
	line by terminating Genoa -		
	Morse circuit at Morse Road	AEP (100%)	
1.0000	Retire Poston substation.		
b2888	Install new Lemaster		
	substation	AEP (100%)	
b2888.1	Remove and retire the Poston		
	138 kV station	AEP (100%)	
	Install a new greenfield		
b2888.2	station, Lemaster 138 kV		
	Station, in the clear	AEP (100%)	

Required Tra	nsmission Enhancements An	nual Revenue Requirement	Responsible Customer(s)
b2888.3	Relocate the Trimble 69 kV AEP Ohio radial delivery point to 138 kV, to be served off of the Poston – Strouds Run – Crooksville 138 kV circuit via a new three-way switch. Retire the Poston - Trimble 69 kV line		AEP (100%)
b2889	Expand Cliffview station		AEP (100%)
b2889.1	Cliffview Station: Establish 138 kV bus. Install two 138/69 kV XFRs (130 MVA), six 138 kV CBs (40 kA 3000 A) and four 69 kV CBs (40 kA 3000 A)		AEP (100%)
b2889.2	Byllesby – Wythe 69 kV: Retire all 13.77 miles (1/0 CU) of this circuit (~4 miles currently in national forest)		AEP (100%)
b2889.3	Galax – Wythe 69 kV: Retire 13.53 miles (1/0 CU section) of line from Lee Highway down to Byllesby. This section is currently double circuited with Byllesby – Wythe 69 kV. Terminate the southern 3/0 ACSR section into the newly opened position at Byllesby		AEP (100%)
b2889.4	Cliffview Line: Tap the existing Pipers Gap – Jubal Early 138 kV line section. Construct double circuit in/out (~2 miles) to newly established 138 kV bus, utilizing 795 26/7 ACSR conductor		AEP (100%)

Required Tra	ansmission Enhancements A	Annual Revenue Requireme	ent Responsible Customer(s)
	Rebuild 23.55 miles of the East		
	Cambridge – Smyrna 34.5 kV		
b2890.1	circuit with 795 ACSR		
	conductor (128 MVA rating)		
	and convert to 69 kV		AEP (100%)
	East Cambridge: Install a 2000		
b2890.2	A 69 kV 40 kA circuit breaker		
02890.2	for the East Cambridge –		
	Smyrna 69 kV circuit		AEP (100%)
	Old Washington: Install 69 kV		
b2890.3	2000 A two way phase over		
	phase switch		AEP (100%)
b2890.4	Install 69 kV 2000 A two way		
02890.4	phase over phase switch		AEP (100%)
	Rebuild the Midland Switch to		
	East Findlay 34.5 kV line (3.31		
b2891	miles) with 795 ACSR (63		
	MVA rating) to match other		
	conductor in the area		AEP (100%)
	Install new 138/12 kV		
	transformer with high side		
	circuit switcher at Leon and a		
	new 138 kV line exit towards		
b2892	Ripley. Establish 138 kV at the		
	Ripley station with a new 138/69		
	kV 130 MVA transformer and		
	move the distribution load to		
	138 kV service		AEP (100%)
	Rebuild approximately 6.7 miles		
	of 69 kV line between Mottville		
	and Pigeon River using 795		
b2936.1	ACSR conductor (129 MVA		
	rating). New construction will be		
	designed to 138 kV standards		
	but operated at 69 kV		AEP (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requirement	t Responsible Customer(s)
b2936.2	Pigeon River Station: Replace existing MOAB Sw. 'W' with a new 69 kV 3000 A 40 kA breaker, and upgrade existing relays towards HMD station. Replace CB H with a 3000 A 40 kA breaker		AEP (100%)
b2937	Replace the existing 636 ACSR 138 kV bus at Fletchers Ridge with a larger 954 ACSR conductor		AEP (100%)
b2938	Perform a sag mitigations on the Broadford – Wolf Hills 138 kV circuit to allow the line to operate to a higher maximum temperature		AEP (100%)
b2958.1	Cut George Washington – Tidd 138 kV circuit into Sand Hill and reconfigure Brues & Warton Hill line entrances		AEP (100%)
b2958.2	Add 2 138 kV 3000 A 40 kA breakers, disconnect switches, and update relaying at Sand Hill station		AEP (100%)
b2968	Upgrade existing 345 kV terminal equipment at Tanner Creek station		AEP (100%)
b2969	Replace terminal equipment on Maddox Creek - East Lima 345 kV circuit		AEP (100%)
b2976	Upgrade terminal equipment at Tanners Creek 345 kV station. Upgrade 345 kV bus and risers at Tanners Creek for the Dearborn circuit		AEP (100%)

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Required Tra	nsmission Enhancements A	Annual Revenue Requiremen	t Responsible Customer(s)
	Replace the Twin Branch 345 kV breaker "JM" with 63 kA		
	breaker and associated		
b2988	substation works including		
	switches, bus leads, control		
	cable and new DICM		AEP (100%)
	Rebuild the Torrey – South		
	Gambrinus Switch –		
1 2002	Gambrinus Road 69 kV line		
b2993	section (1.3 miles) with 1033		
	ACSR 'Curlew' conductor		
	and steel poles		AEP (100%)
	Replace South Canton 138 kV		
b3000	breaker 'N' with an 80 kA		
	breaker		AEP (100%)
	Replace South Canton 138 kV		
b3001	breaker 'N1' with an 80 kA		
	breaker		AEP (100%)
	Replace South Canton 138 kV		
b3002	breaker 'N2' with an 80 kA		
	breaker		AEP (100%)
	Rebuild 15.6 miles of		
b3036	Haviland - North Delphos 138		
	kV line		AEP (100%)
b3037	Upgrades at the Natrium		
	substation		AEP (100%)
b3038	Reconductor the Capitol Hill		
05050	– Coco 138 kV line section		AEP (100%)
b3039	Line swaps at Muskingum		
05057	138 kV station		AEP (100%)
	Rebuild Ravenswood –		
	Racine tap 69 kV line section		
b3040.1	(~15 miles) to 69 kV		
	standards, utilizing 795 26/7		
	ACSR conductor		AEP (100%)

Required Tra	nsmission Enhancements A	nnual Revenue Requirement	Responsible Customer(s)
b3040.2	Rebuild existing Ripley – Ravenswood 69 kV circuit (~9 miles) to 69 kV standards, utilizing 795 26/7 ACSR conductor		AEP (100%)
b3040.3	Install new 3-way phase over phase switch at Sarah Lane station to replace the retired switch at Cottageville		AEP (100%)
b3040.4	Install new 138/12 kV 20 MVA transformer at Polymer station to transfer load from Mill Run station to help address overload on the 69 kV network		AEP (100%)
b3040.5	Retire Mill Run station		AEP (100%)
b3040.6	Install 28.8 MVAR cap bank at South Buffalo station		AEP (100%)
b3051.2	Adjust CT tap ratio at Ronceverte 138 kV		AEP (100%)
b3085	Reconductor Kammer – George Washington 138 kV line (approx. 0.08 mile). Replace the wave trap at Kammer 138 kV		AEP (100%)
b3086.1	Rebuild New Liberty – Findlay 34 kV line Str's 1–37 (1.5 miles), utilizing 795 26/7 ACSR conductor		AEP (100%)
b3086.2	Rebuild New Liberty – North Baltimore 34 kV line Str's 1- 11 (0.5 mile), utilizing 795 26/7 ACSR conductor		AEP (100%)

236

Required Tra	nsmission Enhancements	Annual Revenue Requireme	ent Responsible Customer(s)
	Rebuild West Melrose –		
b3086.3	Whirlpool 34 kV line Str's		
03080.3	55–80 (1 mile), utilizing 795		
	26/7 ACSR conductor		AEP (100%)
	North Findlay station: Install		
	a 138 kV 3000A 63kA line		
b3086.4	breaker and low side 34.5 kV		
03080.4	2000A 40 kA breaker, high		
	side 138 kV circuit switcher		
	on T1		AEP (100%)
	Ebersole station: Install		
	second 90 MVA 138/69/34		
b3086.5	kV transformer. Install two		
	low side (69 kV) 2000A 40		
	kA breakers for T1 and T2		AEP (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requirem	nent Responsible Customer(s)
	Rebuild Lakin – Racine Tap		
b3095	69 kV line section (9.2 miles)		
03093	to 69 kV standards, utilizing		
	795 26/7 ACSR conductor		AEP (100%)
	Install a 138 kV 3000A 40 kA		
	circuit switcher on the high		
b3099	side of the existing 138/34.5		
	kV transformer No.5 at		
	Holston station		AEP (100%)
	Replace the 138 kV MOAB		
	switcher "YY" with a new		
b3100	138 kV circuit switcher on the		
	high side of Chemical		
	transformer No.6		AEP (100%)
	Rebuild the 1/0 Cu. conductor		
	sections (approx. 1.5 miles) of		
	the Fort Robinson – Moccasin		
	Gap 69 kV line section		
b3101	(approx. 5 miles) utilizing		
00101	556 ACSR conductor and		
	upgrade existing relay trip		
	limit (WN/WE: 63 MVA, line		
	limited by remaining		
	conductor sections)		AEP (100%)
	Replace existing 50 MVA		
	138/69 kV transformers #1		
b3102	and #2 (both 1957 vintage) at		
	Fremont station with new 130		
	MVA 138/69 kV transformers		AEP (100%)

Required Tra	ansmission Enhancements	Annual Revenue Requir	rement Responsible Customer(s)
	Install a 138/69 kV	-	•
	transformer at Royerton		
	station. Install a 69 kV bus		
	with one 69 kV breaker		
121021	toward Bosman station.		
b3103.1	Rebuild the 138 kV portion		
	into a ring bus configuration		
	built for future breaker and a		
	half with four 138 kV		
	breakers		AEP (100%)
	Rebuild the		
	Bosman/Strawboard station in		
b3103.2	the clear across the road to		
05105.2	move it out of the flood plain		
	and bring it up to 69 kV		
	standards		AEP (100%)
	Retire 138 kV breaker L at		
b3103.3	Delaware station and re-		
03103.3	purpose 138 kV breaker M		
	for the Jay line		AEP (100%)
	Retire all 34.5 kV equipment		
b3103.4	at Hartford City station. Re-		
05105.4	purpose breaker M for the		
	Bosman line 69 kV exit		AEP (100%)
	Rebuild the 138 kV portion of		
	Jay station as a 6 breaker,		
	breaker and a half station re-		
	using the existing breakers		
b3103.5	"A", "B", and "G." Rebuild		
05105.5	the 69 kV portion of this		
	station as a 6 breaker ring bus		
	re-using the 2 existing 69 kV		
	breakers. Install a new 138/69		
	kV transformer		AEP (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requirement Responsible Customer(s)
	Rebuild the 69 kV Hartford	
	City – Armstrong Cork line	
b3103.6	but instead of terminating it	
	into Armstrong Cork,	
	terminate it into Jay station	AEP (100%)
1 2 1 0 2 7	Build a new 69 kV line from	
b3103.7	Armstrong Cork – Jay station	AEP (100%)
	Rebuild the 34.5 kV	
	Delaware – Bosman line as	
1 2 1 0 2 0	the 69 kV Royerton –	
b3103.8	Strawboard line. Retire the	
	line section from Royerton to	
	Delaware stations	AEP (100%)
	Perform a sag study on the	
	Polaris – Westerville 138 kV	
1.2104	line (approx. 3.6 miles) to	
b3104	increase the summer	
	emergency rating to 310	
	MVA	AEP (100%)
	Rebuild the Delaware – Hyatt	
	138 kV line (approx. 4.3	
b3105	miles) along with replacing	
	conductors at both Hyatt and	
	Delaware substations	AEP (100%)
	Perform a sag study (6.8	
	miles of line) to increase the	
	SE rating to 310 MVA. Note	
b3106	that results from the sag study	,
	could cover a wide range of	
	outcomes, from no work	
	required to a complete rebuild	AEP (100%)
	Rebuild 5.2 miles Bethel –	
b3109	Sawmill 138 kV line	
	including ADSS	AEP (100%)

Required Transmission Enhancements		Annual Revenue Requirement Responsible Customer(s)	
b3112	Construct a single circuit 138 kV line (approx. 3.5 miles) from Amlin to Dublin using 1033 ACSR Curlew (296 MVA SN), convert Dublin station into a ring configuration, and re- terminating the Britton UG cable to Dublin station		AEP (100%)
b3116	Replace existing Mullens 138/46 kV 30 MVA transformer No.4 and associated protective equipment with a new 138/46 kV 90 MVA transformer and associated protective equipment		AEP (100%)
b3119.1	Rebuild the Jay – Pennville 138 kV line as double circuit 138/69 kV. Build a new 9.8 mile single circuit 69 kV line from near Pennville station to North Portland station		AEP (100%)

Required Tr	ansmission Enhancements A	Annual Revenue Requirement Responsible Customer(s)	
	Install three (3) 69 kV breakers		
b3119.2	to create the "U" string and add		
05117.2	a low side breaker on the Jay		
	transformer 2	AEP (100%)	
	Install two (2) 69 kV breakers at		
b3119.3	North Portland station to		
05117.5	complete the ring and allow for		
	the new line	AEP (100%)	
	At Conesville 138 kV station:		
	Remove line leads to generating		
	units, transfer plant AC service		
b3129	to existing station service feeds		
	in Conesville 345/138 kV yard,		
	and separate and reconfigure		
	protection schemes	AEP (100%)	
	At East Lima and Haviland 138		
b3131	kV stations, replace line relays		
03131	and wavetrap on the East Lima -	-	
	Haviland 138 kV facility	AEP (100%)	
	Rebuild approximately 12.3		
	miles of remaining Lark		
b3131.1	conductor on the double circuit		
03131.1	line between Haviland and East		
	Lima with 1033 54/7 ACSR		
	conductor	AEP (100%)	
	Rebuild 3.11 miles of the		
b3132	LaPorte Junction – New Buffalo		
	69 kV line with 795 ACSR	AEP (100%)	
	Rebuild the Garden Creek –		
b3139	Whetstone 69 kV line (approx. 4		
	miles)	AEP (100%)	
	Rebuild the Whetstone – Knox		
b3140	Creek 69 kV line (approx. 3.1		
	miles)	AEP (100%)	

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Required Ira		ual Revenue Requirement Respo	onsible Customer(s)
	Rebuild the Knox Creek – Coal		
b3141	Creek 69 kV line (approx. 2.9		
	miles)		AEP (100%)
	Rebuild the 46 kV Bradley –		
	Scarbro line to 96 kV standards		
	using 795 ACSR to achieve a		
1 2 1 4 2 1	minimum rate of 120 MVA.		
b3148.1	Rebuild the new line adjacent to		
	the existing one leaving the old		
	line in service until the work is		
	completed		AEP (100%)
	Bradley remote end station		
b3148.2	work, replace 46 kV bus, install		
	new 12 MVAR capacitor bank		AEP (100%)
	Replace the existing switch at		, <i>,</i>
1.21.40.2	Sun substation with a 2-way		
b3148.3	SCADA-controlled motor-		
	operated air-breaker switch		AEP (100%)
	Remote end work and		
b3148.4	associated equipment at Scarbro		
	station		AEP (100%)
	Retire Mt. Hope station and		
b3148.5	transfer load to existing Sun		
	station		AEP (100%)
	Rebuild the 2.3 mile Decatur –		
b3149	South Decatur 69 kV line using		
	556 ACSR		AEP (100%)
	Rebuild Ferguson 69/12 kV		·
	station in the clear as the 138/12		
	kV Bear station and connect it		
h2150	to an approx. 1 mile double		
b3150	circuit 138 kV extension from		
	the Aviation – Ellison Road 138		
	kV line to remove the load from		
	the 69 kV line		AEP (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tran	nsmission Enhancements	Annual Revenue Requirement Responsible Customer(s)
b3151.1	Rebuild the 30 mile Gateway - Wallen 34.5 kV circuit as the 27 mile Gateway – Wallen 69 kV line	- AEP (100%)
b3151.2	Retire approx. 3 miles of the Columbia – Whitley 34.5 kV line	AEP (100%)
b3151.3	At Gateway station, remove al 34.5 kV equipment and install one (1) 69 kV circuit breaker for the new Whitley line entrance	
b3151.4	Rebuild Whitley as a 69 kV station with two (2) lines and one (1) bus tie circuit breaker	AEP (100%)
b3151.5	Replace the Union 34.5 kV switch with a 69 kV switch structure	AEP (100%)
b3151.6	Replace the Eel River 34.5 kV switch with a 69 kV switch structure	AEP (100%)
b3151.7	Install a 69 kV Bobay switch a Woodland station	AEP (100%)
b3151.8	Replace the Carroll and Churubusco 34.5 kV stations with the 69 kV Snapper station Snapper station will have two (2) line circuit breakers, one (1) bus tie circuit breaker and a 14.4 MVAR cap bank	1.
b3151.9	Remove 34.5 kV circuit breaker "AD" at Wallen statio	n AEP (100%)
b3151.10	Rebuild the 2.5 miles of the Columbia – Gateway 69 kV line	AEP (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tran	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3151.11	Rebuild Columbia station in the clear as a 138/69 kV station with two (2) 138/69 kV transformers and 4- breaker ring buses on the high and low side. Station will reuse 69 kV breakers "J" &		
	"K" and 138 kV breaker "D"		AEP (100%)
b3151.12	Rebuild the 13 miles of the Columbia – Richland 69 kV line		AEP (100%)
b3151.13	Rebuild the 0.5 mile Whitley – Columbia City No.1 line as 69 kV		AEP (100%)
b3151.14	Rebuild the 0.5 mile Whitley – Columbia City No.2 line as 69 kV		AEP (100%)
b3151.15	Rebuild the 0.6 mile double circuit section of the Rob Park – South Hicksville / Rob Park – Diebold Road as 69 kV		AEP (100%)
b3160.1	Construct an approx. 2.4 miles double circuit 138 kV extension using 1033 ACSR (Aluminum Conductor Steel Reinforced) to connect Lake Head to the 138 kV network		AEP (100%)
b3160.2	Retire the approx.2.5 miles 34.5 kV Niles – Simplicity Tap line		AEP (100%)
b3160.3	Retire the approx.4.6 miles Lakehead 69 kV Tap		AEP (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requireme	nt Responsible Customer(s)
	Build new 138/69 kV drop down station to feed		
	Lakehead with a 138 kV		
b3160.4	breaker, 138 kV switcher,		
	138/69 kV transformer and a		
	138 kV Motor-Operated Air		
	Break		AEP (100%)
	Rebuild the approx. 1.2 miles		
	Buchanan South 69 kV		
b3160.5	Radial Tap using 795 ACSR		
	(Aluminum Conductor Steel		
	Reinforced)		AEP (100%)
	Rebuild the approx.8.4 miles		
	69 kV Pletcher – Buchanan		
1.01.00.0	Hydro line as the approx. 9		
b3160.6	miles Pletcher – Buchanan		
	South 69 kV line using 795		
	ACSR (Aluminum Conductor		
	Steel Reinforced)		AEP (100%)
	Install a PoP (Point-of-		
12160 7	Presence) switch at Buchanan		
b3160.7	South station with 2 line		
	MOABs (Motor-Operated Air		A = D (1000/)
	Break)		AEP (100%)

Required '	Transmission Enhancements	Annual Revenue Req	uirement	Responsible Customer(s)
b3208	Retire approximately 38 miles of the 44 mile Clifford – Scottsville 46 kV circuit. Build new 138 kV "in and out" to two new distribution stations to serve the load formerly served by Phoenix, Shipman, Schuyler (AEP), and Rockfish stations. Construct new 138 kV lines from Joshua Falls – Riverville (approx. 10 miles) and Riverville – Gladstone (approx. 5 miles). Install required station upgrades at Joshua Falls, Riverville and Gladstone stations to accommodate the new 138 kV circuits. Rebuild Reusen – Monroe 69 kV (approx. 4 miles)			AEP (100%)
b3209	Rebuild the 10.5 mile Berne – South Decatur 69 kV line using 556 ACSR			AEP (100%)
b3210	Replace approx. 0.7 mile Beatty – Galloway 69 kV line with 4000 kcmil XLPE cable			AEP (100%)
b3220	Install 14.4 MVAR capacitor bank at Whitewood 138 kV			AEP (100%)

Required Transmission Enhancements		Annual Revenue Requiremen	nt Responsible Customer(s)
b3243	Replace risers at the Bass		
03243	34.5 kV station		AEP (100%)
	Rebuild approximately 9		
b3244	miles of the Robinson Park –		
	Harlan 69 kV line		AEP (100%)
	Install a low side 69 kV		
b3248	circuit breaker at the Albion		
	138/69 kV transformer #1		AEP (100%)
	Rebuild the Chatfield –		
b3249	Melmore 138 kV line		
03249	(approximately 10 miles) to		
	1033 ACSR conductor		AEP (100%)

Required 7	Fransmission Enhancements	Annual Revenue Require	ement Responsible Customer(s)
b3253	Install a 3000A 40 kA 138 kV breaker on the high side of 138/69 kV transformer #5 at the Millbrook Park station. The transformer and associated bus protection will be upgraded accordingly		AEP (100%)
b3255	Upgrade 795 AAC risers at the Sand Hill 138 kV station towards Cricket Switch with 1272 AAC		AEP (100%)
b3256	Upgrade 500 MCM Cu risers at Tidd 138 kV station towards Wheeling Steel; replace with 1272 AAC conductor		AEP (100%)
b3257	Replace two spans of 336.4 26/7 ACSR on the Twin Branch – AM General #2 34.5 kV circuit		AEP (100%)
b3258	Install a 3000A 63 kA 138 kV breaker on the high side of 138/69 kV transformer #2 at Wagenhals station. The transformer and associated bus protection will be upgraded accordingly		AEP (100%)
b3259	At West Millersburg station, replace the 138 kV MOAB on the West Millersburg – Wooster 138 kV line with a 3000A 40 kA breaker		AEP (100%)
b3261	Upgrade circuit breaker "R1" at Tanners Creek 345 kV. Install Transient Recovery Voltage capacitor to increase the rating from 50 kA to 63 kA		AEP (100%)

Required 7	Fransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	At West New Philadelphia		
	station, add a high side 138		
b3269	kV breaker on the 138/69 kV		
05207	Transformer #2 along with a		
	138 kV breaker on the line		
	towards Newcomerstown		AEP (100%)
	Install 1.7 miles of 795 ACSR		
	138 kV conductor along the		
	other side of Dragoon Tap		
	138 kV line, which is		
	currently double circuit tower		
	with one position open.		
	Additionally, install a second		
b3270	138/34.5 kV transformer at		
00270	Dragoon, install a high side		
	circuit switcher on the current		
	transformer at the Dragoon		
	Station, and install two (2)		
	138 kV line breakers on the		
	Dragoon – Jackson 138 kV		
	and Dragoon – Twin Branch		
	138 kV lines		AEP (100%)
1 2 2 5 0 1	Replace Dragoon 34.5 kV		
b3270.1	breakers "B", "C", and "D"		
	with 40 kA breakers		AEP (100%)
	Install a 138 kV circuit		
	breaker at Fremont station on		
b3271	the line towards Fremont		
	Center and install a 9.6		
	MVAR 69 kV capacitor bank		
	at Bloom Road station		AEP (100%)
	Install two 138 kV circuit		
b3272	switchers on the high side of		
00272	138/34.5 kV Transformers #1		
	and #2 at Rockhill station		AEP (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requ	airement Responsible Customer(s)
	Rebuild and convert the		
	existing 17.6 miles East		
b3273.1	Leipsic – New Liberty 34.5		
	kV circuit to 138 kV using		
	795 ACSR		AEP (100%)
	Convert the existing 34.5		
	kV equipment to 138 kV		
	and expand the existing		
	McComb station to the		
	north and east to allow for		
b3273.2	new equipment to be		
	installed. Install two (2)		
	new 138 kV box bays to		
	allow for line positions and		
	two (2) new 138/12 kV		
	transformers		AEP (100%)
	Expand the existing East		
	Leipsic 138 kV station to		
	the north to allow for		
	another 138 kV line exit to		
	be installed. The new line		
	exit will involve installing		
b3273.3	a new 138 kV circuit		
	breaker, disconnect		
	switches and the addition		
	of a new dead end structure		
	along with the extension of		
	the existing 138 kV bus		
	work		AEP (100%)
	Add one (1) 138 kV circuit		
	breaker and disconnect		
	switches in order to add an		
b3273.4	additional line position at		
032/3.4	New Liberty 138 kV		
	station. Install line relaying		
	potential devices and retire		
	the 34.5 kV breaker 'F'		AEP (100%)

Required Tran	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Rebuild approximately 8.9 miles of 69 kV line between		
b3274	Newcomerstown and Salt		
	Fork Switch with 556 ACSR		
	conductor		AEP (100%)
	Rebuild the Kammer Station		· · · ·
b3275.1	– Cresaps Switch 69 kV line,		
	approximately 0.5 mile		AEP (100%)
	Rebuild the Cresaps Switch –		
b3275.2	McElroy Station 69 kV,		
	approximately 0.67 mile		AEP (100%)
	Replace a single span of 4/0		
	ACSR from Moundsville -		
	Natrium structure 93L to		
b3275.3	Carbon Tap switch 69 kV		
03275.5	located between the		
	Colombia Carbon and Conner		
	Run stations. Remainder of		
	the line is 336 ACSR		AEP (100%)
	Rebuild from Colombia		
	Carbon to Columbia Carbon		
	Tap structure 93N 69 kV,		
	approximately 0.72 mile. The		
b3275.4	remainder of the line between		
	Colombia Carbon Tap		
	structure 93N and Natrium		
	station is 336 ACSR and will		
	remain		AEP (100%)
	Replace the Cresaps 69 kV 3-		
1 2275 5	Way Phase-Over-Phase		
b3275.5	switch and structure with a		
	new 1200A 3-Way switch		AED (1009/)
	and steel pole		AEP (100%)
1.2275 (Replace 477 MCM Alum bus		
b3275.6	and risers at McElroy 69 kV		A = D (1009/)
	station		AEP (100%)

Required Tran	nsmission Enhancements	Annual Revenue Requirement	nt Responsible Customer(s)
b3275.7	Replace Natrium 138 kV bus existing between CB-BT1 and along the 138 kV Main Bus #1 dropping to CBH1 from the 500 MCM conductors to a 1272 KCM AAC conductor. Replace the dead end clamp and strain insulators		AEP (100%)
b3276.1	Rebuild the 2/0 Copper section of the Lancaster – South Lancaster 69 kV line, approximately 2.9 miles of the 3.2 miles total length with 556 ACSR conductor. The remaining section has a 336 ACSR conductor		AEP (100%)
b3276.2	Rebuild the 1/0 Copper section of the line between Lancaster Junction and Ralston station 69 kV, approximately 2.3 miles of the 3.1 miles total length		AEP (100%)
b3276.3	Rebuild the 2/0 Copper portion of the line between East Lancaster Tap and Lancaster 69 kV, approximately 0.81 mile		AEP (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3278.1	Replace H.S. MOAB switches on the high side of the 138/69/34.5 kV transformer T1 with a H.S. circuit switcher at Saltville station		AEP (100%)
b3278.2	Replace existing 138/69/34.5 kV transformer T2 with a new 130 MVA 138/69/13 kV transformer at Meadowview station		AEP (100%)
b3279	Install a new 138 kV, 21.6 MVAR cap bank and circuit switcher at Apple Grove station		AEP (100%)
b3280	Rebuild the existing Cabin Creek – Kelly Creek 46 kV line (to Structure 366-44), approximately 4.4 miles. This section is double circuit with the existing Cabin Creek – London 46 kV line so a double circuit rebuild would be required		AEP (100%)

Required Tran	nsmission Enhancements	Annual Revenue Requireme	ent Responsible Customer(s)
	Install a second 138 kV		
	circuit utilizing 795 ACSR		
	conductor on the open		
	position of the existing		
	double circuit towers from		
	East Huntington – North		
	Proctorville. Remove the		
b3282.1	existing 34.5 kV line from		
	East Huntington – North		
	Chesapeake and rebuild this		
	section to 138 kV served		
	from a new PoP switch off		
	the new East Huntington –		
	North Proctorville 138 kV #2		
	line		AEP (100%)
	Install a 138 kV 40 kA circuit		
b3282.2	breaker at North Proctorville		
	station		AEP (100%)
	Install a 138 kV 40 kA circuit		
b3282.3	breaker at East Huntington		
	station		AEP (100%)
	Convert the existing 34/12 kV		
b3282.4	North Chesapeake to a 138/12		
	kV station		AEP (100%)

Required Tran	nsmission Enhancements	Annual Revenue Requiren	nent Responsible Customer(s)
	Rebuild approximately 5.44		
b3284	miles of 69 kV line from		
	Lock Lane to Point Pleasant		AEP (100%)
	Replace the Meigs 69 kV 4/0		
	Cu station riser towards		
	Gavin and rebuild the section		
	of the Meigs – Hemlock 69		
b3285	kV circuit from Meigs to		
03283	approximately Structure #40		
	(about 4 miles) replacing the		
	line conductor 4/0 ACSR		
	with the line conductor size		
	556.5 ACSR		AEP (100%)
	Reconductor the first 3 spans		
	from Merrimac station to		
	Structure 464-3 of 3/0 ACSR		
b3286	conductor utilizing 336		
	ACSR on the existing		
	Merrimac – Midway 69 kV		
	circuit		AEP (100%)
	Upgrade 69 kV risers at		
b3287	Moundsville station towards		
	George Washington		AEP (100%)
	Install high-side circuit		
b3289.1	switcher on 138/69/12 kV T5		
	at Roanoke station		AEP (100%)
	Install high-side circuit		
b3289.2	switcher on 138/69/34.5 kV		
03203.2	T1 at Huntington Court		
	station		AEP (100%)

Required Tran	nsmission Enhancements	Annual Revenue Requirement Responsible Customer(s)
	Build 9.4 miles of single	
b3290.1	circuit 69 kV line from	
03290.1	Roselms to near East	
	Ottoville 69 kV switch	AEP (100%)
	Rebuild 7.5 miles of double	
	circuit 69 kV line between	
1,2200.2	East Ottoville switch and	
b3290.2	Kalida station (combining	
	with the new Roselms to	
	Kalida 69 kV circuit)	AEP (100%)
	At Roselms switch, install a	
1,2200,2	new three way 69 kV, 1200 A	
b3290.3	phase-over-phase switch,	
	with sectionalizing capability	AEP (100%)
	At Kalida 69 kV station,	
	terminate the new line from	
1 2200 4	Roselms switch. Move the CS	
b3290.4	XT2 from high side of T2 to	
	the high side of T1. Remove	
	existing T2 transformer	AEP (100%)
1.2201	Replace the Russ St. 34.5 kV	
b3291	switch	AEP (100%)
	Replace existing 69 kV	
1 2202	capacitor bank at Stuart	
b3292	station with a 17.2 MVAR	
	capacitor bank	AEP (100%)
	Replace 2/0 Cu entrance span	
	conductor on the South Upper	
1 2 2 0 2	Sandusky 69 kV line and 4/0	
b3293	Cu Risers/Bus conductors on	
	the Forest line at Upper	
	Sandusky 69 kV station	AEP (100%)
	Replace existing 69 kV	
1.220.4	disconnect switches for	
b3294	circuit breaker "C" at Walnut	
	Avenue station	AEP (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requirement Responsible Customer(s)	
b3295	Grundy 34.5 kV: Install a 34.5 kV 9.6 MVAR cap bank	AEP (100%)	
b3296	Rebuild the overloaded portion of the Concord – Whitaker 34.5 kV line (1.13 miles). Rebuild is double circuit and will utilize 795 ACSR conductor	AEP (100%)	
b3297.1	Rebuild 4.23 miles of 69 kV line between Sawmill and Lazelle station, using 795 ACSR 26/7 conductor	AEP (100%)	
b3297.2	Rebuild 1.94 miles of 69 kV line between Westerville and Genoa stations, using 795 ACSR 26/7 conductor	AEP (100%)	
b3297.3	Replace risers and switchers at Lazelle, Westerville, and Genoa 69 kV stations. Upgrade associated relaying accordingly	AEP (100%)	
b3298	Rebuild 0.8 mile of double circuit 69 kV line between South Toronto and West Toronto. Replace 219 ACSR with 556 ACSR	AEP (100%)	
b3298.1	Replace the 69 kV breaker D at South Toronto station with 40 kA breaker	AEP (100%)	
b3299	Rebuild 0.2 mile of the West End Fostoria - Lumberjack Switch 69 kV line with 556 ACSR (Dove) conductors. Replace jumpers on West End Fostoria line at Lumberjack Switch		

Required Tra	nsmission Enhancements	Annual Revenue Requireme	ent Responsible Customer(s)
b3308	Reconductor and rebuild 1 span of T-line on the Fort Steuben – Sunset Blvd 69 kV branch with 556 ACSR		AEP (100%)
b3309	Rebuild 1.75 miles of the Greenlawn – East Tiffin line section of the Carothers – Greenlawn 69 kV circuit containing 133 ACSR conductor with 556 ACSR conductor. Upgrade relaying as required		AEP (100%)
b3310.1	Rebuild 10.5 miles of the Howard – Willard 69 kV line utilizing 556 ACSR conductor		AEP (100%)
b3310.2	Upgrade relaying at Howard 69 kV station		AEP (100%)
b3310.3	Upgrade relaying at Willard 69 kV station		AEP (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requiremen	t Responsible Customer(s)
b3312	Rebuild approximately 4 miles of existing 69 kV line between West Mount Vernon and Mount Vernon stations. Replace the existing 138/69 kV transformer at West Mount Vernon with a larger 90 MVA unit along with existing 69 kV breaker 'C'		AEP (100%)
b3313	Add 40 kA circuit breakers on the low and high side of the East Lima 138/69 kV transformer		AEP (100%)
b3314.1	Install a new 138/69 kV 130 MVA transformer and associated protection at Elliot station		AEP (100%)
b3314.2	Perform work at Strouds Run station to retire 138/69/13 kV 33.6 MVA Transformer #1 and install a dedicated 138/13 KV distribution transformer		AEP (100%)
b3315	Upgrade relaying on Mark Center – South Hicksville 69 kV line and replace Mark Center cap bank with a 7.7 MVAR unit		AEP (100%)
b3320	Replace the CT at Don Marquis 345 kV station		AEP (100%)
b3336	Rebuild 6 miles Benton Harbor - Riverside 138 kV double circuit extension		AEP (100%)
b3337	Replace the one (1) Hyatt 138 kV breaker "AB1" (101N) with 3000 A, 63 kA interrupting breaker		AEP (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requiren	nent Responsible Customer(s)
b3338	Replace the two (2) Kenny 138 kV breakers, "102" (SC- 3) and "106" (SC-4), each with a 3000 A, 63 kA		
	interrupting breaker		AEP (100%)
b3339	Replace the one (1) Canal 138 kV breaker "3" with		
	3000 A, 63 kA breaker Replace the 2156 ACSR and		AEP (100%)
	2874 ACSR bus and risers		
	with 2-bundled 2156 ACSR		
b3342	at Muskingum River 345 kV		
	station to address loading		
	issues on Muskingum -		
	Waterford 345 kV line		AEP (100%)
	Rebuild approximately 0.3		
	miles of the overloaded 69		
b3343	kV line between Albion -		
	Philips Switch and Philips Switch - Brimfield Switch		
	with 556 ACSR conductor		AEP (100%)
	Install two (2) 138 kV circuit		AEF (10078)
	breakers in the M and N		
	strings in the breaker-and-a		
	half configuration in West		
b3344.1	Kingsport station 138 kV		
	yard to allow the Clinch		
	River - Moreland Dr. 138 kV		
	to cut in the West Kingsport		
	station		AEP (100%)
	Upgrade remote end relaying		
b3344.2	at Riverport 138 kV station		
05544.2	due to the line cut in at West		
	Kingsport station		AEP (100%)

Required Tran	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Rebuild approximately 4.2 miles of overloaded sections		
b3345.1	of the 69 kV line between Salt		
	Fork switch and Leatherwood		
	switch with 556 ACSR		AEP (100%)
b3345.2	Update relay settings at		
03343.2	Broom Road station		AEP (100%)
	Rebuild approximately 3.5		
	miles of overloaded 69 kV		
	line between North Delphos –		
	East Delphos – Elida Road		
	switch station. This includes		
	approximately 1.1 miles of		
	double circuit line that makes		
	up a portion of the North		
b3346.1	Delphos – South Delphos 69		
	kV line and the North Delphos		
	– East Delphos 69 kV line.		
	Approximately 2.4 miles of		
	single circuit line will also be		
	rebuilt between the double		
	circuit portion to East Delphos		
	station and from East Delphos		
	to Elida Road switch station		AEP (100%)
	Replace the line entrance		
	spans at South Delphos station		
b3346.2	to eliminate the overloaded		
	4/0 Copper and 4/0 ACSR		
	conductor		AEP (100%)
	Rebuild approximately 20		
b3347.1	miles of 69 kV line between		
00017.1	Bancroft and Milton stations		
	with 556 ACSR conductor		AEP (100%)
	Replace the jumpers around		
b3347.2	Hurrican switch with 556		
	ACSR		AEP (100%)

b3347.3	Replace the jumpers around Teays switch with 556 ACSR	AEP (100%)
b3347.4	Update relay settings at Winfield station to coordinate with remote ends on line rebuild	AEP (100%)
b3347.5	Update relay settings at Bancroft station to coordinate with remote ends on line rebuild	AEP (100%)
b3347.6	Update relay settings at Milton station to coordinate with remote ends on line rebuild	AEP (100%)
b3347.7	Update relay settings at Putnam Village station to coordinate with remote ends on line rebuild	AEP (100%)
b3348.1	Construct a 138 kV single bus station (Tin Branch) consisting of a 138 kV box bay with a distribution transformer and 12 kV distribution bay. Two 138 kV lines will feed this station (from Logan and Sprigg stations), and distribution will have one 12 kV feed. Install two 138 kV circuit breakers on the line exits. Install 138 kV circuit switcher for the new transformer	AEP (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

b3348.2	Construct a new 138/46/12 kV Argyle station to replace Dehue 46 kV station. Install a 138 kV ring bus using a breaker-and-a-half configuration, with an autotransformer with a 46 kV feed and a distribution transformer with a 12 kV distribution bay. Two 138 kV lines will feed this station (from Logan and Wyoming stations). There will also be a 46 kV feed from this station to Becco station. Distribution will have two 12 kV feeds. Retire Dehue 46 kV station in its entirety		AEP (100%)
b3348.3	Bring the Logan – Sprigg #2 138 kV circuit in and out of Tin Branch station by constructing approximately 1.75 miles of new overhead double circuit 138 kV line. Double circuit T3 series lattice towers will be used along with 795,000 cm ACSR 26/7 conductor. One shield wire will be conventional 7 #8 ALUMOWELD, and one shield wire will be optical ground wire (OPGW)		AEP (100%)
b3348.4	Logan-Wyoming No. 1 circuit in and out of the proposed Argyle 46 kV station. Double circuit T3 series lattice towers will be used along with 795,000 cm ACSR 26/7 conductor. One shield wire will be conventional 7 #8 ALUMOWELD, and one shield wire will be OPGW		AEP (100%)
b3348.5	Rebuild approximately 10 miles of 46 kV line between Becco and the new Argyle 46 kV substation. Retire approximately 16 miles of 46 kV line between the new Argyle substation and Chauncey station		AEP (100%)
b3348.6	Adjust relay settings due to new line terminations and retirements at Logan, Wyoming, Sprigg, Becco and Chauncey stations		AEP (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Itequilea IIa		enue Requirement Responsible Customer(s)
	Replace Bellefonte 69 kV	
b3350.1	breakers C, G, I, Z, AB and JJ in	
05550.1	place. The new 69 kV breakers to	AEP (100%)
	be rated at 3000 A 40 kA	
	Upgrade remote end relaying at	
b3350.2	Point Pleasant, Coalton and	
	South Point 69 kV substations	AEP (100%)
	Replace the 69 kV in-line	
b3351	switches at Monterey 69 kV	
	substation	AEP (100%)
	Replace circuit breakers '42' and	
	'43' at Bexley station with 3000	
b3354	A, 40 kA 69 kV breakers	
	(operated at 40 kV), slab, control	AEP (100%)
	cables and jumpers	
	Replace circuit breakers 'A' and	
	'B' at South Side Lima station	
b3355	with 1200 A, 25 kA 34.5 kV	
	breakers, slab, control cables and	AEP (100%)
	jumpers	
	Replace circuit breaker 'H' at	
b3356	West End Fostoria station with	
05550	3000 A, 40 kA 69 kV breaker,	AED (1009/)
	slab, control cables and jumpers	AEP (100%)
	Replace circuit breakers 'C', 'E,'	
12257	and 'L' at Natrium station with	
b3357	3000 A, 40 kA 69 kV breakers,	AED (1000/)
	slab, control cables and jumpers	AEP (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

b3358	Install a 69 kV 11.5 MVAR capacitor at Biers Run 69 kV station	
b3359	Rebuild approximately 2.3 miles of the existing North Van Wert Sw. – Van Wert 69 kV line utilizing 556 ACSR conductor	AEP (100%) AEP (100%)
b3362	Rebuild approximately 3.1 miles of the overloaded conductor on the existing Oertels Corner – North Portsmouth 69 kV line utilizing 556 ACSR	AEP (100%)
b3731	Replace 40 kV breaker J at McComb 138 kV station with a new 3000A 40 kA breaker	AEP (100%)
b3732	Install a 6 MVAR, 34.5 kV cap bank at Morgan Run station	AEP (100%)
b3733	Rebuild the 1.8 mile 69 kV line between Summerhill and Willow Grove Switch. Replace 4/0 ACSR conductor with 556 ACSR	AEP (100%)
b3734	Install a 7.7 MVAR, 69 kV cap bank at both Otway station and Rosemount station	AEP (100%)
b3735	Terminate the existing Broadford – Wolf Hills #1 138 kV line into Abingdon 138 kV Station. This line currently bypasses the existing Abingdon 138 kV station; Install two new 138 kV circuit breakers on each new line exit towards Broadford and towards Wolf Hills #1 station; Install one new 138 kV circuit breaker on line exit towards South Abingdon station for standard bus sectionalizing	AEP (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

	and the second	
b3736.1	Establish 69 kV bus and new 69 kV line Circuit Breaker at Dorton	AED (1009/)
	substation	AEP (100%)
b3736.2	At Breaks substation, reuse 72 kV breaker A as the new 69 kV line breaker	AEP (100%)
b3736.3	Rebuild approximately 16.7 miles Dorton – Breaks 46 kV line to 69 kV line	AEP (100%)
b3736.4	Retire approximately 17.2 miles Cedar Creek – Elwood 46 kV line	AEP (100%)
b3736.5	Retire approximately 6.2 miles Henry Clay – Elwood 46 kV line section	AEP (100%)
b3736.6	Retire Henry Clay 46 kV substation and replace with Poor Bottom 69 kV station. Install a new 0.7 mile double circuit extension to Poor Bottom 69 kV station	AEP (100%)
b3736.7	Retire Draffin substation and replace with a new substation. Install a new 0.25 mile double circuit extension to New Draffin substation	AEP (100%)
b3736.8	Remote end work at Jenkins substation	AEP (100%)
b3736.9	Provide transition fiber to Dorton, Breaks, Poor Bottom, Jenkins and New Draffin 69 kV substations	AEP (100%)
b3736.10	Henry Clay switch station retirement	AEP (100%)
b3736.11	Cedar Creek substation work	AEP (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

b3736.12	Breaks substation 46 kV equipment retirement	AEP (100%)
b3736.13	Retire Pike 29 switch station and Rob Fork switch station	AEP (100%)
b3736.14	Serve Pike 29 and Rob Fork substation customers from nearby 34 kV distribution sources	AEP (100%)
b3736.15	Poor Bottom 69 kV substation install	AEP (100%)
b3736.16	Henry Clay 46 kV substation retirement	AEP (100%)
b3736.17	New Draffin 69 kV substation install	AEP (100%)
b3736.18	Draffin 46 kV substation retirement	AEP (100%)
b3763	Replace the Jug Street 138 kV breakers M, N, BC, BD, BE, BF, D, H, J, L, BG, BH, BJ, BK with 80 KA breakers	AEP (100%)
b3764	Replace the Hyatt 138 kV breakers AB1 and AD1 with 63 kA breakers	AEP (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

·	Hayes – New Westville 138 kV	1	
	line: Build approximately 0.19		
	miles of 138 kV line to the		
	Indiana/ Ohio State line to		
	connect to AES's line portion of		
b3766.1	the Hayes – New Westville 138		
	kV line with the conductor size		AEP (100%)
	795 ACSR26/7 Drake. This sub-		$\operatorname{AEF}(10076)$
	ID includes the cost of line		
	construction and Right of Way		
	(ROW)		
	Hayes – Hodgin 138 kV line:		
	Build approximately 0.05 mile of		
b3766.2	138 kV line with the conductor		
00700.2	size 795 ACSR26/7 Drake. This		
	sub-ID includes the line		AEP (100%)
	construction, ROW, and fiber		
	Hayes 138 kV: Build a new 4-		
	138 kV circuit breaker ring bus.		
	This sub-ID includes the cost of		
b3766.3	new station construction,		
00700.5	property purchase, metering,		
	station fiber and the College		AEP (100%)
	Corner – Randolph 138 kV line		
	connection		

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Itequileu III		requirement	
			Reliability Driver:
			AEP (12.38%) / ComEd
			(87.62%)
			Market Efficiency
			Driver:
			AEC (0.87%) / AEP
			(24.07%) / APS (3.95%) /
	Perform sag study mitigation work on the Dumont – Stillwell 345 kV line (remove a center-pivot irrigation system from under the line, allowing for the normal and emergency ratings of the line to increase)		ATSI (11.04%) / BGE
			(4.30%) / Dayton (3.52%)
			/ DEOK (5.35%) /
1.2775 (Dominion (20.09%) / DPL
b3775.6			(1.73%)/DL (2.11%)/
			ECP** (0.17%)/ EKPC
			(1.73%) / HTP***
			(0.07%) / JCPL (1.98%) /
			ME (1.63%) /
			NEPTUNE* (0.43%) /
			OVEC (0.07%) / PEĆO
			(3.59%) / PENELEC
			(1.68%) / PEPCO (3.91%)
			/ PPL (3.64%) / PSEG
			(3.93%) / RE $(0.14%)$
			(3.7570), RE (0.1170)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

*Neptune Regional Transmission System, LLC **East Coast Power, L.L.C.

***Hudson Transmission Partners, LLC

		Reliability Driver: AEP (12.38%) / Daytor (87.62%)	P (12.38	
b3775.7	Upgrade the limiting element at Stillwell or Dumont substation to increase the rating of the Stillwell – Dumont 345 kV line to match conductor rating	Market Efficiency Driver: AEC (0.87%) / AEP (24.07%) / APS (3.95%) ATSI (11.04%) / BGE (4.30%) / Dayton (3.52%) / DEOK (5.35%) / Dominion (20.09%) / DI (1.73%) / DL (2.11%) ECP** (0.17%) / EKPC (1.73%) / HTP*** (0.07%) / JCPL (1.98%) ME (1.63%) / NEPTUNE* (0.43%) / OVEC (0.07%) / PECC (3.59%) / PENELEC (1.68%) / PEPCO (3.91%) / PPL (3.64%) / PSEG (3.93%) / RE (0.14%)	Dri EC (0.8 07%) / A TSI (11.0 0%) / Da TDEOK inion (2 73%) / D P** (0.1 (1.73%) 7%) / JC ME (1 EPTUNE EC (0.0 .59%) / B%) / PE PL (3.64	AEP 3.95%) / / BGE (3.52%) %) / 6) / DPL 11%) / EKPC D*** 98%) /) / 43%) / PECO ELEC (3.91%) PSEG

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

*Neptune Regional Transmission System, LLC **East Coast Power, L.L.C.

***Hudson Transmission Partners, LLC

		Reliability Driver:
		•
		AEP (100%)
		Market Efficiency Driver:
		AEC (0.87%) / AEP (24.07%) / APS
	Perform a sag study on the	(3.95%) / ATSI (11.04%) / BGE
	Olive – University Park 345	(4.30%) / Dayton (3.52%) / DEOK
	kV line to increase the	(5.35%) / Dominion (20.09%) / DPL
b3775.10	operating temperature to	(1.73%) / DL (2.11%) / ECP**
	225 F. Remediation work	(0.17%)/ EKPC (1.73%) / HTP***
	includes two tower	(0.07%) / JCPL (1.98%) / ME
	replacements on the line.	(1.63%) / NEPTUNE* (0.43%) /
		OVEC (0.07%) / PECO (3.59%) /
		PENELEC (1.68%) / PEPCO
		(3.91%) / PPL (3.64%) / PSEG
		(3.93%) / RE (0.14%)
		Reliability Driver:
		Reliability Driver: AEP (12.38%) / ComEd (87.62%)
		l l
		AEP (12.38%) / ComEd (87.62%)
	Upgrade the limiting	AEP (12.38%) / ComEd (87.62%) Market Efficiency Driver:
	Upgrade the limiting element at Stillwell	AEP (12.38%) / ComEd (87.62%) Market Efficiency Driver: AEC (0.87%) / AEP (24.07%) / APS
h2775 11	10 0	AEP (12.38%) / ComEd (87.62%) Market Efficiency Driver: AEC (0.87%) / AEP (24.07%) / APS (3.95%) / ATSI (11.04%) / BGE
b3775.11	element at Stillwell	AEP (12.38%) / ComEd (87.62%) Market Efficiency Driver: AEC (0.87%) / AEP (24.07%) / APS (3.95%) / ATSI (11.04%) / BGE (4.30%) / Dayton (3.52%) / DEOK
b3775.11	element at Stillwell substation to increase the	AEP (12.38%) / ComEd (87.62%) Market Efficiency Driver: AEC (0.87%) / AEP (24.07%) / APS (3.95%) / ATSI (11.04%) / BGE (4.30%) / Dayton (3.52%) / DEOK (5.35%) / Dominion (20.09%) / DPL
b3775.11	element at Stillwell substation to increase the rating of the Stillwell –	AEP (12.38%) / ComEd (87.62%) Market Efficiency Driver: AEC (0.87%) / AEP (24.07%) / APS (3.95%) / ATSI (11.04%) / BGE (4.30%) / Dayton (3.52%) / DEOK (5.35%) / Dominion (20.09%) / DPL (1.73%) / DL (2.11%) / ECP**
b3775.11	element at Stillwell substation to increase the rating of the Stillwell – Dumont 345 kV line to	AEP (12.38%) / ComEd (87.62%) Market Efficiency Driver: AEC (0.87%) / AEP (24.07%) / APS (3.95%) / ATSI (11.04%) / BGE (4.30%) / Dayton (3.52%) / DEOK (5.35%) / Dominion (20.09%) / DPL (1.73%) / DL (2.11%) / ECP** (0.17%)/ EKPC (1.73%) / HTP***
b3775.11	element at Stillwell substation to increase the rating of the Stillwell – Dumont 345 kV line to	AEP (12.38%) / ComEd (87.62%) Market Efficiency Driver: AEC (0.87%) / AEP (24.07%) / APS (3.95%) / ATSI (11.04%) / BGE (4.30%) / Dayton (3.52%) / DEOK (5.35%) / Dominion (20.09%) / DPL (1.73%) / DL (2.11%) / ECP** (0.17%) / EKPC (1.73%) / HTP*** (0.07%) / JCPL (1.98%) / ME
b3775.11	element at Stillwell substation to increase the rating of the Stillwell – Dumont 345 kV line to	AEP (12.38%) / ComEd (87.62%) Market Efficiency Driver: AEC (0.87%) / AEP (24.07%) / APS (3.95%) / ATSI (11.04%) / BGE (4.30%) / Dayton (3.52%) / DEOK (5.35%) / Dominion (20.09%) / DPL (1.73%) / DL (2.11%) / ECP** (0.17%) / EKPC (1.73%) / HTP*** (0.07%) / JCPL (1.98%) / ME (1.63%) / NEPTUNE* (0.43%) /
b3775.11	element at Stillwell substation to increase the rating of the Stillwell – Dumont 345 kV line to	AEP (12.38%) / ComEd (87.62%) Market Efficiency Driver: AEC (0.87%) / AEP (24.07%) / APS (3.95%) / ATSI (11.04%) / BGE (4.30%) / Dayton (3.52%) / DEOK (5.35%) / Dominion (20.09%) / DPL (1.73%) / DL (2.11%) / ECP** (0.17%) / EKPC (1.73%) / HTP*** (0.07%) / JCPL (1.98%) / ME (1.63%) / NEPTUNE* (0.43%) / OVEC (0.07%) / PECO (3.59%) /

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

*Neptune Regional Transmission System, LLC **East Coast Power, L.L.C.

***Hudson Transmission Partners, LLC

Required Iran	smission Enhancements Annual Re	venue Requirement	Responsible Customer(s)
			Load-Ratio Share
			Allocation:
			AEC (1.65%) / AEP
			(13.68%) / APS (5.76%) /
			ATSI (8.04%) / BGE
	Establish a new 500 kV breaker		(4.11%) / ComEd
	position for the low-side of the		(13.39%) / Dayton (2.12%)
	existing 765/500 kV		/ DEOK (3.25%) / DL
	transformer at Cloverdale		(1.71%) / Dominion
	Station. The new position will		(13.32%) / DPL (2.60%) /
b3800.100	be between two new 500 kV		EKPC (1.89%) / JCPL
	circuit breakers located in a		(3.86%) / ME (1.90%) /
	new breaker string, electrically		NEPTUNE* (0.42%) /
	converting the 500 kV yard to		OVEC (0.08%) / PECO
	"double-bus double-breaker"		(5.40%) / PENELEC
	configuration.		(1.78%) / PEPCO (3.67%)
			/ PPL (4.72%) / PSEG
			(6.39%) / RE (0.26%)
			DFAX Allocation:
			AEP (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

*Neptune Regional Transmission System, LLC

Required That	Ismission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
			Load-Ratio Share
			Allocation:
			AEC (1.65%) / AEP
			(13.68%) / APS (5.76%) /
			ATSI (8.04%) / BGE
			(4.11%) / ComEd
			(13.39%) / Dayton (2.12%)
			/ DEOK (3.25%) / DL
			(1.71%) / Dominion
	Kammer to 502 Junction 500 kV line: Conduct LIDAR Sag Study to assess SE rating and needed upgrades		(13.32%) / DPL (2.60%) /
			EKPC (1.89%) / JCPL
			(3.86%) / ME (1.90%) /
b3800.121			NEPTUNE* (0.42%) /
			OVEC (0.08%) / PECO
			(5.40%) / PENELEC
			(1.78%) / PEPCO (3.67%)
			/ PPL (4.72%) / PSEG
			(6.39%) / RE (0.26%)
			DFAX Allocation:
			AEP (21.66%) / APS
			(0.01%) / BGE (7.14%) /
			DEOK (0.01%) /
			Dominion (62.25%) /
			PEPCO (8.93%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

*Neptune Regional Transmission System, LLC

PJM Open Access Transmission Tariff Schedule 12-Appendix A Section 20 – Virginia Elec. and Power Co. Effective April 9, 2024 Version 40.0.1

SCHEDULE 12 – APPENDIX A

(20) Virginia Electric and Power Company

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

<u>required in</u>	ansinission ennancements Annual	Revenue Requirement	Responsible Customer(s)
b1698.7	Replace Loudoun 230 kV breaker '203052' with 63 kA rating		Dominion (100%)
b1696.1	Replace the Idylwood 230 kV '25112' breaker with 50 kA breaker		Dominion (100%)
b1696.2	Replace the Idylwood 230 kV '209712' breaker with 50 kA breaker		Dominion (100%)
b1793.1	Remove the Carolina 22 SPS to include relay logic changes, minor control wiring, relay resets and SCADA programming upon completion of project		Dominion (100%)
b2281	Additional Temporary SPS at Bath County		Dominion (100%)
b2350	Reconductor 211 feet of 545.5 ACAR conductor on 59 Line Elmont - Greenwood DP 115 kV to achieve a summer emergency rating of 906 amps or greater		Dominion (100%)
b2358	Install a 230 kV 54 MVAR capacitor bank on the 2016 line at Harmony Village Substation		Dominion (100%)
b2359	Wreck and rebuild approximately 1.3 miles of existing 230 kV line between Cochran Mill - X4-039 Switching Station		Dominion (100%)
b2360	Build a new 39 mile 230 kV transmission line from Dooms - Lexington on existing right- of-way		Dominion (100%)
b2361	Construct 230 kV OH line along existing Line #2035 corridor, approx. 2.4 miles from Idylwood - Dulles Toll Road (DTR) and 2.1 miles on new right-of-way along DTR to new Scott's Run Substation		Dominion (100%)

Virginia Electric and Power Company (cont.)

Required In	ransmission Enhancements Annual R	Levenue Requirement	Responsible Customer(s)
b2368	Replace the Brambleton 230 kV breaker '209502' with 63 kA breaker		Dominion (100%)
b2369	Replace the Brambleton 230 kV breaker '213702' with 63 kA breaker		Dominion (100%)
b2370	Replace the Brambleton 230 kV breaker 'H302' with 63 kA breaker		Dominion (100%)
b2373	Build a 2nd Loudoun - Brambleton 500 kV line within the existing ROW. The Loudoun - Brambleton 230 kV line will be relocated as an underbuild on the new 500 kV line		Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: APS (52.14%) / Dominion (20.63%) / PEPCO (27.23%)
b2397	Replace the Beaumeade 230 kV breaker '2079T2116' with 63 kA		Dominion (100%)
b2398	Replace the Beaumeade 230 kV breaker '2079T2130' with 63 kA		Dominion (100%)
b2399	Replace the Beaumeade 230 kV breaker '208192' with 63 kA		Dominion (100%)
b2400	Replace the Beaumeade 230 kV breaker '209592' with 63 kA		Dominion (100%)
b2401	Replace the Beaumeade 230 kV breaker '211692' with 63 kA		Dominion (100%)
b2402	Replace the Beaumeade 230 kV breaker '227T2130' with 63 kA		Dominion (100%)
			> /

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

The Annual Revenue Requirement for all Virginia Electric and Power Company projects in this Section 20 shall be as specified in Attachment 7 to Appendix A of Attachment H-16A and under the procedures detailed in Attachment H-16B.

*Neptune Regional Transmission System, LLC

Required Ir	ansmission Enhancements Ar	inual Revenue Requirement	Responsible Customer(s)
b2403	Replace the Beaumeade 230 kV breaker '274T2130' with 63 kA		Dominion (100%)
b2404	Replace the Beaumeade 230 kV breaker '227T2095' with 63 kA		Dominion (100%)
b2405	Replace the Pleasant view 230 kV breaker '203T274' with 63 kA		Dominion (100%)
b2443	Construct new underground 230 kV line from Glebe to Station C, rebuild Glebe Substation, construct 230 kV high side bus at Station C with option to install 800 MVA PAR		Dominion (97.11%) / ME (0.18%) / PEPCO (2.71%)
b2443.1	Replace the Idylwood 230 kV breaker '203512' with 50 kA		Dominion (100%)
b2443.2	Replace the Ox 230 kV breaker '206342' with 63 kA breaker		Dominion (100%)
b2443.3	Glebe – Station C PAR		DFAX Allocation: Dominion (22.57%) / PEPCO (77.43%)
b2443.6	Install a second 500/230 kV transformer at Possum Point substation and replace bus work and associated equipment as needed		Dominion (100%)
b2443.7	Replace 19 63 kA 230 kV breakers with 19 80 kA 230 kV breakers		Dominion (100%)
b2457	Replace 24 115 kV wood h-frames with 230 kV Dominion pole H-frame structures on the Clubhouse – Purdy 115 kV line		Dominion (100%)
b2458.1	Replace 12 wood H-frame structures with steel H- frame structures and install shunts on all conductor splices on Carolina – Woodland 115 kV		Dominion (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tr	ansmission Enhancements An	nual Revenue Requirement	Responsible Customer(s)
b2458.2	Upgrade all line switches and substation components at Carolina 115 kV to meet or exceed		
	new conductor rating of 174 MVA		Dominion (100%)
b2458.3	Replace 14 wood H-frame structures on Carolina – Woodland 115 kV		Dominion (100%)
b2458.4	Replace 2.5 miles of static wire on Carolina – Woodland 115 kV		Dominion (100%)
b2458.5	Replace 4.5 miles of conductor between Carolina 115 kV and Jackson DP 115 kV with min. 300 MVA summer STE rating; Replace 8 wood H-frame structures located between Carolina and Jackson DP with steel H-frames		Dominion (100%)
b2460.1	Replace Hanover 230 kV substation line switches with 3000A switches		Dominion (100%)
b2460.2	Replace wave traps at Four River 230 kV and Elmont 230 kV substations with 3000A wave traps		Dominion (100%)
b2461	Wreck and rebuild existing Remington CT – Warrenton 230 kV (approx. 12 miles) as a double-circuit 230 kV line		Dominion (100%)
b2461.1	Construct a new 230 kV line approximately 6 miles from NOVEC's Wheeler Substation a new 230 kV switching station in Vint Hill area		Dominion (100%)
b2461.2	Convert NOVEC's Gainesville – Wheeler line (approximately 6 miles) to 230 kV		Dominion (100%)
b2461.3	Complete a Vint Hill – Wheeler – Loudoun 230 kV networked line		Dominion (100%)

Required Tra	ansmission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
b2471	Replace Midlothian 500 kV breaker 563T576 and motor operated switches with 3 breaker 500 kV ring bus. Terminate Lines # 563 Carson – Midlothian, #576 Midlothian –North Anna, Transformer #2 in new ring		Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: Dominion (100%)
b2504	Rebuild 115 kV Line #32 from Halifax-South Boston (6 miles) for min. of 240 MVA and transfer Welco tap to Line #32. Moving Welco to Line #32 requires disabling auto- sectionalizing scheme		Dominion (100%)
b2505	Install structures in river to remove the 115 kV #65 line (Whitestone-Harmony Village 115 kV) from bridge and improve reliability of the line		Dominion (100%)
b2542	Replace the Loudoun 500 kV 'H2T502' breaker with a 50 kA breaker		Dominion (100%)
b2543	Replace the Loudoun 500 kV 'H2T584' breaker with a 50 kA breaker		Dominion (100%)
b2565	Reconductor wave trap at Carver Substation with a 2000A wave trap		Dominion (100%)
b2566	Reconductor 1.14 miles of existing line between ACCA and Hermitage and upgrade associated terminal equipment		Dominion (100%)

Required Tr	ansmission Enhancements An	nual Revenue Requirement	Responsible Customer(s)
b2582	Rebuild the Elmont – Cunningham 500 kV line		Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / DDu (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: APS (6.21%) / BGE (4.78%) / Dominion (81.73%) / PEPCO
b2583	Install 500 kV breaker at Ox Substation to remove Ox Tx#1 from H1T561 breaker failure outage		(7.28%) Dominion (100%)
b2584	Relocate the Bremo load (transformer #5) to #2028 (Bremo-Charlottesville 230 kV) line and Cartersville distribution station to #2027 (Bremo- Midlothian 230 kV) line		Dominion (100%)
b2585	Reconductor 7.63 miles of existing line between Cranes and Stafford, upgrade associated line switches at Stafford		PEPCO (100%)
b2620	Wreck and rebuild the Chesapeake – Deep Creek – Bowers Hill – Hodges Ferry 115 kV line; minimum rating 239 MVA normal/emergency, 275 MVA load dump rating		Dominion (100%)

Required Tra		ual Revenue Requirement	Responsible Customer(s)
b2622	Rebuild Line #47 between Kings Dominion 115 kV and Fredericksburg 115 kV to current standards with summer emergency rating of 353 MVA at 115 kV		Dominion (100%)
b2623	Rebuild Line #4 between Bremo and Structure 8474 (4.5 miles) to current standards with a summer emergency rating of 261 MVA at 115 kV		Dominion (100%)
b2624	Rebuild 115 kV Lines #18 and #145 between Possum Point Generating Station and NOVEC's Smoketown DP (approx. 8.35 miles) to current 230 kV standards with a normal continuous summer rating of 524 MVA at 115 kV		Dominion (100%)
b2625	Rebuild 115 kV Line #48 between Thole Street and Structure 48/71 to current standard. The remaining line to Sewells Point is 2007 vintage. Rebuild 115 kV Line #107 line, Sewells Point to Oakwood, between structure 107/17 and 107/56 to current standard		Dominion (100%)
b2626	Rebuild 115 kV Line #34 between Skiffes Creek and Yorktown and the double circuit portion of 115 kV Line #61 to current standards with a summer emergency rating of 353 MVA at 115 kV		Dominion (100%)
b2627	Rebuild 115 kV Line #1 between Crewe 115 kV and Fort Pickett DP 115 kV (12.2 miles) to current standards with summer emergency rating of 261 MVA at 115 kV		Dominion (100%)

Required In		al Revenue Requirement	Responsible Customer(s)
b2628	Rebuild 115 kV Line #82 Everetts – Voice of America (20.8 miles) to current standards with a summer emergency rating of 261		
b2629	MVA at 115 kV Rebuild the 115 kV Lines #27 and #67 lines from Greenwich 115 kV to Burton 115 kV Structure 27/280 to current standard with a		Dominion (100%)
	summer emergency rating of 262 MVA at 115 kV		Dominion (100%)
b2630	Install circuit switchers on Gravel Neck Power Station GSU units #4 and #5. Install two 230 kV CCVT's on Lines #2407 and #2408 for loss of source sensing		Dominion (100%)
b2636	Install three 230 kV bus breakers and 230 kV, 100 MVAR Variable Shunt Reactor at Dahlgren to provide line protection during maintenance, remove the operational hazard and provide voltage reduction during light load conditions		Dominion (100%)
b2647	Rebuild Boydton Plank Rd – Kerr Dam 115 kV Line #38 (8.3 miles) to current standards with summer emergency rating of 353 MVA at 115 kV		Dominion (100%)
b2648	Rebuild Carolina – Kerr Dam 115 kV Line #90 (38.7 miles) to current standards with summer emergency rating of 353 MVA 115 kV		Dominion (100%)
b2649	Rebuild Clubhouse – Carolina 115 kV Line #130 (17.8 miles) to current standards with summer emergency rating of 353 MVA at 115 kV		Dominion (100%)

	li Revenue Requirement	Responsible Customer(s)
Rebuild of 1.7 mile tap to		
wood H-frames. The		
proposed new rating is 176		
MVA using 636 ACSR		
		Dominion (100%)
ACSR and 393.6 ACSR on		
wood H-frames. The		
		Dominion (100%)
standards with summer		
MVA at 115 kV		Dominion (100%)
	Rebuild of 1.7 mile tap to Metcalf and Belfield DP (MEC) due to poor condition. The existing summer rating of the tap is 48 MVA and existing conductor is 4/0 ACSR on wood H-frames. The proposed new rating is 176 MVA using 636 ACSR conductor Rebuild of 4.1 mile tap to Brinks DP (MEC) due to wood poles built in 1962. The existing summer rating of the tap is 48 MVA and existing conductor is 4/0 ACSR and 393.6 ACSR on wood H-frames. The proposed new rating is 176 MVA using 636 ACSR conductor Rebuild Twittys Creek – Pamplin 115 kV Line #154 (17.8 miles) to current standards with summer emergency rating of 353	Rebuild of 1.7 mile tap to Metcalf and Belfield DP (MEC) due to poor condition. The existing summer rating of the tap is 48 MVA and existing conductor is 4/0 ACSR on wood H-frames. The proposed new rating is 176 MVA using 636 ACSR conductor Rebuild of 4.1 mile tap to Brinks DP (MEC) due to wood poles built in 1962. The existing summer rating of the tap is 48 MVA and existing conductor is 4/0 ACSR and 393.6 ACSR on wood H-frames. The proposed new rating is 176 MVA using 636 ACSR conductor Rebuild Twittys Creek – Pamplin 115 kV Line #154 (17.8 miles) to current standards with summer emergency rating of 353

Required Trai		al Revenue Requirement	Responsible Customer(s)
b2651	Rebuild Buggs Island – Plywood 115 kV Line #127 (25.8 miles) to current standards with summer emergency rating of 353 MVA at 115 kV. The line should be rebuilt for 230 kV and operated at 115 kV		Dominion (100%)
b2652	Rebuild Greatbridge – Hickory 115 kV Line #16 and Greatbridge – Chesapeake E.C. to current standard with summer emergency rating of 353 MVA at 115 kV		Dominion (100%)
b2653.1	Build 20 mile 115 kV line from Pantego to Trowbridge with summer emergency rating of 353 MVA		Dominion (100%)
b2653.2	Install 115 kV four-breaker ring bus at Pantego		Dominion (100%)
b2653.3	Install 115 kV breaker at Trowbridge		Dominion (100%)
b2654.1	Build 15 mile 115 kV line from Scotland Neck to S Justice Branch with summer emergency rating of 353 MVA. New line will be routed to allow HEMC to convert Dawson's Crossroads RP from 34.5 kV to 115 kV		Dominion (100%)
b2654.2	Install 115 kV three-breaker ring bus at S Justice Branch		Dominion (100%)
b2654.3	Install 115 kV breaker at Scotland Neck		Dominion (100%)
b2654.3	Install a 2nd 224 MVA 230/115 kV transformer at Hathaway		Dominion (100%)

Required Tra	nsmission Enhancements Annual Reven	ue Requirement	Responsible Customer(s)
b2665	Rebuild the Cunningham – Dooms 500 kV line		Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: APS (10.07%) / BGE (6.58%) / Dominion (72.51%) / PEPCO (10.84%)
b2686	Pratts Area Improvement		Dominion (100%)
b2686.1	Build a 230 kV line from Remington Substation to Gordonsville Substation utilizing existing ROW		Dominion (100%)
b2686.2	Install a 3rd 230/115 kV transformer at Gordonsville Substation		Dominion (100%)
b2686.3	Upgrade Line 2088 between Gordonsville Substation and Louisa CT Station		Dominion (100%)
b2686.4	Replace the Remington CT 230 kV breaker "2114T2155" with a 63 kA breaker		Dominion (100%)
b2686.11	Upgrading sections of the Gordonsville – Somerset 115 kV circuit		Dominion (100%)
b2686.12	Upgrading sections of the Somerset – Doubleday 115 kV circuit		Dominion (100%)
b2686.13	Upgrading sections of the Orange – Somerset 115 kV circuit		Dominion (100%)
b2686.14	Upgrading sections of the Mitchell – Mt. Run 115 kV circuit		Dominion (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requirement Responsible Customer(s)
b2717.1	De-energize Davis – Rosslyn #179 and #180 69 kV lines	Dominion (100%)
b2717.2	Remove splicing and stop joints in manholes	Dominion (100%)
b2717.3	Evacuate and dispose of insulating fluid from various reservoirs and cables	Dominion (100%)
b2717.4	Remove all cable along the approx. 2.5 mile route, swab and cap-off conduits for future use, leave existing communication fiber in place	Dominion (100%)
b2719.1	Expand Perth substation and add a 115 kV four breaker ring	Dominion (100%)
b2719.2	Extend the Hickory Grove DP tap 0.28 miles to Perth and terminate it at Perth	Dominion (100%)
b2719.3	Split Line #31 at Perth and terminate it into the new ring bus with 2 breakers separating each of the line terminals to prevent a breaker failure from taking out both 115 kV lines	Dominion (100%)
b2720	Replace the Loudoun 500 kV 'H1T569' breakers with 50 kA breaker	Dominion (100%)
b2729	Optimal Capacitors Configuration: New 175 MVAR capacitor at Brambleton, new 175 MVAR capacitor at Ashburn, new 300 MVAR capacitor at Shelhorm, new 150 MVAR capacitor at Liberty	AEC (1.96%) / BGE (14.37%) / Dominion (35.11%) / DPL (3.76%) / ECP** (0.29%) / HTP*** (0.34%) / JCPL (3.31%) / ME (2.51%) / NEPTUNE* (0.63%) / PECO (6.26%) / PEPCO (20.23%) / PPL (3.94%) / PSEG (7.29%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

* Neptune Regional Transmission System, LLC

** East Coast Power, L.L.C.

***Hudson Transmission Partners, LLC

Required Tra	nsmission Enhancements Annual F	Revenue Requirement	Responsible Customer(s)
b2744	Rebuild the Carson – Rogers Rd 500 kV circuit		Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: Dominion (100.00%)
b2745	Rebuild 21.32 miles of existing line between Chesterfield – Lakeside 230 kV		Dominion (100%)
b2746.1	Rebuild Line #137 Ridge Rd – Kerr Dam 115 kV, 8.0 miles, for 346 MVA summer		Dominion (100%)
b2746.2	emergency rating Rebuild Line #1009 Ridge Rd – Chase City 115 kV, 9.5 miles, for 346 MVA summer emergency rating Install a second 4.8 MVAR		Dominion (100%)
b2746.3	capacitor bank on the 13.8 kV bus of each transformer at Ridge Rd		Dominion (100%)
b2747	Install a Motor Operated Switch and SCADA control between Dominion's Gordonsville 115 kV bus and FirstEnergy's 115 kV line		Dominion (100%)

- <u>1</u>		_	Responsible Customer(s)
b2757	Install a +/-125 MVAr Statcom at Colington 230 kV		
	Stateoni at Configion 250 KV		Dominion (100%)
b2758	Rebuild Line #549 Dooms – Valley 500 kV		Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%)
			DFAX Allocation: Dominion (100%)
b2759	Rebuild Line #550 Mt. Storm – Valley 500 kV		Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: APS (40.03%) / DL (3.91%) / Dominion (49.41%) / EKPC (6.65%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tra	nsmission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
	The 7 mile section from Dozier to Thompsons Corner		
	of line #120 will be rebuilt to		
	current standards using 768.2		
b2800	ACSS conductor with a		
02800	summer emergency rating of 346 MVA at 115 kV. Line is		
	proposed to be rebuilt on		
	single circuit steel monopole structure		Dominion (100%)
	Lines #76 and #79 will be		
	rebuilt to current standard		
	using 768.2 ACSS conductor		
b2801	with a summer emergency		
02801	rating of 346 MVA at 115		
	kV. Proposed structure for		
	rebuild is double circuit steel		Dominion (100%)
	monopole structure Rebuild Line #171 from		
	Chase City $-$ Boydton Plank		
	Road tap by removing end-		
	of-life facilities and installing		
b2802	9.4 miles of new conductor.		
	The conductor used will be at		
	current standards with a		
	summer emergency rating of 393 MVA at 115 kV		Dominion (100%)
	Build a new Pinewood 115		
	kV switching station at the		
b2815	tap serving North Doswell		
	DP with a 115 kV four		
	breaker ring bus		Dominion (100%)
b2842	Update the nameplate for Mount Storm 500 kV		
62842	"57272" to be 50 kA breaker		Dominion (100%)
	Replace the Mount Storm		
b2843	500 kV "G2TY" with 50 kA		
	breaker		Dominion (100%)
1.004	Replace the Mount		
b2844	Storm 500 kV "G2TZ" with		Dominion (100%)
	50 kA breaker		Dominion (100%)

Required Ira	nsmission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
b2845	Update the nameplate for Mount Storm 500 kV "G3TSX1" to be 50 kA breaker		Dominion (100%)
b2846	Update the nameplate for Mount Storm 500 kV "SX172" to be 50 kA breaker		Dominion (100%)
b2847	Update the nameplate for Mount Storm 500 kV "Y72" to be 50 kA breaker		Dominion (100%)
b2848	Replace the Mount Storm 500 kV "Z72" with 50 kA breaker		Dominion (100%)
b2871	Rebuild 230 kV line #247 from Swamp to Suffolk (31 miles) to current standards with a summer emergency rating of 1047 MVA at 230 kV		Dominion (100%)
b2876	Rebuild line #101 from Mackeys – Creswell 115 kV, 14 miles, with double circuit structures. Install one circuit with provisions for a second circuit. The conductor used will be at current standards with a summer emergency rating of 262 MVA at 115 kV		Dominion (100%)
b2877	Rebuild line #112 from Fudge Hollow – Lowmoor 138 kV (5.16 miles) to current standards with a summer emergency rating of 314 MVA at 138 kV		Dominion (100%)
b2899	Rebuild 230 kV line #231 to current standard with a summer emergency rating of 1046 MVA. Proposed conductor is 2-636 ACSR		Dominion (100%)
b2900	Build a new 230/115 kV switching station connecting to 230 kV network line #2014 (Earleys – Everetts). Provide a 115 kV source from the new station to serve Windsor DP		Dominion (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required I rai		Revenue Requirement	Responsible Customer(s)
b2922	Rebuild 8 of 11 miles of 230 kV lines #211 and #228 to current standard with a summer emergency rating of 1046 MVA for rebuilt section. Proposed conductor is 2-636 ACSR		Dominion (100%)
b2928	Rebuild four structures of 500 kV line #567 from Chickahominy to Surry using galvanized steel and replace the river crossing conductor with 3-1534 ACSR. This will increase the line #567 line rating from 1954 MVA to 2600 MVA		Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation:
b2929	Rebuild 230 kV line #2144 from Winfall to Swamp (4.3 miles) to current standards with a standard conductor (bundled 636 ACSR) having a summer emergency rating of 1047 MVA at 230 kV		Dominion (100%) Dominion (100%)
b2960	Replace fixed series capacitors on 500 kV Line #547 at Lexington and on 500 kV Line #548 at Valley		See sub-IDs for cost allocations

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tra	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2960.1	Replace fixed series capacitors on 500 kV l #547 at Lexington		Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: DEOK (7.57%) / Dominion (88.85%) / EKPC (3.58%)

Required Tran	smission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
			Load-Ratio Share Allocation:
			AEC (1.65%) / AEP (14.29%)
			/ APS (5.82%) / ATSI (7.49%)
			/ BGE (4.01%) / ComEd
			(14.06%) / Dayton (2.03%) /
			DEOK (3.21%) / DL (1.59%) /
			DPL (2.55%) / Dominion
	Replace fixed series		(13.89%) / EKPC (2.35%) /
b2960.2	capacitors on 500 kV Line		JCPL (3.59%) / ME (1.81%) /
	#548 at Valley		NEPTUNE* (0.42%) / OVEC
			(0.06%) / PECO (5.11%) /
			PENELEC (1.73%) / PEPCO
			(3.68%) / PPL (4.43%) / PSEG
			(5.99%) / RE (0.24%)
			DFAX Allocation:
			DEOK (6.54%) / Dominion
			(91.29%) / EKPC (2.17%)
	Rebuild approximately 3		
b2961	miles of Line #205 & Line #2003 from Chesterfield to		
	Locks & Poe respectively		Dominion (100%)
	Split Line #227 (Brambleton		
b2962	– Beaumeade 230 kV) and		
02702	terminate into existing		
	Belmont substation Replace the Beaumeade 230		Dominion (100%)
b2962.1	kV breaker "274T2081" with		
02902.1	63 kA breaker		Dominion (100%)
	Replace the NIVO 230 kV		<u> </u>
b2962.2	breaker "2116T2130" with 63		\mathbf{D} and \mathbf{n} is a $(1000/)$
	kA breaker Reconductor the Woodbridge		Dominion (100%)
	to Occoquan 230 kV line		
	segment of Line #2001 with		
b2963	1047 MVA conductor and		
	replace line terminal		
	equipment at Possum Point, Woodbridge, and Occoquan		Dominion (100%)
	woodblidge, and Occoquan		

Required Tra	nsmission Enhancements Annu	al Revenue Requirement	Responsible Customer(s)
			Load-Ratio Share Allocation:
			AEC (1.65%) / AEP (14.29%) /
			APS (5.82%) / ATSI (7.49%) /
			BGE (4.01%) / ComEd
			(14.06%) / Dayton (2.03%) /
	Install 2-125 MVAR		DEOK (3.21%) / DL (1.59%) /
	STATCOMs at Rawlings		DPL (2.55%) / Dominion
b2978	and 1-125 MVAR		(13.89%) / EKPC (2.35%) /
02978	STATCOM at Clover 500		JCPL (3.59%) / ME (1.81%) /
	kV substations		NEPTUNE* (0.42%) / OVEC
	k v substations		(0.06%) / PECO (5.11%) /
			PENELEC (1.73%) / PEPCO
			(3.68%) / PPL (4.43%) / PSEG
			(5.99%) / RE (0.24%)
			DFAX Allocation:
			Dominion (100%)
	Rebuild 115 kV Line #43		
	between Staunton and		
b2980	Harrisonburg (22.8 miles)		
02200	to current standards with a		
	summer emergency rating		
	of 261 MVA at 115 kV		Dominion (100%)
	Rebuild 115 kV Line #29		
	segment between		
	Fredericksburg and Aquia		
	Harbor to current 230 kV		
1.0001	standards (operating at 115		
b2981	kV) utilizing steel H-frame		
	structures with 2-636		
	ACSR to provide a normal		
	continuous summer rating		
	of 524 MVA at 115 kV		
*)	(1047 MVA at 230 kV)		Dominion (100%)

Required Tran	nsmission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
b2989	Install a second 230/115 kV Transformer (224 MVA) approximately 1 mile north of Bremo and tie 230 kV Line #2028 (Bremo – Charlottesville) and 115 kV Line #91 (Bremo - Sherwood) together. A three breaker 230 kV ring bus will split Line #2028 into two lines and Line #91 will also be split into two lines with a new three breaker 115 kV ring bus. Install a temporary 230/115 kV transformer at Bremo substation for the interim until the new substation is complete		Dominion (100%)
b2990	Chesterfield to Basin 230 kV line – Replace 0.14 miles of 1109 ACAR with a conductor which will increase the line rating to approximately 706 MVA		Dominion (100%)
b2991	Chaparral to Locks 230 kV line – Replace breaker lead		Dominion (100%)
b2994	Acquire land and build a new switching station (Skippers) at the tap serving Brink DP with a 115 kV four breaker ring to split Line #130 and terminate the end points		Dominion (100%)
b3018	Rebuild Line #49 between New Road and Middleburg substations with single circuit steel structures to current 115 kV standards with a minimum summer emergency rating of 261 MVA		Dominion (100%)

Required Tran	nsmission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
b3019	Rebuild 500 kV Line #552 Bristers to Chancellor – 21.6 miles long		Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: Dominion (100.00%)
b3019.1	Update the nameplate for Morrisville 500 kV breaker "H1T594" to be 50 kA		Dominion (100%)
b3019.2	Update the nameplate for Morrisville 500 kV breaker "H1T545" to be 50 kA		Dominion (100%)

R	equired Trar	nsmission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
	b3020	Rebuild 500 kV Line #574 Ladysmith to Elmont – 26.2 miles long		Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: APS (16.36%) / DEOK (11.61%) / Dominion (51.27%)
				/ EKPC (5.30%) / PEPCO (15.46%) Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) /
	b3021	Rebuild 500 kV Line #581 Ladysmith to Chancellor – 15.2 miles long		DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%)
				DFAX Allocation: Dominion (100.00%)
	b3026	Reconductor Line #274 (Pleasant View – Ashburn – Beaumeade 230 kV) with a minimum rating of 1200 MVA. Also upgrade terminal equipment		Dominion (100%)
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Required That	ISTILISSION ENHANCEMENTS ATTILIAR K	evenue Requirement	Responsible Customer(s)
b3027.1	Add a 2nd 500/230 kV 840 MVA transformer at Dominion's Ladysmith substation		Dominion (100%)
b3027.2	Reconductor 230 kV Line #2089 between Ladysmith and Ladysmith CT substations to increase the line rating from 1047 MVA to 1225 MVA		Dominion (100%)
b3027.3	Replace the Ladysmith 500 kV breaker "H1T581" with 50 kA breaker		Dominion (100%)
b3027.4	Update the nameplate for Ladysmith 500 kV breaker "H1T575" to be 50 kA breaker		Dominion (100%)
b3027.5	Update the nameplate for Ladysmith 500 kV breaker "568T574" (will be renumbered as "H2T568") to be 50 kA breaker		Dominion (100%)
b3055	Install spare 230/69 kV transformer at Davis substation		Dominion (100%)
b3056	Partial rebuild 230 kV Line #2113 Waller to Lightfoot		Dominion (100%)
b3057	Rebuild 230 kV Lines #2154 and #19 Waller to Skiffes Creek		Dominion (100%)
b3058	Partial rebuild of 230 kV Lines #265, #200 and #2051		Dominion (100%)
b3059	Rebuild 230 kV Line #2173 Loudoun to Elklick		Dominion (100%)

Required Ira	nsmission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
b3060	Rebuild 4.6 mile Elklick – Bull Run 230 kV Line #295 and the portion (3.85 miles) of the Clifton – Walney 230 kV Line #265 which shares structures with Line #295		Dominion (100%)
b3088	Rebuild 4.75 mile section of Line #26 between Lexington and Rockbridge with a minimum summer emergency rating of 261 MVA		Dominion (100%)
b3089	Rebuild 230 kV Line #224 between Lanexa and Northern Neck utilizing double circuit structures to current 230 kV standards. Only one circuit is to be installed on the structures with this project with a minimum summer emergency rating of 1047 MVA		Dominion (100%)
b3090	Convert the overhead portion (approx. 1500 feet) of 230 kV Lines #248 & #2023 to underground and convert Glebe substation to gas insulated substation		Dominion (100%)
b3096	Rebuild 230 kV line No.2063 (Clifton – Ox) and part of 230 kV line No.2164 (Clifton – Keene Mill) with double circuit steel structures using double circuit conductor at current 230 kV northern Virginia standards with a minimum rating of 1200 MVA		Dominion (100%)
b3097	Rebuild 4 miles of 115 kV Line #86 between Chesterfield and Centralia to current standards with a minimum summer emergency rating of 393 MVA		Dominion (100%)
b3098	Rebuild 9.8 miles of 115 kV Line #141 between Balcony Falls and Skimmer and 3.8 miles of 115 kV Line #28 between Balcony Falls and Cushaw to current standards with a minimum rating of 261 MVA		Dominion (100%)

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b3098.1	Rebuild Balcony Falls 115 kV substation	Dominion (100%)
b3110.1	Rebuild Line #2008 between Loudoun to Dulles Junction using single circuit conductor at current 230 kV northern Virginia standards with minimum summer ratings of 1200 MVA. Cut and loop Line #265 (Clifton – Sully) into Bull Run substation. Add three (3) 230 kV breakers at Bull Run to accommodate the new line and upgrade the substation	Dominion (100%)
b3110.2	Replace the Bull Run 230 kV breakers "200T244" and "200T295" with 50 kA breakers	Dominion (100%)
b3110.3	Replace the Clifton 230 kV breakers "201182" and "XT2011" with 63 kA breakers	Dominion (100%)
b3113	Rebuild approximately 1 mile of 115 kV Lines #72 and #53 to current standards with a minimum summer emergency rating of 393 MVA. The resulting summer emergency rating of Line #72 segment from Brown Boveri to Bellwood is 180 MVA. There is no change to Line #53 ratings	Dominion (100%)
b3114	Rebuild the 18.6 mile section of 115 kV Line #81 which includes 1.7 miles of double circuit Line #81 and 230 kV Line #2056. This segment of Line #81 will be rebuilt to current standards with a minimum rating of 261 MVA. Line #2056 rating will not change	Dominion (100%)
b3121	Rebuild Clubhouse – Lakeview 230 kV Line #254 with single- circuit wood pole equivalent structures at the current 230 kV standard with a minimum rating of 1047 MVA	Dominion (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required I rai	nsmission Enhancements Annual Revenue	Requirement	Respons	sible Customer(s)
	Rebuild Hathaway – Rocky Mount (Duke Energy Progress) 230 kV Line			
b3122	#2181 and Line #2058 with double circuit steel structures using double			
03122	circuit conductor at current 230 kV			
	standards with a minimum rating of			$\mathbf{D}_{\text{aminian}}(1000/)$
	1047 MVA Split Chesterfield-Plaza 115 kV Line			Dominion (100%)
	No. 72 by rebuilding the Brown			
b3161.1	Boveri tap line as double circuit loop			
	in-and-out of the Brown Boveri			D_{1}
	Breaker station Install a 115 kV breaker at the Brown			Dominion (100%)
	Boveri Breaker station. Site			
b3161.2	expansion is required to			
	accommodate the new layout Acquire land and build a new 230 kV			Dominion (100%)
	switching station (Stevensburg) with a 224 MVA, 230/115 kV transformer.			
	Gordonsville-Remington 230 kV Line			
b3162	No. 2199 will be cut and connected to			
	the new station. Remington-Mt. Run			
	115 kV Line No.70 and Mt. Run-Oak Green 115 kV Line No. 2 will also be			
	cut and connected to the new station			Dominion (100%)
	Rebuild the 1.3 mile section of 500			
	kV Line No. 569 (Loudoun –			
b3211	Morrisville) with single-circuit 500			
	kV structures at the current 500 kV standard. This will increase the rating			
	of the line to 3424 MVA			Dominion (100%)
b3213	Install 2nd Chickahominy 500/230			
03213	kV transformer			Dominion (100%)
	Replace the eight (8) Chickahominy 230 kV breakers with 63 kA breakers:			
b3213.1	"SC122", "205022" "209122"			
05215.1	"SC122", "205022", "209122", 210222-2", "28722", "H222",			
	"21922" and "287T2129"			Dominion (100%)

Required Tran	nsmission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
	Install a second 230 kV		
	circuit with a minimum		
	summer emergency rating of		
	1047 MVA between Lanexa		
	and Northern Next		
	substations. The second		
b3223.1	circuit will utilize the vacant		
	arms on the double-circuit		
	structures that are being		
	installed on Line #224		
	(Lanexa – Northern Next) as		
	part of the End-of-Life		$\mathbf{D}_{\text{aminion}}$ (1009/)
	rebuild project (b3089)		Dominion (100%)
	Expand the Northern Neck terminal from a 230 kV, 4-		
b3223.2	breaker ring bus to a 6-		
	breaker ring bus		Dominion (100%)
	Expand the Lanexa terminal		
	from a 6-breaker ring bus to a		
b3223.3	breaker-and-a-half		
	arrangement		Dominion (100%)
	Convert 115 kV Line #172		
	Liberty – Lomar and 115 kV		
	Line #197 Cannon Branch –		
	Lomar to 230 kV to provide a		
	new 230 kV source between		
	Cannon Branch and Liberty.		
	The majority of 115 kV Line		
	#172 Liberty – Lomar and		
b3246.1	Line #197 Cannon Branch –		
	Lomar is adequate for 230 kV		
	operation. Rebuild 0.36 mile		
	segment between the Lomar		
	and Cannon Branch junction.		
	Lines will have a summer		
	rating of 1047MVA/1047MVA		
	(SN/SE)		Dominion (100%)
	Perform substation work for		
	the 115 kV to 230 kV line		
b3246.2	conversion at Liberty,		
05240.2	Wellington, Godwin, Pioneer,		
	Sandlot and Cannon Branch		Dominion (100%)

Required Tran	nsmission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
	Extend 230 kV Line #2011		
	Cannon Branch – Clifton to		
	Winters Branch by removing		
	the existing Line #2011		
	termination at Cannon		
	Branch and extending the line		
b3246.3	to Brickyard creating 230 kV		
05240.5	Line #2011 Brickyard -		
	Clifton. Extend a new 230 kV		
	line between Brickyard and		
	Winters Branch with a		
	summer rating of		
	1572MVA/1572MVA (SN/SE)		Dominion (100%)
	Perform substation work at		
	Cannon Branch, Brickyard		
b3246.4	and Winters Branch for the		
05240.4	230 kV Line #2011 Cannon		
	Branch – Clifton extension		Dominion (100%)
	Replace the Gainesville 230		
b3246.5	kV 40 kA breaker "216192"		
	with a 50 kA breaker		Dominion (100%)
			Load-Ratio Share Allocation:
			AEC (1.65%) / AEP (14.29%)
			/ APS (5.82%) / ATSI (7.49%)
			/ BGE (4.01%) / ComEd
	Replace 13 towers with		(14.06%) / Dayton (2.03%) /
	galvanized steel towers on		DEOK (3.21%) / DL (1.59%) /
	Doubs – Goose Creek 500		DPL (2.55%) / Dominion
	kV. Reconductor 3 mile		(13.89%) / EKPC (2.35%) /
b3247	section with three (3) 1351.5		JCPL (3.59%) / ME (1.81%) /
	ACSR 45/7. Upgrade line		NEPTUNE* (0.42%) / OVEC
	terminal equipment at Goose		
	Creek substation to support		(0.06%) / PECO (5.11%) /
	the 500 kV line rebuild		PENELEC (1.73%) / PEPCO
			(3.68%) / PPL (4.43%) / PSEG
			(5.99%) / RE (0.24%)
			DFAX Allocation:
			Dominion (100%)
*)	aional Transmission System II	a	

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required In		Revenue Requirement	Responsible Customer(s)
b3262	Install a second 115 kV 33.67 MVAR cap bank at Harrisonburg substation along with a 115 kV breaker		Dominion (100%)
b3263	Cut existing 115 kV Line #5 between Bremo and Cunningham substations and loop in and out of Fork Union substation		Dominion (100%)
b3264	Install 40 kA breaker at Stuarts Draft 115 kV station and sectionalize the Doom to Dupont-Waynesboro 115 kV Line #117 into two 115 kV lines		Dominion (100%)
b3268	Build a switching station at the junction of 115 kV line #39 and 115 kV line #91 with a 115 kV capacitor bank. The switching station will be built with 230 kV structures but will operate at 115 kV		Dominion (100%)
b3300	Reconductor 230 kV Line #2172 from Brambleton to Evergreen Mills along with upgrading the line leads at Brambleton to achieve a summer emergency rating of 1574 MVA		Dominion (100%)

Required Tra	ansmission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
b3301	Reconductor 230 kV Line #2210 from Brambleton to Evergreen Mills along with upgrading the line leads at Brambleton to achieve a summer emergency rating of 1574 MVA		Dominion (100%)
b3302	Reconductor 230 kV Line #2213 from Cabin Run to Yardley Ridge along with upgrading the line leads at Yardley to achieve a summer emergency rating of 1574 MVA		Dominion (100%)
b3303.1	Extend a new single circuit 230 kV Line #9250 from Farmwell substation to Nimbus substation		Dominion (100%)
b3303.2	Remove Beaumeade 230 kV Line #2152 line switch		Dominion (100%)
b3304	Midlothian area improvements for 300 MW load drop relief		Dominion (100%)
b3304.1	Cut 230 kV Line #2066 at Trabue junction		Dominion (100%)
b3304.2	Reconductor idle 230 kV Line #242 (radial from Midlothian to Trabue junction) to allow a minimum summer rating of 1047 MVA and connect to the section of 230 kV Line #2066 between Trabue junction and Winterpock, re-number 230 kV Line #242 structures to Line #2066		Dominion (100%)
b3304.3	Use the section of idle 115 kV Line #153, between Midlothian and Trabue junction to connect to the section of (former) 230 kV Line #2066 between Trabue junction and Trabue to create new Midlothian – Trabue lines with new line numbers #2218 and #2219		Dominion (100%)
b3304.4	Create new line terminations at Midlothian for the new Midlothian – Trabue 230 kV lines		Dominion (100%)

Required Tra	insmission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
	Rebuild 12.4 miles of 115 kV		
	line from Earleys to Kelford		
	with a summer emergency		
1.2694	rating of 262 MVA. Replace		
b3684	structures as needed to support		
	the new conductor. Upgrade		
	breaker switch 13668 at		
	Earleys from 1200 A to 2000 A		Dominion (100%)
	Install a 33 MVAR cap bank at		
	Cloud 115 kV bus along with a		
b3685	115 kV breaker. Add 115 kV		
00000	circuit breaker for 115 kV Line		
	#38		Dominion (100%)
	Purchase land close to the		
	bifurcation point of 115 kV		
	Line #4 (where the line is split		
	into two sections) and build a		
	new 115 kV switching station		
1	called Duncan Store. The new		
b3686	switching station will require		
	space for an ultimate		
	transmission interconnection		
	consisting of a 115 kV six-		
	breaker ring bus (with three		
	breakers installed initially)		Dominion (100%)
	Rebuild approximately 15.1		
	miles line segment between		
	Bristers and Minnieville D.P.		
	with 2-768 ACSS and 4000 A		
	supporting equipment from		
	Bristers to Ox to allow for		
	future 230 kV capability of 115		
b3687	kV Line #183. The continuous		
	summer normal rating will be		
	523 MVA for line Ox –		
	Minnieville. The continuous		
	summer normal rating will be		
	786 MVA for Minnieville –		
	Bristers line		Dominion (100%)
	Reconductor approximately		
	24.42 miles of 230 kV Line		
	#2114 Remington CT– Elk		
	Run – Gainesville to achieve a		
1.0.000.1	summer rating of 1574 MVA		
b3689.1	by fully reconductoring the line		
	and upgrading the wave trap		
	and substation conductor at		
	Remington CT and Gainesville		
	230 kV stations		Dominion (100%)
L	200 RT Startons		

Required I ran	nsmission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
b3689.2	Replace 230 kV breakers SC102, H302, H402 and 218302 at Brambleton substation with 4000A 80 kA breakers and associated equipment including breaker leads as necessary to address breaker duty issues identified in short circuit analysis		Dominion (100%)
b3690	Reconductor approximately 1.07 miles of 230 kV Line #2008 segment from Cub Run to Walney to achieve a summer rating of 1574 MVA. Replace line switch 200826 with a 4000A switch		Dominion (100%)
b3691	Reconductor approximately 1.4 miles of 230 kV Line #2141 from Lakeview to Carolina to achieve a summer rating of 1047 MVA		Dominion (100%)
b3692	Rebuild approximately 27.7 miles of 500 kV transmission line from Elmont to Chickahominy with current 500 kV standards construction practices to achieve a summer rating of 4330 MVA		Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: Dominion (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tra	insmission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
b3693	Expand substation and install approximately 294 MVAR cap bank at 500 kV Lexington substation along with a 500 kV breaker. Adjust the tap positions associated with the two 230/69 kV transformers at Harrisonburg to neutral position and lock them		Load-Ratio Share Allocation: AEC (1.65%) / AEP (14.29%) / APS (5.82%) / ATSI (7.49%) / BGE (4.01%) / ComEd (14.06%) / Dayton (2.03%) / DEOK (3.21%) / DL (1.59%) / DPL (2.55%) / Dominion (13.89%) / EKPC (2.35%) / JCPL (3.59%) / ME (1.81%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.11%) / PENELEC (1.73%) / PEPCO (3.68%) / PPL (4.43%) / PSEG (5.99%) / RE (0.24%) DFAX Allocation: Dominion (100%)
b3694.1	Convert 115 kV Line #29 Aquia Harbour to Possum Point to 230 kV (Extended Line #2104) and swap Line #2104 and converted Line #29 at Aquia Harbour backbone termination. Upgrade terminal equipment at Possum Point to terminate converted Line #29 (now extended line #2104). (Line #29 from Fredericksburg to Aquia Harbour is being rebuilt under baseline b2981 to 230 kV standards)		Dominion (100%)

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Required 11d	IISIIIISSIOII LIIIIAIRCIIRIIIS AIIIIUAI R	venue rrequirement	
b3694.2	Upgrade Aquia Harbour terminal equipment to not limit 230 kV Line #9281 conductor rating		Dominion (100%)
b3694.3	Upgrade Fredericksburg terminal equipment by rearranging 230 kV bus configuration to terminate converted Line #29 (now becoming 9281). The project will add a new breaker at the 230 kV bay and reconfigure line termination of 230 kV Line #2157, #2090 and #2083		Dominion (100%)
b3694.4	Reconductor/rebuild approximately 7.6 miles of 230 kV Line #2104 Cranes Corner – Stafford to achieve a summer rating of 1047 MVA. Reconductor/rebuild approximately 0.34 miles of 230 kV Line #2104 Stafford – Aquia Harbour to achieve a summer rating of 1047 MVA. Upgrade terminal equipment at Cranes Corner to not limit the new conductor rating		Dominion (100%)
b3694.5	Upgrade wave trap and line leads at 230 kV Line #2090 Ladysmith CT terminal to achieve 4000A rating		Dominion (100%)

Required Tra	nsmission Enhancements Annual Rev	enue Requirement	Responsible Customer(s)
b3694.6	Upgrade Fuller Road substation to feed Quantico substation via 115 kV radial line. Install four- breaker ring bus and break 230 kV Line #252 into two new lines: 1) Line #252 between Aquia Harbour and Fuller Road and 2) Line #9282 between Fuller Road and Possum Point. Install a 230/115 kV transformer which will serve Quantico substation		Dominion (100%)
b3694.7	Energize in-service spare 500/230 kV Carson Transformer #1		Dominion (100%)
b3694.8	Partial wreck and rebuild 10.34 miles of 230 kV Line #249 Carson – Locks to achieve a minimum summer emergency rating of 1047 MVA. Upgrade terminal equipment at Carson and Locks stations to not limit the new conductor rating		Dominion (100%)
b3694.9	Wreck and rebuild 5.4 miles of 115 kV Line #100 Locks – Harrowgate to achieve a minimum summer emergency rating of 393 MVA. Upgrade terminal equipment at Locks and Harrowgate stations to not limit the new conductor rating and perform Line #100 Chesterfield terminal relay work		Dominion (100%)
b3694.10	Reconductor approximately 2.9 miles of 230 kV Line #211 Chesterfield – Hopewell to achieve a minimum summer emergency rating of 1046 MVA		Dominion (100%)
b3694.11	Reconductor approximately 2.9 miles of 230 kV Line #228 Chesterfield – Hopewell to achieve a minimum summer emergency rating of 1046 MVA		Dominion (100%)
b3694.12	Upgrade equipment at Chesterfield 230 kV substation to not limit ratings on Line #211 and #228		Dominion (100%)

Required IIa		evenue Requirement	Responsible Customer(s)
b3694.13	Upgrade equipment at Hopewell 230 kV substation to not limit ratings on Line #211 and #228		Dominion (100%)
b3702	Install one 13.5 Ohm series reactor to control the power flow on the 230 kV Line #2054 from Charlottesville substation to Proffit Rd. 230 kV line		AEC (1.59%) / APS (8.85%) / ATSI (5.54%) / BGE (10.79%) / ComEd (1.86%) / Dayton (0.21%) / DEOK (1.16%) / Dominion (18.99%) / DPL (3.68%) / DL (1.16%) / ECP** (0.27%) / HTP*** (0.22%) / JCPL (4.53%) / ME (1.73%) / NEPTUNE* (0.68%) / PECO (6.95%) / PENELEC (4.75%) / PEPCO (9.69%) / PPL (9.78%) / PSEG (7.28%) / RE (0.29%)
b3707.1	Reconductor approximately 0.57 mile of 115 kV Line #1021 from Harmony Village to Greys Point with 768 ACSS to achieve a summer emergency rating of 237 MVA. The current conductor is 477 ACSR		Dominion (100%)
b3707.2	Reconductor approximately 0.97 mile of 115 kV Line #65 from Rappahannock to White Stone with 768 ACSS to achieve a summer emergency rating of 237 MVA. The current conductor is 477 ACSR		Dominion (100%)
b3759	Reconductor approximately 10.5 miles of 115 kV Line #23 segment from Oak Ridge to AC2-079 Tap to minimum emergency ratings of 393 MVA Summer / 412 MVA Winter		Dominion (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

*Neptune Regional Transmission System, LLC

**East Coast Power, L.L.C.

***Hudson Transmission Partners, LLC

Required Tran	nsmission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
b3779	Cut existing 230 kV line #2183 and extend from Poland Road substation to Evergreen Mills substation. Approximately 0.59 miles of new line will be built from the cut-in to the Evergreen Mills substation. Cut and extend the existing 230 kV line #2183 creating a new line #2210 from Brambleton substation to be terminated at Evergreen Mills substation. Approximately 0.59 miles of new line will be built from the cut-in to the Evergreen Mills substation		Dominion (100%)
b3800.118	Line work for terminating Doubs to Bismark line into Woodside 500 kV substation (DOM Portion)		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (21.09%) / BGE (6.55%) / Dominion (64.94%) / PEPCO (7.42%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Trar	nsmission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
b3800.120	Aspen substation work to terminate the new NextEra 500 kV line. Include Aspen 500 kV substation portion build		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (9.18%) / BGE (7.21%) / Dominion (72.52%) / PEPCO (11.09%)
Ь3800.200	Build a new 500 kV line from Aspen - Golden on 500/230 kV double circuit structures with substation upgrades at Aspen and Golden. New conductor to have a minimum summer normal rating of 4357 MVA		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: Dominion (100%)
b3800.201	Install two 500/230 kV transformer at Golden substation		Dominion (100%)
b3800.202	Install one 500/230 kV transformer at Aspen substation		Dominion (86.28%) / PEPCO (13.72%)

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b3800.203	Install a second 500/230 kV 1440 MVA transformer at		
	Mars substation		Dominion (100%)
b3800.204	Reconductor 0.5 mile section of 230 kV line No. 2150 Golden - Paragon Park Circuit 1 to achieve a summer rating of 1573 MVA		Dominion (100%)
b3800.205	Reconductor 0.5 mile section of 230 kV line No. 2081 Golden - Paragon Park Circuit 2 to achieve a summer rating of 1573 MVA		Dominion (100%)
b3800.206	Upgrade Paragon Park substation line conductors to 4000A continuous current rating for 230 kV lines No. 2081 and No. 2150		Dominion (100%)
b3800.207	Reconductor 230 kV line No. 2207 Paragon Park – BECO to achieve a summer rating of 1573 MVA		Dominion (100%)
b3800.208	Upgrade Paragon Park substation conductor and line leads to 4000A continuous current rating for 230 kV line No. 2207		Dominion (100%)
b3800.209	Upgrade BECO substation equipment to 4000A continuous current rating for 230 kV line No.2207		Dominion (100%)
b3800.210	Build a new 230 kV line from Mars - Lockridge on 500/230 kV double circuit structures to achieve a summer rating of 1573 MVA. Install 230 kV equipment at Mars and Lockridge substations		Dominion (100%)
b3800.211	Build a new 230 kV line from Lockridge - Golden on 500/230 kV double circuit structures to achieve a summer rating of 1573 MVA. Install 230 kV equipment at Golden and Lockridge substations		Dominion (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tran	nsmission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
b3800.212	Build a new 500 kV line from Mars - Golden on 500/230 kV double circuit structures with substation upgrades at Golden and Mars. New conductor to have a minimum summer normal rating of 4357 MVA		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (99.96%) / Dominion (0.04%)
b3800.213	Cut 500 kV line No. 558 Brambleton - Goose Creek into Aspen substation. Upgrade 500 kV terminal equipment at Aspen and Goose Creek to 5000A continuous rating current. At Goose Creek, replace circuit breakers 59582 and 55882, and associated disconnect switches, breaker leads, bus, and line risers to accommodate 5000A rating		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (99.39%) / Dominion (0.61%)

Required Tran	smission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
b3800.214	Build a new 500 kV line from Aspen - Goose Creek to achieve a summer rating of 4357 MVA. Install new 500 kV terminal equipment at Aspen		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (99.39%) / Dominion
b3800.215	Cut 230 kV line No. 2150 Sterling Park - Paragon Park Circuit 1 into Golden substation and install 230 kV equipment at Golden. Upgrade relay settings at Golden substation for upgrading 230 kV line No. 2150 to 4000A continuous current rating		(0.61%) Dominion (100%)
b3800.216	Cut 230 kV line No. 2081 Sterling Park - Paragon Park Circuit 2 into Golden substation and install 230 kV equipment at Golden. Upgrade relay settings at Golden substation for upgrading 230 kV line No. 2081 to 4000A continuous current rating		Dominion (100%)
b3800.217	Build a new 230 kV line from Aspen - Sycolin Creek on 500/230 kV double circuit structures to achieve a summer rating of 1573 MVA. Install 230 kV equipment at Golden and Sycolin Creek substations		Dominion (86.28%) / PEPCO (13.72%)

Build a new 230 kV line from Sycolin Creek - Golden on		
500/230 kV double circuit structures to achieve a summer rating of 1573 MVA. Install 230 kV equipment at Golden and Sycolin Creek substations		Dominion (100%)
Replace seven overdutied 230 kV breakers at Beaumeade substation with 80 kA breakers		Dominion (100%)
Replace four overdutied 230 kV breakers at BECO substation with 80 kA breakers		Dominion (100%)
Replace four overdutied 230 kV breakers at Belmont substation with 80 kA breakers		Dominion (100%)
breaker at Discovery substation with 80 kA breaker		Dominion (100%)
breaker at Pleasant View substation with 80 kA breaker		Dominion (100%)
Replace two overdutied 230 kV breakers at Shellhorn substation with 80 kA breakers		Dominion (100%)
Change 500 kV line No. 558 destination at Brambleton to Aspen substation and upgrade line protection relays		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (5.20%) / DL (0.46%) / Dominion (91.40%) / ME (0.59%) / PEPCO (2.35%)
	230 kV equipment at Golden and Sycolin Creek substations Replace seven overdutied 230 kV breakers at Beaumeade substation with 80 kA breakers Replace four overdutied 230 kV breakers at BECO substation with 80 kA breakers Replace four overdutied 230 kV breakers at Belmont substation with 80 kA breakers Replace one overdutied 230 kV breaker at Discovery substation with 80 kA breaker Replace one overdutied 230 kV breaker at Pleasant View substation with 80 kA breaker Replace two overdutied 230 kV breakers at Shellhorn substation with 80 kA breakers	230 kV equipment at Golden and Sycolin Creek substationsReplace seven overdutied 230 kV breakers at Beaumeade substation with 80 kA breakersReplace four overdutied 230 kV breakers at BECO substation with 80 kA breakersReplace four overdutied 230 kV breakers at Belmont substation with 80 kA breakersReplace one overdutied 230 kV breaker at Discovery substation with 80 kA breakerReplace one overdutied 230 kV breaker at Discovery substation with 80 kA breakerReplace one overdutied 230 kV breaker at Pleasant View substation with 80 kA breakerReplace two overdutied 230 kV breakers at Shellhorn substation with 80 kA breakersReplace two overdutied 230 kV breakers at Shellhorn substation with 80 kA breakersChange 500 kV line No. 558 destination at Brambleton to Aspen substation and upgrade

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tran	smission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
b3800.226	Change 230 kV lines No. 2081 and No. 2150 at Paragon Park substation destination to Golden substation and upgrade line protection relays		Dominion (100%)
b3800.227	Change 230 kV lines No. 2081 and No. 2150 at Sterling Park substation destination to Golden substation and upgrade line protection relays		Dominion (100%)
b3800.228	Reconductor 1.47 miles of 230 kV lines No. 2081 and No. 2150 from Sterling Park to Golden substation. Upgrade terminal equipment at Sterling Park to 4000A continuous current		Dominion (100%)
b3800.229	Reconductor 0.67 miles of 230 kV lines No. 2194 and No. 9231 from Davis Drive to Sterling Park substation. Terminal equipment at remote end substations will be installed or upgraded to 4000A continuous current rating to support new conductor ratings		Dominion (100%)
b3800.230	Reset relays at Breezy Knoll for the revised current rating of 230 kV line No. 2098 Pleasant View - Hamilton		Dominion (100%)
b3800.231	Reset relays at Dry Mill for the revised current rating of 230 kV line No. 2098 Pleasant View - Hamilton		Dominion (100%)
b3800.232	Reset relays at Hamilton for the revised current rating of 230 kV line No. 2098 Pleasant View - Hamilton		Dominion (100%)
b3800.233	Upgrade equipment to 4000A continuous current rating at Pleasant View substation in support of 230 kV line No. 2098 wreck and rebuild. Replace circuit breakers 274T2098 & 2098T2180 and associated disconnect switches, breaker leads, bus, and line risers to accommodate 4000A rating		Dominion (100%)

Required Trai		evenue Requirement	Responsible Customer(s)
	Wreck and rebuild		
	approximately one mile of 230		
1 2000 224	kV line No. 2098 between		
b3800.234	Pleasant View and structure		
	2098/9, where line No. 2098		
	turns towards Hamilton substation		$\mathbf{D}_{\mathbf{c}}$
			Dominion (100%)
1,2000,225	Replace five overdutied 230 kV breakers at Loudoun		
b3800.235	substation with 80 kA breakers		Dominion (100%)
	Replace two overdutied 230		
b3800.236	kV breakers at Ox substation		
03800.230	with 63 kA breakers		Dominion (100%)
	Replace two overdutied 230		
b3800.237	kV breakers at Pleasant View		
	substation with 63 kA breakers		Dominion (100%)
	Upgrade equipment to 4000A		``````````````````````````````````````
	continuous current rating at		
	Pleasant View substation in		
	support of 230 kV line No. 203		
b3800.238	rebuild. Replace circuit		
05000.250	breakers 203T274 & L3T203		
	and associated disconnect		APS (8.09%) / BGE (8.25%) /
	switches, breaker leads, bus,		Dominion (64.87%) / PEPCO
	and line risers to accommodate		(18.79%)
	4000A rating Wreck and rebuild 230 kV line		(10./9/0)
	No. 203 between Pleasant		
b3800.239	View and structure 203/15		
	using double circuit 500/230		APS (8.09%) / BGE (8.25%) /
	kV structures. The 500 kV line		Dominion (64.87%) / PEPCO
	is from Aspen - Doubs		(18.79%)
L	1		

Required Tran	smission Enhancements Annual Re	venue Requirement Responsible C	ustomer(s)
b3800.240	Build a new 500 kV line from Aspen - Doubs using double circuit 500/230 kV structures. The 230 kV line is from Pleasant View - structure 203/15. Install terminal equipment at Aspen for a 5000A line to Doubs. This includes GIS breakers, GIS-to- AIS transition equipment, and metering CCVTs and CTs for the tie line	AEC (1.65 / APS (5.7 / BGE ((13.39%) DEOK (3.2 Dominio (2.60%) JCPL (3.8 NEPTUNI (0.08%) PENELEO (3.67%) / H (6.39% DFA APS (0.	o Share Allocation: %) / AEP (13.68%) 6%) / ATSI (8.04%) 4.11%) / ComEd / Dayton (2.12%) / 25%) / DL (1.71%) / n (13.32%) / DPL / EKPC (1.89%) / 6%) / ME (1.90%) / E* (0.42%) / OVEC / PECO (5.40%) / C (1.78%) / PEPCO PL (4.72%) / PSEG 6) / RE (0.26%) X Allocation: 09%) / Dominion / PEPCO (0.02%)
b3800.241	Rebuild 500 kV line No. 514 from Goose Creek - Doubs using 500/230 kV double circuit structures. The new double circuit towers will accommodate 230 kV line No. 2098 between Pleasant View substation and structure 2098/9. Upgrade equipment at Goose Creek to 5000A continuous current rating in support of line No. 514 wreck and rebuild. Replace circuit breakers 514T595 & 51482 and associated disconnect switches, breaker leads, bus, and line risers to accommodate 5000A rating	Load-Rati AEC (1.65 / APS (5.7 / BGE ((13.39%) DEOK (3.2 Dominic (2.60%) JCPL (3.8 NEPTUN (0.08%) PENELEO (3.67%) / H (6.39% DFA APS (0.	o Share Allocation: %) / AEP (13.68%) 6%) / ATSI (8.04%) 4.11%) / ComEd / Dayton (2.12%) / 25%) / DL (1.71%) / n (13.32%) / DPL / EKPC (1.89%) / 6%) / ME (1.90%) / E* (0.42%) / OVEC / PECO (5.40%) / C (1.78%) / PEPCO PPL (4.72%) / PSEG 6) / RE (0.26%) X Allocation: 08%) / Dominion / PEPCO (0.02%)
b3800.242	Upgrading switches 20366M and 20369M and line leads to 4000A continuous current rating of 230 kV line No. 203 at Edwards Ferry substation	APS (11.45 / Dominion	5%) / BGE (14.14%) n (42.82%) / PEPCO (31.59%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required I ran	smission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
	Rebuild 230 kV line No. 2135		
	Hollymeade Junction – Cash's		
	Corner using double-circuit		
b3800.300	capable 500/230 kV poles.		
03800.300	New conductor has a summer		
	rating of 1573 MVA. (The 500 kV circuit will not be wired as		
	kV circuit will not be wired as		
	part of this project)		Dominion (100%)
	Rebuild 230 kV line No. 2135		
	Cash's Corner - Gordonsville		
	using double-circuit capable		
b3800.301	500/230 kV poles. New		
03800.301	conductor has a summer rating		
	of 1573 MVA. (The 500 kV		
	circuit will not be wired as part		
	of this project)		Dominion (100%)
	Upgrade Cash's Corner		
	switches 213576 and 213579		
b3800.302	and line leads to 4000A		
	continuous current rating of		
	230 kV line No. 2135		Dominion (100%)
	Upgrade Gordonsville		
b3800.303	substation line leads to 4000A		
03000.303	continuous current rating of		
	230 kV line No. 2135		Dominion (100%)
	Upgrade Hollymeade		
	substation switch 213549 and		
b3800.304	line leads to 4000A continuous		
	current rating of 230 kV line		
	No. 2135		Dominion (100%)
	Install one 230 kV 300 MVAR		
b3800.305	STATCOM and associated		
03800.303	equipment at Beaumeade 230		
	kV substation		Dominion (100%)

Required Tran	smission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
b3800.306	Install one 500 kV, 150 MVAR Shunt Capacitor Bank and associated equipment at Morrisville substation. This addition will require a control house expansion to accommodate for two new panels		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: Dominion (100%)
b3800.307	Install one 500 kV, 300 MVAR STATCOM and associated equipment at Mars substation		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: Dominion (100%)
b3800.308	Install one 230 kV, 150 MVAR Shunt Capacitor Bank and associated equipment at Mars substation		Dominion (100%)
b3800.309	Install one 230 kV, 150 MVAR Shunt Capacitor Bank and associated equipment at Wishing Star substation		Dominion (100%)

Required Tran	nsmission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
b3800.310	Install one 500 kV, 293.8 MVAR Shunt Capacitor Bank & associated equipment at Wishing Star substation		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)
b3800.311	Rebuild 500 kV line No. 545 Bristers - Morrisville as a single circuit monopole line to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 4357 MVA		DFAX Allocation: Dominion (100%) Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: Dominion (91.07%) / PEPCO (8.93%)

Required Trar	nsmission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
b3800.312	Rebuild 500 kV line No. 569 Loudoun - Morrisville to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 4357 MVA		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (11.72%) / Dominion (88.28%)
b3800.313	Rebuild approximately 10.29 miles 500 kV line segment of line No. 535 (Meadow Brook to Loudoun) to accommodate the new 500 kV line in the existing ROW		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (13.93%) / BGE (6.86%) / Dominion (70.92%) / PEPCO (8.29%)

Required Tran	smission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
b3800.314	Rebuild approximately 4.83 miles of 500 kV line No. 546 Mosby - Wishing Star to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 4357 MVA. Upgrade and install equipment at Mosby substation to upgrade terminal equipment to be rated for 5000A for 500 kV line No. 546		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)
			DFAX Allocation: APS (41.98%) / Dominion (34.03%) / PEPCO (23.99%)
b3800.315	Rebuild approximately 4.59 miles of 500 kV line No. 590 Mosby - Wishing Star to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 4357 MVA. Upgrade and install equipment at Mosby substation to upgrade terminal equipment to be rated for 5000A for 500 kV line No. 590		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (41.98%) / Dominion (34.03%) / PEPCO (23.99%)
b3800.316	Rebuild approximately 6.17 miles of 230 kV line No. 2030 Gainesville - Mint Springs to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVA egional Transmission System, LLC		Dominion (100%)

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Required Tran	smission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
b3800.317	Rebuild approximately 1.58 miles of 230 kV line No. 2030 Mint Springs - Loudoun to accommodate the new 500 kV line in the existing ROW. New		
	line in the existing ROW. New conductor to have a summer rating of 1573 MVA		Dominion (100%)
b3800.318	Rebuild approximately 4.2 miles of 230 kV line No. 2045 Loudoun - North Star to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVA		Dominion (100%)
b3800.319	Rebuild approximately 0.88 miles of 230 kV line No. 2045 North Star - Brambleton to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVA		Dominion (100%)
b3800.320	Rebuild approximately 1.22 miles of 230 kV line No. 2227 Brambleton - Racefield to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVA		Dominion (100%)
b3800.321	Rebuild approximately 3.69 miles of 230 kV line No. 2094 Racefield - Loudoun to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVA		Dominion (100%)
b3800.322	Rebuild approximately 9.16 miles of 230 kV line No. 2101 Bristers - Nokesville to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVA		Dominion (100%)
b3800.323	Rebuild approximately 2.89 miles of 230 kV line No. 2101 Nokesville - Vint Hill TP to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVA		Dominion (100%)

Required Tran	smission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
1 2000 22 4	Rebuild approximately 0.33 miles of 230 kV line No. 2101 Vint Hill TP - Vint Hill to		
b3800.324	accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVA		Dominion (100%)
b3800.325	Rebuild approximately 3.32 miles of 230 kV line No. 2114 Rollins Ford - Vint Hill to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVA		Dominion (100%)
b3800.326	Rebuild approximately 10.09 miles of 230 kV line No. 2114 Vint Hill - Elk Run to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVA		Dominion (100%)
b3800.327	Rebuild approximately 4.43 miles of 230 kV line No. 2140 Heathcote - Catharpin to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVA		Dominion (100%)
b3800.328	Rebuild approximately 2.88 miles of 230 kV line No. 2140 Catharpin - Loudoun to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVA		Dominion (100%)
b3800.329	Rebuild approximately 0.25 miles of 230 kV line No. 2151 Railroad DP - Gainesville to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVA		Dominion (100%)
b3800.330	Rebuild approximately 4.14 miles of 230 kV line No. 2163 Vint Hill - Liberty to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVA		Dominion (100%)

b3800.336 AEC (1.65%) / AEP (13.68%) Upgrade and install equipment at Bristers substation to support the new conductor 5000A rating for 500 kV line No. 545 AEC (1.65%) / AEP (13.68%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / BEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: DFAX Allocation:	Required Tran	smission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
line in the existing ROW. New conductor to have a summer rating of 1573 MVA Dominion (100%) Rebuild approximately 1.11 miles of 230 kV line No. 2222 Rollins Ford - Gainesville to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVA Dominion (100%) Rebuild approximately 1.65 miles of 115 kV line No. 183 Bristers - Ox to accommodate existing ROW. New conductor to have a summer rating of 1573 MVA Dominion (100%) Replace four overdutied 230 kV breakers at Loudoun Substation with 80 kA breakers Dominion (100%) Replace one overdutied 500 kV b3800.335 Beraker at Ox Substation with a G3 kA breaker Dominion (100%) Vpgrade and install equipment at Bristers substation to support the new conductor 5000A rating for 500 kV line No. 545 Load-Ratio Share Allocation: AEC (1.89%) / DEL (1.38%) / PEC (1.88%) / DOMINION (13.32%) / DPL (3.66%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PEC (1.88%) / PECO (3.67%) / PL (4.72%) / PSEG (6.39%) / RE (0.26%)		miles of 230 kV line No. 2176		
rating of 1573 MVADominion (100%)Rebuild approximately 1.11miles of 230 kV line No. 2222Rollins Ford - Gainesville to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVADominion (100%)Rebuild approximately 1.65 miles of 115 kV line No. 183 Bristers - Ox to accommodate to have a summer rating of 1573 MVADominion (100%)Ba800.333the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVADominion (100%)Ba800.334kV breakers at Loudoun Substation with 80 kA breakers for a coverdutied 500 kV breaker at Ox Substation with a 63 kA breakerDominion (100%)Ba800.336Load-Ratio Share Allocation: A Feplace four overdutied 500 kV breaker at Ox Substation with a 63 kA breakerDominion (100%)Ba800.336Upgrade and install equipment at Bristers substation to support the new conductor 5000A rating for 500 kV line No. 545Load-Ratio Share Allocation: (0.85%) / DEU (1.78%) / Deminion (13.32%) / DPL (2.60%) / EKPC (1.89%) / NEPTUNE* (0.42%) / OVEC (0.63%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PL (4.72%) / PSEG (6.39%) / RE (0.26%)	b3800.331	line in the existing ROW. New		
b3800.332miles of 230 kV line No. 2222 Rollins Ford - Gainesville to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVADominion (100%)Rebuild approximately 1.65 miles of 115 kV line No. 183 Bristers - Ox to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVADominion (100%)Replace four overdutied 230 kV breakers at Loudoun Substation with 80 kA breakersDominion (100%)Replace one overdutied 500 kV breaker at Ox Substation with a 63 kA breakerDominion (100%)Load-Ratio Share Allocation: (13.39%) / DED (1.17%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.20%) / DPL the new conductor 5000A rating for 500 kV line No. 545Load-Ratio Share Allocation: (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PL (4.72%) / PSEG (6.39%) / RE (0.26%)		rating of 1573 MVA		Dominion (100%)
conductor to have a summer rating of 1573 MVADominion (100%)Rebuild approximately 1.65 miles of 115 kV line No. 183 Bristers - Ox to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVADominion (100%)Replace four overdutied 230 kV breakers at Loudoun Substation with 80 kA breakersDominion (100%)Replace one overdutied 500 kV breaker at Ox Substation with a 63 kA breakerDominion (100%)Baselon.335Replace one overdutied 500 kV breaker at Ox Substation with a 63 kA breakerDominion (100%)Baselon.336Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / RE (0.26%)b3800.336The new conductor 5000 A rating for 500 kV line No. 545Dominion (10.2%)b3800.336Derive a substation to support the new conductor 5000 A rating for 500 kV line No. 545Dominion (13.32%) / DPL (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / RE (0.26%)	b3800.332	miles of 230 kV line No. 2222 Rollins Ford - Gainesville to accommodate the new 500 kV		
miles of 115 kV line Ňo. 183 Bristers - Ox to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVADominion (100%)Replace four overdutied 230 kV breakers at Loudoun 		conductor to have a summer rating of 1573 MVA		Dominion (100%)
b3800.334Replace four overdutied 230 kV breakers at Loudoun Substation with 80 kA breakersDominion (100%)Beplace one overdutied 500 kV breaker at OX Substation with a 63 kA breakerDominion (100%)b3800.335G3 kA breakerDominion (100%)Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PL (4.72%) / PSEG (6.39%) / RE (0.26%)	b3800.333	miles of 115 kV line No. 183 Bristers - Ox to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of		Dominion (100%)
b3800.335 breaker at Ox Substation with a 63 kA breaker Dominion (100%) Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) Data Dominion (100%)	b3800.334	Replace four overdutied 230 kV breakers at Loudoun Substation with 80 kA breakers		
b3800.336 AEC (1.65%) / AEP (13.68%) Upgrade and install equipment at Bristers substation to support the new conductor 5000A rating for 500 kV line No. 545 AEC (1.65%) / AEP (13.68%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / BEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: DFAX Allocation:	b3800.335	breaker at Ox Substation with a		Dominion (100%)
Dominion (91.07%) / PEPCO (8.93%)	b3800.336	at Bristers substation to support the new conductor 5000A		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: Dominion (91.07%) / PEPCO

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required that	ismission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
b3800.337	Upgrade and install equipment at Brambleton substation to support the new conductor termination. All terminal equipment for 230 kV lines No. 2045 and No. 2094 to be rated for 4000A continuous		
	current rating		Dominion (100%)
b3800.338	Revise relay settings at Dawkins Branch 230 kV station		Dominion (100%)
b3800.339	Upgrade and install equipment at Gainesville 230 kV substation to support the new conductor termination. All terminal equipment for 230 kV line No. 2030 to be rated for 4000A continuous current rating		Dominion (100%)
b3800.340	Revise relay settings at Heathcote 230 kV station		Dominion (100%)
b3800.341	Upgrade and install equipment at Loudoun substation for 230 kV line No. 2094 Loudoun - Racefield to be rated for 4000A continuous current rating		Dominion (100%)
b3800.342	Upgrade and install equipment at Loudoun substation for 230 kV line No. 2045 Loudoun - North Star to be rated for 4000A continuous current rating		Dominion (100%)
b3800.343	Upgrade and install equipment at Loudoun substation for 230 kV line No. 2030 Loudoun - Mint Springs to be rated for 4000A continuous current rating		Dominion (100%)

Required Trar	smission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
b3800.344	Upgrade and install equipment at Loudoun substation to support the new conductor 5000A rating for 500 kV line No. 569 Loudoun - Morrisville		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (11.72%) / Dominion (88.28%)
b3800.345	Revise relay settings at 230 kV Mint Springs station		Dominion (100%)
b3800.346	Upgrade and install equipment at Morrisville substation to support the new 500 kV conductor termination. All terminal equipment to be rated for 5000A for 500 kV line No. 545 and No. 569. Upgrade 500 kV bus 2 to 5000A		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (11.72%) / Dominion (88.28%)
b3800.347	Revise relay settings at North Star 230 kV station		Dominion (100%)

Required Hu	ISINISSION L'INANCENCINS ANNUAL N	evenue requirement	
b3800.348	Revise relay settings at Racefield 230 kV station		Dominion (100%)
b3800.349	Revise relay settings at Railroad 230 kV station		Dominion (100%)
b3800.350	Install terminal equipment at Vint Hill 500 kV substation to support a 5000A line to 500 kV Morrisville substation. Update relay settings for 230 kV lines No. 2101, No. 2163, and 500 kV line No. 535		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (9.79%) / Dominion (90.21%)
b3800.351	Update relay settings at Vint Hill for 230 kV line No. 2101 Vint Hill - Bristers		Dominion (100%)
b3800.352	Update relay settings at Vint Hill for 230 kV line No. 2163 Vint Hill - Liberty		Dominion (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Trar	nsmission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
b3800.353	Update relay settings at Vint Hill for 500 kV line No. 535 Vint Hill - Loudoun		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation:
b3800.354	Install terminal equipment at Wishing Star 500 kV substation to support a 5000A line to Vint Hill. Update relay settings for 500 kV lines No. 546 and No. 590		DFAX Allocation: APS (13.93%) / BGE (6.86%) / Dominion (70.92%) / PEPCO (8.29%) Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (21.45%) / Dominion (78.55%)
b3800.355	Revise relay settings at Youngs Branch 230 kV station		Dominion (100%)

Required Tran	nsmission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
b3800.356	Build a new 500 kV line from Vint Hill to Wishing Star. The line will be supported on single circuit monopoles. New conductor to have a summer rating of 4357 MVA. Line length is approximately 16.59 miles		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (21.45%) / Dominion
b3800.357	Build a new 500 kV line from Morrisville to Vint Hill. New conductor to have a summer rating of 4357 MVA. Line length is approximately 19.71 miles		(21.13 / 0) / Dominion (78.55%) Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / DEOK (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (9.79%) / Dominion (90.21%)
b3800.358	Replace single unit Locks 230/115 kV 168 MVA transformer TX No.7 with new single unit transformer with a rating of 224 MVA. Lead lines at the 115 kV level will be upgraded to 2000A egional Transmission System, LLC		Dominion (100%)

Required Tran	smission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
	Wreck and rebuild 230 kV line		
	No. 2090 Ladysmith CT -		
	Summit D.P. segment as a double circuit 230 kV line to		
	double circuit 230 kV line to		
1	achieve a summer rating of		
b3800.359	1573 MVA. Only one circuit		
	will be wired at this stage.		
	Upgrade circuit breaker leads,		
	switches and line leads at		
	Ladysmith CT to 4000A		Dominion (100%)
	Rebuild 230 kV line No. 2054		
	Charlottesville - Proffit DP		
b3800.360	using double-circuit capable		
	500/230 kV poles. (The 500 kV circuit will not be wired as		
			D_{1} (1000/)
	part of this project)		Dominion (100%)
	Rebuild 230 kV line No. 233		
b3800.361	Charlottesville - Hydraulic		
05000.501	Road - Barracks Road - Crozet-		
	Dooms		Dominion (100%)
	Rebuild 230 kV line No. 291		
b3800.362	segment from Charlottesville -		
	Barracks Road		Dominion (100%)
	Rebuild 230 kV line No. 291		
b3800.363	segment from Barracks Road -		
	Crozet		Dominion (100%)
	Rebuild 230 kV line No. 291		
b3800.364	segment Crozet - Dooms		$\mathbf{D}_{\text{eminion}}(1000/)$
	-		Dominion (100%)
	Hollymeade substation Relay		
b3800.365	Revision for 230 kV line No.		
	2054 Charlottesville -		$D^{(1000/)}$
	Hollymeade		Dominion (100%)
	Upgrade the terminal		
	equipment at 230 kV		
b3800.366	Charlottesville station to		
05000.500	4000A for 230 kV line No.		
	2054 (Charlottesville -		
	Hollymeade)		Dominion (100%)
	Proffit DP substation Relay		
b3800.367	revision for 230 kV line No.		
03000.307	2054 Charlottesville -		
	Hollymeade		Dominion (100%)
b3800.368	Barracks Road substation relay		
	reset to accommodate the		
05000.500	rebuilt line 230 kV lines No.		
	233 and No. 291		Dominion (100%)
	Crozet substation relay reset to		
b3800.369	accommodate the rebuilt 230		
	kV lines No. 233 and No. 291		Dominion (100%)

Required Tran	nsmission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
	Charlottesville 230 kV		
1 2000 270	substation terminal equipment		
b3800.370	upgrade for 230 kV lines No.		
	233 and No. 291 rebuild		Dominion (100%)
	Upgrade Hydraulic Road		
	substation equipment for 230		
b3800.371	kV line No. 233 and No. 291		
	rebuild		Dominion (100%)
	Dooms substation terminal		
	equipment upgrade for 230 kV		
b3800.372	line No. 233 and No. 291		
	rebuild		Dominion (100%)
	Wreck and rebuild		
	approximately 7.14 miles of		
	230 kV line No. 256 from St.		
	Johns to structure 256/108 to		
b3800.373	achieve a summer rating of		
	1573 MVA. Line switch 25666		
	at St. Johns to be upgraded to		
	4000A		Dominion (100%)
	Reconductor approximately		
	5.30 miles of 230 kV line No.		
	256 from Ladysmith CT to		
	structure 256/107 to achieve a		
b3800.374	summer rating of 1573 MVA.		
	Terminal equipment at remote		
	end substations will be		
	upgraded to 4000A		Dominion (100%)
	Replace Ashburn 230 kV		
b3800.401	breaker SC432 with a breaker		
03800.401	rated 63 kA		Dominion (100%)
-	Replace Beaumeade 230 kV		
b3800.402	breaker 227T2152 with a		
03800.402	breaker rated 80 kA		Dominion (100%)
	Replace BECO 230 kV		
	breakers 215012 and		
b3800.403	H12T2150 with breakers rated		
	63 kA		Dominion (100%)
h2800 404	Replace Belmont 230 kV breaker 227T2180 with a		
b3800.404			Dominion (100%)
	breaker rated 80 kA Replace Brambleton 230 kV		
b3800.405	breakers 20102, 20602, 204502, 204502, 209402, 20172045		
	204502, 209402, 201T2045, 206T2094 with breakers rated		
			Dominion (100%)
	80 kA		
1,2000 400	Replace Gainesville 230 kV breaker 216192 with a breaker		
b3800.406			Dominion (100%)
	rated 80 kA		

Required That	Ismission Emilancements Amilia Re	responsible customer(s)
b3800.407	Replace Loudoun 230 kV breakers 204552, 217352 with	
05000.407	breakers rated 80 kA	Dominion (100%)
1.2000.400	Replace Ox 230 kV breakers 22042, 24342, 24842, 22072063, 24272007	
b3800.408	220T2063, 243T2097, 248T2013, H342 with breakers rated 80 kA	Dominion (100%)
	Replace Paragon Park 230 kV	
b3800.409	breakers 208132, 215032, 2081T2206, 2150T2207 with breakers rated 80 kA	Dominion (100%)
1 2000 410	Replace Reston 230 kV	
b3800.410	breaker 264T2015 with a	$D_{ominion}(100\%)$
	breaker rated 63 kA	Dominion (100%)
	Replace Stonewater 230 kV	
b3800.411	breakers 20662-1, 20662-2,	
	217862-1, 217862-2 with	
	breakers rated 80 kA	Dominion (100%)
b3800.412	Replace Waxpool 230 kV	
	breakers 214922-5, 214922-6,	
03000.412	216622-5, 216622-6 with	
	breakers rated 63 kA	Dominion (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

PJM Open Access Transmission Tariff Schedule 12-Appendix A
Section 33 – Keystone Appalachian Transmission Co.
Effective April 9, 2024 Version 0.0.1

SCHEDULE 12 – APPENDIX A

(33) Keystone Appalachian Transmission Company

Required Tra	ansmission Enhancements Annua	l Revenue Requirement	Responsible Customer(s)
b2120	Six-Wire Lake Lynn - Lardin 138 kV circuits		APS (100%)
b2174.8	Replace relays at Mitchell substation		APS (100%)
b2174.9	Replace primary relay at Piney Fork substation		APS (100%)
b2174.10	Perform relay setting changes at Bethel Park substation		APS (100%)
b2213	Armstrong Substation: Relocate 138 kV controls from the generating station building to new control building		APS (100%)
b2300	Reconductor from Lake Lynn - West Run 138 kV		APS (100%)
b2341	Install 39.6 MVAR Capacitor at Shaffers Corner 138 kV Substation		APS (100%)
b2362	Install a 250 MVAR SVC at Squab Hollow 230 kV		APS (100%)
b2362.1	Install a 230 kV breaker at Squab Hollow 230 kV substation		APS (100%)
b2363	Convert the Shingletown 230 kV bus into a 6 breaker ring bus		APS (100%)
b2364	Install a new 230/138 kV transformer at Squab Hollow 230 kV substation. Loop the Forest - Elko 230 kV line into Squab Hollow. Loop the Brookville - Elko 138 kV line into Squab Hollow		APS (100%)
b2412	Install a 44 MVAR 138 kV capacitor at the Hempfield 138 kV substation		APS (100%)

Institussion Lintaneements Annua	al Revenue Requirement	Responsible Customer(s)
Replace the Cabot 138kV		
breaker 'C9-KISKI VLY' with		APS (100%)
63kA		
Install a 51.8 MVAR (rated)		
· · · · · · · · · · · · · · · · · · ·		APS (100%)
138 kV substation		
Construct a new 138 kV six		
breaker ring bus Hillman		APS (100%)
substation		
Loop Smith- Imperial 138 kV		
line into the new Hillman		APS (100%)
substation		
Install +125/-75 MVAR SVC		
at Hillman substation		APS (100%)
		APS (100%)
1		
10		APS (100%)
e (
· · · · · · · · · · · · · · · · · · ·		
		APS (100%)
		APS (100%)
-		
		APS (100%)
facilities		
		APS (100%)
1		
		APS (100%)
with an 80 kA breaker		
	breaker 'C9-KISKI VLY' with 63kA Install a 51.8 MVAR (rated) 138 kV capacitor at Nyswaner 138 kV substation Construct a new 138 kV six breaker ring bus Hillman substation Loop Smith- Imperial 138 kV line into the new Hillman substation Install +125/-75 MVAR SVC at Hillman substation Install two 31.7 MVAR 138 kV capacitors Eliminate clearance de-rate on Wylie Ridge – Smith 138 kV line and upgrade terminals at Smith 138 kV, new line ratings 294 MVA (Rate A)/350 MVA (Rate B) Relocate All Dam 6 138 kV line and the 138 kV line to AE units 1&2 Install 138 kV, 3000A bus-tie breaker in the open bus-tie position next to the Shaffers corner 138 kV line Install a 6-pole manual switch, foundation, control cable, and all associated facilities Yukon 138 kV Breaker Replace Yukon 138 kV breaker "Y-11(CHARL1)"	breaker 'C9-KISKI VLY' with 63kA Install a 51.8 MVAR (rated) 138 kV capacitor at Nyswaner 138 kV substation Construct a new 138 kV six breaker ring bus Hillman substation Loop Smith- Imperial 138 kV line into the new Hillman substation Install +125/-75 MVAR SVC at Hillman substation Install two 31.7 MVAR 138 kV capacitors Eliminate clearance de-rate on Wylie Ridge – Smith 138 kV line and upgrade terminals at Smith 138 kV, new line ratings 294 MVA (Rate A)/350 MVA (Rate B) Relocate All Dam 6 138 kV line and the 138 kV line to AE units 1&2 Install 138 kV, 3000A bus-tie breaker in the open bus-tie position next to the Shaffers corner 138 kV line Install a 6-pole manual switch, foundation, control cable, and all associated facilities Yukon 138 kV Breaker Replace Yukon 138 kV breaker "Y-11(CHARL1)"

Required Tra	ansmission Enhancements Annua	al Revenue Requirement	Responsible Customer(s)
	Replace Yukon 138 kV		
b2666.2	breaker "Y-13(BETHEL)"		APS (100%)
	with an 80 kA breaker		
	Replace Yukon 138 kV		
b2666.3	breaker "Y-18(CHARL2)"		APS (100%)
	with an 80 kA breaker		
	Replace Yukon 138 kV		
b2666.4	breaker "Y-19(CHARL2)"		APS (100%)
	with an 80 kA breaker		
	Replace Yukon 138 kV		
b2666.5	breaker "Y-4(4B-2BUS)"		APS (100%)
	with an 80 kA breaker		
	Replace Yukon 138 kV		
b2666.6	breaker "Y-5(LAYTON)"		APS (100%)
	with an 80 kA breaker		
	Replace Yukon 138 kV		
b2666.7	breaker "Y-8(HUNTING)"		APS (100%)
	with an 80 kA breaker		
	Replace Yukon 138 kV		
b2666.8	breaker "Y-9(SPRINGD)"		APS (100%)
	with an 80 kA breaker		
	Replace Yukon 138 kV		
b2666.9	breaker "Y-10(CHRL-SP)"		APS (100%)
	with an 80 kA breaker		
	Replace Yukon 138 kV		
b2666.10	breaker "Y-12(1-1BUS)" with		APS (100%)
	an 80 kA breaker		
	Replace Yukon 138 kV		
b2666.11	breaker "Y-14(4-1BUS)" with		APS (100%)
	an 80 kA breaker		
	Replace Yukon 138 kV		
b2666.12	breaker "Y-2(1B-BETHE)"		APS (100%)
	with an 80 kA breaker		
	Replace Yukon 138 kV		
b2666.13	breaker "Y-21(SHEPJ)" with		APS (100%)
	an 80 kA breaker		
	Replace Yukon 138 kV		
b2666.14	breaker "Y-22(SHEPHJT)"		APS (100%)
	with an 80 kA breaker		

	Upgrade terminal equipment		• • • • • •	
b2689.3	at structure 27A		APS (100%)	
	Upgrade 138 kV substation			
	equipment at Butler, Shanor Manor and Krendale			
b2696			ADC(1000/)	
02090	substations. New rating of line will be 353 MVA		APS (100%)	
	summer normal/422 MVA			
	emergency Replace the breaker risers and			
b2763	wave trap at Bredinville 138		APS (100%)	
	kV substation on the Cabrey			
	Junction 138 kV terminal Reconductor the Charleroi –			
	Allenport 138 kV line with			
b2965	954 ACSR conductor.		APS (37.15%) / DL (62.85%)	
02903	Replace breaker risers at	A		
	Charleroi and Allenport			
	Reconductor the Yukon –			
	Smithton – Shepler Hill Jct			
b2966	138 kV line with 795 ACSS		APS (100%)	
02900	conductor. Replace Line		AI 5 (10070)	
	Disconnect Switch at Yukon			
	Reconductor the Yukon -			
	Smithton - Shepler Hill Jct			
	138 kV line and replace			
b2966.1	terminal equipment as		APS (100%)	
	necessary to achieve required			
	rating			
	Convert the existing 6 wire			
	Butler - Shanor Manor -			
b2967	Krendale 138 kV line into two			
	separate 138 kV lines. New		APS (100%)	
02201	lines will be Butler - Keisters			
	and Butler - Shanor Manor -			
	Krendale 138 kV			

Required Tr	ansmission Enhancements Annual Revenue Requirement	Responsible Customer(s)
b3005	Reconductor 3.1 mile 556 ACSR portion of Cabot to Butler 138 kV with 556 ACSS and upgrade terminal equipment. 3.1 miles of line will be reconductored for this project. The total length of the line is 7.75 miles	APS (100%)
b3006	Replace four Yukon 500/138 kV transformers with three transformers with higher rating and reconfigure 500 kV bus	APS (56.81%) / DL (43.19%)
b3007.1	Reconductor the Blairsville East to Social Hall 138 kV line and upgrade terminal equipment - AP portion. 4.8 miles total. The new conductor will be 636 ACSS replacing the existing 636 ACSR conductor. At Social Hall, meters, relays, bus conductor, a wave trap, circuit breaker and disconnects will be replaced	APS (100%)
b3010	Replace terminal equipment at Keystone and Cabot 500 kV buses. At Keystone, bus tubing and conductor, a wave trap, and meter will be replaced. At Cabot, a wave trap and bus conductor will be replaced	APS (100%)
b3011.1	Construct new Route 51 substation and connect 10 138 kV lines to new substation	DL (100%)
b3011.2	Upgrade terminal equipment at Yukon to increase rating on Yukon to Charleroi #2 138 kV line (New Yukon to Route 51 #4 138 kV line)	APS (9.17%) / DL (90.83%)
b3011.3	Upgrade terminal equipment at Yukon to increase rating on Yukon to Route 51 #1 138 kV line	DL (100%)

Required Tr	ansmission Enhancements Annual Revenue Requirement	Responsible Customer(s)
b3011.4	Upgrade terminal equipment at Yukon to increase rating on Yukon to Route 51 #2 138 kV line	DL (100%)
b3011.5	Upgrade terminal equipment at Yukon to increase rating on Yukon to Route 51 #3 138 kV line	APS (9.17%) / DL (90.83%)
b3011.6	Upgrade remote end relays for Yukon – Allenport – Iron Bridge 138 kV line	DL (100%)
b3012.1	Construct two new 138 kV ties with the single structure from APS's new substation to Duquesne's new substation. The estimated line length is approximately 4.7 miles. The line is planned to use multiple ACSS conductors per phase	ATSI (38.21%) / DL (61.79%)
b3012.3	Construct a new Elrama – Route 51 138 kV No.3 line: reconductor 4.7 miles of the existing line, and construct 1.5 miles of a new line to the reconductored portion. Install a new line terminal at APS Route 51 substation	DL (100%)
b3013	Reconductor Vasco Tap to Edgewater Tap 138 kV line. 4.4 miles. The new conductor will be 336 ACSS replacing the existing 336 ACSR conductor	APS (100%)
b3015.6	Reconductor Elrama to Mitchell 138 kV line – AP portion. 4.2 miles total. 2x 795 ACSS/TW 20/7	DL (100%)
b3015.8	Upgrade terminal equipment at Mitchell for Mitchell – Elrama 138 kV line	APS (100%)

Required II	ansmission Enhancements Annual Revenue	Kequitement	Kesponsiole Customer(s)
b3064.3	Upgrade line relaying at Piney Fork and Bethel Park for Piney Fork – Elrama 138 kV line and Bethel Park – Elrama 138 kV		APS (100%)
b3068	Reconductor the Yukon – Westraver 138 kV line (2.8 miles), replace the line drops and relays at Yukon 138 kV and replace switches at Westraver 138 kV bus		APS (100%)
b3069	Reconductor the Westraver – Route 51 138 kV line (5.63 miles) and replace line switches at Westraver 138 kV bus		APS (100%)
b3070	Reconductor the Yukon – Route 51 #1 138 kV line (8 miles), replace the line drops, relays and line disconnect switch at Yukon 138 kV bus		APS (100%)
b3071	Reconductor the Yukon – Route 51 #2 138 kV line (8 miles) and replace relays at Yukon 138 kV bus		APS (100%)
b3072	Reconductor the Yukon – Route 51 #3 138 kV line (8 miles) and replace relays at Yukon 138 kV bus		APS (100%)
b3074	Reconductor the 138 kV bus at Armstrong substation		APS (100%)
b3075	Replace the 500/138 kV transformer breaker and reconductor 138 kV bus at Cabot substation		APS (100%)
b3076	Reconductor the Edgewater – Loyalhanna 138 kV line (0.67 mile)		APS (100%)
b3083	Reconductor the 138 kV bus at Butler and reconductor the 138 kV bus and replace line trap at Karns City		APS (100%)
b3214.1	Reconductor the Yukon – Smithton – Shepler Hill Jct 138 kV Line. Upgrade terminal equipment at Yukon and replace line relaying at Mitchell and Charleroi		APS (75.27%) / DL (24.73%)
b3214.2	Reconductor the Smithton – Shepler Hill Jct 138 kV Line		APS (79.68%) / DL (20.32%)
b3230	At Enon substation install a second 138 kV, 28.8 MVAR nameplate, capacitor and the associated 138 kV capacitor switcher		APS (100%)

Required In	ansmission Enhancements Annual Revenue	Requirement	Responsible Customer(s)
b3318	Reconductor the Shanor Manor - Butler 138 kV line with an upgraded circuit		APS (100%)
00010	breaker at Butler 138 kV station		
b3325	Reconductor the Charleroi - Union 138		
	kV line and upgrade terminal equipment		APS (100%)
	at Charleroi 138 kV station		
	Upgrade the Shingletown #82 230/46 kV		
	Transformer circuit by installing a 230		
	kV breaker and disconnect switches,		
b3681	removing existing 230 kV switches,		APS (100%)
	replacing 46 kV disconnect switches,		
	replacing limiting substation conductor,		
	and installing/replacing relays		
1.2710	Reconductor AA2-161 to Yukon 138 kV		A DC (1000/)
b3710	Lines #1 and #2 with 954 ACSS		APS (100%)
	conductor		
b3738	Replace limiting terminal equipment on		APS (100%)
	Charleroi – Dry Run 138 kV line		
b3739	Replace limiting terminal equipment on		APS (100%)
	Dry Run – Mitchell 138 kV line		, ,
b3740	Replace limiting terminal equipment on		APS (100%)
	Glen Falls –Bridgeport 138 kV line		
b3741	Replace limiting terminal equipment on		APS (100%)
00711	Yukon - Charleroi #1 138 kV line		
b3742	Replace limiting terminal equipment on		APS (100%)
03742	Yukon - Charleroi #2 138 kV line		AI 5 (10070)
l	Replace one span of 1272 ACSR from		
	Krendale substation to structure 35		
	(approximately 630 feet)		
b3744	Replace one span of 1272 ACSR from		
	Shanor Manor to structure 21		
	(approximately 148 feet) Replace 1272		
	ACSR risers at Krendale and Shanor		APS (100%)
	Manor substations		
	Replace 1272 ACSR substation		
	conductor at Krendale substation Replace		
l	relaying at Krendale substation		
	Revise relay settings at Butler and		
	Shanor Manor substations		

b3745	Install redundant relaying at Carbon Center 230 kV substation	APS (100%)
b3761	Install 138 kV breaker on the Ridgway 138/46 kV #2 Transformer	APS (100%)
b3773	Install 33 MVAR switched capacitor, 138 kV breaker, and associated relaying at McConnellsburg 138 kV substation	APS (100%)

PJM Open Access Transmission Tariff Schedule 12-Appendix C SAA Cost Responsibility Effective April 9, 2024 Version 4.0.1

Schedule 12 - Appendix C

State Agreement Public Policy Projects Constructed Pursuant to the State Agreement Approach

This Schedule 12 - Appendix C applies only to the assignment of cost responsibility of State Agreement Public Policy Projects constructed in accordance with Operating Agreement, Schedule 6, section 1.5.9 among Responsible Customers.

(1) Rate Schedule FERC No. 49, State Agreement Approach Agreement By and Among PJM Interconnection, L.L.C. and New Jersey Board of Public Utilities

In accordance with the FERC order in Docket Nos. ER22-2690-000 and -001, 181 FERC ¶ 61,178 (2022), cost responsibility for the State Agreement Public Policy Projects shall be assigned annually on a load-ratio share basis among Network Customers in the State of New Jersey determined in accordance with Schedule 12, section (c)(4), and customers using Point-to-Point Transmission Service with a Point of Delivery within the State of New Jersey determined in accordance with Schedule 12, section (c)(5), as follows:

With respect to each Zone located in the State of New Jersey, using, consistent with Tariff, Part III, section 34.1, the applicable zonal loads at the time of such Zone's annual peak load from the 12-month period ending October 31 preceding the calendar year for which the annual cost responsibility allocation is determined.

Identifier	Description	Responsible Customers	Transmission
		(percentage share)	Owner
b3737.1	Reconfigure Larrabee 230 kV	AEC (14.36%) / JCPL	Jersey Central Power
	substation	(31.31%) / PSEG	& Light Company
		(52.23%) / RE (2.10%)	
b3737.2	Larrabee substation – 230 kV	AEC (14.36%) / JCPL	Jersey Central Power
	equipment for direct connection	(31.31%) / PSEG	& Light Company
		(52.23%) / RE (2.10%)	
b3737.3	Lakewood Generator substation	AEC (14.36%) / JCPL	Jersey Central Power
	– Update relay settings on the	(31.31%) / PSEG	& Light Company
	Larrabee 230 kV line	(52.23%) / RE (2.10%)	
b3737.4	B54 Larrabee – South	AEC (14.36%) / JCPL	Jersey Central Power
	Lockwood 34.5 kV line transfer	(31.31%) / PSEG	& Light Company
		(52.23%) / RE (2.10%)	
b3737.5	Larrabee Collector station –	AEC (14.36%) / JCPL	Jersey Central Power
	Larrabee 230 kV new line	(31.31%) / PSEG	& Light Company
		(52.23%) / RE (2.10%)	
b3737.6	Larrabee Collector station –	AEC (14.36%) / JCPL	Jersey Central Power
	Smithburg No.1 500 kV line	(31.31%) / PSEG	& Light Company
	(new asset). New 500 kV line	(52.23%) / RE (2.10%)	
	will be built double circuit to		
	accommodate a 500 kV line and		
	a 230 kV line		
b3737.7	Rebuild G1021 Atlantic –	AEC (14.36%) / JCPL	Jersey Central Power
	Smithburg 230 kV line between	(31.31%) / PSEG	& Light Company
	the Larrabee and Smithburg	(52.23%) / RE (2.10%)	
	substations as a double circuit		
	500 kV/230 kV line		
	500 K 7/250 K 7 IIIIO		1

Identifier	Description	Responsible Customers	Transmission Owner
		(percentage share)	
b3737.8	Smithburg substation 500 kV	AEC (14.36%) / JCPL	Jersey Central Power
	expansion to 4-breaker ring	(31.31%) / PSEG (52.23%)	& Light Company
		/ RE (2.10%)	
b3737.9	Larrabee substation upgrades	AEC (14.36%) / JCPL	Jersey Central Power
		(31.31%) / PSEG (52.23%)	& Light Company
		/ RE (2.10%)	
b3737.10	Atlantic 230 kV substation –	AEC (14.36%) / JCPL	Jersey Central Power
	Convert to double-breaker double-	(31.31%) / PSEG (52.23%)	& Light Company
	bus	/ RE (2.10%)	
b3737.11	Freneau substation – Update relay	AEC (14.36%) / JCPL	Jersey Central Power
	settings on the Atlantic 230 kV	(31.31%) / PSEG (52.23%)	& Light Company
	line	/ RE (2.10%)	
b3737.12	Smithburg substation – Update	AEC (14.36%) / JCPL	Jersey Central Power
	relay settings on the Atlantic 230	(31.31%) / PSEG (52.23%)	& Light Company
	kV line	/ RE (2.10%)	
b3737.13	Oceanview substation – Update	AEC (14.36%) / JCPL	Jersey Central Power
	relay settings on the Atlantic 230	(31.31%) / PSEG (52.23%)	& Light Company
	kV lines	/ RE (2.10%)	
b3737.14	Red Bank substation – Update	AEC (14.36%) / JCPL	Jersey Central Power
	relay settings on the Atlantic 230	(31.31%) / PSEG (52.23%)	& Light Company
	kV lines	/ RE (2.10%)	
b3737.15	South River substation – Update	AEC (14.36%) / JCPL	Jersey Central Power
	relay settings on the Atlantic 230	(31.31%) / PSEG (52.23%)	& Light Company
	kV line	/ RE (2.10%)	
b3737.16	Larrabee substation – Update relay	AEC (14.36%) / JCPL	Jersey Central Power
	settings on the Atlantic 230 kV	(31.31%) / PSEG (52.23%)	& Light Company
	line	/ RE (2.10%)	
b3737.17	Atlantic substation – Construct a	AEC (14.36%) / JCPL	Jersey Central Power
	new 230 kV line terminal position	(31.31%) / PSEG (52.23%)	& Light Company
	to accept the generator lead line	/ RE (2.10%)	
	from the offshore wind Larrabee		
	Collector station		
b3737.18	G1021 (Atlantic – Smithburg) 230	AEC (14.36%) / JCPL	Jersey Central Power
	kV upgrade	(31.31%) / PSEG (52.23%)	& Light Company
		/ RE (2.10%)	
b3737.19	R1032 (Atlantic – Larrabee) 230	AEC (14.36%) / JCPL	Jersey Central Power
	kV upgrade	(31.31%) / PSEG (52.23%)	& Light Company
		/ RE (2.10%)	
b3737.20	New Larrabee Collector station –	AEC (14.36%) / JCPL	Jersey Central Power
	Atlantic 230 kV line	(31.31%) / PSEG (52.23%)	& Light Company
		/ RE (2.10%)	

Identifier	Description	Responsible Customers (percentage share)	Transmission Owner
b3737.21	Larrabee – Oceanview 230 kV line upgrade	AEC (14.36%) / JCPL (31.31%) / PSEG (52.23%) / RE (2.10%)	Jersey Central Power & Light Company
b3737.22	Construct the Larrabee Collector station AC switchyard, composed of a 230 kV 3 bay breaker and a half substation with a nominal current rating of 4000 A and four single phase 500/230 kV 450 MVA autotransformers to step up the voltage for connection to the Smithburg substation. Procure land adjacent to the AC switchyard, and prepare the site for construction of future AC to DC converters for future interconnection of DC circuits from offshore wind generation. Land should be suitable to accommodate installation of four individual converters to accommodate circuits with equivalent rating of 1400 MVA at 400 kV	AEC (14.36%) / JCPL (31.31%) / PSEG (52.23%) / RE (2.10%)	Mid-Atlantic Offshore Development, LLC
b3737.23	Rebuild the underground portion of Richmond – Waneeta 230 kV line	AEC (14.36%) / JCPL (31.31%) / PSEG (52.23%) / RE (2.10%)	Atlantic City Electric Company
b3737.24	Upgrade Cardiff – Lewis 138 kV by replacing 1590 kcmil strand bus inside Lewis substation	AEC (14.36%) / JCPL (31.31%) / PSEG (52.23%) / RE (2.10%)	Atlantic City Electric Company
b3737.25	Upgrade Lewis No. 2 – Lewis No. 1 138 kV by replacing its bus tie with 2000 A circuit breaker	AEC (14.36%) / JCPL (31.31%) / PSEG (52.23%) / RE (2.10%)	Atlantic City Electric Company
b3737.26	Upgrade Cardiff – New Freedom 230 kV by modifying existing relay setting to increase relay limit	AEC (14.36%) / JCPL (31.31%) / PSEG (52.23%) / RE (2.10%)	Atlantic City Electric Company
b3737.27	Rebuild approximately 0.8 miles of the D1018 (Clarksville –Lawrence 230 kV) line between Lawrence substation (PSEG) and structure No. 63	AEC (14.36%) / JCPL (31.31%) / PSEG (52.23%) / RE (2.10%)	Jersey Central Power & Light Company
b3737.28	Reconductor Kilmer I – Lake Nelson I 230 kV	AEC (14.36%) / JCPL (31.31%) / PSEG (52.23%) / RE (2.10%)	Jersey Central Power & Light Company
b3737.29	Convert the six-wired East Windsor – Smithburg E2005 230 kV line (9.0 miles) to two circuits: One a 500 kV line and the other a 230 kV line	AEC (14.36%) / JCPL (31.31%) / PSEG (52.23%) / RE (2.10%)	Jersey Central Power & Light Company

Identifier	Description	Responsible Customers (percentage share)	Transmission Owner
b3737.30	Add third Smithburg 500/230 kV transformer	AEC (14.36%) / JCPL (31.31%) / PSEG (52.23%) / RE (2.10%)	Jersey Central Power & Light Company
b3737.31	Additional reconductoring required for Lake Nelson I – Middlesex 230 kV line	AEC (14.36%) / JCPL (31.31%) / PSEG (52.23%) / RE (2.10%)	Jersey Central Power & Light Company
b3737.32	Rebuild Larrabee – Smithburg No. 1 230 kV line	AEC (14.36%) / JCPL (31.31%) / PSEG (52.23%) / RE (2.10%)	Jersey Central Power & Light Company
b3737.33	Reconductor Red Oak A – Raritan River 230 kV line	AEC (14.36%) / JCPL (31.31%) / PSEG (52.23%) / RE (2.10%)	Jersey Central Power & Light Company
b3737.34	Reconductor Red Oak B – Raritan River 230 kV line	AEC (14.36%) / JCPL (31.31%) / PSEG (52.23%) / RE (2.10%)	Jersey Central Power & Light Company
b3737.35	Reconductor small section of Raritan River – Kilmer I 230 kV line	AEC (14.36%) / JCPL (31.31%) / PSEG (52.23%) / RE (2.10%)	Jersey Central Power & Light Company
b3737.36	Replace substation conductor at Kilmer and reconductor Raritan River – Kilmer W 230 kV line	AEC (14.36%) / JCPL (31.31%) / PSEG (52.23%) / RE (2.10%)	Jersey Central Power & Light Company
b3737.37	Add a third set of submarine cables, rerate the overhead segment, and upgrade terminal equipment to achieve a higher rating for the Silver Run – Hope Creek 230 kV line	AEC (14.36%) / JCPL (31.31%) / PSEG (52.23%) / RE (2.10%)	Silver Run Electric, LLC
b3737.38	Linden subproject: Install a new 345/230 kV transformer at the Linden 345 kV switching station, and relocate the Linden – Tosco 230 kV (B-2254) line from the Linden 230 kV to the existing 345/230 kV transformer at Linden 345 kV station	AEC (14.36%) / JCPL (31.31%) / PSEG (52.23%) / RE (2.10%)	Public Service Electric and Gas Company
b3737.39	Bergen subproject: Upgrade the Bergen 138 kV ring bus by installing a 80 kA breaker along with the foundation, piles, and relays to the existing ring bus, install breaker isolation switches on existing foundations and modify and extend bus work	AEC (14.36%) / JCPL (31.31%) / PSEG (52.23%) / RE (2.10%)	Public Service Electric and Gas Company

Identifier	Description	Responsible Customers	Transmission Owner
		(percentage share)	
b3737.40	Windsor to Clarksville subproject:	AEC (14.36%) / JCPL	Jersey Central Power &
	Create a paired conductor path between	(31.31%) / PSEG	Light Company
	Clarksville 230 kV and JCPL Windsor	(52.23%) / RE (2.10%)	
	Switch 230 kV		
b3737.41	Windsor to Clarksville subproject:	AEC (14.36%) / JCPL	Public Service Electric
	Upgrade all terminal equipment at	(31.31%) / PSEG	and Gas Company
	Windsor 230 kV and Clarksville 230	(52.23%) / RE (2.10%)	
	kV as necessary to create a paired		
	conductor path between Clarksville and		
	JCPL East Windsor Switch 230 kV		
b3737.42	Upgrade inside plant equipment at	AEC (14.36%) / JCPL	Public Service Electric
	Lake Nelson I 230 kV station	(31.31%) / PSEG	and Gas Company
		(52.23%) / RE (2.10%)	
b3737.43	Upgrade Kilmer W – Lake Nelson W	AEC (14.36%) / JCPL	Public Service Electric
	230 kV line drop and strain bus	(31.31%) / PSEG	and Gas Company
	connections at Lake Nelson 230 kV	(52.23%) / RE (2.10%)	
b3737.44	Upgrade Lake Nelson – Middlesex –	AEC (14.36%) / JCPL	Public Service Electric
	Greenbrook W 230 kV line drop and	(31.31%) / PSEG	and Gas Company
	strain bus connections at Lake Nelson	(52.23%) / RE (2.10%)	
	230 kV		
b3737.45	Reconductor 0.33 miles of PPL's	AEC (14.36%) / JCPL	PPL Electric Utilities
	portion of the Gilbert –Springfield 230	(31.31%) / PSEG	Corporation
	kV line	(52.23%) / RE (2.10%)	
b3737.46	Install a new breaker at Graceton 230	AEC (14.36%) / JCPL	Baltimore Gas and
	kV substation to terminate a new 230	(31.31%) / PSEG	Electric Company
	kV line from the new greenfield North	(52.23%) / RE (2.10%)	
	Delta station		

Identifier	Description	Responsible Customers	Transmission
	Ĩ	(percentage share)	Owner
b3737.47 ⁺	Build a new North Delta 500 kV substation with four bay breaker and half configuration. The substation will include 12 500 kV breakers and one 500/230 kV transformers, will allow the termination of six 500 kV lines	Image share Reliability Driver (26.73%): Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion	Transource, LLC
		(13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: PECO (100%)	
		Public Policy Driver (73.27%): AEC (13.55%) / JCPL (31.74%) / PSEG (52.60%) / RE (2.11%)	
b3737.48	Build a new North Delta – Graceton 230 kV line by rebuilding 6.07 miles of the existing Cooper – Graceton 230 kV line to double circuit	AEC (14.36%) / JCPL (31.31%) / PSEG (52.23%) / RE (2.10%)	PECO Energy Company
b3737.49	Bring the Cooper – Graceton 230 kV line "in and out" of North Delta by constructing a new double-circuit North Delta – Graceton 230 kV (0.3 miles) and a new North Delta – Cooper 230 kV (0.4 miles) cut-in lines	AEC (14.36%) / JCPL (31.31%) / PSEG (52.23%) / RE (2.10%)	PECO Energy Company

⁺ b3737.47 is an Incremental Multi-Driver Project that includes both a reliability driver and a public policy driver. Accordingly, b3737.47 is included on both Tariff, Schedule 12–Appendix A, section 28 and Tariff, Schedule 12–Appendix C, section 1.

Identifier	Description	Responsible Customers	Transmission
1 2 7 2 7 5 0		(percentage share)	Owner
b3737.50	Bring the Peach Bottom – Delta	AEC (14.36%) / JCPL	PECO Energy
	Power Plant 500 kV line "in and out"	(31.31%) / PSEG	Company
	of North Delta by constructing a new	(52.23%) / RE (2.10%)	
	Peach Bottom – North Delta 500 kV		
1 2 7 2 7 7 1	(0.3 miles) cut-in and cut-out lines		DECO E
b3737.51	Replace four 63 kA circuit breakers	AEC (14.36%) / JCPL	PECO Energy
	"205," "235," "225" and "255" at	(31.31%) / PSEG	Company
1	Peach Bottom 500 kV with 80 kA	(52.23%) / RE (2.10%)	
b3737.52	Replace one 63 kA circuit breaker	AEC (14.36%) / JCPL	Baltimore Gas and
	"B4" at Conastone 230 kV with 80	(31.31%) / PSEG	Electric Company
	kA	(52.23%) / RE (2.10%)	
b3737.53	Remove the existing E83 115 kV line	AEC (14.36%) / JCPL	Jersey Central
	(not in-service) to accommodate the	(31.31%) / PSEG	Power & Light
	new 500 kV/230 kV lines	(52.23%) / RE (2.10%)	Company
	(approximately 7.7 miles)		
b3737.54	Remove the existing H2008 Larrabee	AEC (14.36%) / JCPL	Jersey Central
	– Smithburg No. 2 230 kV line to	(31.31%) / PSEG	Power & Light
	accommodate the new 500 kV/230	(52.23%) / RE (2.10%)	Company
	kV lines		
b3737.55	Middlesex substation 230 kV –	AEC (14.36%) / JCPL	Jersey Central
	Replace the 2000A circuit switcher at	(31.31%) / PSEG	Power & Light
	Middlesex switch point for the Lake	(52.23%) / RE (2.10%)	Company
	Nelson I1023 230 kV exit		
b3737.56	Build a new North Delta – Graceton	AEC (14.36%) / JCPL	Baltimore Gas and
	230 kV line by rebuilding 6.26 miles	(31.31%) / PSEG	Electric Company
	of the existing Cooper – Graceton	(52.23%) / RE (2.10%)	
	230 kV line to double circuit.		
	Cooper-Graceton is jointly owned by		
	PECO and BGE. This subproject is		
	for BGE's portion of the line rebuild,		
10505 50	which is 2.16 miles		
b3737.59	Windsor to Clarksville subproject:	AEC (14.36%) / JCPL	Jersey Central
	Upgrade terminal equipment at	(31.31%) / PSEG	Power & Light
	Windsor 230 kV station	(52.23%) / RE (2.10%)	Company
b3737.60	Perform a Pre-build Infrastructure	AEC (14.36%) / JCPL	Mid-Atlantic
	evaluation study in alignment with	(31.31%) / PSEG	Offshore
	the NJBPU Solicitation Guidance	(52.23%) / RE (2.10%)	Development,
	Document requirements		LLC

Attachment B

PJM Open Access Transmission Tariff Schedule 12-Appendix, Schedule 12-Appendix A and Schedule 12-Appendix C

Previously Accepted Redlines Incorporated

(Identified by Additional Cover Pages)

PJM Open Access Transmission Tariff Schedule 12-Appendix Section 14 – Monongahela Power Co.

Version 29.0.0 Effective January 1, 2024 (Accepted in Docket No. ER24-284-000)

SCHEDULE 12 – APPENDIX

Monongahela Power Company<u>, and</u> The Potomac Edison Company, and West Penn Power Company, all doing business as Allegheny Power (14)

Required 7	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0216	Install -100/+525 MVAR dynamic reactive device at Black Oak	As specified under the procedures detailed in Attachment H-18B, Section 1.b	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (30.46%) / BGE (10.86%) / Dominion (42.56%) / PEPCO
b0218	Install third Wylie Ridge 500/345 kV transformer	As specified under the procedures detailed in Attachment H-18B, Section 1.b	AEC (11.83%) / DPL (19.40%) / Dominion (13.81%) / JCPL (15.56%) / PECO (39.40%)
b0220	Upgrade coolers on Wylie Ridge 500/345 kV #7		AEC (11.83%) / DPL (19.40%) / Dominion (13.81%) / JCPL (15.56%) / PECO (39.40%)
b0229	Install fourth Bedington 500/138 kV		APS (50.98%) / BGE (13.42%) / DPL (2.03%) / Dominion (14.50%) / ME (1.43%) / PEPCO (17.64%)
b0230	Install fourth Meadowbrook 500/138 kV	As specified under the procedures detailed in Attachment H-18B, Section 1.b	APS (79.16%) / BGE (3.61%) / DPL (0.86%) / Dominion (11.75%) / ME (0.67%) / PEPCO (3.95%)

Required 7	Fransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0238	Reconductor Doubs – Dickerson and Doubs – Aqueduct 1200 MVA	As specified under the procedures detailed in Attachment H-18B, Section 1.b	BGE (16.66%) / Dominion (33.66%) / PEPCO (49.68%)
b0240	Open the Black Oak #3 500/138 kV transformer for the loss of Hatfield – Back Oak 500 kV line		APS (100%)
b0245	Replacement of the existing 954 ACSR conductor on the Bedington – Nipetown 138 kV line with high temperature/low sag conductor		APS (100%)
b0246	Rebuild of the Double Tollgate – Old Chapel 138 kV line with 954 ACSR conductor	As specified under the procedures detailed in Attachment H-18B, Section 1.b	APS (100%)
b0273	Open both North Shenandoah #3 transformer and Strasburg – Edinburgh 138 kV line for the loss of Mount Storm – Meadowbrook 572 500 kV		APS (100%)
b0322	Convert Lime Kiln substation to 230 kV operation		APS (100%)
b0323	Replace the North Shenandoah 138/115 kV transformer	As specified under the procedures detailed in Attachment H-18B, Section 1.b	APS (100%)

Required Tra	insmission Enhancements	Annual Revenue Requirement	1
			Load-Ratio Share Allocation:
ь0328.2	Build new Meadow Brook – Loudoun 500 kV circuit (20 of 50 miles)	As specified under the procedures detailed in Attachment H-18B, Section 1.b	AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)
			DFAX Allocation: APS (2.49%) / BGE (7.42%) / Dominion (78.37%) / PEPCO (11.72%)
b0343	Replace Doubs 500/230 kV transformer #2	As specified under the procedures detailed in Attachment H-18B, Section 1.b	AEC (1.85%) / BGE (21.49%) / DPL (3.91%) / Dominion (28.86%) / ME (2.97%) / PECO (5.73%) / PEPCO (35.19%)
b0344	Replace Doubs 500/230 kV transformer #3	As specified under the procedures detailed in Attachment H-18B, Section 1.b	AEC (1.86%) / BGE (21.50%) / DPL (3.91%) / Dominion (28.82%) / ME (2.97%) / PECO (5.74%) / PEPCO (35.20%)
b0345	Replace Doubs 500/230 kV transformer #4	As specified under the procedures detailed in Attachment H-18B, Section 1.b	AEC (1.85%) / BGE (21.49%) / DPL (3.90%) / Dominion (28.83%) / ME (2.98%) / PECO (5.75%) / PEPCO (35.20%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required 7	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0347.1	Build new Mt. Storm –	As specified under the procedures detailed in Attachment H-18B, Section 1.b	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (28.94%) / BGE (13.78%) / Dominion (32.18%) / PEPCO (25.10%)
b0347.2	Build new Mt. Storm – Meadow Brook 500 kV circuit	As specified under the procedures detailed in Attachment H-18B, Section 1.b	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (22.57%) / BGE (7.27%) / Dominion (56.77%) / PEPCO (13.39%)

Required Tr	ansmission Enhancements A	Annual Revenue Requirement	Responsible Customer(s)
b0347.4	Upgrade Meadow Brook 500 kV substation	As specified under the procedures detailed in Attachment H-18B, Section 1.b	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (22.57%) / BGE (7.27%) / Dominion (56.77%) / PEPCO (13.39%)

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Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0347.5	Poplace Harrison 500		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)
			DFAX Allocation: APS (28.94%) / BGE (13.78%) / Dominion (32.18%) / PEPCO (25.10%)
b0347.6	b0347.6 Upgrade (per ABB inspection) breaker HL-6		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)
			DFAX Allocation: APS (28.94%) / BGE (13.78%) / Dominion (32.18%) / PEPCO (25.10%)

Required Tra	ansmission Enhancements A	Annual Revenue Requirement	Responsible Customer(s)
			Load-Ratio Share Allocation:
			AEC (1.65%) / AEP (13.68%) /
			APS (5.76%) / ATSI (8.04%) /
			BGE (4.11%) / ComEd (13.39%)
			/ Dayton (2.12%) / DEOK
			(3.25%) / DL (1.71%) / DPL
			(2.60%) / Dominion (13.32%) /
			EKPC (1.89%) / JCPL (3.86%) /
	Upgrade (per ABB		ME (1.90%) / NEPTUNE*
b0347.7	inspection) breaker HL-7		(0.42%) / OVEC (0.08%) / PECO
			(5.40%) / PENELEC (1.78%) /
			PEPCO (3.67%) / PPL (4.72%) /
			PSEG (6.39%) / RE (0.26%)
			DFAX Allocation:
			APS (28.94%) / BGE (13.78%) /
			Dominion (32.18%) / PEPCO
			(25.10%)
			(23.1070)
			Load-Ratio Share Allocation:
	Upgrade (per ABB		AEC (1.65%) / AEP (13.68%) /
			APS (5.76%) / ATSI (8.04%) /
			BGE (4.11%) / ComEd (13.39%)
			/ Dayton (2.12%) / DEOK
			(3.25%) / DL (1.71%) / DPL
			(2.60%) / Dominion (13.32%) /
			EKPC (1.89%) / JCPL (3.86%) /
1 0 2 4 7 0			ME (1.90%) / NEPTUNE*
b0347.8	inspection) breaker HL-8		(0.42%) / OVEC (0.08%) / PECO
	1)		(5.40%) / PENELEC (1.78%) /
			PEPCO (3.67%) / PPL (4.72%) /
			PSEG (6.39%) / RE (0.26%)
			DFAX Allocation:
			APS (28.94%) / BGE (13.78%) /
			Dominion (32.18%) / PEPCO
			(25.10%)
			(/

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Required Trai	Isinission Enhancements A	initial Revenue Requiremente	
			Load-Ratio Share Allocation:
			AEC (1.65%) / AEP (13.68%) / APS
			(5.76%) / ATSI (8.04%) / BGE
			(4.11%) / ComEd (13.39%) / Dayton
			(2.12%) / DEOK (3.25%) / DL
			(1.71%) / DPL (2.60%) / Dominion
	Upgrade (per ABB		(13.32%) / EKPC (1.89%) / JCPL
			(3.86%) / ME (1.90%) /
			NEPTUNE* (0.42%) / OVEC
b0347.9	inspection) breaker HL-	spection) breaker HL-	(0.08%) / PECO (5.40%) /
	10		PENELEC (1.78%) / PEPCO
			(3.67%) / PPL (4.72%) / PSEG
			(6.39%) / RE (0.26%)
			DFAX Allocation:
			APS (28.94%) / BGE (13.78%) /
			Dominion (32.18%) / PEPCO
			(25.10%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

equired Trar	nsmission Enhancements	Annual Kevenue Kequiren	nent Responsible Customer(s)
lequired 1 rar	nsmission Enhancements	<u>Annual Revenue Requiren</u>	nent <u>Responsible Customer(s)</u> Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion
b0347.11	Upgrade (per ABB Inspection) Hatfield 500 kV breakers HFL-3		(1.7176)7 BFE (2.8676)7 Bolimion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)
			DFAX Allocation: APS (28.94%) / BGE (13.78%) / Dominion (32.18%) / PEPCO (25.10%)
b0347.12 Upgrade (per ABB Inspection) Hatfield 500 kV breakers HFL-4		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)	
			DFAX Allocation: APS (28.94%) / BGE (13.78%) / Dominion (32.18%) / PEPCO (25.10%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Trai	nsmission Enhancements	Annual Revenue Requiren	nent Responsible Customer(s)
			Load-Ratio Share Allocation:
			AEC (1.65%) / AEP (13.68%) / APS
			(5.76%) / ATSI (8.04%) / BGE
			(4.11%) / ComEd (13.39%) / Dayton
			(2.12%) / DEOK (3.25%) / DL
			(1.71%) / DPL (2.60%) / Dominion
			(13.32%) / EKPC (1.89%) / JCPL
			(3.86%) / ME (1.90%) /
1 0 2 4 7 1 2	Upgrade (per ABB		NEPTUNE* (0.42%) / OVEC
b0347.13	Inspection) Hatfield		(0.08%) / PECO (5.40%) /
	500 kV breakers HFL-6		PENELEC (1.78%) / PEPCO
			(3.67%) / PPL (4.72%) / PSEG
			(6.39%) / RE (0.26%)
			DFAX Allocation:
			APS (28.94%) / BGE (13.78%) /
			Dominion (32.18%) / PEPCO
			(25.10%)
			Load-Ratio Share Allocation:
			AEC (1.65%) / AEP (13.68%) / APS
			(5.76%) / ATSI (8.04%) / BGE
			(4.11%) / ComEd (13.39%) / Dayton
			(2.12%) / DEOK (3.25%) / DL
	Upgrade (per ABB		(1.71%) / DPL (2.60%) / Dominion
			(13.32%) / EKPC (1.89%) / JCPL
			(3.86%) / ME (1.90%) /
			NEPTUNE* (0.42%) / OVEC
b0347.14	Inspection) Hatfield		(0.08%) / PECO (5.40%) /
	500 kV breakers HFL-7		PENELEC (1.78%) / PEPCO
			(3.67%) / PPL (4.72%) / PSEG
			(6.39%) / RE (0.26%)
			DFAX Allocation:
			APS (28.94%) / BGE (13.78%) /
			Dominion (32.18%) / PEPCO
			(25.10%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

		Annual Revenue Requiren	(-)
			Load-Ratio Share Allocation:
			AEC (1.65%) / AEP (13.68%) / APS
			(5.76%) / ATSI (8.04%) / BGE
			(4.11%) / ComEd (13.39%) / Dayton
			(2.12%) / DEOK (3.25%) / DL
			(1.71%) / DPL (2.60%) / Dominion
			(13.32%) / EKPC (1.89%) / JCPL
			(3.86%) / ME (1.90%) /
1 0 2 4 7 1 5	Upgrade (per ABB		NEPTUNE* (0.42%) / OVEC
b0347.15	Inspection) Hatfield		(0.08%) / PECO (5.40%) /
	500 kV breakers HFL-9		PENELEC (1.78%) / PEPCO
			(3.67%) / PPL (4.72%) / PSEG
			(6.39%) / RE (0.26%)
			DFAX Allocation:
			APS (28.94%) / BGE (13.78%) /
			Dominion (32.18%) / PEPCO
			(25.10%)
			Load-Ratio Share Allocation:
			AEC (1.65%) / AEP (13.68%) / APS
			(5.76%) / ATSI (8.04%) / BGE
			[4.11%]/ Comed (13.39%)/ Davion
			(4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL
			(2.12%) / DEOK (3.25%) / DL
			(2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion
			(2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL
	Upgrade (per ABB		(2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) /
b0347.16	inspection) Harrison		(2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC
b0347.16	10 (1		(2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) /
b0347.16	inspection) Harrison		(2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO
b0347.16	inspection) Harrison		(2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) /
b0347.16	inspection) Harrison		(2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)
b0347.16	inspection) Harrison		(2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation:
b0347.16	inspection) Harrison		(2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (28.94%) / BGE (13.78%) /
b0347.16	inspection) Harrison		(2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation:

 Required Transmission Enhancements
 Annual Revenue Requirement
 Responsible Customer(s)

Required 7	ransmission Enhancements	Annual Revenue Requiremen	nt Responsible Customer(s)
b0347.1	Replace Meadow 7 Brook 138 kV breaker 'MD-10'		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)
			DFAX Allocation: APS (22.57%) / BGE (7.27%) / Dominion (56.77%) / PEPCO (13.39%)
b0347.1	Replace Meadow 8 Brook 138 kV breaker 'MD-11'	r	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)
			DFAX Allocation: APS (22.57%) / BGE (7.27%) / Dominion (56.77%) / PEPCO (13.39%)

Required Tran	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0347.19	Replace Meadow Brook 138 kV breaker 'MD-12'	I	Responsible Customer(s) Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)
			DFAX Allocation: APS (22.57%) / BGE (7.27%) / Dominion (56.77%) / PEPCO (13.39%)
b0347.20	Replace Meadow Brook 138 kV breaker 'MD-13'	I	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (22.57%) / BGE (7.27%) / Dominion (56.77%) / PEPCO (13.39%)

Required Tran	nsmission Enhancements	Annual Revenue Requiremen	t Responsible Customer(s)
b0347.21	Replace Meadow Brook 138 kV breaker 'MD-14'		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (22.57%) / BGE (7.27%) / Dominion (56.77%) / PEPCO
b0347.22	Replace Meadow Brook 138 kV breaker 'MD-15'		(13.39%) Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (22.57%) / BGE (7.27%) / Dominion (56.77%) / PEPCO (13.39%)

R	equired Tran	smission Enhancements	Annual Revenue Requirement	t Responsible Customer(s)
	b0347.23	Replace Meadow Brook 138 kV breaker 'MD-16'		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (22.57%) / BGE (7.27%) / Dominion (56.77%) / PEPCO (13.39%)
	b0347.24	Replace Meadow Brook 138 kV breaker 'MD-17'		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (22.57%) / BGE (7.27%) / Dominion (56.77%) / PEPCO (13.39%)

Required Tra	nsmission Enhancements A	Annual Revenue Requirement	1
			Load-Ratio Share Allocation:
			AEC (1.65%) / AEP (13.68%) /
			APS (5.76%) / ATSI (8.04%) /
			BGE (4.11%) / ComEd (13.39%) /
			Dayton (2.12%) / DEOK (3.25%) /
			DL (1.71%) / DPL (2.60%) /
			Dominion (13.32%) / EKPC
	Devile of Mandaux		(1.89%) / JCPL (3.86%) / ME
	Replace Meadow		(1.90%) / NEPTUNE* (0.42%) /
b0347.25	Brook 138 kV breaker 'MD-18'		OVEC (0.08%) / PECO (5.40%) /
	MID-18		PENELEC (1.78%) / PEPCO
			(3.67%) / PPL (4.72%) / PSEG
			(6.39%) / RE (0.26%)
			DFAX Allocation:
			APS (22.57%) / BGE (7.27%) /
			Dominion (56.77%) / PEPCO
			(13.39%)
			Load-Ratio Share Allocation:
			AEC (1.65%) / AEP (13.68%) /
			AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) /
			AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) /
			AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) /
			AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) /
			AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC
	Replace Meadow		AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME
b0347.26	Replace Meadow Brook 138 kV breaker		AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) /
b0347.26	Brook 138 kV breaker		AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) /
b0347.26			AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO
b0347.26	Brook 138 kV breaker		AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG
b0347.26	Brook 138 kV breaker		AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO
b0347.26	Brook 138 kV breaker		AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG
b0347.26	Brook 138 kV breaker		AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)
b0347.26	Brook 138 kV breaker		AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation:
b0347.26	Brook 138 kV breaker		AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (22.57%) / BGE (7.27%) /

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tra	nsmission Enhancements	Annual Revenue Requireme	nt Responsible Customer(s)
b0347.27	Replace Meadow Brook 138 kV breaker 'MD-4'		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation:
			APS (22.57%) / BGE (7.27%) / Dominion (56.77%) / PEPCO (13.39%)
b0347.28	Replace Meadow Brook 138 kV breaker 'MD-5'		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (22.57%) / PCE (7.27%) /
			APS (22.57%) / BGE (7.27%) / Dominion (56.77%) / PEPCO (13.39%)

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Required Tra	Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)			
b0347.29	Replace Meadowbrook 138 kV breaker 'MD-6'	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)		
		DFAX Allocation: APS (22.57%) / BGE (7.27%) / Dominion (56.77%) / PEPCO (13.39%)		
b0347.30	Replace Meadowbrook 138 kV breaker 'MD-7'	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (22.57%) / BGE (7.27%) / Dominion (56.77%) / PEPCO (13.39%)		

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Re	quired Tran	smission Enhancements A	Annual Revenue Requirement	Responsible Customer(s)
1	00347.31 Replace Meadowbrook 138 kV breaker 'MD-8'	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation:		
				APS (22.57%) / BGE (7.27%) / Dominion (56.77%) / PEPCO (13.39%)
1	50347.32	Replace Meadowbrook 138 kV breaker 'MD-9'		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)
				DFAX Allocation: APS (22.57%) / BGE (7.27%) / Dominion (56.77%) / PEPCO (13.39%)

b0347.33	Replace Meadow Brook 138 kV breaker 'MD-1'	APS (100%)
b0347.34	Replace Meadow Brook 138 kV breaker 'MD-2'	APS (100%)
b0348	Upgrade Stonewall – Inwood 138 kV with 954 ACSR conductor	APS (100%)
b0373	Convert Doubs – Monocacy 138 kV facilities to 230 kV operation	AEC (1.82%) / APS (76.84%) / DPL (2.64%) / JCPL (4.53%) / ME (9.15%) / NEPTUNE* (0.42%) / PPL (4.60%)
b0393	Replace terminal equipment at Harrison 500 kV and Belmont 500 kV	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (1.47%) / Dayton (0.26%) / DEOK (0.44%) / DL (9.95%) / Dominion (87.75%) / EKPC (0.13%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

			1
b0407.1	Replace Marlowe 138 kV breaker "#1 transf"		APS (100%)
b0407.2	Replace Marlowe 138 kV breaker "MBO"		APS (100%)
b0407.3	Replace Marlowe 138 kV breaker "BMA"		APS (100%)
b0407.4	Replace Marlowe 138 kV breaker "BMR"		APS (100%)
b0407.5	Replace Marlowe 138 kV breaker "WC-1"		APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

b0407.6	Replace Marlowe 138 kV breaker "R11"	APS (100%)
b0407.7	Replace Marlowe 138 kV breaker "W"	APS (100%)
b0407.8	Replace Marlowe 138 kV breaker "138 kV bus tie"	APS (100%)
b0408.1	Replace Trissler 138 kV breaker "Belmont 604"	APS (100%)
b0408.2	Replace Trissler 138 kV breaker "Edgelawn 90"	APS (100%)
b0409.1	Replace Weirton 138 kV breaker "Wylie Ridge 210"	APS (100%)
b0409.2	Replace Weirton 138 kV breaker "Wylie Ridge 216"	APS (100%)
b0410	Replace Glen Falls 138 kV breaker "McAlpin 30"	APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required 7	Fransmission Enhancements	Annual Revenue Require	
b0419	Install a breaker failure auto-restoration scheme at Bedington 500 kV for the failure of the #1 and #2 breakers		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (100%)
ь0420	Operating Procedure to open the Black Oak 500/138 kV transformer #3 for the loss of Hatfield – Ronco 500 kV and the Hatfield #3 Generation		APS (100%)
b0445	Upgrade substation equipment and reconductor the Tidd – Mahans Lane – Weirton 138 kV circuit with 954 ACSR		APS (100%)

Required Tra	ansmission Enhancements	Annual Revenue Requiremen	t Responsible Customer(s)
b0460	Raise limiting structures on Albright – Bethelboro 138 kV to raise the rating to 175 MVA normal 214 MVA emergency		APS (100%)
b0491	Construct an Amos to Welton Spring to WV state line 765 kV circuit (APS equipment)	As specified under the procedures detailed in Attachment H-19B	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: AEC (5.01%) / AEP (4.39%) / APS (9.26%) / BGE (4.43%) / DL (0.02%) / DPL (6.91%) / Dominion (10.82%) / JCPL (11.64%) / ME (2.94%) / NEPTUNE* (1.12%) / PECO (14.51%) / PEPCO (6.11%) /
			PPL (6.39%) / PSEG (15.86%) / RE (0.59%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0492	Construct a Welton Spring to Kemptown 765 kV line (APS equipment)	As specified under the procedures detailed in Attachment H-19B	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: AEC (5.01%) / AEP (4.39%) / APS (9.26%) / BGE (4.43%) / DL (0.02%) / DPL (6.91%) / Dominion (10.82%) / JCPL (11.64%) / ME (2.94%) / NEPTUNE* (1.12%) / PECO (14.51%) / PEPCO (6.11%) / PPL (6.39%) / PSEG (15.86%) / RE (0.59%)
b0492.3	Replace Eastalco 230 kV breaker D-26		APS (100%)
b0492.4	Replace Eastalco 230 kV breaker D-28		APS (100%)

Required Tr	ansmission Enhancements	Annual Revenue Requi	rement Responsible Customer(s)
1	Replace Eastalco 230 kV breaker D-		
b0492.5	31		APS (100%)
b0495	Replace existing Kammer 765/500 kV transformer with a new larger transformer		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)
			DFAX Allocation: AEP (0.13%) / APS (0.13%) / BGE (15.93%) / Dayton (0.04%) / DEOK (0.06%) / Dominion (64.90%) / EKPC (0.02%) / PEPCO (18.79%)
b0533	Reconductor the Powell Mountain – Sutton 138 kV line		APS (100%)
b0534	Install a 28.61 MVAR capacitor on Sutton 138 kV		APS (100%)
b0536	Replace Doubs circuit breaker DJ1		APS (100%)
b0537	Replace Doubs circuit breaker DJ7		APS (100%)
b0538	Replace Doubs circuit breaker DJ10		APS (100%)
b0539	Replace Doubs circuit breaker DJ11		APS (100%)
b0540	Replace Doubs circuit breaker DJ12		APS (100%)
b0541	Replace Doubs circuit breaker DJ13		APS (100%)
b0542	Replace Doubs circuit breaker DJ20		APS (100%)

equired I	ransmission Enhancements	Annual Revenue Requirement Responsible Customer(s)
b0543	Replace Doubs circuit breaker DJ21	APS (100%)
b0544	Remove instantaneous reclose from Eastalco circuit breaker D-26	APS (100%)
b0559	Install 200 MVAR capacitor at Meadow Brook 500 kV substation	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / COMED (13.39%) / DAYTON (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / DOMINION (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (22.57%) / BGE (7.27%) / DOMINION (56.77%) / PEPCO (13.39%)
Ь0560	Install 250 MVAR capacitor at Kemptown 500 kV substation	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: AEC (5.01%) / AEP (4.39%) / APS (9.26%) / BGE (4.43%) / DL (0.02%) / DPL (6.91%) / Dominion (10.82%) / JCPL (11.64%) / ME (2.94%) / NEPTUNE* (1.12%) / PECO (14.51%) / PEPCO (6.11%) / PPL (6.39%) /

Monongahela Power Company, <u>and</u> The Potomac Edison Company, and West Penn Power Company, all doing business as Allegheny Power (cont.)

		DFAX Allocation: APS (100%)
ь0577	Replace Fort Martin 500 kV breaker FL-1	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)
b0573	Reconfigure circuits in Butler – Cabot 138 kV area	APS (100%)
b0572.2	Reconductor Albright – Mettiki – Williams – Parsons – Loughs Lane 138 kV with 954 ACSR	APS (100%)
b0572.1	Reconductor Albright – Mettiki – Williams – Parsons – Loughs Lane 138 kV with 954 ACSR	APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Monongahela Power Company, and The Potomac Edison Company, and West Penn Power **Company, all** doing business as Allegheny Power (cont.)

Required In	ansinission Ennancements Annual Revenue Requirement	
b0588	Install a 40.8 MVAR 138 kV capacitor at Grassy Falls	APS (100%)
b0589	Replace five 138 kV breakers at Cecil	APS (100%)
b0591	Install a 25.2 MVAR capacitor at Seneca Caverns 138 kV	APS (100%)
b0674	Construct new Osage – Whiteley 138 kV circuit	APS (97.68%) / DL (0.96%) / PENELEC (1.09%) / ECP** (0.01%) / PSEG (0.25%) / RE (0.01%)
b0674.1	Replace the Osage 138 kV breaker 'CollinsF126'	APS (100%)
b0675.1	Convert Monocacy - Walkersville 138 kV to 230 kV	AEC (1.02%) / APS (81.96%) / DPL (0.85%) / JCPL (1.75%) / ME (6.37%) / NEPTUNE* (0.15%) / PECO (3.09%) / PPL (2.24%) / PSEG (2.42%) / RE (0.09%) / ECP** (0.06%)
b0675.2	Convert Walkersville - Catoctin 138 kV to 230 kV	AEC (1.02%) / APS (81.96%) / DPL (0.85%) / JCPL (1.75%) / ME (6.37%) / NEPTUNE* (0.15%) / PECO (3.09%) / PPL (2.24%) / PSEG (2.42%) / RE (0.09%) / ECP** (0.06%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

*Neptune Regional Transmission System, LLC **East Coast Power, L.L.C.

Monongahela Power Company, <u>and</u> The Potomac Edison Company, and West Penn Power Company, all doing business as Allegheny Power (cont.)

Required Tra	nsmission Enhancements A	nnual Revenue Requirement	Responsible Customer(s)
			AEC (1.02%) / APS (81.96%) /
	Convert Ringgold -		DPL (0.85%) / JCPL (1.75%) /
b0675.3	Catoctin 138 kV to 230		ME (6.37%) / NEPTUNE*
00075.5	kV		(0.15%) / PECO (3.09%) / PPL
			(2.24%) / PSEG (2.42%) / RE
			(0.09%) / ECP** (0.06%)
			AEC (1.02%) / APS (81.96%) /
	Convert Catoctin -		DPL (0.85%) / JCPL (1.75%) /
b0675.4	Carroll 138 kV to 230		ME (6.37%) / NEPTUNE*
00073.4	kV		(0.15%) / PECO (3.09%) / PPL
			(2.24%) / PSEG (2.42%) / RE
			(0.09%) / ECP** (0.06%)
			AEC (1.02%) / APS (81.96%) /
	Convert portion of		DPL (0.85%) / JCPL (1.75%) /
b0675.5	Ringgold Substation		ME (6.37%) / NEPTUNE*
00075.5	from 138 kV to 230 kV		(0.15%) / PECO (3.09%) / PPL
			(2.24%) / PSEG (2.42%) / RE
			(0.09%) / ECP** (0.06%)
			AEC (1.02%) / APS (81.96%) /
	Convert Catoctin		DPL (0.85%) / JCPL (1.75%) /
b0675.6	Substation from 138 kV to 230 kV		ME (6.37%) / NEPTUNE*
00075.0		(0.15%) / PECO (3.09%) / PPL	
		(2.24%) / PSEG (2.42%) / RE	
			(0.09%) / ECP** (0.06%)
			AEC (1.02%) / APS (81.96%) /
	Convert portion of		DPL (0.85%) / JCPL (1.75%) /
b0675.7	Carroll Substation from		ME (6.37%) / NEPTUNE*
0007517	138 kV to 230 kV		(0.15%) / PECO (3.09%) / PPL
			(2.24%) / PSEG (2.42%) / RE
			(0.09%) / ECP** (0.06%)
			AEC (1.02%) / APS (81.96%) /
	Convert Monocacy		DPL (0.85%) / JCPL (1.75%) /
b0675.8	Substation from 138 kV		ME (6.37%) / NEPTUNE*
00070.0	to 230 kV		(0.15%) / PECO (3.09%) / PPL
			(2.24%) / PSEG (2.42%) / RE
			(0.09%) / ECP** (0.06%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

*Neptune Regional Transmission System, LLC

**East Coast Power, L.L.C.

Monongahela Power Company, and The Potomac Edison Company, and West Penn Power **Company, all** doing business as Allegheny Power (cont.)

Required Tra	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
			AEC (1.02%) / APS (81.96%)
	Convert Walkersville		/ DPL (0.85%) / JCPL (1.75%)
b0675.9	Substation from 138 kV		/ ME (6.37%) / NEPTUNE*
00075.5	to 230 kV		(0.15%) / PECO (3.09%) / PPL
			(2.24%) / PSEG (2.42%) / RE
			(0.09%) / ECP** (0.06%)
			AEC (0.64%) / APS (86.70%)
	Reconductor Doubs -		/ DPL (0.53%) / JCPL (1.93%)
	Lime Kiln (#207) 230		/ ME (4.04%) / NEPTUNE*
b0676.1	kV		(0.18%) / PECO (1.93%) /
	K V		PENELEC (0.93%) / PSEG
			(2.92%) / RE (0.12%) / ECP**
			(0.08%)
	Reconductor Doubs - Lime Kiln (#231) 230 kV		AEC (0.64%) / APS (86.70%)
			/ DPL (0.53%) / JCPL (1.93%)
			/ ME (4.04%) / NEPTUNE*
b0676.2			(0.18%) / PECO (1.93%) /
			PENELEC (0.93%) / PSEG
		(2.92%) / RE (0.12%) / ECP**	
		(0.08%)	
	Reconductor Double		
b0677	Toll Gate – Riverton		
	with 954 ACSR		APS (100%)
	Reconductor Glen Falls		
b0678	Oak Mound 138 kV wit	h	
	954 ACSR		APS (100%)
1.0.570	Reconductor Grand		
b0679	Point – Letterkenny with	h	
	954 ACSR		APS (100%)
1.0.000	Reconductor Greene –		
b0680	Letterkenny with 954		
	ACSR		APS (100%)

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*Neptune Regional Transmission System, LLC

**East Coast Power, L.L.C.

Monongahela Power Company, and The Potomac Edison Company, and West Penn Power Company, all doing business as Allegheny Power (cont.)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
10605	Replace Ringgold		APS (71.93%) / JCPL (4.17%) / ME (6.79%) / NEPTUNE* (0.38%) / PECO (4.05%) /
b0685	230/138 kV #3 with larger transformer		PENELEC (5.88%) / ECP** (0.18%) / PSEG (6.37%) / RE (0.25%)
b0797	Advance n0321 (Replace Doubs Circuit Breaker DJ2)		APS (100%)
b0798	Advance n0322 (Replace Doubs Circuit Breaker DJ3)	2	APS (100%)
b0799	Advance n0323 (Replace Doubs Circuit Breaker DJ6)		APS (100%)
b 0800	Advance n0327 (Replace Doubs Circuit Breaker DJ16)		APS (100%)
b0941	Replace Opequon 138 kV breaker 'BUSTIE'		APS (100%)
b0956	Replace Pruntytown 138 kV breaker 'P-9'		APS (100%)
b0957	Replace Pruntytown 138 kV breaker 'P-12'		APS (100%)
b0958	Replace Pruntytown 138 kV breaker 'P-15'		APS (100%)

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*Neptune Regional Transmission System, LLC **East Coast Power, L.L.C.

Monongahela Power Company, The Potomac Edison Company, and West Penn Power Company, all doing business as Allegheny Power (cont.)

b0956	Replace Pruntytown 138 kV breaker 'P-9'		APS (100%)
b0957	Replace Pruntytown 138 kV breaker 'P-12'		APS (100%)
b0958	Replace Pruntytown 138 kV breaker 'P-15'		APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Monongahela Power Company, <u>and</u> The Potomac Edison Company, and West Penn Power Company, all doing business as Allegheny Power (cont.)

	Å	1
b0960	Replace Pruntytown 138 kV breaker 'P-2'	APS (100%)
b0961	Replace Pruntytown 138 kV breaker 'P-5'	APS (100%)
b0964	Replace Pruntytown 138 kV breaker 'P-11'	APS (100%)
b0966	Replace Pruntytown 138 kV breaker 'P-8'	APS (100%)
b0967	Replace Pruntytown 138 kV breaker 'P-14'	APS (100%)
b0968	Replace Ringgold 138 kV breaker '#3 XFMR BANK'	APS (100%)
b0970	Replace Rivesville 138 kV breaker '#8 XFMR BANK'	APS (100%)
b0972	Replace Belmont 138 kV breaker 'B-16'	APS (100%)
b0977	Replace Belmont 138 kV breaker 'B-17'	APS (100%)
b0984	Replace Rivesville 138 kV breaker '#10 XFMR BANK'	APS (100%)
b0985	Replace Belmont 138 kV breaker 'B-14'	APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Monongahela Power Company, The Potomac Edison Company, and West Penn Power Company, all doing business as Allegheny Power (cont.)

b0972	Replace Belmont 138 kV breaker 'B-16'	APS (100%)
b0977	Replace Belmont 138 kV breaker 'B-17'	APS (100%)
b0984	Replace Rivesville 138 kV breaker '#10 XFMR BANK'	APS (100%)
b0985	Replace Belmont 138 kV breaker 'B-14'	APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Monongahela Power Company, <u>and</u> The Potomac Edison Company, and West Penn Power Company, all doing business as Allegheny Power (cont.)

	Replace Edgelawn 138	ł	
b0989	kV breaker 'GOFF RUN		
	#632'		APS (100%)
	Change reclosing on		
b0991	Belmont 138 kV breaker		
	'B-7'		APS (100%)
	Change reclosing on		
b0992	Belmont 138 kV breaker		
	'B-12'		APS (100%)
1	Change reclosing on		
b0993	Belmont 138 kV breaker		
	'B-9'		APS (100%)
1.000.4	Change reclosing on		
b0994	Belmont 138 kV breaker		
	'B-19'		APS (100%)
1 0005	Change reclosing on		
b0995	Belmont 138 kV breaker		
	'B-21'		APS (100%)
	Change reclosing on Willow Island 138 kV		
b0996	breaker 'FAIRVIEW		
	#84'		APS (100%)
	#04		APS (10076)
b0999	Replace Redbud 138 kV		
00777	breaker 'BUS TIE'		APS (100%)
	Reconfigure the Peters to		
	Bethel Park 138 kV line		
	and Elrama to Woodville		
	138 kV line to create a		
b1022.1	138 kV path from		
	Woodville to Peters and		
	a 138 kV path from		
	Elrama to Bethel Park		APS (96.98%) / DL (3.02%)
	Construct a new 502		
b1023.3	Junction - Osage 138 kV		
	line		APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Monongahela Power Company, The Potomac Edison Company, and West Penn Power Company, all doing business as Allegheny Power (cont.)

b0999	Replace Redbud 138 kV breaker 'BUS TIE'		APS (100%)
b1022.1	Reconfigure the Peters to Bethel Park 138 kV line and Elrama to Woodville 138 kV line to create a 138 kV path from Woodville to Peters and a 138 kV path from Elrama to Bethel Park		APS (96.98%) / DL (3.02%)
b1023.3	Construct a new 502 Junction - Osage 138 kV line		APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Monongahela Power Company, and The Potomac Edison Company, and West Penn Power Company, all doing business as Allegheny Power (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)

lequirea III		linuar Revenue Requirement	
	Construct Braddock 138		
	kV breaker station that		
	connects the Charleroi -		
	Gordon 138 kV line,		
b1023.4	Washington - Franklin		
	138 kV line and the		
	Washington - Vanceville		
	138 kV line including a		
	66 MVAR capacitor		APS (100%)
	Raise three structures on		
b1028	the Osage - Collins Ferry		
01028	138 kV line to increase		
	the line rating		APS (100%)
	Reconductor the		
	Edgewater – Vasco Tap;		
b1128	Edgewater – Loyalhanna		
	138 kV lines with 954		
	ACSR		APS (100%)
	Reconductor the East		
1.1120	Waynesboro – Ringgold		
b1129	138 kV line with 954		
	ACSR		APS (100%)
	Upgrade Double Tollgate		
b1131	– Meadowbrook MDT		
	Terminal Equipment		APS (100%)
	Upgrade Double		, <u>,</u>
1.1.1.2.2	Tollgate-Meadowbrook		
b1132	MBG terminal		
	equipment		APS (100%)
1 1 1 2 2	Upgrade terminal		
b1133	equipment at Springdale		APS (100%)
	Reconductor the		
	Bartonville –		
b1135	Meadowbrook 138 kV		
	line with high		
	temperature conductor		APS (100%)
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Monongahela Power Company, <u>and</u> The Potomac Edison Company, and West Penn Power Company, all doing business as Allegheny Power (cont.)

	Reconductor the Eastgate	
b1137	– Luxor 138 kV;	APS (78.59%) / PENELEC
	Eastgate – Sony 138 kV	(14.08%) / ECP** (0.23%) /
	line with 954 ACSR	PSEG (6.83%) / RE (0.27%)
	Reconductor the King	
b1138	Farm – Sony 138 kV line	
	with 954 ACSR	APS (100%)
	Reconductor the Yukon	
b1139	– Waltz Mills 138 kV	
01139	line with high	
	temperature conductor	APS (100%)
	Reconductor the Bracken	
b1140	Junction – Luxor 138 kV	
	line with 954 ACSR	APS (100%)
	Reconductor the	
	Sewickley – Waltz Mills	
b1141	Tap 138 kV line with	
	high temperature	
	conductor	APS (100%)
	Reconductor the	
	Bartonsville –	
b1142	Stephenson 138 kV;	
01142	Stonewall – Stephenson	
	138 kV line with 954	
	ACSR	APS (100%)
	Reconductor the	
b1143	Youngwood – Yukon	
01145	138 kV line with high	APS (89.92%) / PENELEC
	temperature conductor	(10.08%)
	Reconductor the Bull	
b1144	Creek Junction – Cabot	
01144	138 kV line with high	
	temperature conductor	APS (100%)
*Fast Co	ast Power IIC	

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

**East Coast Power, L.L.C.

Monongahela Power Company, <u>and</u> The Potomac Edison Company, and West Penn Power Company, all doing business as Allegheny Power (cont.)

	Reconductor the Lawson	
b1145	Junction – Cabot 138 kV	
	line with high	
1	temperature conductor	APS (100%)
]	Replace Layton -	
b1146	Smithton #61 138 kV	
01140	line structures to increase	
]	line rating	APS (100%)
]	Replace Smith – Yukon	
b1147	138 kV line structures to	
İ	increase line rating	APS (100%)
]	Reconductor the	
b1148	Loyalhanna – Luxor 138	
]	kV line with 954 ACSR	APS (100%)
]	Reconductor the Luxor –	
b1149	Stony Springs Junction	
01149	138 kV line with 954	
	ACSR	APS (100%)
b1150	Upgrade terminal	
01130	equipment at Social Hall	APS (100%)
]	Reconductor the	
1 1 1 5 1	Greenwood – Redbud	
b1151	138 kV line with 954	
	ACSR	APS (100%)
1,1152	Reconductor Grand Point	
b1152	 South Chambersburg 	APS (100%)
	Replace Double Toll	
	Gate 138 kV breaker	
	'DRB-2'	APS (100%)
]	Replace Double Toll	
b1163	Gate 138 kV breaker	
	'DT 138 kV OCB'	APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Monongahela Power Company, <u>and</u> The Potomac Edison Company, and West Penn Power Company, all doing business as Allegheny Power (cont.)

b1166	Replace Wylie Ridge	
	138 kV breaker 'W-9'	APS (100%)
b1167	Replace Reid 138 kV	
01107	breaker 'RI-2'	APS (100%)
	Install the second Black	
	Oak 500/138 kV	BGE (20.76%) / DPL (3.14%) /
b1171.1	transformer, two 138 kV	Dominion (39.55%) / ME
	breaker, and related	(2.71%) / PECO (3.36%) /
	substation work	PEPCO (30.48%)
		AEC (1.65%) / AEP (13.68%) /
		APS (5.76%) / ATSI (8.04%) /
		BGE (4.11%) / ComEd (13.39%)
		/ Dayton (2.12%) / DEOK
		(3.25%) / DL (1.71%) / DPL
	Install six 500 kV	(2.60%) / Dominion (13.32%) /
b1171.3	breakers and remove	EKPC (1.89%) / JCPL (3.86%) /
011/1.5	BOL1 500 kV breaker at	ME (1.90%) / NEPTUNE*
	Black Oak	(0.42%) / OVEC (0.08%) /
		PECO (5.40%) / PENELEC
		(1.78%) / PEPCO (3.67%) / PPL
		(4.72%) / PSEG (6.39%) / RE
		(0.26%)
	Reconductor Double Toll	
b1200	Gate – Greenwood 138	
61200	kV with 954 ACSR	
	conductor	APS (100%)
	Convert Carbon Center	, , , , , , , , , , , , , , , , , , ,
b1221.1	from 138 kV to a 230 kV	
	ring bus	APS (100%)
	Construct Bear Run 230	
b1221.2	kV substation with	
	230/138 kV transformer	APS (100%)
	Decional Transmission System I	

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Monongahela Power Company, and The Potomac Edison Company, and West Penn Power Company, all doing business as Allegheny Power (cont.)

equinea m		
	Loop Carbon Center	
b1221.3	Junction – Williamette	
	line into Bear Run	APS (100%)
	Carbon Center – Carbon	
	Center Junction &	
b1221.4	Carbon Center Junction	
	– Bear Run conversion	
	from 138 kV to 230 kV	APS (100%)
	Reconductor Willow-	
b1230	Eureka & Eurkea-St	
	Mary 138 kV lines	APS (100%)
		AEC (1.40%) / APS (75.74%) /
	Depenductor Ninetarra	DPL (1.92%) / JCPL (2.92%) /
1,1000	Reconductor Nipetown – Reid 138 kV with 1033	ME (6.10%) / NEPTUNE*
b1232	ACCR	(0.27%) / PECO (4.40%) /
	ACCK	PENELEC (3.26%) / PPL
		(3.99%)
	Upgrade terminal	
b1233.1	equipment at	
	Washington	APS (100%)
	Replace structures	
b1234	between Ridgeway and	
	Paper city	APS (100%)
	Reconductor the Albright	
b1235	– Black Oak AFA 138	APS (30.25%) / BGE (16.10%)
01233	kV line with 795	/ Dominion (30.51%) / PEPCO
	ACSS/TW	(23.14%)
	Upgrade terminal	
	equipment at Albright,	
	replace bus and line side	
b1237	breaker disconnects and	
	leads, replace breaker	
	risers, upgrade RTU and	
	line	APS (100%)
	Install a 138 kV 44	
b1238	MVAR capacitor at	
	Edgelawn substation	APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Monongahela Power Company, <u>and</u> The Potomac Edison Company, and West Penn Power Company, all doing business as Allegheny Power (cont.)

i equileu II		Annual Revenue Requirement	
	Install a 138 kV 44		
b1239	MVAR capacitor at		
	Ridgeway substation		APS (100%)
	Install a 138 kV 44		
b1240	MVAR capacitor at Elko		
	Substation		APS (100%)
	Upgrade terminal		
	equipment at		
b1241	Washington substation		
	on the GE		
	Plastics/DuPont terminal		APS (100%)
	Replace structures		
b1242	between Collins Ferry		
	and West Run		APS (100%)
	Reconductor		
	approximately 2.17 miles		
b1384	of Bedington –		
	Shepherdstown 138 kV		
	with 954 ACSR		APS (100%)
	Reconductor Halfway –		
b1385	Paramount 138 kV with		
	1033 ACCR		APS (100%)
	Reconductor Double		
b1386	Tollgate – Meadow		
01000	Brook 138 kV ckt 2 with		APS (93.33%) / BGE (3.39%) /
	1033 ACCR		PEPCO (3.28%)
	Reconductor Double		
b1387	Tollgate – Meadow		APS (93.33%) / BGE (3.39%) /
	Brook 138 kV		PEPCO (3.28%)
	Reconductor Feagans		
b1388	Mill – Millville 138 kV		
	with 954 ACSR		APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Monongahela Power Company, and The Potomac Edison Company, and West Penn Power Company, all doing business as Allegheny Power (cont.)

Required Tr	ransmission Enhancements Annual Revenue Requirement	Responsible Customer(s)
b1389	Reconductor Bens Run – St. Mary's 138 kV with 954 ACSR	AEP (12.40%) / APS (17.80%) / DL (69.80%)
b1390	Replace Bus Tie Breaker at Opequon	APS (100%)
b1391	Replace Line Trap at Gore	APS (100%)
b1392	Replace structure on Belmont – Trissler 138 kV line	APS (100%)
b1393	Replace structures Kingwood – Pruntytown 138 kV line	APS (100%)
b1395	Upgrade Terminal Equipment at Kittanning	APS (100%)
b1401	Change reclosing on Pruntytown 138 kV breaker 'P-16' to 1 shot at 15 seconds	APS (100%)
b1402	Change reclosing on Rivesville 138 kV breaker 'Pruntytown #34' to 1 shot at 15 seconds	APS (100%)

Monongahela Power Company, and The Potomac Edison Company, and West Penn Power Company, all doing business as Allegheny Power (cont.)

	Replace the Weirton 138	
b1408	kV breaker 'Tidd 224'	
	with a 40 kA breaker	APS (100%)
		Load-Ratio Share Allocation:
		AEC (1.65%) / AEP (13.68%) /
		APS (5.76%) / ATSI (8.04%) /
		BGE (4.11%) / ComEd (13.39%)
		/ Dayton (2.12%) / DEOK
		(3.25%) / DL (1.71%) / DPL
		(2.60%) / Dominion (13.32%) /
		EKPC (1.89%) / JCPL (3.86%) /
	Terminal Equipment	ME (1.90%) / NEPTUNE*
b1507.2	10	(0.42%) / OVEC (0.08%) /
	substation	PECO (5.40%) / PENELEC
		(1.78%) / PEPCO (3.67%) / PPL
		(4.72%) / PSEG (6.39%) / RE
		(0.26%)
		DFAX Allocation:
		APS (16.11%) / BGE (13.32%) /
		Dominion (55.42%) / PEPCO
		(15.15%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Monongahela Power Company, and The Potomac Edison Company, and West Penn Power Company, all doing business as Allegheny Power (cont.)

Required Tra	nsmission Enhancements A	nnual Revenue Requirement	Responsible Customer(s)
b1507.3	Mt. Storm – Doubs transmission line rebuild in Maryland – Total line mileage for APS is 2.71 miles		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (16.11%) / BGE (13.32%) / Dominion (55.42%) / PEPCO (15.15%)
b1510	Install 59.4 MVAR capacitor at Waverly		APS (100%)

Monongahela Power Company, and The Potomac Edison Company, and West Penn Power Company, all doing business as Allegheny Power (cont.)

Required Tra	nsmission Enhancements	Annual Revenue Requiremen	nt Responsible Customer(s)
b1803	Build a 300 MVAR Switched Shunt at Doubs 500 kV and increase (~50 MVAR) in size the existing Switched Shunt at Doubs 500 kV		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (16.11%) / BGE (13.32%) /
ь1804	Install a new 600 MVAR SVC at Meadowbrook 500 kV		Dominion (55.42%) / PEPCO (15.15%) Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)
			DFAX Allocation: APS (22.57%) / BGE (7.27%) / Dominion (56.77%) / PEPCO (13.39%)
b1816.1	Replace relaying at the Mt. Airy substation on the Carroll - Mt. Airy 230 kV line		APS (100%)

Monongahela Power Company, and The Potomac Edison Company, and West Penn Power Company, all doing business as Allegheny Power (cont.)

Required Tra	Insmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Adjust the control		
	settings of all existing		
	capacitors at Mt Airy		
	34.5 kV, Monocacy 138		
	kV, Ringgold 138 kV		
b1816.2	served by Potomac		
	Edison's Eastern 230 kV		
	network to ensure that		
	all units will be on		
	during the identified N-		
	1-1 contingencies		APS (100%)
	Replace existing		
	unidirectional LTC		
b1816.3	controller on the No. 4,		
01010.5	230/138 kV transformer		
	at Carroll substation		
	with a bidirectional unit		APS (100%)
	Isolate and bypass the		
b1816.4	138 kV reactor at		
	Germantown Substation		APS (100%)
	Replace 336.4 ACSR		
	conductor on the		
	Catoctin - Carroll 138		
	kV line using 556.5		
	ACSR (26/7) or		
	equivalent on existing		
b1816.6	structures (12.7 miles),		
21010.0	800 A wave traps at		
	Carroll and Catoctin		
	with 1200 A units, and		
	556.5 ACSR SCCIR		
	(Sub-conductor) line		
	risers and bus traps with		
	795 ACSR or equivalent		APS (100%)

Monongahela Power Company, <u>and</u> The Potomac Edison Company, and West Penn Power Company, all doing business as Allegheny Power (cont.)

Required Tra	nsmission Enhancements A	Annual Revenue Requirement	Responsible Customer(s)
b1822	Replace the 1200 A wave trap, line risers, breaker risers with 1600 A capacity terminal equipment at Reid 138 kV SS		APS (100%)
b1823	Replace the 800 A wave trap with a 1200 A wave trap at Millville 138 kV substation		APS (100%)
b1824	Reconductor Grant Point - Guilford 138 kV line approximately 8 miles of 556 ACSR with 795 ACSR		APS (100%)
b1826	Change the CT ratio at Double Toll Gate 138 kV SS on MDT line		APS (100%)
b1827	Change the CT ratio at Double Toll Gate 138 kV SS on MBG line		APS (100%)
b1828.1	Reconductor the Bartonville – Stephenson 3.03 mile 138 kV line of 556 ACSR with 795 ACSR		APS (100%)

Monongahela Power Company, and The Potomac Edison Company, and West Penn Power Company, all doing business as Allegheny Power (cont.)

Required Trai	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Reconductor the		
	Stonewall – Stephenson		
b1828.2	2.08 mile 138 kV line of	2	
	556 ACSR with 795		
	ACSR		APS (100%)
	Replace the existing 138		
	kV 556.5 ACSR		
	substation conductor		
b1829	risers with 954 ACSR at		
01829	the Redbud 138 kV		
	substation, including but	E Contraction of the second	
	not limited to the line		
	side disconnect leads		APS (100%)
	Replace 1200 A wave		
	trap and 1024 ACAR		
	breaker risers at Halfway	y	
1 1 0 2 0	138 kV substation, and		
b1830	replace 1024 ACAR		
	breaker risers at		
	Paramount 138 kV		
	substation		APS (100%)
	Replace the 1200 A line		<u> </u>
	side and bus side		
	disconnect switches with	1	
	1600 A switches, replace	e	
b1832	bus side, line side, and		
	disconnect leads at Lime		
	Kiln SS on the Doubs -		
	Lime Kiln 1 (207) 230		
	kV line terminal		APS (100%)
	Replace the 1200 A line		
	side and bus side		
	disconnect switches with	1	
	1600 A switches, replace		
b1833	bus side, line side, and		
	disconnect leads at Lime		
	Kiln SS on the Doubs -		
	Lime Kiln 2 (231) 230		
	kV line terminal		APS (100%)

Monongahela Power Company, and The Potomac Edison Company, and West Penn Power Company, all doing business as Allegheny Power (cont.)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1835	Reconductor 14.3 miles of 556 ACSR with 795 ACSR from Old Chapel to Millville 138 kV and upgrade line risers at Old	d	APS (37.68%) / Dominion
	Chapel 138 kV and Millville 138 kV and replace 1200 A wave trap at Millville 138 kV		(34.46%) / PEPCO (13.69%) / BGE (11.45%) / ME (2.01%) / PENELEC (0.53%) / DL (0.18%)
b1836	Replace 1200 A wave trap with 1600 A wave trap at Reid 138 kV SS		APS (100%)
b1837	Replace 750 CU breaker risers with 795 ACSR at Marlowe 138 kV and replace 1200 A wave traps with 1600 A wave traps at Marlowe 138 kV and Bedington 138 kV		APS (100%)
b1838	Replace the 1200 A Bedington 138 kV line air switch and the 1200 A 138 kV bus tie air switch at Nipetown 138 kV with 1600 A switches		APS (100%)

Monongahela Power Company, <u>and</u> The Potomac Edison Company, and West Penn Power Company, all doing business as Allegheny Power (cont.)

Required Tr	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Construct a 138 kV line		
b1840	between Buckhannon		
01040	and Weston 138 kV		
	substations		APS (100%)
	Replace line trap at		
b1902	Stonewall on the		
01902	Stephenson 138 kV line		
	terminal		APS (100%)
	Change the CT ratio at		
b1942	Millville to improve the		
01942	Millville – Old Chapel		
	138 kV line ratings		APS (100%)
	Reconductor the Osage-		
	Collins Ferry 138 kV		
1.1007	line with 795 ACSS.		
b1987	Upgrade terminal		
	equipment at Osage and		
	Collins Ferry		APS (100%)

Monongahela Power Company, and The Potomac Edison Company, and West Penn Power Company, all doing business as Allegheny Power (cont.)

Required Tr	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Raise structures between		
	Lake Lynn and West		
b1988	Run to eliminate the		
01900	clearance de-rates on the		
	West Run – Lake Lynn		
	138 kV line		APS (100%)
	Raise structures between		
	Collins Ferry and West		
b1989	Run to eliminate the		
01909	clearance de-rates on the		
	Collins Ferry - West Run	1	
	138 kV line		APS (100%)
	Replace Weirt 138 kV		
b2095	breaker 'S-		
02093	TORONTO226' with 63		
	kA rated breaker		APS (100%)
	Revise the reclosing of		
b2096	Weirt 138 kV breaker		
	'2&5 XFMR'		APS (100%)
	Replace Ridgeley 138		
b2097	kV breaker '#2 XFMR		
	OCB'		APS (100%)
	Revise the reclosing of		
b2098	Ridgeley 138 kV breaker		
02070	'AR3' with 40 kA rated		
	breaker		APS (100%)
	Revise the reclosing of		
b2099	Ridgeley 138 kV breaker		
	'RC1'		APS (100%)
	Replace Ridgeley 138		
b2100	kV breaker 'WC4' with		
	40 kA rated breaker		APS (100%)
	Replace Ridgeley 138		
b2101	kV breaker '1 XFMR		
02101	OCB' with 40 kA rated		
	breaker		APS (100%)

Monongahela Power Company, and The Potomac Edison Company, and West Penn Power Company, all doing business as Allegheny Power (cont.)

equired Tr	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Replace Wylie Ridge		
b2106	345 kV breaker 'WK-1'		
	with 63 kA rated breaker		APS (100%)
	Replace Wylie Ridge		
b2107	345 kV breaker 'WK-2'		
	with 63 kA rated breaker		APS (100%)
	Replace Wylie Ridge		
b2108	345 kV breaker 'WK-3'		
	with 63 kA rated breaker		APS (100%)
	Replace Wylie Ridge		
b2109	345 kV breaker 'WK-4'		
	with 63 kA rated breaker		APS (100%)
	Replace Wylie Ridge		
b2110	345 kV breaker 'WK-6'		
	with 63 kA rated breaker		APS (100%)
	Replace Wylie Ridge		
b2111	138 kV breaker 'WK-7'		
	with 63 kA rated breaker		APS (100%)
b2112	Replace Wylie Ridge		
02112	345 kV breaker 'WK-5'		APS (100%)
	Replace Weirton 138 kV		
b2113	breaker 'NO 6 XFMR'		
	with 63 kA rated breaker		APS (100%)
	Replace Armstrong 138		
b2114	kV breaker 'Bus-Tie'		
02117	(Status On-Hold pending		
	retirement)		APS (100%)

Monongahela Power Company, and The Potomac Edison Company, and West Penn Power Company, all doing business as Allegheny Power (cont.)

Required Tra	ansmission Enhancements A	Annual Revenue Requirement	Responsible Customer(s)
b2124.1	Add a new 138 kV line		
02124.1	exit		APS (100%)
	Construct a 138 kV ring		
b2124.2	bus and install a 138/69		
	kV autotransformer		APS (100%)
b2124.4	Construct approximately		
02124.4	5.5 miles of 138 kV line		APS (100%)
	Replace 800A wave trap		
b2165	at Stonewall with a 1200		
	A wave trap		APS (100%)
	Reconductor the Millville		
	– Sleepy Hollow 138 kV		
	4.25 miles of 556 ACSR		
b2166	with 795 ACSR, upgrade		
02100	line risers at Sleepy		
	Hollow, and change 1200		
	A CT tap at Millville to		
	800		APS (100%)
	For Grassy Falls 138 kV		
	Capacitor bank adjust		
	turn-on voltage to 1.0 pu		
	with a high limit of 1.04		
b2168	pu, For Crupperneck and		
02100	Powell Mountain 138 kV		
	Capacitor Banks adjust		
	turn-on voltage to 1.01 pu		
	with a high limit of 1.035		
	pu		APS (100%)

jirad Transmission Enhancements Annual Pavenue Posuirement Decrematical Customer(a) Re

Monongahela Power Company, <u>and</u> The Potomac Edison Company, and West Penn Power Company, all doing business as Allegheny Power (cont.)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Replace/Raise structures on the Parsons-William		
b2171	138 kV line section to		
	eliminate clearance de-		
	rate		APS (100%)
	Replace/Raise structures		
	on the Parsons - Loughs		
b2172	Lane 138 kV line section		
	to eliminate clearance		
	de-rate		APS (100%)

PJM Open Access Transmission Tariff Schedule 12-Appendix Section 14 – Monongahela Power Co.

Version 30.0.0 Effective January 1, 2024 (Accepted in Docket No. ER24-786-000)

SCHEDULE 12 – APPENDIX

Monongahela Power Company, The Potomac Edison Company, and West Penn Power Company, all doing business as Allegheny Power (14)

Required 7	Fransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0216	Install -100/+525 MVAR dynamic reactive device at Black Oak	As specified under the procedures detailed in Attachment H-18B, Section 1.b	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.6814.29%) / APS (5.765.82%) / ATSI (8.047.49%) / BGE (4.114.01%) / ComEd (13.3914.06%) / Dayton (2.122.03%) / DEOK (3.253.21%) / DL (1.711.59%) / DPL (2.602.55%) / Dominion (13.3213.89%) / EKPC (1.892.35%) / JCPL (3.863.59%) / ME (1.901.81%) / NEPTUNE* (0.42%) / OVEC (0.080.06%) / PECO (5.405.11%) / PENELEC (1.781.73%) / PEPCO (3.673.68%) / PPL (4.724.43%) / PSEG (6.395.99%) / RE (0.260.24%) DFAX Allocation: APS (30.4631.22%) / BGE (10.8610.26%) / Dominion (42.5645.55%) / PEPCO (16.1212.97%)
b0218	Install third Wylie Ridge 500/345 kV transformer	As specified under the procedures detailed in Attachment H-18B, Section 1.b	AEC (11.83%) / DPL (19.40%) / Dominion (13.81%) / JCPL (15.56%) / PECO (39.40%)
b0220	Upgrade coolers on Wylie Ridge 500/345 kV #7		AEC (11.83%) / DPL (19.40%) / Dominion (13.81%) / JCPL (15.56%) / PECO (39.40%)
b0229	Install fourth Bedington 500/138 kV		APS (50.98%) / BGE (13.42%) / DPL (2.03%) / Dominion (14.50%) / ME (1.43%) / PEPCO (17.64%)

b0230	Install fourth Meadowbrook 500/138 kV	As specified under the procedures detailed in Attachment H-18B, Section 1.b	APS (79.16%) / BGE (3.61%) / DPL (0.86%) / Dominion (11.75%) / ME (0.67%) / PEPCO (3.95%)
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Monongahela Power Company, The Potomac Edison Company, and West Penn Power Company, all doing business as Allegheny Power (cont.)

Required 7	Fransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0238	Reconductor Doubs – Dickerson and Doubs – Aqueduct 1200 MVA	As specified under the procedures detailed in Attachment H-18B, Section 1.b	BGE (16.66%) / Dominion (33.66%) / PEPCO (49.68%)
b0240	Open the Black Oak #3 500/138 kV transformer for the loss of Hatfield – Back Oak 500 kV line		APS (100%)
b0245	Replacement of the existing 954 ACSR conductor on the Bedington – Nipetown 138 kV line with high temperature/low sag conductor		APS (100%)
b0246	Rebuild of the Double Tollgate – Old Chapel 138 kV line with 954 ACSR conductor	As specified under the procedures detailed in Attachment H-18B, Section 1.b	APS (100%)
b0273	Open both North Shenandoah #3 transformer and Strasburg – Edinburgh 138 kV line for the loss of Mount Storm – Meadowbrook 572 500 kV		APS (100%)
b0322	Convert Lime Kiln substation to 230 kV operation		APS (100%)
b0323	Replace the North Shenandoah 138/115 kV transformer	As specified under the procedures detailed in Attachment H-18B, Section 1.b	APS (100%)

Monongahela Power Company, The Potomac Edison Company, and West Penn Power Company, all doing business as Allegheny Power (cont.)

equired Tra	ansmission Enhancements	Annual Revenue Requirement	1
b0328.2	Build new Meadow Brook – Loudoun 500 kV circuit (20 of 50 miles)	As specified under the procedures detailed in Attachment H-18B, Section 1.b	Load-Ratio Share Allocation: AEC (1.65%) / AEP ($13.6814.29\%$) / APS ($5.765.82\%$) / ATSI ($8.047.49\%$) / BGE ($4.114.01\%$) / ComEd ($13.3914.06\%$) / Dayton ($2.122.03\%$) / DEOK ($3.253.21\%$) / DL ($1.711.59\%$) / DPL ($2.602.55\%$) / Dominion ($13.3213.89\%$) / EKPC ($1.892.35\%$) / JCPL ($3.863.59\%$) / ME ($1.901.81\%$) / NEPTUNE* (0.42%) / OVEC ($0.080.06\%$) / PECO ($5.405.11\%$) / PENELEC ($1.781.73\%$) / PEPCO ($3.673.68\%$) / PPL ($4.724.43\%$) / PSEG ($6.395.99\%$) / RE ($0.260.24\%$) DFAX Allocation: APS ($2.496.50\%$) / BGE ($7.426.33\%$) / Dominion ($78.3778.04\%$) / PEPCO ($11.729.13\%$)
b0343	Replace Doubs 500/230 kV transformer #2	As specified under the procedures detailed in Attachment H-18B, Section 1.b	AEC (1.85%) / BGE (21.49%) / DPL (3.91%) / Dominion (28.86%) / ME (2.97%) / PECO (5.73%) / PEPCO (35.19%)
b0344	Replace Doubs 500/230 kV transformer #3	As specified under the procedures detailed in Attachment H-18B, Section 1.b	AEC (1.86%) / BGE (21.50%) / DPL (3.91%) / Dominion (28.82%) / ME (2.97%) / PECO (5.74%) / PEPCO (35.20%)
b0345	Replace Doubs 500/230 kV transformer #4	As specified under the procedures detailed in Attachment H-18B, Section 1.b	AEC (1.85%) / BGE (21.49%) / DPL (3.90%) / Dominion (28.83%) / ME (2.98%) / PECO (5.75%) / PEPCO (35.20%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Monongahela Power Company, The Potomac Edison Company, and West Penn Power Company, all doing business as Allegheny Power (cont.)

Required Tr	ansmission Enhancements A	Annual Revenue Requirement	Responsible Customer(s)
b0347.1	Build new Mt. Storm – 502 Junction 500 kV circuit	As specified under the procedures detailed in Attachment H-18B, Section 1.b	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.6814.29%) / APS (5.765.82%) / ATSI (8.047.49%) / BGE (4.114.01%) / ComEd (13.3914.06%) / Dayton (2.122.03%) / DEOK (3.253.21%) / DL (1.711.59%) / DPL (2.602.55%) / Dominion (13.3213.89%) / EKPC (1.892.35%) / JCPL (3.863.59%) / ME (1.901.81%) / NEPTUNE* (0.42%) / OVEC (0.080.06%) / PECO (5.405.11%) / PENELEC (1.781.73%) / PEPCO (3.673.68%) / PPL (4.724.43%) / PSEG (6.395.99%) / RE (0.260.24%) DFAX Allocation: APS (28.9431.98%) / BGE (13.7810.86%) / Dominion (32.1839.86%) / PEPCO (25.1017.30%)
b0347.2	Build new Mt. Storm – Meadow Brook 500 kV circuit	As specified under the procedures detailed in Attachment H-18B, Section 1.b	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.6814.29%) / APS (5.765.82%) / ATSI (8.047.49%) / BGE (4.114.01%) / ComEd (13.3914.06%) / Dayton (2.122.03%) / DEOK (3.253.21%) / DL (1.711.59%) / DPL (2.602.55%) / Dominion (13.3213.89%) / EKPC (1.892.35%) / JCPL (3.863.59%) / ME (1.901.81%) / NEPTUNE* (0.42%) / OVEC (0.080.06%) / PECO (5.405.11%) / PENELEC (1.781.73%) / PEPCO (3.673.68%) / PPL (4.724.43%) / PSEG (6.395.99%) / RE (0.260.24%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

	Γ	DFAX Allocation:
		APS (22.57<u>21.84</u>%) / BGE
		(7.27<u>7.08</u>%) / Dominion
		(56.77<u>60.14</u>%) / PEPCO
		(13.39 10.94%)

Required Tra	ansmission Enhancements A	Annual Revenue Requirement	Responsible Customer(s)
b0347.3	Build new 502 Junction 500 kV substation	As specified under the procedures detailed in Attachment H-18B, Section 1.b	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.6814.29%) / APS (5.765.82%) / ATSI (8.047.49%) / BGE (4.114.01%) / ComEd (13.3914.06%) / Dayton (2.122.03%) / DEOK (3.253.21%) / DL (1.711.59%) / DPL (2.602.55%) / Dominion (13.3213.89%) / EKPC (1.892.35%) / JCPL (3.863.59%) / ME (1.901.81%) / NEPTUNE* (0.42%) / OVEC (0.080.06%) / PECO (5.405.11%) / PENELEC (1.781.73%) / PEPCO (3.673.68%) / PPL (4.724.43%) / PSEG (6.395.99%) / RE (0.260.24%) DFAX Allocation: APS (28.9431.98%) / BGE (13.7810.86%) / Dominion (32.1839.86%) / PEPCO (25.1017.30%)
b0347.4	Upgrade Meadow Brook 500 kV substation	As specified under the procedures detailed in Attachment H-18B, Section 1.b	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.6814.29%) / APS (5.765.82%) / ATSI (8.047.49%) / BGE (4.114.01%) / ComEd (13.3914.06%) / Dayton (2.122.03%) / DEOK (3.253.21%) / DL (1.711.59%) / DPL (2.602.55%) / Dominion (13.3213.89%) / EKPC (1.892.35%) / JCPL (3.863.59%) / ME (1.901.81%) / NEPTUNE* (0.42%) / OVEC (0.080.06%) / PECO (5.405.11%) / PENELEC (1.781.73%) / PEPCO (3.673.68%) / PPL (4.724.43%) /

	PSEG (6.39<u>5.99</u>%) / RE (<u>0.260.24</u>%)
	DFAX Allocation: APS (<u>22.5721.84</u> %) / BGE (<u>7.277.08</u> %) / Dominion (<u>56.7760.14</u> %) / PEPCO (<u>13.3910.94</u> %)

equired Tra	ansmission Enhancements	Annual Revenue Requirement	
b0347.5	Replace Harrison 500 kV breaker HL-3		Load-Ratio Share Allocation AEC (1.65%) / AEP ($13.6814.29\%$) / APS ($5.765.82\%$) / ATSI ($8.047.49\%$ / BGE ($4.114.01\%$) / ComEd ($13.3914.06\%$) / Dayton ($2.122.03\%$) / DEOK ($3.253.21\%$) / DL ($1.711.59\%$) DPL ($2.602.55\%$) / Dominion ($1.3.3213.89\%$) / DEOK ($3.253.21\%$) / DCL ($3.863.59\%$) / ME ($1.901.81\%$) / NEPTUNE (0.42%) / OVEC ($0.080.06\%$) PECO ($5.405.11\%$) / NEPTUNE (0.42%) / OVEC ($0.080.06\%$) PECO ($5.405.11\%$) / PENELEG ($1.781.73\%$) / PEPCO ($3.673.68\%$) / PPL ($4.724.43\%$) PSEG ($6.395.99\%$) / RE PSEG ($6.395.99\%$) / RE ($9.260.24\%$) PSEG ($13.7810.86\%$) / Dominion ($32.1839.86\%$) / PEPCO ($25.1017.30\%$) PE
b0347.6	Upgrade (per ABB inspection) breaker HL-6		Load-Ratio Share Allocation AEC (1.65%) / AEP (13.6814.29%) / APS (5.765.82%) / ATSI (8.047.49% / BGE (4.114.01%) / ComEd (13.3914.06%) / Dayton (2.122.03%) / DEOK (3.253.21%) / DL (1.711.59%) DPL (2.602.55%) / Dominion (13.3213.89%) / EKPC (1.892.35%) / JCPL (3.863.59% / ME (1.901.81%) / NEPTUNE (0.42%) / OVEC (0.080.06%) PECO (5.405.11%) / PENELE (1.781.73%) / PEPCO (3.673.68%) / PPL (4.724.43%)

	PSEG (6.39<u>5.99</u>%) / RE (<u>0.260.24</u>%)
	DFAX Allocation:
	APS (<u>28.9431.98</u> %) / BGE (<u>13.7810.86</u> %) / Dominion (<u>32.1839.86</u> %) / PEPCO (<u>25.1017.30</u> %)

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equired Tra	ansmission Enhancements A	Annual Revenue Requirement	
b0347.7	Upgrade (per ABB inspection) breaker HL-7	Annual Revenue Requirement	Responsible Customer(s) Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.6814.29%) / APS (5.765.82%) / ATSI (8.047.49% / BGE (4.114.01%) / ComEd (13.3914.06%) / Dayton (2.122.03%) / DeOK (3.253.21%) / DL (1.711.59%) / DPL (2.602.55%) / Dominion (13.3213.89%) / DEOK (1.892.35%) / JCPL (3.863.59%) / ME (1.901.81%) / NEPTUNE ³ (0.42%) / OVEC (0.080.06%) / PECO (5.405.11%) / PENELEC (1.781.73%) / PEPCO (3.673.68%) / PPL (4.724.43%) PSEG (6.395.99%) / RE (0.260.24%) DFAX Allocation: APS (28.9431.98%) / BGE (13.7810.86%) / Dominion (32.1839.86%) / PEPCO
b0347.8	Upgrade (per ABB inspection) breaker HL-8		(25.1017.30%) Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.6814.29%) / APS (5.765.82%) / ATSI (8.047.49% / BGE (4.114.01%) / ComEd (13.3914.06%) / Dayton (2.122.03%) / DEOK (3.253.21%) / DL (1.711.59%) DPL (2.602.55%) / Dominion (13.3213.89%) / EKPC (1.892.35%) / JCPL (3.863.59% / ME (1.901.81%) / NEPTUNE (0.42%) / OVEC (0.080.06%) / PECO (5.405.11%) / PENELEO (1.781.73%) / PEPCO (3.673.68%) / PPL (4.724.43%)

	PSEG (6.39<u>5.99</u>%) / RE (0.26<u>0.24</u>%)
	DFAX Allocation: APS (<u>28.9431.98</u> %) / BGE
	(13.78 <u>10.86</u> %) / Dominion (32.18<u>3</u>9.86 %) / PEPCO (25.10<u>1</u>7.30 %)

equired Trar	nsmission Enhancements A	nnual Revenue Requirement Responsible Customer(s)
b0347.9	Upgrade (per ABB inspection) breaker HL- 10	Innual Revenue RequirementResponsible Customer(s)Load-Ratio Share Allocation: AEC (1.65%) / AEP ($\frac{13.6814.29\%}{4PS}$ ($\frac{5.765.82\%}{4PS}$) / ATSI ($\frac{8.047.49\%}{800}$) / BGE ($\frac{4.114.01\%}{4.114.01\%}$) / ComEd ($\frac{13.3914.06\%}{1.3914.06\%}$) / Dayton ($\frac{2.122.03\%}{2.03\%}$) / DEOK ($\frac{3.253.21\%}{3.253.21\%}$) DL ($\frac{1.711.59\%}{1.731.59\%}$) / DPL ($\frac{2.602.55\%}{2.602.55\%}$) /
		(6.395.99%) / RE (0.260.24%) DFAX Allocation: APS (28.9431.98%) / BGE (13.7810.86%) / Dominion (32.1839.86%) / PEPCO (25.1017.30%)
b0347.10	Upgrade (per ABB Inspection) Hatfield 500 kV breakers HFL-1	Load-Ratio Share Allocation:AEC (1.65%) / AEP ($\frac{13.6814.29}{4.29}$ %/ APS ($\frac{5.765.82}{5.765.82}$ %) / ATSI($\frac{8.047.49}{6}$ %) / BGE ($\frac{4.114.01}{6}$ %) /ComEd ($\frac{13.3914.06}{7.49}$ %) / Dayton($\frac{2.122.03}{6}$ %) / DEOK ($\frac{3.253.21}{6}$ %)DL ($\frac{1.711.59}{1.73}$ %) / DEOK ($\frac{3.863.59}{6}$ %) /Dominion ($\frac{13.3213.89}{1.389}$ %) / EKPC($\frac{1.892.35}{6}$ %) / JCPL ($\frac{3.863.59}{6}$ %) /ME ($\frac{1.901.81}{1.901.81}$ %) / NEPTUNE*(0.42%) / OVEC ($\frac{0.080.06}{9}$ %) /PECO ($\frac{5.405.11}{9}$ %) / PENELEC($\frac{1.781.73}{9}$ %) / PEPCO ($\frac{3.673.68}{9}$ %)PPL ($\frac{4.724.43}{9}$ %) / PSEG($\frac{6.395.99}{9}$ %) / RE ($\frac{0.260.24}{9}$ %)
		DFAX Allocation: APS (<u>28.9431.98</u> %) / BGE (<u>13.7810.86</u> %) / Dominion

		(32.18<u>39.86</u>%) / PEPCO (<u>25.1017.30</u>%)

Required Tran	nsmission Enhancements	Annual Revenue Requireme	ent Responsible Customer(s)
b0347.11	Upgrade (per ABB Inspection) Hatfield 500 kV breakers HFL-3		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.6814.29 %) / APS (5.765.82 %) / ATSI (8.047.49 %) / BGE (4.114.01%) / ComEd (13.3914.06 %) / Dayton (2.122.03 %) / DEOK (3.253.21 %) / DL (1.711.59 %) / DPL (2.602.55 %) / Dominion (13.3213.89 %) / EKPC (1.892.35 %) / JCPL (3.863.59 %) / ME (1.901.81 %) / NEPTUNE* (0.42%) / OVEC (0.080.06 %) / PECO (5.405.11 %) / PENELEC (1.781.73 %) / PEPCO (3.673.68 %) / PPL (4.724.43%) / PSEG (6.395.99 %) / RE (0.260.24 %) DFAX Allocation: APS (28.9431.98 %) / BGE (13.7810.86 %) / Dominion (32.1839.86 %) / PEPCO (25.10 17.30%)
b0347.12	Upgrade (per ABB Inspection) Hatfield 500 kV breakers HFL-4		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.6814.29 %) / APS (5.765.82 %) / ATSI (8.047.49 %) / BGE (4.114.01%) / ComEd (13.3914.06 %) / Dayton (2.122.03%) / DEOK (3.253.21 %) / DL (1.711.59 %) / DFL (2.602.55 %) / Dominion (13.3213.89 %) / EKPC (1.892.35 %) / JCPL (3.863.59 %) / ME (1.901.81 %) / NEPTUNE* (0.42%) / OVEC (0.08 0.06%) / PECO (5.405.11 %) / PENELEC (1.781.73 %) / PEPCO (3.673.68 %) / PPL (4.72 <u>4.43</u> %) / PSEG (6.395.99 %) / RE (0.26 0.24%) DFAX Allocation: APS (28.9431.98 %) / BGE (13.7810.86 %) / Dominion

	(32.18<u>3</u>9.86 %) / PEPCO (<u>25.10</u> <u>17.30</u> %)
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Required Tran	nsmission Enhancements	Annual Revenue Requirem	nent Responsible Customer(s)
b0347.13	Upgrade (per ABB Inspection) Hatfield 500 kV breakers HFL-6		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.6814.29%) / APS (5.765.82%) / ATSI (8.047.49%) / BGE (4.114.01%) / ComEd (13.3914.06%) / Dayton (2.122.03%) / DEOK (3.253.21%) / DL (1.711.59%) / DEOK (3.253.21%) / DL (1.711.59%) / DPL (2.602.55%) / Dominion (13.3213.89%) / EKPC (1.892.35%) / JCPL (3.863.59%) / ME (1.901.81%) / NEPTUNE* (0.42%) / OVEC (0.080.06%) / PECO (5.405.11%) / PENELEC (1.781.73%) / PEPCO (3.673.68%) / PPL (4.724.43%) / PSEG (6.395.99%) / RE (0.260.24%) DFAX Allocation: APS (28.9431.98%) / BGE (13.7810.86%) / Dominion (32.1839.86%) / PEPCO (25.1017.30%)
b0347.14	Upgrade (per ABB Inspection) Hatfield 500 kV breakers HFL-7		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.6814.29 %) / APS (5.765.82 %) / ATSI (8.047.49 %) / BGE (4.114.01%) / ComEd (13.3914.06 %) / Dayton (2.122.03 %) / DEOK (3.253.21 %) / DL (1.711.59 %) / DPL (2.602.55 %) / Dominion (13.3213.89 %) / EKPC (1.892.35 %) / JCPL (3.863.59 %) / ME (1.901.81 %) / NEPTUNE* (0.42%) / OVEC (0.080.06 %) / PECO (5.405.11 %) / PENELEC (1.781.73 %) / PEPCO (3.673.68 %) / PPL (4.724.43%) / PSEG (6.395.99 %) / RE (0.260.24 %) DFAX Allocation: APS (28.9431.98 %) / BGE (13.7810.86 %) / Dominion

		(32.18<u>39.86</u>%) / PEPCO (<u>25.10</u><u>17.30</u>%)

Required Tran	nsmission Enhancements	Annual Revenue Requirem	ent Responsible Customer(s)
b0347.15	Upgrade (per ABB Inspection) Hatfield 500 kV breakers HFL-9		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.6814.29%) / APS (5.765.82%) / ATSI (8.047.49%) / BGE (4.114.01%) / ComEd (13.3914.06%) / Dayton (2.122.03%) / DEOK (3.253.21%) / DL (1.711.59%) / DPL (2.602.55%) / Dominion (13.3213.89%) / EKPC (1.892.35%) / JCPL (3.863.59%) / ME (1.901.81%) / NEPTUNE* (0.42%) / OVEC (0.080.06%) / PECO (5.405.11%) / PENELEC (1.781.73%) / PEPCO (3.673.68%) / PPL (4.724.43%) / PSEG (6.395.99%) / RE (0.260.24%) DFAX Allocation: APS (28.9431.98%) / BGE (13.7810.86%) / Dominion (32.1839.86%) / PEPCO (25.1017.30%)
b0347.16	Upgrade (per ABB inspection) Harrison 500 kV breaker 'HL-3'		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.6814.29 %) / APS (5.765.82 %) / ATSI (8.047.49 %) / BGE (4.114.01%) / ComEd (13.3914.06 %) / Dayton (2.122.03 %) / DEOK (3.253.21 %) / DL (1.711.59 %) / DPL (2.602.55 %) / Dominion (13.3213.89 %) / EKPC (1.892.35 %) / JCPL (3.863.59 %) / ME (1.901.81 %) / NEPTUNE* (0.42%) / OVEC (0.080.06 %) / PECO (5.405.11 %) / PENELEC (1.781.73 %) / PEPCO (3.673.68 %) / PPL (4.724.43%) / PSEG (6.395.99 %) / RE (0.260.24 %) DFAX Allocation: APS (28.9431.98 %) / BGE (13.7810.86 %) / Dominion

		18<u>39.86</u>%) / PEPCO (25.10<u>17.30</u>%)
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		Load-Ratio Share Allocation:
b0347.17	Replace Meadow Brook 138 kV breaker 'MD-10'	AEC (1.65%) / AEP (13.68<u>14.29</u>% / APS (<u>5.765.82</u>%) / ATSI (<u>8.047.49</u>%) / BGE (<u>4.114.01</u>%) / ComEd (<u>13.3914.06</u>%) / Dayton (<u>2.122.03</u>%) / DEOK (<u>3.253.21</u>%) DL (<u>1.711.59</u>%) / DPL (<u>2.602.55</u>% / Dominion (<u>13.3213.89</u>%) / EKPC (<u>1.892.35</u>%) / JCPL (<u>3.863.59</u>%) / ME (<u>1.901.81</u>%) / NEPTUNE* (<u>0.42</u>%) / OVEC (<u>0.080.06</u>%) / PECO (<u>5.405.11</u>%) / PENELEC (<u>1.781.73</u>%) / PEPCO (<u>3.673.68</u>%) PPL (<u>4.724.43</u>%) / PSEG (<u>6.395.99</u>%) / RE (<u>0.260.24</u>%) DFAX Allocation:
b0347.18	Replace Meadow Brook 138 kV breaker 'MD-11'	DFAX Allocation: APS (22.5721.84%) / BGE (7.277.08%) / Dominion (56.7760.14%) / PEPCO (13.3910.94%) Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.6814.29%) / APS (5.765.82%) / ATSI (8.047.49%) / BGE (4.114.01%) / ComEd (13.3914.06%) / Dayton (2.122.03%) / DEOK (3.253.21%) DL (1.771.59%) / DPL (2.602.55%) / Dominion (13.3213.89%) / EKPC (1.892.35%) / JCPL (3.863.59%) / ME (1.901.81%) / NEPTUNE* (0.42%) / OVEC (0.080.06%) / PECO (5.405.11%) / PENELEC (1.781.73%) / PEPCO (3.673.68%) PPL (4.724.43%) / PSEG (6.395.99%) / RE (0.260.24%) DFAX Allocation: APS (22.5721.84%) / BGE

equired Trar	nsmission Enhancements A	Annual Revenue Requirement Responsible Customer(s)
b0347.19	Replace Meadow Brook 138 kV breaker 'MD-12'	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.6814.29 % / APS (5.765.82 %) / ATSI (8.047.49 %) / BGE (4.114.01%) / ComEd (13.3914.06 %) / Dayton (2.122.03 %) / DEOK (3.253.21 %) DL (1.711.59 %) / DPL (2.602.55 %) / Dominion (13.3213.89 %) / EKPC (1.892.35 %) / JCPL (3.863.59 %) / ME (1.901.81 %) / NEPTUNE* (0.42%) / OVEC (0.080.06 %) / PECO (5.405.11 %) / PENELEC (1.781.73 %) / PEPCO (3.673.68 %) / PPL (4.72 <u>4.43</u> %) / PSEG
		(6.395.99%) / RE (0.260.24%) DFAX Allocation: APS (22.5721.84%) / BGE (7.277.08%) / Dominion (56.7760.14%) / PEPCO (13.3910.94%)
b0347.20	Replace Meadow Brook 138 kV breaker 'MD-13'	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.6814.29 % / APS (5.765.82 %) / ATSI (8.047.49 %) / BGE (4.114.01%) / ComEd (13.3914.06 %) / Dayton (2.122.03 %) / DEOK (3.253.21 %) DL (1.711.59 %) / DPL (2.602.55 %) / Dominion (13.3213.89 %) / EKPC (1.892.35 %) / JCPL (3.863.59 %) / ME (1.901.81 %) / NEPTUNE* (0.42%) / OVEC (0.08 0.06%) / PECO (5.405.11 %) / PENELEC (1.781.73 %) / PEPCO (3.673.68 % / PPL (4.72 <u>4.43</u> %) / PSEG (6.395.99 %) / RE (0.260.24 %)
		DFAX Allocation: APS (<u>22.5721.84</u> %) / BGE (<u>7.277.08</u> %) / Dominion

		(56.77<u>60.14</u>%) / PEPCO (<u>13.39</u><u>10.94</u>%)
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equired Trar	nsmission Enhancements A	Annual Revenue Requirement Responsible Customer(s)
b0347.21	Replace Meadow Brook 138 kV breaker 'MD-14'	Linkal revenue recipitation customer(s)Load-Ratio Share Allocation: AEC (1.65%) / AEP ($\frac{13.6814.29\%}{/ APS}$ ($\frac{5.765.82\%}{/ APS}$) / ATSI ($\frac{8.047.49\%}{/ BGE}$) / BGE ($\frac{4.114.01\%}{/ ComEd}$) / ComEd ($\frac{13.3914.06\%}{/ Dayton}$) / DeOK ($\frac{3.253.21\%}{/ DeOK}$) DL ($\frac{1.711.59\%}{/ DPL}$) / DPL ($\frac{2.602.55\%}{/ Dominion}$) / DPL
		(6.395.99%) / RE (0.260.24%) DFAX Allocation: APS (22.5721.84%) / BGE (7.277.08%) / Dominion (56.7760.14%) / PEPCO (13.3910.94%)
b0347.22	Replace Meadow Brook 138 kV breaker 'MD-15'	Load-Ratio Share Allocation:AEC (1.65%) / AEP ($\frac{13.6814.29\%}{/ APS}$ ($\frac{5.765.82\%}{/ ATSI}$ ($\frac{8.047.49\%}{/ P}$) / BGE ($\frac{4.114.01\%}{/ ComEd}$ ($\frac{13.3914.06\%}{/ Dayton}$)($\frac{2.122.03\%}{/ DEOK}$) / DEOK ($\frac{3.253.21\%}{/ DEOE}$)DL ($\frac{1.711.59\%}{/ DEDE}$) / DPL($\frac{2.602.55\%}{/ Dominion}$) / DEDE($\frac{1.892.35\%}{/ DEOE}$) / DOMINION($\frac{1.892.35\%}{/ DEOEE}$) / NEPTUNE*(0.42%) / OVEC ($\frac{0.080.06\%}{/ PECO}$) /PECO ($\frac{5.405.11\%}{/ PEPCO}$ ($\frac{3.673.68\%}{/ PPL}$ ($\frac{4.724.43\%}{/ PSEG}$) / RE ($\frac{0.260.24\%}{/ PSEG}$
		DFAX Allocation: APS (<u>22.5721.84</u> %) / BGE (<u>7.277.08</u> %) / Dominion

		(56.77<u>60.14</u>%) / PEPCO (<u>13.39</u><u>10.94</u>%)
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equired Trar	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
		Load-	Ratio Share Allocation:
		AEC (1.	65%) / AEP (13.68<u>14.29</u>%)
		/ Al	PS (5.76<u>5.82</u>%) / ATSI
		(8.04<u>7.</u>	<u>49</u> %) / BGE (4 <u>.114.01</u> %) /
		ComE	d (13.39<u>14.06</u>%) / Dayton
		(2.12 <u>2.0</u>	<u>3</u> %) / DEOK (<u>3.25</u> <u>3.21</u> %) /
		D	L (1.71<u>1.59</u>%) / DPL
		(2.	602.55%) / Dominion
		(1	3.32<u>13.89</u>%) / EKPC
		(1.89 2.3	<u>35</u> %) / JCPL (<u>3.863.59</u> %) /
	Replace Meadow	ME (4	.90 <u>1.81</u> %) / NEPTUNE*
b0347.23	Brook 138 kV breaker	(0.429	%) / OVEC (<u>0.080.06</u> %) /
	'MD-16'		(5.40 5.11%) / PENELÉC
		(1.78 1.7	(3%) / PEPCO (3.67 3.68%)
			PL (4.724.43%) / PSEG
			5.99%) / RE (0.26 0.24%)
		```	
			DFAX Allocation:
			S ( <del>22.57<u>21.84</u>%) / BGE</del>
			<mark>27<u>7.08</u>%) / Dominion</mark>
		( <del>50</del>	<del>5.77<u>60.14</u>%) / PEPCO</del>
			( <del>13.39<u>10.94</u>%)</del>
		Load-	Ratio Share Allocation:
		AEC (1.	65%) / AEP ( <del>13.68<u>14.29</u>%)</del>
		/ Al	PS ( <u>5.76<u>5.82</u>%) / ATSI</u>
		( <del>8.04<u>7.</u></del>	<u>49</u> %) / BGE (4.11 <u>4.01</u> %) /
		ComE	d ( <del>13.39<u>14.06</u>%) / Dayton</del>
		( <del>2.12<u>2.0</u></del>	<u>3</u> %) / DEOK ( <u>3.25</u> <u>3.21</u> %) /
		D	L ( <del>1.71<u>1.59</u>%) / DPL</del>
		(2.	<u>602.55</u> %) / Dominion
	Replace Meadow	(1	<del>3.32<u>13.89</u>%) / EKPC</del>
b0347.24	Brook 138 kV breaker	( <u>1.892.</u> )	<u>35</u> %) / JCPL ( <u>3.863.59</u> %) /
00577.27	'MD-17'	ME (4	<mark>.90<u>1.81</u>%) / NEPTUNE*</mark>
		(0.42%	%) / OVEC ( <u>0.080.06</u> %) /
			( <u>5.405.11</u> %) / PENELEC
		( <del>1.78</del> <u>1.7</u>	<u>3</u> %) / PEPCO ( <u>3.673.68</u> %)
		/ PP	PL (4 <del>.72<u>4.43</u>%) / PSEG</del>
			PL (4 <u>.724.43</u> %) / PSEG 5 <u>.99</u> %) / RE ( <del>0.26</del> <u>0.24</u> %)
		( <del>6.39)</del>	· /
		( <del>6.39)</del>	5.99%)/RE ( <del>0.26<u>0.24</u>%)</del>

		( <del>56.77<u>60.14</u>%) / PEPCO (<u>13.39</u><u>10.94</u>%)</del>
 · · · -	 	

equired Tran	nsmission Enhancements	Annual Revenue Requirement	1
			Load-Ratio Share Allocation:
			AEC (1.65%) / AEP
			( <del>13.68<u>14.29</u>%) / APS (<u>5.765.82</u>%)</del>
			/ ATSI ( <del>8.04<u>7.49</u>%)</del> / BGE
			(4 <u>.11<u>4.01</u>%) / ComEd</u>
			( <u>13.3914.06</u> %) / Dayton
			( <u>2.122.03</u> %) / DEOK ( <u>3.253.21</u> %)
			/ DL ( <del>1.71<u>1.59</u>%)</del> / DPL
			(2.602.55%) / Dominion
			( <del>13.3213.89</del> %) / EKPC
			( <u>1.892.35</u> %)/JCPL ( <u>3.863.59</u> %)
	Replace Meadow		ME ( <del>1.901.81</del> %) / NEPTUNE*
b0347.25	Brook 138 kV breaker		(0.42%) / OVEC ( <u>0.080.06</u> %) /
00347.23	'MD-18'		PECO ( <del>5.40<u>5.11</u>%) / PENELÉC</del>
			( <del>1.78</del> 1.73%) / PEPCO
			( <del>3.67<u>3.68</u>%) / PPL (4.724.43</del> %) /
			PSEG ( <del>6.39<u>5.99</u>%) / RE</del>
		(0.26 <u>0.24</u> %) DFAX Allocation:	· /
			(*********
			APS ( <del>22.57<u>21.84</u>%) / BGE</del>
			( <del>7.27<u>7.08</u>%)</del> / Dominion
			( <del>56.77<u>60.14</u>%) / PEPCO</del>
			( <del>13.39<u>10.94</u>%)</del>
			Load-Ratio Share Allocation:
			AEC (1.65%) / AEP
			$(\frac{13.6814.29}{}) / \text{APS}(\frac{5.765.82}{})$
			/ ATSI ( <del>8.04<u>7.49</u>%) / BGE</del>
			(4.11 <u>4.01</u> %) / ComEd
			$(\frac{13.3914.06}{10})$ / Dayton
	Replace Meadow		(2.122.03%) / DEOK (3.253.21%)
b0347.26	Brook 138 kV breaker		/ DL ( <u>1.711.59</u> %) / DPL
	'MD-22#1 CAP'		( <u>2.602.55</u> %) / Dominion
			( <del>13.32<u>13.89</u>%) / EKPC</del>
			( <u>1.892.35</u> %) / JCPL ( <u>3.863.59</u> %) /
			ME ( <del>1.90<u>1.81</u>%) / NEPTUNE*</del>
			(0.42%) / OVEC ( <del>0.08<u>0.06</u>%) /</del>
			PECO ( <u>5.405.11</u> %) / PENELÉC
			· · · · · · · · · · · · · · · · · · ·

	PSEG ( <del>6.39<u>5.99</u>%) / RE (<u>0.260.24</u>%)</del>
	DFAX Allocation:
	APS ( <u>22.5721.84</u> %) / BGE ( <u>7.277.08</u> %) / Dominion ( <u>56.7760.14</u> %) / PEPCO ( <u>13.3910.94</u> %)

equired Trar	nsmission Enhancements A	Annual Revenue Requirement Responsible Customer(s)
b0347.27	Replace Meadow Brook 138 kV breaker 'MD-4'	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$
		<b>DFAX Allocation:</b> APS (22.5721.84%) / BGE (7.277.08%) / Dominion (56.7760.14%) / PEPCO (13.3910.94%)
b0347.28	Replace Meadow Brook 138 kV breaker 'MD-5'	Load-Ratio Share Allocation: AEC (1.65%) / AEP ( <del>13.6814.29</del> % / APS ( <del>5.765.82</del> %) / ATSI ( <del>8.047.49</del> %) / BGE (4.11 <u>4.01</u> %) / ComEd ( <del>13.3914.06</del> %) / Dayton ( <del>2.122.03</del> %) / DEOK ( <del>3.253.21</del> %) / DL ( <del>1.711.59</del> %) / DPL ( <del>2.602.55</del> % / Dominion ( <del>13.3213.89</del> %) / EKPC ( <del>1.892.35</del> %) / JCPL ( <del>3.863.59</del> %) / ME ( <del>1.901.81</del> %) / NEPTUNE* (0.42%) / OVEC ( <del>0.080.06</del> %) / PECO ( <del>5.405.11</del> %) / PENELEC ( <del>1.781.73</del> %) / PEPCO ( <del>3.673.68</del> %) PPL (4.72 <u>4.43</u> %) / PSEG ( <del>6.395.99</del> %) / RE ( <del>0.260.24</del> %)
		<b>DFAX Allocation:</b> APS ( <u>22.5721.84</u> %) / BGE ( <u>7.277.08</u> %) / Dominion

	( <del>56.77<u>60.14</u>%) / PEPCO (<u>13.3910.94</u>%)</del>
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equired Trar	nsmission Enhancements A	Annual Revenue Requirement Responsible Customer(s)
b0347.29	Replace Meadowbrook 138 kV breaker 'MD-6'	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$
		<b>DFAX Allocation:</b> APS (22.5721.84%) / BGE (7.277.08%) / Dominion (56.7760.14%) / PEPCO (13.3910.94%)
b0347.30	Replace Meadowbrook 138 kV breaker 'MD-7'	Load-Ratio Share Allocation: AEC (1.65%) / AEP ( <del>13.6814.29</del> % / APS ( <del>5.765.82</del> %) / ATSI ( <del>8.047.49</del> %) / BGE ( <del>4.114.01</del> %) / ComEd ( <del>13.3914.06</del> %) / Dayton ( <del>2.122.03</del> %) / DEOK ( <del>3.253.21</del> %) DL ( <del>1.711.59</del> %) / DPL ( <del>2.602.55</del> % / Dominion ( <del>13.3213.89</del> %) / EKP( ( <del>1.892.35</del> %) / JCPL ( <del>3.863.59</del> %) ME ( <del>1.901.81</del> %) / NEPTUNE* (0.42%) / OVEC ( <del>0.080.06</del> %) / PECO ( <del>5.405.11</del> %) / PENELEC ( <del>1.781.73</del> %) / PEPCO ( <del>3.673.68</del> %) PPL ( <del>4.724.43</del> %) / PSEG ( <del>6.395.99</del> %) / RE ( <del>0.260.24</del> %)
		<b>DFAX Allocation:</b> APS ( <del>22.57</del> <u>21.84</u> %) / BGE ( <del>7.27</del> <u>7.08</u> %) / Dominion

	( <del>56.77<u>60.14</u>%) / PEPCO (<u>13.3910.94</u>%)</del>
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Required Tran	nsmission Enhancements A	Annual Revenue Requirement	Responsible Customer(s)
b0347.31	Replace Meadowbrook 138 kV breaker 'MD-8'		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.6814.29%) / APS (5.765.82%) / ATSI (8.047.49%) / BGE (4.114.01%) / ComEd (13.3914.06%) / Dayton (2.122.03%) / DEOK (3.253.21%) / DL (1.711.59%) / DPL (2.602.55%) / Dominion (13.3213.89%) / EKPC (1.892.35%) / JCPL (3.863.59%) / ME (1.901.81%) / NEPTUNE* (0.42%) / OVEC (0.080.06%) / PECO (5.405.11%) / PENELEC (1.781.73%) / PEPCO (3.673.68%) / PPL (4.724.43%) / PSEG (6.395.99%) / RE (0.260.24%) DFAX Allocation: APS (22.5721.84%) / BGE (7.277.08%) / Dominion (56.7760.14%) / PEPCO (13.3910.94%)
b0347.32	Replace Meadowbrook 138 kV breaker 'MD-9'		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.6814.29%) / APS (5.765.82%) / ATSI (8.047.49%) / BGE (4.114.01%) / ComEd (13.3914.06%) / Dayton (2.122.03%) / DEOK (3.253.21%) / DL (1.711.59%) / DPL (2.602.55%) / Dominion (13.3213.89%) / EKPC (1.892.35%) / JCPL (3.863.59%) / ME (1.901.81%) / NEPTUNE* (0.42%) / OVEC (0.080.06%) / PECO (5.405.11%) / PENELEC (1.781.73%) / PEPCO (3.673.68%) / PPL (4.724.43%) /

		PSEG ( <del>6.39<u>5.99</u>%) / RE (<u>0.260.24</u>%)</del>
		DFAX Allocation: APS ( <u>22.5721.84</u> %) / BGE ( <u>7.277.08</u> %) / Dominion ( <u>56.7760.14</u> %) / PEPCO ( <u>13.3910.94</u> %)

<b>I</b>		
b0347.33	Replace Meadow Brook 138 kV breaker 'MD-1'	APS (100%)
b0347.34	Replace Meadow Brook 138 kV breaker 'MD-2'	APS (100%)
b0348	Upgrade Stonewall – Inwood 138 kV with 954 ACSR conductor	APS (100%)
b0373	Convert Doubs – Monocacy 138 kV facilities to 230 kV operation	AEC (1.82%) / APS (76.84%) / DPL (2.64%) / JCPL (4.53%) / ME (9.15%) / NEPTUNE* (0.42%) / PPL (4.60%)
60393	Replace terminal equipment at Harrison 500 kV and Belmont 500 kV	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

equilea III		Annual Revenue Requirement	
b0406.1	Replace Mitchell 138 kV breaker "#4 bank"		APS (100%)
b0406.2	Replace Mitchell 138 kV breaker "#5 bank"		APS (100%)
b0406.3	Replace Mitchell 138 kV breaker "#2 transf"		APS (100%)
b0406.4	Replace Mitchell 138 kV breaker "#3 bank"		APS (100%)
b0406.5	Replace Mitchell 138 kV breaker "Charlerio #2"		APS (100%)
b0406.6	Replace Mitchell 138 kV breaker "Charlerio #1"		APS (100%)
b0406.7	Replace Mitchell 138 kV breaker "Shepler Hill Jct"		APS (100%)
b0406.8	Replace Mitchell 138 kV breaker "Union Jct"		APS (100%)
b0406.9	Replace Mitchell 138 kV breaker "#1-2 138 kV bus tie"		APS (100%)
b0407.1	Replace Marlowe 138 kV breaker "#1 transf"		APS (100%)
b0407.2	Replace Marlowe 138 kV breaker "MBO"		APS (100%)
b0407.3	Replace Marlowe 138 kV breaker "BMA"		APS (100%)
b0407.4	Replace Marlowe 138 kV breaker "BMR"		APS (100%)
b0407.5	Replace Marlowe 138 kV breaker "WC-1"		APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

b0407.6	Replace Marlowe 138 kV breaker "R11"	APS (100%)
b0407.7	Replace Marlowe 138 kV breaker "W"	APS (100%)
b0407.8	Replace Marlowe 138 kV breaker "138 kV bus tie"	APS (100%)
b0408.1	Replace Trissler 138 kV breaker "Belmont 604"	APS (100%)
b0408.2	Replace Trissler 138 kV breaker "Edgelawn 90"	APS (100%)
b0409.1	Replace Weirton 138 kV breaker "Wylie Ridge 210"	APS (100%)
b0409.2	Replace Weirton 138 kV breaker "Wylie Ridge 216"	APS (100%)
b0410	Replace Glen Falls 138 kV breaker "McAlpin 30"	APS (100%)
b0417	Reconductor Mitchell – Shepler Hill Junction 138 kV with 954 ACSR	APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required 7	Fransmission Enhancements	Annual Revenue Require	ement Responsible Customer(s)
b0418	Install a breaker failure auto-restoration scheme at Cabot 500 kV for the failure of the #6 breaker		AEC (1.65%) / AEP ( <del>13.6814.29</del> %) / APS ( <del>5.765.82</del> %) / ATSI ( <del>8.047.49</del> %) / BGE (4.114.01%) / ComEd ( <del>13.3914.06</del> %) / Dayton ( <del>2.122.03</del> %) / DEOK ( <del>3.253.21</del> %) / DL ( <del>1.711.59</del> %) / DPL ( <del>2.602.55</del> %) / Dominion ( <del>13.3213.89</del> %) / EKPC ( <del>1.892.35</del> %) / JCPL ( <del>3.863.59</del> %) / ME ( <del>1.901.81</del> %) / NEPTUNE* (0.42%) / OVEC ( <del>0.080.06</del> %) / PECO ( <del>5.405.11</del> %) / PENELEC ( <del>1.781.73</del> %) / PEPCO ( <del>3.673.68</del> %) / PPL ( <del>4.724.43</del> %) / PSEG ( <del>6.395.99</del> %) / RE ( <del>0.260.24</del> %)
b0419	Install a breaker failure auto-restoration scheme at Bedington 500 kV for the failure of the #1 and #2 breakers		Load-Ratio Share Allocation: AEC (1.65%) / AEP ( $\frac{13.6814.29}{6}$ ) / APS ( $\frac{5.765.82}{6}$ ) / ATSI ( $\frac{8.047.49}{6}$ ) / BGE ( $\frac{4.114.01}{6}$ ) / ComEd ( $\frac{13.3914.06}{6}$ ) / Dayton ( $\frac{2.122.03}{6}$ ) / DEOK ( $\frac{3.253.21}{6}$ ) / DL ( $\frac{1.741.59}{6}$ ) / DPL ( $\frac{2.602.55}{6}$ ) / Dominion ( $\frac{13.3213.89}{6}$ ) / EKPC ( $\frac{1.892.35}{6}$ ) / JCPL ( $\frac{3.863.59}{6}$ ) / ME ( $\frac{1.901.81}{6}$ ) / NEPTUNE* (0.42%) / OVEC ( $\frac{0.080.06}{6}$ ) / PECO ( $\frac{5.405.11}{6}$ ) / PENELEC ( $\frac{1.781.73}{6}$ ) / PEPCO ( $\frac{3.673.68}{6}$ ) / PPL ( $\frac{4.724.43}{6}$ ) / PSEG ( $\frac{6.395.99}{6}$ ) / RE ( $\frac{0.260.24}{6}$ )
	Operating Procedure to open the Black Oak		DFAX Allocation: APS (100%)
b0420	500/138 kV transformer #3 for the loss of Hatfield – Ronco 500 kV and the Hatfield #3 Generation		APS (100%)
b0445	Upgrade substation equipment and reconductor the Tidd –		APS (100%)

Mahans Lane – Weirton	
138 kV circuit with 954	
ACSR	

Required Tr	ansmission Enhancements	Annual Revenue Requiremen	t Responsible Customer(s)
b0460	Raise limiting structures on Albright – Bethelboro 138 kV to raise the rating to 175 MVA normal 214 MVA emergency		APS (100%)
b0491	Construct an Amos to Welton Spring to WV state line 765 kV circuit (APS equipment)	As specified under the procedures detailed in Attachment H-19B	Load-Ratio Share Allocation: AEC (1.65%) / AEP ( <del>13.6814.29%</del> ) / APS ( <del>5.765.82</del> %) / ATSI ( <del>8.047.49</del> %) / BGE ( <del>4.114.01</del> %) / ComEd ( <del>13.3914.06</del> %) / Dayton ( <del>2.122.03</del> %) / DEOK ( <del>3.253.21</del> %) / DL ( <del>1.711.59</del> %) / DEOK ( <del>3.253.21</del> %) / DL ( <del>1.711.59</del> %) / DPL ( <del>2.602.55</del> %) / Dominion ( <del>13.3213.89</del> %) / EKPC ( <del>1.892.35</del> %) / JCPL ( <del>3.863.59</del> %) / ME ( <del>1.901.81</del> %) / NEPTUNE* (0.42%) / OVEC ( <del>0.080.06</del> %) / PECO ( <del>5.405.11</del> %) / PENELEC ( <del>1.781.73</del> %) / PEPCO ( <del>3.673.68</del> %) / PPL ( <del>4.724.43</del> %) / PSEG ( <del>6.395.99</del> %) / RE ( <del>0.260.24</del> %) <b>DFAX Allocation:</b> AEC (5.01%) / AEP (4.39%) / APS (9.26%) / BGE (4.43%) / DL (0.02%) / DPL (6.91%) / Dominion (10.82%) / JCPL (11.64%) / ME (2.94%) / NEPTUNE* (1.12%) / PECO (14.51%) / PEPCO (6.11%) / PPL (6.39%) / PSEG (15.86%) / RE (0.59%)

Required Transmission Enhancements	Annual Revenue Requirement	1
b0492 Construct a Welton Spring to Kemptown 765 kV line (APS equipment)	As specified under the procedures detailed in Attachment H-19B	Load-Ratio Share Allocation: AEC (1.65%) / AEP ( <del>13.6814.29</del> %) / APS ( <del>5.765.82</del> %) / ATSI ( <del>8.047.49</del> %) / BGE (4.114.01%) / ComEd ( <del>13.3914.06</del> %) / Dayton ( <del>2.122.03</del> %) / DEOK ( <del>3.253.21</del> %) / DL ( <del>1.711.59</del> %) / DPL ( <del>2.602.55</del> %) / Dominion ( <del>13.3213.89</del> %) / EKPC ( <del>1.892.35</del> %) / JCPL ( <del>3.863.59</del> %) / ME ( <del>1.901.81</del> %) / NEPTUNE* (0.42%) / OVEC ( <del>0.080.06</del> %) / PECO ( <del>5.405.11</del> %) / PENELEC ( <del>1.781.73</del> %) / PEPCO ( <del>3.673.68</del> %) / PPL ( <del>4.724.43</del> %) / PSEG ( <del>6.395.99</del> %) / RE ( <del>0.260.24</del> %) <b>DFAX Allocation:</b> AEC (5.01%) / AEP (4.39%) / APS (9.26%) / BGE (4.43%) / DL (0.02%) / DPL (6.91%) / Dominion (10.82%) / JCPL (11.64%) / ME (2.94%) / NEPTUNE* (1.12%) / PECO (14.51%) / PEPCO (6.11%) / PPL (6.39%) / PSEG (15.86%) / RE (0.59%)
b0492.3Replace Eastalco 230kV breaker D-26		APS (100%)
Replace Eastalco 230 b0492.4 kV breaker D-28		APS (100%)

Required Tr	ansmission Enhancements	Annual Revenue Requirement Responsible Customer(s)
b0492.5	Replace Eastalco 230 kV breaker D-31	APS (100%)
b0495	Replace existing Kammer 765/500 kV transformer with a new larger transformer	Load-Ratio Share Allocation:AEC (1.65%) / AEP ( $\frac{13.6814.29\%}{9}$ ) / APS( $\frac{5.765.82\%}{9}$ ) / ATSI ( $\frac{8.047.49\%}{9}$ ) / BGE( $\frac{4.114.01\%}{9}$ ) / ComEd ( $\frac{13.3914.06\%}{9}$ ) / Dayton( $\frac{2.122.03\%}{9}$ ) / DEOK ( $\frac{3.253.21\%}{9}$ ) / DL( $\frac{1.711.59\%}{1.3213.89\%}$ ) / DEL ( $\frac{2.602.55\%}{9}$ ) / Dominion( $\frac{13.3213.89\%}{9}$ ) / EKPC ( $\frac{1.892.35\%}{9}$ ) / JCPL( $\frac{3.863.59\%}{9}$ ) / ME ( $\frac{1.901.81\%}{9}$ ) / NEPTUNE*( $0.42\%$ ) / OVEC ( $\frac{0.080.06\%}{9}$ ) / PECO( $\frac{5.405.11\%}{9}$ ) / PENELEC ( $\frac{1.781.73\%}{9}$ ) / PEPCO( $\frac{3.673.68\%}{9.99\%}$ ) / RE ( $\frac{0.260.24\%}{9}$ )
		DFAX Allocation: AEP (0.1321.66%) / APS (0.130.01%) / BGE (15.937.14%) / Dayton (0.04%) / DEOK (0.060.01%) / Dominion (64.9062.25%) / EKPC (0.02%) / PEPCO (18.798.93%)
b0533	Reconductor the Powell Mountain – Sutton 138 kV line	APS (100%)
b0534	Install a 28.61 MVAR capacitor on Sutton 138 kV	APS (100%)
b0535	Install a 44 MVAR capacitor on Dutch Fork 138 kV	APS (100%)
b0536	Replace Doubs circuit breaker DJ1	APS (100%)
b0537	Replace Doubs circuit breaker DJ7	APS (100%)
b0538	Replace Doubs circuit breaker DJ10	APS (100%)
b0572.1	Reconductor Albright – Mettiki – Williams – Parsons – Loughs Lane 138 kV with 954 ACSR Regional Transmission St	APS (100%)

Required II	1	ient Responsible Customer(s)
	Reconductor Albright –	
b0572.2	Mettiki – Williams –	
00372.2	Parsons – Loughs Lane	
	138 kV with 954 ACSR	APS (100%)
	Reconfigure circuits in	
b0573	Butler – Cabot 138 kV	
	area	APS (100%)
		Load-Ratio Share Allocation:
		AEC (1.65%) / AEP
		(13.6814.29%) / APS (5.765.82%)
		/ ATSI ( <del>8.047.49</del> %) / BGE
		( <u>4.114.01</u> %) / ComEd
		( <del>13.39</del> 14.06%) / Dayton
		(2.122.03%) / DEOK (3.253.21%)
		/ DL ( <del>1.71</del> 1.59%) / DPL
		( <del>2.60</del> 2.55%) / Dominion
10577	Replace Fort Martin 500	( <del>13.32</del> 13.89%) / EKPC
b0577	kV breaker FL-1	( <del>1.89</del> 2.35%) / JCPL ( <del>3.86</del> 3.59%) /
		ME ( <del>1.90</del> 1.81%) / NEPTUNE*
		(0.42%) / OVEC (0.080.06%) /
		PECO (5.405.11%) / PENELEC
		(1.781.73%) / PEPCO (3.673.68%)
		/ PPL (4.724.43%) / PSEG
		( <del>6.39<u>5.99</u>%) / RE (<u>0.260.24</u>%)</del>
		DFAX Allocation:
		APS (100%)
	Install 33 MVAR 138	
b0584	kV capacitor at	
	Necessity 138 kV	APS (100%)
	Increase Cecil 138 kV	
	capacitor size to 44	
	MVAR, replace five 138	
1.0595	kV breakers at Cecil due	
b0585	to increased short circuit	
	fault duty as a result of	
	the addition of the Prexy	
	substation	APS (100%)
	Increase Whiteley 138	
b0586	kV capacitor size to 44	
	MVAR	APS (100%)
NT 4	Regional Transmission System, LLC	1115(10070)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Ira		Annual Revenue Requirement	Responsible Customer(s)
	Reconductor AP portion		
	of Tidd – Carnegie 138		
b0587	kV and Carnegie –		
	Weirton 138 kV with		
	954 ACSR		APS (100%)
	Install a 40.8 MVAR		
b0588	138 kV capacitor at		
	Grassy Falls		APS (100%)
10500	Replace five 138 kV		
b0589	breakers at Cecil		
			APS (100%)
1.0500	Replace #1 and #2		
b0590	breakers at Charleroi		
	138 kV		APS (100%)
10501	Install a 25.2 MVAR		
b0591	capacitor at Seneca		ADS (1000/)
	Caverns 138 kV		APS (100%)
1.0672	Rebuild Elko – Carbon		
b0673	Center Junction using 230 kV construction		ADS (1000/)
			APS (100%) APS (97.68%) / DL (0.96%) /
	Construct now Osago		PENELEC (1.09%) / ECP**
b0674	Construct new Osage – Whiteley 138 kV circuit		(0.01%) / PSEG (0.25%) / RE
	winnercy 150 KV circuit		(0.01%) / PSEG (0.25%) / RE (0.01%)
	Replace the Osage 138		(0.01/0)
b0674.1	kV breaker		
000/4.1	'CollinsF126'		APS (100%)
			AEC (1.02%) / APS (81.96%)
			/ DPL (0.85%) / JCPL (1.75%)
	Convert Monocacy -		/ ME (6.37%) / NEPTUNE*
b0675.1	Walkersville 138 kV to		(0.15%) / PECO (3.09%) / PPL
	230 kV		(0.15%)/TECO (0.05%)/TTE (2.24%)/PSEG (2.42%)/RE
			(2.2470) / ISEG $(2.4270)$ / RE (0.09%) / ECP** $(0.06%)$
			AEC (1.02%) / APS (81.96%)
	Convert Walkersville -		/ DPL (0.85%) / JCPL (1.75%)
	Catoctin 138 kV to 230		/ ME (6.37%) / NEPTUNE*
b0675.2	kV		(0.15%) / PECO (3.09%) / PPL
	, , , , , , , , , , , , , , , , , , ,		(2.24%) / PSEG (2.42%) / RE
			(0.09%) / ECP** $(0.06%)$
	) - gional Transmission Sam		

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

*Neptune Regional Transmission System, LLC

Required Trai	nsmission Enhancements A	nnual Revenue Requirement	Responsible Customer(s)
			AEC (1.02%) / APS (81.96%) /
	Convert Ringgold -		DPL (0.85%) / JCPL (1.75%) /
b0675.3	Catoctin 138 kV to 230		ME (6.37%) / NEPTUNE*
00075.5	kV		(0.15%) / PECO (3.09%) / PPL
			(2.24%) / PSEG (2.42%) / RE
			(0.09%) / ECP** (0.06%)
			AEC (1.02%) / APS (81.96%) /
	Convert Catoctin -		DPL (0.85%) / JCPL (1.75%) /
b0675.4	Carroll 138 kV to 230		ME (6.37%) / NEPTUNE*
00073.4	kV		(0.15%) / PECO (3.09%) / PPL
			(2.24%) / PSEG (2.42%) / RE
			(0.09%) / ECP** (0.06%)
			AEC (1.02%) / APS (81.96%) /
	Convert portion of		DPL (0.85%) / JCPL (1.75%) /
b0675.5	<b>Ringgold Substation</b>		ME (6.37%) / NEPTUNE*
00075.5	from 138 kV to 230 kV		(0.15%) / PECO (3.09%) / PPL
			(2.24%) / PSEG (2.42%) / RE
			(0.09%) / ECP** (0.06%)
			AEC (1.02%) / APS (81.96%) /
	Convert Catoctin		DPL (0.85%) / JCPL (1.75%) /
b0675.6	Substation from 138 kV		ME (6.37%) / NEPTUNE*
00075.0	to 230 kV		(0.15%) / PECO (3.09%) / PPL
			(2.24%) / PSEG (2.42%) / RE
			(0.09%) / ECP** (0.06%)
			AEC (1.02%) / APS (81.96%) /
	Convert portion of		DPL (0.85%) / JCPL (1.75%) /
b0675.7	Carroll Substation from		ME (6.37%) / NEPTUNE*
00075.7	138 kV to 230 kV		(0.15%) / PECO (3.09%) / PPL
			(2.24%) / PSEG (2.42%) / RE
			(0.09%) / ECP** (0.06%)
			AEC (1.02%) / APS (81.96%) /
	Convert Monocacy		DPL (0.85%) / JCPL (1.75%) /
b0675.8	Substation from 138 kV		ME (6.37%) / NEPTUNE*
00070.0	to 230 kV		(0.15%) / PECO (3.09%) / PPL
			(2.24%) / PSEG (2.42%) / RE
			(0.09%) / ECP** (0.06%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

*Neptune Regional Transmission System, LLC

equired Tra	Insmission Enhancements A	Annual Revenue Requirement	Responsible Customer(s)
b0675.9	Convert Walkersville Substation from 138 kV to 230 kV		AEC (1.02%) / APS (81.96%) / DPL (0.85%) / JCPL (1.75%) / ME (6.37%) / NEPTUNE* (0.15%) / PECO (3.09%) / PPL (2.24%) / PSEG (2.42%) / RE
b0676.1	Reconductor Doubs - Lime Kiln (#207) 230 kV		(2.24/6) / 13EG (2.42/6) / RE         (0.09%) / ECP** (0.06%)         AEC (0.64%) / APS (86.70%)         / DPL (0.53%) / JCPL (1.93%)         / ME (4.04%) / NEPTUNE*         (0.18%) / PECO (1.93%) /         PENELEC (0.93%) / PSEG         (2.92%) / RE (0.12%) / ECP**         (0.08%)
b0676.2	Reconductor Doubs - Lime Kiln (#231) 230 kV		AEC (0.64%) / APS (86.70%) / DPL (0.53%) / JCPL (1.93%) / ME (4.04%) / NEPTUNE* (0.18%) / PECO (1.93%) / PENELEC (0.93%) / PSEG (2.92%) / RE (0.12%) / ECP** (0.08%)
b0677	Reconductor Double Toll Gate – Riverton with 954 ACSR		APS (100%)
b0678	Reconductor Glen Falls - Oak Mound 138 kV with 954 ACSR		APS (100%)
b0679	Reconductor Grand Point – Letterkenny with 954 ACSR		APS (100%)
b0680	Reconductor Greene – Letterkenny with 954 ACSR		APS (100%)
b0681	Replace 600/5 CT's at Franklin 138 kV		APS (100%)
b0682	Replace 600/5 CT's at Whiteley 138 kV		APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

*Neptune Regional Transmission System, LLC

_1	Reconductor Guilford –	
b0684	South Chambersburg	
	with 954 ACSR	APS (100%)
b0685	Replace Ringgold 230/138 kV #3 with larger transformer	APS (71.93%) / JCPL (4.17%) / ME (6.79%) / NEPTUNE* (0.38%) / PECO (4.05%) / PENELEC (5.88%) / ECP** (0.18%) / PSEG (6.37%) / RE (0.25%)
b0704	Install a third Cabot 500/138 kV transformer	APS (74.36%) / DL (2.73%) PENELEC (22.91%)
b0797	Advance n0321 (Replace Doubs Circuit Breaker DJ2)	APS (100%)
b0798	Advance n0322 (Replace Doubs Circuit Breaker DJ3)	APS (100%)
b0799	Advance n0323 (Replace Doubs Circuit Breaker DJ6)	APS (100%)
b0800	Advance n0327 (Replace Doubs Circuit Breaker DJ16)	APS (100%)
b0941	Replace Opequon 138 kV breaker 'BUSTIE'	APS (100%)
b0942	Replace Butler 138 kV breaker '#1 BANK'	APS (100%)
b0943	Replace Butler 138 kV breaker '#2 BANK'	APS (100%)
b0944	Replace Yukon 138 kV breaker 'Y-8'	APS (100%)
b0945	Replace Yukon 138 kV breaker 'Y-3'	APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

*Neptune Regional Transmission System, LLC

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b0946	Replace Yukon 138 kV breaker 'Y-1'	APS (100%)
b0947	Replace Yukon 138 kV breaker 'Y-5'	APS (100%)
b0948	Replace Yukon 138 kV breaker 'Y-2'	APS (100%)
b0949	Replace Yukon 138 kV breaker 'Y-19'	APS (100%)
b0950	Replace Yukon 138 kV breaker 'Y-4'	APS (100%)
b0951	Replace Yukon 138 kV breaker 'Y-9'	APS (100%)
b0952	Replace Yukon 138 kV breaker 'Y-11'	APS (100%)
b0953	Replace Yukon 138 kV breaker 'Y-13'	APS (100%)
b0954	Replace Charleroi 138 kV breaker '#1 XFMR BANK'	APS (100%)
b0955	Replace Yukon 138 kV breaker 'Y-7'	APS (100%)
b0956	Replace Pruntytown 138 kV breaker 'P-9'	APS (100%)
b0957	Replace Pruntytown 138 kV breaker 'P-12'	APS (100%)
b0958	Replace Pruntytown 138 kV breaker 'P-15'	APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

b0959	Replace Charleroi 138 kV breaker '#2 XFMR BANK'	APS (100%)
b0960	Replace Pruntytown 138 kV breaker 'P-2'	APS (100%)
b0961	Replace Pruntytown 138 kV breaker 'P-5'	APS (100%)
b0962	Replace Yukon 138 kV breaker 'Y-18'	APS (100%)
b0963	Replace Yukon 138 kV breaker 'Y-10'	APS (100%)
b0964	Replace Pruntytown 138 kV breaker 'P-11'	APS (100%)
b0965	Replace Springdale 138 kV breaker '138E'	APS (100%)
b0966	Replace Pruntytown 138 kV breaker 'P-8'	APS (100%)
b0967	Replace Pruntytown 138 kV breaker 'P-14'	APS (100%)
b0968	Replace Ringgold 138 kV breaker '#3 XFMR BANK'	APS (100%)
b0969	Replace Springdale 138 kV breaker '138C'	APS (100%)
b0970	Replace Rivesville 138 kV breaker '#8 XFMR BANK'	APS (100%)
b0971	Replace Springdale 138 kV breaker '138F'	APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

<u>equileu</u> I		Innual Revenue Requirement	
b0972	Replace Belmont 138 kV breaker 'B-16'		APS (100%)
b0973	Replace Springdale 138 kV breaker '138G'		APS (100%)
b0974	Replace Springdale 138 kV breaker '138V'		APS (100%)
b0975	Replace Armstrong 138 kV breaker 'BROOKVILLE'		APS (100%)
b0976	Replace Springdale 138 kV breaker '138P'		APS (100%)
b0977	Replace Belmont 138 kV breaker 'B-17'		APS (100%)
b0978	Replace Springdale 138 kV breaker '138U'		APS (100%)
b0979	Replace Springdale 138 kV breaker '138D'		APS (100%)
b0980	Replace Springdale 138 kV breaker '138R'		APS (100%)
b0981	Replace Yukon 138 kV breaker 'Y-12'		APS (100%)
b0982	Replace Yukon 138 kV breaker 'Y-17'		APS (100%)
b0983	Replace Yukon 138 kV breaker 'Y-14'		APS (100%)
b0984	Replace Rivesville 138 kV breaker '#10 XFMR BANK'		APS (100%)
b0985	Replace Belmont 138 kV breaker 'B-14'		APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

tequilea II		linuar Revenue Requirement	
b0986	Replace Armstrong 138 kV breaker 'RESERVE BUS'		APS (100%)
b0987	Replace Yukon 138 kV breaker 'Y-16'		APS (100%)
b0988	Replace Springdale 138 kV breaker '138T'		APS (100%)
b0989	Replace Edgelawn 138 kV breaker 'GOFF RUN #632'		APS (100%)
b0990	Change reclosing on Cabot 138 kV breaker 'C-9'		APS (100%)
b0991	Change reclosing on Belmont 138 kV breaker 'B-7'		APS (100%)
b0992	Change reclosing on Belmont 138 kV breaker 'B-12'		APS (100%)
b0993	Change reclosing on Belmont 138 kV breaker 'B-9'		APS (100%)
b0994	Change reclosing on Belmont 138 kV breaker 'B-19'		APS (100%)
b0995	Change reclosing on Belmont 138 kV breaker 'B-21'		APS (100%)
b0996	Change reclosing on Willow Island 138 kV breaker 'FAIRVIEW #84'		APS (100%)
b0997	Change reclosing on Cabot 138 kV breaker 'C-4'		APS (100%)
b0998	Change reclosing on Cabot 138 kV breaker 'C-1'		APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

		<b>I</b>	
b0999	Replace Redbud 138 kV breaker 'BUS TIE'		APS (100%)
b1022.1	Reconfigure the Peters to Bethel Park 138 kV line and Elrama to Woodville 138 kV line to create a 138 kV path from Woodville to Peters and a 138 kV path from Elrama to Bethel Park		APS (96.98%) / DL (3.02%)
b1022.3	Add static capacitors at Smith 138 kV		APS (96.98%) / DL (3.02%)
b1022.4	Add static capacitors at North Fayette 138 kV		APS (96.98%) / DL (3.02%)
b1022.5	Add static capacitors at South Fayette 138 kV		APS (96.98%) / DL (3.02%)
b1022.6	Add static capacitors at Manifold 138 kV		APS (96.98%) / DL (3.02%)
b1022.7	Add static capacitors at Houston 138 kV		APS (96.98%) / DL (3.02%)
b1023.1	Install a 500/138 kV transformer at 502 Junction		APS (100%)
b1023.2	Construct a new Franklin - 502 Junction 138 kV line including a rebuild of the Whiteley - Franklin 138 kV line to double circuit		APS (100%)
b1023.3	Construct a new 502 Junction - Osage 138 kV line		APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Construct Braddock 138		
	kV breaker station that		
	connects the Charleroi -		
	Gordon 138 kV line,		
b1023.4	Washington - Franklin		
	138 kV line and the		
	Washington - Vanceville		
	138 kV line including a		
	66 MVAR capacitor		APS (100%)
	Increase the size of the		
b1027	shunt capacitors at Enon		
	138 kV		APS (100%)
	Raise three structures on		
b1028	the Osage - Collins Ferry		
01020	138 kV line to increase		
	the line rating		APS (100%)
	Reconductor the		
	Edgewater – Vasco Tap;		
b1128	Edgewater – Loyalhanna		
	138 kV lines with 954		
	ACSR		APS (100%)
	Reconductor the East		
b1129	Waynesboro – Ringgold		
0112)	138 kV line with 954		
	ACSR		APS (100%)
1	Upgrade Double Tollgate		
b1131	– Meadowbrook MDT		
	Terminal Equipment		APS (100%)
	Upgrade Double		
b1132	Tollgate-Meadowbrook		
	MBG terminal		
	equipment		APS (100%)
b1133	Upgrade terminal		
	equipment at Springdale		APS (100%)
	Reconductor the		
1 1 1 2 7	Bartonville –		
b1135	Meadowbrook 138 kV		
	line with high		
	temperature conductor		APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

1		
	Reconductor the Eastgate	
b1137	– Luxor 138 kV;	APS (78.59%) / PENELEC
	Eastgate – Sony 138 kV	(14.08%) / ECP** (0.23%) /
	line with 954 ACSR	PSEG (6.83%) / RE (0.27%)
	Reconductor the King	
b1138	Farm – Sony 138 kV line	
	with 954 ACSR	APS (100%)
	Reconductor the Yukon	
b1139	– Waltz Mills 138 kV	
01139	line with high	
	temperature conductor	APS (100%)
	Reconductor the Bracken	
b1140	Junction – Luxor 138 kV	
	line with 954 ACSR	APS (100%)
	Reconductor the	
	Sewickley – Waltz Mills	
b1141	Tap 138 kV line with	
	high temperature	
	conductor	APS (100%)
	Reconductor the	
	Bartonsville –	
b1142	Stephenson 138 kV;	
01142	Stonewall – Stephenson	
	138 kV line with 954	
	ACSR	APS (100%)
	Reconductor the	
b1143	Youngwood – Yukon	
01175	138 kV line with high	APS (89.92%) / PENELEC
	temperature conductor	(10.08%)
	Reconductor the Bull	
b1144	Creek Junction – Cabot	
01144	138 kV line with high	
	temperature conductor	APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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	Reconductor the Lawson		
b1145	Junction – Cabot 138 kV		
	line with high		A DC (1000/)
	temperature conductor		APS (100%)
1	Replace Layton -		
b1146	Smithton #61 138 kV		
	line structures to increase		
	line rating		APS (100%)
1 1 1 4 7	Replace Smith – Yukon		
b1147	138 kV line structures to		
	increase line rating		APS (100%)
1 1 1 1 1	Reconductor the		
b1148	Loyalhanna – Luxor 138		
	kV line with 954 ACSR		APS (100%)
	Reconductor the Luxor –		
b1149	Stony Springs Junction		
	138 kV line with 954		
	ACSR		APS (100%)
b1150	Upgrade terminal		
51150	equipment at Social Hall		APS (100%)
	Reconductor the		
b1151	Greenwood – Redbud		
01101	138 kV line with 954		
	ACSR		APS (100%)
b1152	Reconductor Grand Point		
01132	– South Chambersburg		APS (100%)
b1159	Replace Peters 138 kV		
01139	breaker 'Bethel P OCB'		APS (100%)
h1160	Replace Peters 138 kV		
b1160	breaker 'Cecil OCB'		APS (100%)
1,1171	Replace Peters 138 kV		
b1161	breaker 'Union JctOCB'		APS (100%)
	Replace Double Toll		, <i>, , , , , , , , , , , , , , , , , , </i>
b1162	Gate 138 kV breaker		
	'DRB-2'		APS (100%)
	Replace Double Toll		
b1163	Gate 138 kV breaker		
	'DT 138 kV OCB'		APS (100%)
	·		· · · /

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

equiled In	distrission enhancements A	Annual Revenue Requirement	Responsible Customer(s)
b1164	Replace Cecil 138 kV breaker 'Enlow OCB'		APS (100%)
b1165	Replace Cecil 138 kV breaker 'South Fayette'		APS (100%)
b1166	Replace Wylie Ridge 138 kV breaker 'W-9'		APS (100%)
b1167	Replace Reid 138 kV breaker 'RI-2'		APS (100%)
b1171.1	Install the second Black Oak 500/138 kV transformer, two 138 kV breaker, and related substation work		BGE (20.76%) / DPL (3.14%) / Dominion (39.55%) / ME (2.71%) / PECO (3.36%) / PEPCO (30.48%)
b1171.3	Install six 500 kV breakers and remove BOL1 500 kV breaker at Black Oak		AEC (1.65%) / AEP (13.6814.29%) / APS (5.765.82%) / ATSI (8.047.49%) / BGE (4.114.01%) / ComEd (13.3914.06%) / Dayton (2.122.03%) / DEOK (3.253.21%) / DL (1.711.59%) / DPL (2.602.55%) / Dominion (13.3213.89%) / EKPC (1.892.35%) / JCPL (3.863.59%) / ME (1.901.81%) / NEPTUNE* (0.42%) / OVEC (0.080.06%) / PECO (5.405.11%) / PENELEC (1.781.73%) / PEPCO (3.673.68%) / PPL (4.724.43%) / PSEG (6.395.99%) / RE (0.260.24%)
b1200	Reconductor Double Toll Gate – Greenwood 138 kV with 954 ACSR conductor		APS (100%)
b1221.1	Convert Carbon Center from 138 kV to a 230 kV ring bus		APS (100%)
b1221.2	Construct Bear Run 230 kV substation with 230/138 kV transformer egional Transmission System		APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

1		 
	Loop Carbon Center	
b1221.3	Junction – Williamette	
	line into Bear Run	APS (100%)
	Carbon Center – Carbon	
	Center Junction &	
b1221.4	Carbon Center Junction	
	– Bear Run conversion	
	from 138 kV to 230 kV	APS (100%)
	Reconductor Willow-	
b1230	Eureka & Eurkea-St	
	Mary 138 kV lines	APS (100%)
		AEC (1.40%) / APS (75.74%) /
	Decembrator Ninstern	DPL (1.92%) / JCPL (2.92%) /
1 1 2 2 2	Reconductor Nipetown –	ME (6.10%) / NEPTUNE*
b1232	Reid 138 kV with 1033	(0.27%) / PECO (4.40%) /
	ACCR	PENELEC (3.26%) / PPL
		(3.99%)
	Upgrade terminal	
b1233.1	equipment at	
	Washington	APS (100%)
	Replace structures	
b1234	between Ridgeway and	
	Paper city	APS (100%)
	Reconductor the Albright	
1.1025	– Black Oak AFA 138	APS (30.25%) / BGE (16.10%)
b1235	kV line with 795	/ Dominion (30.51%) / PEPCO
	ACSS/TW	(23.14%)
	Upgrade terminal	
	equipment at Albright,	
	replace bus and line side	
b1237	breaker disconnects and	
	leads, replace breaker	
	risers, upgrade RTU and	
	line	APS (100%)
	Install a 138 kV 44	
b1238	MVAR capacitor at	
	Edgelawn substation	APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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	Install a 138 kV 44		
b1239	MVAR capacitor at		
	Ridgeway substation		APS (100%)
	Install a 138 kV 44		
b1240	MVAR capacitor at Elko		
	Substation		APS (100%)
	Upgrade terminal		
	equipment at		
b1241	Washington substation		
	on the GE		
	Plastics/DuPont terminal		APS (100%)
	Replace structures		
b1242	between Collins Ferry		
	and West Run		APS (100%)
	Install a 138 kV		
b1243	capacitor at Potter		
	Substation		APS (100%)
1.10(1	Replace Butler 138 kV		
b1261	breaker '1-2 BUS 138'		APS (100%)
	Install 2nd 500/138 kV		
b1383	transformer at 502		APS (93.27%) / DL (5.39%) /
	Junction		PENELEC (1.34%)
	Reconductor		
	approximately 2.17 miles		
b1384	of Bedington –		
	Shepherdstown 138 kV		
	with 954 ACSR		APS (100%)
	Reconductor Halfway –		
b1385	Paramount 138 kV with		
	1033 ACCR		APS (100%)
	Reconductor Double		
1.1000	Tollgate – Meadow		
b1386	Brook 138 kV ckt 2 with		APS (93.33%) / BGE (3.39%) /
	1033 ACCR		PEPCO (3.28%)
	Reconductor Double		(0,0,0,0)
b1387	Tollgate – Meadow		APS (93.33%) / BGE (3.39%) /
	Brook 138 kV		PEPCO (3.28%)
	Reconductor Feagans		
b1388	Mill – Millville 138 kV		
	with 954 ACSR		APS (100%)
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Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tr	ransmission Enhancements Annual Revenue Requirement	Responsible Customer(s)
b1389	Reconductor Bens Run – St. Mary's 138 kV with 954 ACSR	AEP (12.40%) / APS (17.80%) / DL (69.80%)
b1390	Replace Bus Tie Breaker at Opequon	APS (100%)
b1391	Replace Line Trap at Gore	APS (100%)
b1392	Replace structure on Belmont – Trissler 138 kV line	APS (100%)
b1393	Replace structures Kingwood – Pruntytown 138 kV line	APS (100%)
b1395	Upgrade Terminal Equipment at Kittanning	APS (100%)
b1401	Change reclosing on Pruntytown 138 kV breaker 'P-16' to 1 shot at 15 seconds	APS (100%)
b1402	Change reclosing on Rivesville 138 kV breaker 'Pruntytown #34' to 1 shot at 15 seconds	APS (100%)
b1403	Change reclosing on Yukon 138 kV breaker 'Y21 Shepler' to 1 shot at 15 seconds	APS (100%)
b1404	Replace the Kiski Valley 138 kV breaker 'Vandergrift' with a 40 kA breaker	APS (100%)
b1405	Change reclosing on Armstrong 138 kV breaker 'GARETTRJCT' at 1 shot at 15 seconds	APS (100%)

equine 11a	IISTILISSION ENHAncements A	Annual Revenue Requirement	Responsible Customer(s)
b1406	Change reclosing on Armstrong 138 kV breaker 'KITTANNING'		
	to 1 shot at 15 seconds		APS (100%)
b1407	Change reclosing on Armstrong 138 kV breaker 'BURMA' to 1 shot at 15 seconds		APS (100%)
b1408	Replace the Weirton 138 kV breaker 'Tidd 224' with a 40 kA breaker		APS (100%)
b1409	Replace the Cabot 138 kV breaker 'C9 Kiski Valley' with a 40 kA breaker		APS (100%)
b1507.2	Terminal Equipment upgrade at Doubs substation		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.6814.29%) / APS (5.765.82%) / ATSI (8.047.49%) / BGE (4.114.01%) / ComEd (13.3914.06%) / Dayton (2.122.03%) / DEOK (3.253.21%) / DL (1.711.59%) / DPL (2.602.55%) / Dominion (13.3213.89%) / EKPC (1.892.35%) / JCPL (3.863.59%) / ME (1.901.81%) / NEPTUNE* (0.42%) / OVEC (0.080.06%) / PECO (5.405.11%) / PENELEC (1.781.73%) / PEPCO (3.673.68%) / PPL (4.724.43%) / PSEG (6.395.99%) / RE (0.260.24%) DFAX Allocation: APS (16.1121.30%) / BGE (13.326.62%) / Dominion (55.4264.59%) / PEPCO
			APS ( ( <del>13.3</del>

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tra	ansmission Enhancements A	nnual Revenue Requirement	1
b1507.3	Mt. Storm – Doubs transmission line rebuild in Maryland – Total line mileage for APS is 2.71 miles		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.6814.29%) / APS (5.765.82%) / ATSI (8.047.49%) / BGE (4.114.01%) / ComEd (13.3914.06%) / Dayton (2.122.03%) / DEOK (3.253.21%) / DL (1.711.59%) / DPL (2.602.55%) / Dominion (13.3213.89%) / EKPC (1.892.35%) / JCPL (3.863.59%) / ME (1-901.81%) / NEPTUNE* (0.42%) / OVEC (0.080.06%) / PECO (5.405.11%) / PENELEC (1.781.73%) / PEPCO (3.673.68%) / PPL (4.724.43%) / PSEG (6.395.99%) / RE (0.260.24%) DFAX Allocation: APS (16.1121.30%) / BGE (13.326.62%) / Dominion (55.4264.59%) / PEPCO (15.157.49%)
b1510	Install 59.4 MVAR capacitor at Waverly		APS (100%)
b1672	Install a 230 kV breaker at Carbon Center		APS (100%)
b0539	Replace Doubs circuit breaker DJ11		APS (100%)
b0540	Replace Doubs circuit breaker DJ12		APS (100%)
b0541	Replace Doubs circuit breaker DJ13		APS (100%)
b0542	Replace Doubs circuit breaker DJ20		APS (100%)
b0543	Replace Doubs circuit breaker DJ21		APS (100%)
b0544	Remove instantaneous reclose from Eastalco circuit breaker D-26		APS (100%)

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equiler 11	ransmission Enhancements Remove instantaneous	Annual Revenue Requirement Responsible Customer(s)
b0545	reclose from Eastalco	
	circuit breaker D-28	APS (100%)
		Load-Ratio Share Allocation:
		AEC (1.65%) / AEP ( <del>13.68<u>14.29</u>%)</del>
		APS ( <del>5.765.82</del> %) / ATSI ( <del>8.047.49</del> %)
		BGE (4.114.01%) / ComEd
		( <del>13.3914.06</del> %) / Dayton ( <del>2.122.03</del> %)
		DEOK ( <del>3.25</del> 3.21%) / DL ( <del>1.71</del> 1.59%)
		DPL (2.602.55%) / Dominion
		( <del>13.32</del> 13.89%) / EKPC ( <del>1.89</del> 2.35%)
	Install 200 MVAR	JCPL ( <del>3.863.59</del> %) / ME ( <del>1.901.81</del> %)
b0559	capacitor at Meadow	NEPTUNE* (0.42%) / OVEC
	Brook 500 kV substation	( <del>0.08</del> 0.06%) / PECO ( <del>5.405.11</del> %) /
	substation	PENELEC (1.781.73%) / PEPCO
		( <del>3.67<u>3.68</u>%) / PPL (<u>4.72</u><u>4.43</u>%) / PSE</del>
		( <del>6.39</del> <u>5.99</u> %) / RE ( <del>0.26</del> <u>0.24</u> %)
		DFAX Allocation:
		APS (22.5721.84%) / BGE (7.277.08% / Dominion (56.7760.14%) / PEPCC
		( <del>13.39</del> 10.94%)
		, ,
		Load-Ratio Share Allocation:
		$AEC (1.65\%) / AEP (\frac{13.6814.29}{}\%)$
		APS ( <del>5.765.82</del> %) / ATSI ( <del>8.047.49</del> %) BGE (4.114.01%) / ComEd
		$(\frac{13.39}{14.06\%})$ / Dayton ( $\frac{2.122.03\%}{2.122.03\%}$ )
		DEOK ( <del>3.25</del> 3.21%) / DL ( <del>1.71</del> 1.59%)
		DPL (2.602.55%) / Dominion
	Install 250 MVAR	( <del>13.32</del> <u>13.89</u> %) / EKPC ( <del>1.89</del> <u>2.35</u> %)
b0560	capacitor at Kemptown	$JCPL \left(\frac{3.863.59}{9}\right) / ME \left(\frac{1.901.81}{9}\right)$
	500 kV substation	NEPTUNE* $(0.42\%)$ / OVEC
		( <del>0.08<u>0.06</u>%) / PECO (<u>5.40<u>5.11</u>%) / PENELEC (<u>1.781.73</u>%) / PEPCO</u></del>
		( <u>3.673.68</u> %) / PPL ( <u>4.724.43</u> %) / PSE
		( <del>6.39</del> <u>5.99</u> %) / RE ( <del>0.26</del> <u>0.24</u> %)
		DFAX Allocation:
		AEC (5.01%) / AEP (4.39%) / APS
		$A(X_1, U, U) / A(U, (4, 37)) / A(0)

	DPL (6.91%) / Dominion (10.82%) /
	JCPL (11.64%) / ME (2.94%) /
	NEPTUNE* (1.12%) / PECO (14.51%)
	/ PEPCO (6.11%) / PPL (6.39%) /
	PSEG (15.86%) / RE (0.59%)

Required Tr	ansmission Enhancements	Annual Revenue Requiremen	t Responsible Customer(s)
b1803	Build a 300 MVAR Switched Shunt at Doubs 500 kV and increase (~50 MVAR) in size the existing Switched Shunt at Doubs 500 kV		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.6814.29%) / APS (5.765.82%) / ATSI (8.047.49%) / BGE (4.114.01%) / ComEd (13.3914.06%) / Dayton (2.122.03%) / DEOK (3.253.21%) / DL (1.711.59%) / DPL (2.602.55%) / Dominion (13.3213.89%) / EKPC (1.892.35%) / JCPL (3.863.59%) / ME (1.901.81%) / NEPTUNE* (0.42%) / OVEC (0.080.06%) / PECO (5.405.11%) / PENELEC (1.781.73%) / PEPCO (3.673.68%) / PPL (4.724.43%) / PSEG (6.395.99%) / RE (0.260.24%) DFAX Allocation: APS (16.1121.30%) / BGE (13.326.62%) / Dominion (55.4264.59%) / PEPCO (15.157.49%)
b1804	Install a new 600 MVAR SVC at Meadowbrook 500 kV		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.6814.29%) / APS (5.765.82%) / ATSI (8.047.49%) / BGE (4.114.01%) / ComEd (13.3914.06%) / Dayton (2.122.03%) / DEOK (3.253.21%) / DL (1.711.59%) / DPL (2.602.55%) / Dominion (13.3213.89%) / EKPC (1.892.35%) / JCPL (3.863.59%) / ME (1.901.81%) / NEPTUNE* (0.42%) / OVEC (0.080.06%) / PECO (5.405.11%) / PENELEC (1.781.73%) / PEPCO (3.673.68%) / PPL (4.724.43%) /

		PSEG ( <del>6.395.99</del> %) / RE ( <del>0.26<u>0.24</u>%)</del>
		DFAX Allocation:
		APS ( <del>22.57<u>21.84</u>%) / BGE (<del>7.27<u>7.08</u>%) / Dominion</del></del>
		( <del>56.77<u>60.14</u>%) / PEPCO</del>
		( <del>13.39</del> 10.94%)
	Replace relaying at the	
b1816.1	Mt. Airy substation on	
01010.1	the Carroll - Mt. Airy	
	230 kV line	APS (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Adjust the control		
	settings of all existing		
	capacitors at Mt Airy		
	34.5 kV, Monocacy 138		
	kV, Ringgold 138 kV		
b1816.2	served by Potomac		
	Edison's Eastern 230 kV		
	network to ensure that		
	all units will be on		
	during the identified N-		
	1-1 contingencies		APS (100%)
	Replace existing		
	unidirectional LTC		
b1816.3	controller on the No. 4,		
01010.5	230/138 kV transformer		
	at Carroll substation		
	with a bidirectional unit		APS (100%)
	Isolate and bypass the		
b1816.4	138 kV reactor at		
	Germantown Substation		APS (100%)
	Replace 336.4 ACSR		
	conductor on the		
	Catoctin - Carroll 138		
	kV line using 556.5		
	ACSR (26/7) or		
	equivalent on existing		
b1816.6	structures (12.7 miles),		
	800 A wave traps at		
	Carroll and Catoctin		
	with 1200 A units, and		
	556.5 ACSR SCCIR		
	(Sub-conductor) line		
	risers and bus traps with		
	795 ACSR or equivalent		APS (100%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Replace the 1200 A		
	wave trap, line risers,		
b1822	breaker risers with 1600		
01622	A capacity terminal		
	equipment at Reid 138		
	kV SS		APS (100%)
	Replace the 800 A wave		
b1823	trap with a 1200 A wave		
01025	trap at Millville 138 kV		
	substation		APS (100%)
	Reconductor Grant Poin	t	
	- Guilford 138 kV line		
b1824	approximately 8 miles o	f	
	556 ACSR with 795		
	ACSR		APS (100%)
	Replace the 800 Amp		
b1825	line trap at Butler 138		
01025	kV Sub on the Cabot		
	East 138 kV line		APS (100%)
	Change the CT ratio at		
b1826	Double Toll Gate 138		
	kV SS on MDT line		APS (100%)
	Change the CT ratio at		
b1827	Double Toll Gate 138		
	kV SS on MBG line		APS (100%)
	Reconductor the		
1 1 0 0 0 1	Bartonville – Stephenson		
b1828.1	3.03 mile 138 kV line of		
	556 ACSR with 795		
	ACSR		APS (100%)

Required Tra	Insmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Reconductor the		
b1828.2	Stonewall – Stephenson		
	2.08 mile 138 kV line of	f	
	556 ACSR with 795		
	ACSR		APS (100%)
	Replace the existing 138	3	
	kV 556.5 ACSR		
	substation conductor		
b1829	risers with 954 ACSR at	t	
01829	the Redbud 138 kV		
	substation, including bu	t	
	not limited to the line		
	side disconnect leads		APS (100%)
	Replace 1200 A wave		, , , , , , , , , , , , , , , , , , ,
	trap and 1024 ACAR		
	breaker risers at Halfwa	v	
1 4 9 9 9	138 kV substation, and		
b1830	replace 1024 ACAR		
	breaker risers at		
	Paramount 138 kV		
	substation		APS (100%)
	Replace the 1200 A line		
	side and bus side		
	disconnect switches with	h	
	1600 A switches, replac		
b1832	bus side, line side, and		
	disconnect leads at Lime	2	
	Kiln SS on the Doubs -		
	Lime Kiln 1 (207) 230		
	kV line terminal		APS (100%)
	Replace the 1200 A line		
	side and bus side		
b1833	disconnect switches with	h	
	1600 A switches, replac		
	bus side, line side, and	-	
01055	disconnect leads at Lime	-	
	Kiln SS on the Doubs -	-	
	Lime Kiln 2 (231) 230		
	kV line terminal		APS (100%)
L		<u>I</u>	

Required Tran	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Reconductor 14.3 miles		
	of 556 ACSR with 795		
	ACSR from Old Chapel		
	to Millville 138 kV and		
b1835	upgrade line risers at Ol	1	APS (37.68%) / Dominion
	Chapel 138 kV and		(34.46%) / PEPCO (13.69%) /
	Millville 138 kV and		BGE (11.45%) / ME (2.01%) /
	replace 1200 A wave		PENELEC (0.53%) / DL
	trap at Millville 138 kV		(0.18%)
	Replace 1200 A wave		
b1836	trap with 1600 A wave		
	trap at Reid 138 kV SS		APS (100%)
	Replace 750 CU breaker		
	risers with 795 ACSR at		
	Marlowe 138 kV and		
b1837	replace 1200 A wave		
	traps with 1600 A wave		
	traps at Marlowe 138 kV	7	
	and Bedington 138 kV		APS (100%)
	Replace the 1200 A		
	Bedington 138 kV line		
	air switch and the 1200		
b1838	A 138 kV bus tie air		
	switch at Nipetown 138		
	kV with 1600 A		
	switches		APS (100%)
b1839	Install additional 33		
	MVAR capacitors at		
	Grand Point 138 kV SS		
	and Guildford 138 kV		
	SS		APS (100%)

Required T		ue Requirement Responsible Customer(s)
	Construct a 138 kV line	
b1840	between Buckhannon	
	and Weston 138 kV	
	substations	APS (100%)
	Replace line trap at	
b1902	Stonewall on the	
01902	Stephenson 138 kV line	
	terminal	APS (100%)
	Loop the Homer City-	
	Handsome Lake 345 kV	
b1941	line into the Armstrong	
01711	substation and install a	
	345/138 kV transformer	APS (67.86%) / PENELEC
	at Armstrong	(32.14%)
	Change the CT ratio at	
b1942	Millville to improve the	
	Millville – Old Chapel	
	138 kV line ratings	APS (100%)
	Convert Moshannon	APS (41.06%) / DPL (6.68%) /
b1964	substation to a 4 breaker	JCPL (5.48%) / ME (10.70%) /
	230 kV ring bus	NEPTUNE* (0.53%) / PECO
	5	(15.53%) / PPL (20.02%)
1 10 65	Install a 44 MVAR 138	
b1965	kV capacitor at Luxor	
	substation	APS (100%)
	Upgrade the AP portion	
	of the Elrama – Mitchell	
b1986	138 kV line by replace	
	breaker risers on the	
	Mitchell 138 kV bus on	ADC (1000/)
	the Elrama terminal	APS (100%)
b1987	Reconductor the Osage-	
	Collins Ferry 138 kV	
	line with 795 ACSS.	
	Upgrade terminal	
	equipment at Osage and	ADS (1000/)
	Collins Ferry	APS (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Raise structures between		
1.4000	Lake Lynn and West		
	Run to eliminate the		
b1988	clearance de-rates on the		
	West Run – Lake Lynn		
	138 kV line		APS (100%)
	Raise structures between		
	Collins Ferry and West		
1 1000	Run to eliminate the		
b1989	clearance de-rates on the		
	Collins Ferry - West Run	L	
l	138 kV line		APS (100%)
	Replace Weirt 138 kV		
	breaker 'S-		
b2095	TORONTO226' with 63		
	kA rated breaker		APS (100%)
	Revise the reclosing of		
b2096	Weirt 138 kV breaker		
02070	'2&5 XFMR'		APS (100%)
	Replace Ridgeley 138		
b2097	kV breaker '#2 XFMR		
02077	OCB'		APS (100%)
	Revise the reclosing of		
	Ridgeley 138 kV breaker		
b2098	'AR3' with 40 kA rated		
	breaker		APS (100%)
	Revise the reclosing of		
b2099	Ridgeley 138 kV breaker		
02077	'RC1'		APS (100%)
	Replace Ridgeley 138		
b2100	kV breaker 'WC4' with		
02100	40 kA rated breaker		APS (100%)
	Replace Ridgeley 138		1115(10070)
	kV breaker '1 XFMR		
b2101	OCB' with 40 kA rated		
	breaker		APS (100%)
	Replace Armstrong 138		AI 5 (10070)
	kV breaker		
b2102	'GARETTRJCT' with 40		
	kA rated breaker		APS (100%)
	KA TAICU UTCAKCI		ALS (10070)

Required Tr	ransmission Enhancements Annual Revenue Requirement	Responsible Customer(s)
	Replace Armstrong 138	
b2103	kV breaker 'BURMA'	
	with 40 kA rated breaker	APS (100%)
	Replace Armstrong 138	
b2104	kV breaker	
02104	'KITTANNING' with 40	
	kA rated breaker	APS (100%)
	Replace Armstrong 138	
b2105	kV breaker	
02103	'KISSINGERJCT' with	
	40 kA rated breaker	APS (100%)
	Replace Wylie Ridge	
b2106	345 kV breaker 'WK-1'	
	with 63 kA rated breaker	APS (100%)
	Replace Wylie Ridge	
b2107	345 kV breaker 'WK-2'	
	with 63 kA rated breaker	APS (100%)
	Replace Wylie Ridge	
b2108	345 kV breaker 'WK-3'	
	with 63 kA rated breaker	APS (100%)
	Replace Wylie Ridge	
b2109	345 kV breaker 'WK-4'	
	with 63 kA rated breaker	APS (100%)
	Replace Wylie Ridge	
b2110	345 kV breaker 'WK-6'	
	with 63 kA rated breaker	APS (100%)
	Replace Wylie Ridge	
b2111	138 kV breaker 'WK-7'	
	with 63 kA rated breaker	APS (100%)
12112	Replace Wylie Ridge	
b2112	345 kV breaker 'WK-5'	APS (100%)
b2113	Replace Weirton 138 kV	
	breaker 'NO 6 XFMR'	
	with 63 kA rated breaker	APS (100%)
	Replace Armstrong 138	
12114	kV breaker 'Bus-Tie'	
b2114	(Status On-Hold pending	
	retirement)	APS (100%)

Required Tra	ansmission Enhancements A	nnual Revenue Requirement	Responsible Customer(s)
b2124.1	Add a new 138 kV line		
	exit		APS (100%)
	Construct a 138 kV ring		
b2124.2	bus and install a 138/69		
	kV autotransformer		APS (100%)
	Add new 138 kV line exit		
b2124.3	and install a 138/25 kV		
	transformer		APS (100%)
h2124 4	Construct approximately		
b2124.4	5.5 miles of 138 kV line		APS (100%)
	Convert approximately		
b2124.5	7.5 miles of 69 kV to 138		
	kV		APS (100%)
	Install a 75 MVAR 230		
b2156	kV capacitor at		
	Shingletown Substation		APS (100%)
	Replace 800A wave trap		
b2165	at Stonewall with a 1200		
	A wave trap		APS (100%)
	Reconductor the Millville		
	– Sleepy Hollow 138 kV		
	4.25 miles of 556 ACSR		
b2166	with 795 ACSR, upgrade		
02100	line risers at Sleepy		
	Hollow, and change 1200		
	A CT tap at Millville to		
	800		APS (100%)
	For Grassy Falls 138 kV		
	Capacitor bank adjust		
	turn-on voltage to 1.0 pu		
	with a high limit of 1.04		
b2168	pu, For Crupperneck and		
02100	Powell Mountain 138 kV		
	Capacitor Banks adjust		
	turn-on voltage to 1.01 pu		
	with a high limit of 1.035		
	pu		APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

#### Monongahela Power Company, The Potomac Edison Company, and West Penn Power Company, all doing business as Allegheny Power (cont.)

Required Tr	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2169	Replace/Raise structures on the Yukon-Smithton 138 kV line section to eliminate clearance de- rate		APS (100%)
b2170	Replace/Raise structures on the Smithton-Shepler Hill Jct 138 kV line section to eliminate clearance de-rate		APS (100%)
b2171	Replace/Raise structures on the Parsons-William 138 kV line section to eliminate clearance de- rate		APS (100%)
b2172	Replace/Raise structures on the Parsons - Loughs Lane 138 kV line section to eliminate clearance de-rate		APS (100%)

PJM Open Access Transmission Tariff Schedule 12-Appendix Section 25 – Keystone Appalachian Transmission Co.

Version 0.0.0 Effective January 1, 2024 (Accepted in Docket No. ER24-284-000)

## **SCHEDULE 12 – APPENDIX**

# (25) Keystone Appalachian Transmission Company

Required Tr	ansmission Enhance	ments Annual Reven	ue Requirement Responsible Customer(s)
<u>b0347.1</u>	Build new Mt. Storm – 502 Junction 500 kV circuit	As specified under the procedures detailed in Attachment H- 18B, Section 1.b	Load-Ratio Share Allocation: <u>AEC (1.65%) / AEP (13.68%) / APS</u> (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: <u>APS (28.94%) / BGE (13.78%) /</u> Dominion (32.18%) / PEPCO (25.10%)
<u>b0347.3</u>	Build new 502 Junction 500 kV substation	<u>As specified under</u> <u>the procedures</u> <u>detailed in</u> <u>Attachment H-</u> <u>18B, Section 1.b</u>	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (28.94%) / BGE (13.78%) / Dominion (32.18%) / PEPCO (25.10%)

<u>Upgrade (per ABB</u> b0347.10 Inspection) Hatfield 500	Load-Ratio Share Allocation: <u>AEC (1.65%) / AEP (13.68%) / APS</u> <u>(5.76%) / ATSI (8.04%) / BGE</u> <u>(4.11%) / ComEd (13.39%) / Dayton</u> <u>(2.12%) / DEOK (3.25%) / DL</u> <u>(1.71%) / DPL (2.60%) / Dominion</u> <u>(13.32%) / EKPC (1.89%) / JCPL</u> <u>(3.86%) / ME (1.90%) /</u> <u>NEPTI DEE (0.429%) / OUTEC</u>
kV breakers HFL-1	<u>NEPTUNE* (0.42%) / OVEC</u> (0.08%) / PECO (5.40%) / <u>PENELEC (1.78%) / PEPCO</u> (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) <u>DFAX Allocation:</u> <u>APS (28.94%) / BGE (13.78%) /</u> <u>Dominion (32.18%) / PEPCO</u> (25.10%)
b0347.11       Upgrade (per ABB Inspection) Hatfield 500 kV breakers HFL-3         * Neptune Regional Transmission System,	Load-Ratio Share Allocation:           AEC (1.65%) / AEP (13.68%) / APS           (5.76%) / ATSI (8.04%) / BGE           (4.11%) / ComEd (13.39%) / Dayton           (2.12%) / DEOK (3.25%) / DL           (1.71%) / DPL (2.60%) / Dominion           (13.32%) / EKPC (1.89%) / JCPL           (3.86%) / ME (1.90%) /           NEPTUNE* (0.42%) / OVEC           (0.08%) / PECO (5.40%) /           PENELEC (1.78%) / PEPCO           (3.67%) / PPL (4.72%) / PSEG           (6.39%) / RE (0.26%)           DFAX Allocation:           APS (28.94%) / BGE (13.78%) /           Dominion (32.18%) / PEPCO           (25.10%)

Itequilea Ite	ansmission Enhancements A	Annual Revenue Requirement Responsible Customer(s)
<u>b0347.12</u>	Upgrade (per ABB Inspection) Hatfield 500 kV breakers HFL-4	Load-Ratio Share Allocation:           AEC (1.65%) / AEP (13.68%) / APS           (5.76%) / ATSI (8.04%) / BGE           (4.11%) / ComEd (13.39%) / Dayton           (2.12%) / DEOK (3.25%) / DL           (1.71%) / DPL (2.60%) / Dominion           (13.32%) / EKPC (1.89%) / JCPL           (3.86%) / ME (1.90%) /           NEPTUNE* (0.42%) / OVEC           (0.08%) / PECO (5.40%) /           PENELEC (1.78%) / PEPCO           (3.67%) / PPL (4.72%) / PSEG           (6.39%) / RE (0.26%)           DFAX Allocation:           APS (28.94%) / BGE (13.78%) /           Dominion (32.18%) / PEPCO           (25.10%)
<u>b0347.13</u>	Upgrade (per ABB Inspection) Hatfield 500 kV breakers HFL-6 egional Transmission System	Load-Ratio Share Allocation:           AEC (1.65%) / AEP (13.68%) / APS           (5.76%) / ATSI (8.04%) / BGE           (4.11%) / ComEd (13.39%) / Dayton           (2.12%) / DEOK (3.25%) / DL           (1.71%) / DPL (2.60%) / Dominion           (13.32%) / EKPC (1.89%) / JCPL           (3.86%) / ME (1.90%) /           NEPTUNE* (0.42%) / OVEC           (0.08%) / PECO (5.40%) /           PENELEC (1.78%) / PEPCO           (3.67%) / PPL (4.72%) / PSEG           (6.39%) / RE (0.26%)           DFAX Allocation:           APS (28.94%) / BGE (13.78%) /           Dominion (32.18%) / PEPCO           (25.10%)

b0347.14 Upgrade (per ABB Inspection) Hatfield 500 kV breakers HFL-7	Load-Ratio Share Allocation: EC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (28.94%) / BGE (13.78%) /
	<u>Dominion (32.18%) / PEPCO</u> (25.10%)
b0347.15       Upgrade (per ABB Inspection) Hatfield 500 kV breakers HFL-9         * Neptune Regional Transmission System, LLC	Load-Ratio Share Allocation: EC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation:

Required Transmission Enhancements Annual Reven	
b0347.16 <u>Upgrade (per ABB</u> inspection) Harrison 500 <u>kV breaker 'HL-3'</u>	Load-Ratio Share Allocation:           AEC (1.65%) / AEP (13.68%) / APS           (5.76%) / ATSI (8.04%) / BGE           (4.11%) / ComEd (13.39%) / Dayton           (2.12%) / DEOK (3.25%) / DL           (1.71%) / DPL (2.60%) / Dominion           (13.32%) / EKPC (1.89%) / JCPL           (3.86%) / ME (1.90%) /           NEPTUNE* (0.42%) / OVEC           (0.08%) / PECO (5.40%) /           PENELEC (1.78%) / PEPCO           (3.67%) / PPL (4.72%) / PSEG           (6.39%) / RE (0.26%)           DFAX Allocation:           APS (28.94%) / BGE (13.78%) /           Dominion (32.18%) / PEPCO           (25.10%)

b0406.1Replace Mitchell 138 kV breaker "#4 bank"APS (100%)b0406.2Replace Mitchell 138 kV breaker "#5 bank"APS (100%)b0406.3Replace Mitchell 138 kV breaker "#2 transf"APS (100%)b0406.4Replace Mitchell 138 kV breaker "#3 bank"APS (100%)b0406.5Replace Mitchell 138 kV breaker "#3 bank"APS (100%)b0406.6Replace Mitchell 138 kV breaker "Charlerio #2"APS (100%)b0406.7Replace Mitchell 138 kV breaker "Charlerio #1"APS (100%)b0406.8Replace Mitchell 138 kV breaker "Charlerio #1"APS (100%)b0406.7Breaker "Charlerio #1" breaker "Charlerio #1"APS (100%)b0406.8Replace Mitchell 138 kV breaker "Union Jet"APS (100%)b0406.9Replace Mitchell 138 kV breaker "H1-2 138 kV bous tie"APS (100%)b0417Reconductor Mitchell- Shepler Hill Junction 138 kV with 954 ACSRAEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (6.04%) / BEE (4.11%) / ConEd (13.39%) / Davton (13.22%) / DEVK (3.25%) / DL (1.63%) / ME (1.90%) / CPL (3.66%) / ME (1.90%) / DEPCO (3.67%) / PEPCO (3.67%) / PEPCO (3.67%) / PEPCO (3.67%) / PEPCO (3.67%) / PEPCO (3.67%) / PEPCO (3.67%) / ME (0.26%)b0460Raise limiting structures on Albright – Bethelboro 138 kV to raise the rating to 175 MVA normal 214 MVA emergencyAPS (100%)<	Required Tra	ansmission Enhancements A	Annual Revenue Requirement Responsible Customer(s)
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	<u>b0406.1</u>		<u>APS (100%)</u>
$\frac{b0406.2}{b0406.2} \frac{breaker "#2 transf"}{kreaker "#3 bank"} \frac{AFS (100%)}{kreaker "#3 bank"} \frac{AFS (100%)}{kreaker "#3 bank"} \frac{AFS (100%)}{kreaker "#3 bank"} \frac{AFS (100%)}{kreaker "H3 bank"} \frac{AFS (100%)}{kreaker "Charlerio #2"} \frac{AFS (100%)}{kreaker "Shepler Hill} \frac{AFS (100%)}{kreaker "Shepler Hill} \frac{AFS (100%)}{kreaker "H1-2 138 kV} \frac{AFS (100%)}{kreaker (1.1%) / DFL (2.60%) / AFS (10.26%) / AFS (1.26%) / AFS (1.26\%) / AFS (1.26\%) / AFS (1.26\%) / DEOK (3.25\%) / DEOK (3.25\%) / DE (1.1%) / DEOK (3.25\%) / DE (1.1%) / DECK (3.25\%) / DE (1.26\%) / DECK (1.25\%) / DECK (1.25\%) / DECK (1.25\%) / DECK (1.25\%) / DECK (0.08\%) / PECO (5.40\%) / DEFLEC (1.78\%) / PEPCO (3.40\%) / DECK (0.26\%) / DEOK (3.25\%) / DECK (3.$	<u>b0406.2</u>		<u>APS (100%)</u>
b0400.4braker "#3 bank"APS (100%) $b0406.5$ Replace Mitchell 138 kV breaker "Charlerio #2"APS (100%) $b0406.6$ Replace Mitchell 138 kV breaker "Charlerio #1"APS (100%) $b0406.7$ Replace Mitchell 138 kV breaker "Shepler Hill Jct"APS (100%) $b0406.7$ Beplace Mitchell 138 kV breaker "Shepler Hill bo406.8APS (100%) $b0406.8$ Replace Mitchell 138 kV breaker "Union Jct"APS (100%) $b0406.9$ Replace Mitchell 138 kV breaker "#1-2 138 kV bus tie"APS (100%) $b0417$ Shepler Hill Junction 138 kV with 954 ACSRAPS (100%) $b0417$ Shepler Hill Junction 138 kV with 954 ACSRAPS (100%) $b0418$ Install a breaker failure atto-restoration scheme at Cabot 500 kV for the failure of the #6 breakerAEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / Det (1.33%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DFL (2.60%) / Dominion (13.32%) / PEPC0 (5.40%) / PENELEC (1.78%) / PEPC0 (3.67%) / PENCLEC (1.78%) / PEPC0 (3.63%) / RE (0.26%) $b0460$ Base limiting structures on Albright – Bethelboro Io 138 kV to raise the rating Io 175 MVA normal 214 MVA emergencyAPS (100%)	<u>b0406.3</u>	-	<u>APS (100%)</u>
b0406.5breaker "Charlerio #2"APS (100%) $b0406.6$ Replace Mitchell 138 kV breaker "Charlerio #1"APS (100%) $b0406.7$ Replace Mitchell 138 kV breaker "Shepler Hill Jet"APS (100%) $b0406.8$ Replace Mitchell 138 kV breaker "Union Jet"APS (100%) $b0406.9$ Replace Mitchell 138 kV breaker "Hill Junction 138 kV with 954 ACSRAPS (100%) $b0417$ Reconductor Mitchell- Shepler Hill Junction 138 kV with 954 ACSRAPS (100%) $b0418$ Install a breaker failure at Cabot 500 kV for the failure of the #6 breakerAEC (1.65%)/AEP (13.68%)/APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / DeV (3.25%) / DL (1.71%) / DEOK (3.25%) / DL (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PECO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) $b0460$ Raise limiting structures on Albright - Bethelboro 138 kV to raise the rating to 175 MVA normal 214 MVA emergencyAPS (100%)	<u>b0406.4</u>	· · ·	<u>APS (100%)</u>
b0406.0breaker "Charlerio #1"APS (100%)b0406.7Replace Mitchell 138 kV breaker "Shepler Hill Jct"APS (100%)b0406.8Replace Mitchell 138 kV breaker "Union Jct"APS (100%)b0406.9Replace Mitchell 138 kV breaker "#1-2 138 kV bus tie"APS (100%)b0417Shepler Hill Junction 138 kV with 954 ACSRAPS (100%)b0418Install a breaker failure auto-restoration scheme at Cabot 500 kV for the failure of the #6 breakerAEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / Dayton (2.12%) / DEC0 (5.32%) / DL (3.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / PENELEC (1.78%) / PEPCO (3.67%) / PELC0 (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PL (4.72%) / PSEG (6.39%) / RE (0.26%)b0460Raise limiting structures on Albright – Bethelboro 138 kV to raise the rating to 175 MVA normal 214 MVA emergencyAPS (100%)	<u>b0406.5</u>		<u>APS (100%)</u>
$\frac{b0406.7}{b0406.8} \frac{\text{breaker "Shepler Hill}}{\text{Jct"}} \qquad \qquad APS (100\%)$ $\frac{b0406.8}{breaker "Union Jct"} \qquad APS (100\%)$ $\frac{\text{Replace Mitchell 138 kV}}{\text{b0406.9}} \frac{\text{Replace Mitchell 138 kV}}{\text{breaker "H-2 138 kV}} \qquad APS (100\%)$ $\frac{\text{b0406.9}}{\text{bus tic"}} \frac{\text{Reconductor Mitchell }_{-}}{\text{Shepler Hill Junction 138}} \qquad APS (100\%)$ $\frac{\text{AEC} (1.65\%) / \text{AEP} (13.68\%) / \text{APS}}{(5.76\%) / \text{ATSI} (8.04\%) / \text{BGE}} (4.11\%) / \text{ComEd} (13.39\%) / \text{Dayton}}{(2.12\%) / \text{DEOK} (3.25\%) / \text{DL}} (1.71\%) / \text{DPL} (2.60\%) / \text{Dominion}}$ $\frac{1}{13.32\%} / \text{EkPC } (1.89\%) / \text{JCPL}}{(3.86\%) / \text{ME}} (1.90\%) / \text{MEPTUNE*} (0.42\%) / \text{OVEC}}{(0.08\%) / \text{PECO} (5.40\%) / \text{PECO}} (3.67\%) / \text{PL} (4.72\%) / \text{PSEG}}{(6.39\%) / \text{RE} (0.26\%)}$ $\frac{1}{138 \text{ kV to raise the rating}}{\text{to } 175 \text{ MVA normal 214}} \qquad APS (100\%)$	<u>b0406.6</u>	· · · ·	<u>APS (100%)</u>
b0400.8breaker "Union Jct"APS (100%)Replace Mitchell 138 kV breaker "#1-2 138 kV bus tie"APS (100%)b0406.9Breaker "#1-2 138 kV bus tie"APS (100%)b0417Reconductor Mitchell - Shepler Hill Junction 138 kV with 954 ACSRAPS (100%)b0418Install a breaker failure auto-restoration scheme at Cabot 500 kV for the failure of the #6 breakerAEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / DEDK (3.25%) / DL (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)b0460Baise limiting structures on Albright - Bethelboro 138 kV to raise the rating to 175 MVA normal 214 MVA emergencyAPS (100%)	<u>b0406.7</u>	breaker "Shepler Hill	<u>APS (100%)</u>
b0406.9breaker "#1-2 138 kV bus tie"APS (100%) $b0417$ Reconductor Mitchell - Shepler Hill Junction 138 kV with 954 ACSRAPS (100%) $b0417$ Shepler Hill Junction 138 kV with 954 ACSRAEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.32%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / MEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)b0460Raise limiting structures on Albright - Bethelboro 138 kV to raise the rating to 175 MVA normal 214 MVA emergencyAPS (100%)	<u>b0406.8</u>	-	<u>APS (100%)</u>
b0417Shepler Hill Junction 138 kV with 954 ACSRAPS (100%) $AEC (1.65\%) / AEP (13.68\%) / APS(5.76%) / ATSI (8.04%) / BGE(4.11%) / ComEd (13.39%) / Dayton(2.12%) / DEOK (3.25%) / DL(1.71%) / DPL (2.60%) / Dominion(13.32%) / EKPC (1.89%) / JCPL(3.86%) / ME (1.90%) /MEPTUNE* (0.42%) / OVEC(0.08%) / PECO (5.40%) /PENELEC (1.78%) / PEPCO(3.67%) / PPL (4.72%) / PSEG(6.39%) / RE (0.26%)b0460Raise limiting structureson Albright – Bethelboro138 kV to raise the ratingto 175 MVA normal 214MVA emergencyAPS (100%)$	<u>b0406.9</u>	breaker "#1-2 138 kV	<u>APS (100%)</u>
b0418Install a breaker failure auto-restoration scheme at Cabot 500 kV for the failure of the #6 breaker $(4.11\%) / ComEd (13.39\%) / Dayton(2.12\%) / DEOK (3.25\%) / DL(1.71%) / DPL (2.60%) / Dominion(13.32%) / EKPC (1.89%) / JCPL(3.86%) / ME (1.90%) /NEPTUNE* (0.42%) / OVEC(0.08%) / PECO (5.40%) /PENELEC (1.78%) / PEPCO(3.67%) / PPL (4.72%) / PSEG(6.39%) / RE (0.26%)b0460Raise limiting structureson Albright – Bethelboro138 kV to raise the ratingto 175 MVA normal 214MVA emergencyAPS (100%)$	<u>b0417</u>	Shepler Hill Junction 138	<u>APS (100%)</u>
b0460on Albright – Bethelboro138 kV to raise the ratingAPS (100%)to 175 MVA normal 214MVA emergency	<u>b0418</u>	auto-restoration scheme at Cabot 500 kV for the	(5.76%) / ATSI (8.04%) / BGE         (4.11%) / ComEd (13.39%) / Dayton         (2.12%) / DEOK (3.25%) / DL         (1.71%) / DPL (2.60%) / Dominion         (13.32%) / EKPC (1.89%) / JCPL         (3.86%) / ME (1.90%) /         NEPTUNE* (0.42%) / OVEC         (0.08%) / PECO (5.40%) /         PENELEC (1.78%) / PEPCO         (3.67%) / PPL (4.72%) / PSEG
* Neptune Regional Transmission System, LLC		on Albright – Bethelboro 138 kV to raise the rating to 175 MVA normal 214 MVA emergency	

<u>Required In</u>	ansmission Enhancements Annua	a Revenue Requiremen	it Responsible Customer(s)
<u>b0535</u>	Install a 44 MVAR capacitor on Dutch Fork 138 kV		<u>APS (100%)</u>
<u>b0584</u>	Install 33 MVAR 138 kV capacitor at Necessity 138 kV		<u>APS (100%)</u>
<u>b0585</u>	Increase Cecil 138 kV capacitor size to 44 MVAR, replace five 138 kV breakers at Cecil due to increased short circuit fault duty as a result of the addition of the Prexy substation		<u>APS (100%)</u>
<u>b0586</u>	Increase Whiteley 138 kV capacitor size to 44 MVAR		<u>APS (100%)</u>
<u>b0587</u>	Reconductor AP portion of Tidd – Carnegie 138 kV and Carnegie – Weirton 138 kV with 954 ACSR		<u>APS (100%)</u>
<u>b0590</u>	Replace #1 and #2 breakers at Charleroi 138 kV		<u>APS (100%)</u>
* Neptune R	egional Transmission System, LL	<u>.C</u>	

Required	I ransmission Enhancements Annua	<u>al Revenue Require</u>	ment Responsible Customer(s)
<u>b0673</u>	<u>Rebuild Elko – Carbon Center</u> <u>Junction using 230 kV</u> <u>construction</u>		<u>APS (100%)</u>
<u>b0681</u>	Replace 600/5 CT's at Franklin 138 kV		<u>APS (100%)</u>
<u>b0682</u>	Replace 600/5 CT's at Whiteley 138 kV		<u>APS (100%)</u>
<u>b0684</u>	Reconductor Guilford – South Chambersburg with 954 ACSR		<u>APS (100%)</u>

Required Tr	ansmission Enhancements Annu	al Revenue Requirement Responsible Customer(s)
<u>b0704</u>	Install a third Cabot 500/138 kV transformer	<u>APS (74.36%) / DL (2.73%)</u> <u>PENELEC (22.91%)</u>
<u>b0942</u>	Replace Butler 138 kV breaker '#1 BANK'	<u>APS (100%)</u>
<u>b0943</u>	Replace Butler 138 kV breaker '#2 BANK'	<u>APS (100%)</u>
<u>b0944</u>	Replace Yukon 138 kV breaker 'Y-8'	<u>APS (100%)</u>
<u>b0945</u>	Replace Yukon 138 kV breaker 'Y-3'	<u>APS (100%)</u>
<u>b0946</u>	Replace Yukon 138 kV breaker 'Y-1'	<u>APS (100%)</u>
<u>b0947</u>	Replace Yukon 138 kV breaker 'Y-5'	<u>APS (100%)</u>
<u>b0948</u>	Replace Yukon 138 kV breaker 'Y-2'	<u>APS (100%)</u>
<u>b0949</u>	Replace Yukon 138 kV breaker 'Y-19'	<u>APS (100%)</u>
<u>b0950</u>	Replace Yukon 138 kV breaker 'Y-4'	<u>APS (100%)</u>
<u>b0951</u>	Replace Yukon 138 kV breaker 'Y-9'	<u>APS (100%)</u>
<u>b0952</u>	Replace Yukon 138 kV breaker 'Y-11'	<u>APS (100%)</u>
<u>b0953</u>	Replace Yukon 138 kV breaker 'Y-13'	<u>APS (100%)</u>
<u>b0954</u>	Replace Charleroi 138 kV breaker '#1 XFMR BANK'	<u>APS (100%)</u>

ansmission Enhancements Annual Revenue Requirement	Kesponsiole Customer(s)
Replace Yukon 138 kV breaker 'Y-7'	<u>APS (100%)</u>
Replace Charleroi 138 kV breaker '#2 XFMR BANK'	<u>APS (100%)</u>
Replace Yukon 138 kV breaker 'Y- 18'	<u>APS (100%)</u>
Replace Yukon 138 kV breaker 'Y- 10'	<u>APS (100%)</u>
Replace Springdale 138 kV breaker '138E'	<u>APS (100%)</u>
Replace Springdale 138 kV breaker '138C'	<u>APS (100%)</u>
Replace Springdale 138 kV breaker '138F'	<u>APS (100%)</u>
Replace Springdale 138 kV breaker '138G'	<u>APS (100%)</u>
Replace Springdale 138 kV breaker '138V'	<u>APS (100%)</u>
Replace Armstrong 138 kV breaker 'BROOKVILLE'	<u>APS (100%)</u>
Replace Springdale 138 kV breaker '138P'	<u>APS (100%)</u>
Replace Springdale 138 kV breaker '138U'	<u>APS (100%)</u>
Replace Springdale 138 kV breaker ' <u>138D'</u>	<u>APS (100%)</u>
Replace Springdale 138 kV breaker '138R'	<u>APS (100%)</u>
Replace Yukon 138 kV breaker 'Y- 12'	<u>APS (100%)</u>
Replace Yukon 138 kV breaker 'Y- 17'	<u>APS (100%)</u>
Replace Yukon 138 kV breaker 'Y- 14'	<u>APS (100%)</u>
	Replace Yukon 138 kV breaker 'Y-7'Replace Charleroi 138 kV breaker'#2 XFMR BANK'Replace Yukon 138 kV breaker 'Y- 10'Replace Yukon 138 kV breaker 'Y- 10'Replace Springdale 138 kV breaker'138E'Replace Springdale 138 kV breaker '138E'Replace Springdale 138 kV breaker '138E'Replace Springdale 138 kV breaker '138F'Replace Springdale 138 kV breaker '138F'Replace Springdale 138 kV breaker '138B'Replace Springdale 138 kV breaker '138B'Replace Springdale 138 kV breaker '138V'Replace Springdale 138 kV breaker '138D'Replace Springdale 138 kV breaker '138D'Replace Springdale 138 kV breaker '138D'Replace Springdale 138 kV breaker '138B'Replace Springdale 138 kV breaker 'Y- 12'Replace Yukon 138 kV breaker 'Y- 12'

Required Tra	ansmission Enhancements Annual Revenue Requirement	Responsible Customer(s)
<u>b0986</u>	Replace Armstrong 138 kV breaker 'RESERVE BUS'	<u>APS (100%)</u>
<u>b0987</u>	Replace Yukon 138 kV breaker 'Y- 16'	<u>APS (100%)</u>
<u>b0988</u>	Replace Springdale 138 kV breaker '138T'	<u>APS (100%)</u>
<u>b0990</u>	Change reclosing on Cabot 138 kV breaker 'C-9'	<u>APS (100%)</u>
<u>b0997</u>	Change reclosing on Cabot 138 kV breaker 'C-4'	<u>APS (100%)</u>
<u>b0998</u>	Change reclosing on Cabot 138 kV breaker 'C-1'	<u>APS (100%)</u>
<u>b1022.3</u>	Add static capacitors at Smith 138 <u>kV</u>	<u>APS (96.98%) / DL</u> (3.02%)
<u>b1022.4</u>	Add static capacitors at North Fayette 138 kV	<u>APS (96.98%) / DL</u> (3.02%)
<u>b1022.5</u>	Add static capacitors at South Fayette 138 kV	<u>APS (96.98%) / DL</u> (3.02%)
<u>b1022.6</u>	Add static capacitors at Manifold 138 kV	<u>APS (96.98%) / DL</u> (3.02%)
<u>b1022.7</u>	Add static capacitors at Houston 138 kV	<u>APS (96.98%) / DL</u> (3.02%)
<u>b1023.1</u>	Install a 500/138 kV transformer at 502 Junction	APS (100%)
<u>b1023.2</u>	<u>Construct a new Franklin - 502</u> Junction 138 kV line including a rebuild of the Whiteley - Franklin 138 kV line to double circuit	APS (100%)
<u>b1027</u>	Increase the size of the shunt capacitors at Enon 138 kV	<u>APS (100%)</u>
<u>b1159</u>	Replace Peters 138 kV breaker 'Bethel P OCB'	APS (100%)
<u>b1160</u>	Replace Peters 138 kV breaker 'Cecil OCB'	APS (100%)
<u>b1161</u>	Replace Peters 138 kV breaker 'Union JctOCB'	APS (100%)
<u>b1164</u>	Replace Cecil 138 kV breaker         'Enlow OCB'	<u>APS (100%)</u>

<u>Itequileu II</u>	ansinission Enhancements Annual Revenue Requirement	
<u>b1165</u>	Replace Cecil 138 kV breaker 'South Fayette'	<u>APS (100%)</u>
<u>b1243</u>	Install a 138 kV capacitor at Potter Substation	<u>APS (100%)</u>
<u>b1261</u>	Replace Butler 138 kV breaker '1-2 BUS 138'	<u>APS (100%)</u>
<u>b1383</u>	Install 2nd 500/138 kV transformer at 502 Junction	<u>APS (93.27%) / DL</u> (5.39%) / PENELEC (1.34%)
<u>b1403</u>	Change reclosing on Yukon 138 kV breaker 'Y21 Shepler' to 1 shot at 15 seconds	APS (100%)
<u>b1404</u>	Replace the Kiski Valley 138 kV breaker 'Vandergrift' with a 40 kA breaker	APS (100%)
<u>b1405</u>	Change reclosing on Armstrong 138 kV breaker 'GARETTRJCT' at 1 shot at 15 seconds	<u>APS (100%)</u>
<u>b1406</u>	Change reclosing on Armstrong 138 kV breaker 'KITTANNING' to 1 shot at 15 seconds	<u>APS (100%)</u>
<u>b1407</u>	Change reclosing on Armstrong 138 kV breaker 'BURMA' to 1 shot at 15 seconds	<u>APS (100%)</u>
<u>b1409</u>	Replace the Cabot 138 kV breaker 'C9 Kiski Valley' with a 40 kA breaker	<u>APS (100%)</u>

Ittequirea II	ansinission Enhancements Annual Revenue Re	quirement Responsible Customer(s)
<u>b1672</u>	Install a 230 kV breaker at Carbon Center	<u>APS (100%)</u>
<u>b1825</u>	Replace the 800 Amp line trap at Butler138 kV Sub on the Cabot East 138 kVline	<u>APS (100%)</u>
<u>b1839</u>	Install additional 33 MVAR capacitors at Grand Point 138 kV SS and Guildford 138 kV SS	<u>APS (100%)</u>
<u>b1941</u>	Loop the Homer City-Handsome Lake 345 kV line into the Armstrong substation and install a 345/138 kV transformer at Armstrong	<u>APS (67.86%) /</u> <u>PENELEC (32.14%)</u>
<u>b1964</u>	Convert Moshannon substation to a 4 breaker 230 kV ring bus	<u>APS (41.06%) / DPL</u> (6.68%) / JCPL (5.48%) / <u>ME (10.70%) /</u> <u>NEPTUNE* (0.53%) /</u> <u>PECO (15.53%) / PPL</u> (20.02%)
<u>b1965</u>	Install a 44 MVAR 138 kV capacitor at Luxor substation	APS (100%)
<u>b1986</u>	<u>Upgrade the AP portion of the Elrama –</u> <u>Mitchell 138 kV line by replace breaker</u> <u>risers on the Mitchell 138 kV bus on the</u> Elrama terminal	APS (100%)
<u>b2102</u>	Replace Armstrong 138 kV breaker 'GARETTRJCT' with 40 kA rated breaker	<u>APS (100%)</u>
<u>b2103</u>	Replace Armstrong 138 kV breaker BURMA' with 40 kA rated breaker	APS (100%)
<u>b2104</u>	Replace Armstrong 138 kV breaker <u>'KITTANNING' with 40 kA rated</u> breaker	<u>APS (100%)</u>
<u>b2105</u>	Replace Armstrong 138 kV breaker         'KISSINGERJCT' with 40 kA rated         breaker         Periodal Transmission System, LLC	<u>APS (100%)</u>

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required The		Requirement Re	sponsiole Customer(s)
<u>b2124.3</u>	Add new 138 kV line exit and install a 138/25 kV transformer		<u>APS (100%)</u>
<u>b2124.5</u>	Convert approximately 7.5 miles of 69 kV to 138 kV		<u>APS (100%)</u>
<u>b2156</u>	Install a 75 MVAR 230 kV capacitor at Shingletown Substation		<u>APS (100%)</u>
<u>b2169</u>	Replace/Raise structures on the Yukon- Smithton 138 kV line section to eliminate clearance de-rate		<u>APS (100%)</u>
<u>b2170</u>	Replace/Raise structures on the Smithton-Shepler Hill Jct 138 kV line section to eliminate clearance de-rate		<u>APS (100%)</u>

# PJM Open Access Transmission Tariff Schedule 12-Appendix A Section 2 – Baltimore Gas and Electric Co.

Version 23.0.0 Effective January 1, 2024 (Accepted in Docket No. ER24-786-000)

#### **SCHEDULE 12 – APPENDIX A**

# (2) Baltimore Gas and Electric Company

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
		1

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	Install a 115 kV tie		
b2219	breaker at Wagner to		
	create a separation from		
	line 110535 and		
	transformer 110-2		BGE (100%)
b2220	Install four 115 kV		
02220	breakers at Chestnut Hill		BGE (100%)
	Install an SPS to trip		
b2221	approximately 19 MW		
02221	load at Green St. and		
	Concord		BGE (100%)
	Install a 230/115 kV		
	transformer at Raphael		
	Rd and construct		
	approximately 3 miles of		
b2307	115 kV line from		
	Raphael Rd. to		
	Joppatowne. Construct a		
	115 kV three breaker		
	ring at Joppatowne		BGE (100%)
	Build approximately 3		
	miles of 115 kV		
	underground line from		
	Bestgate tap to Waugh		
b2308	Chapel. Create two		
	breaker bay at Waugh		
	Chapel to accommodate		
	the new underground		
	circuit		BGE (100%)
	Build a new Camp Small		· · · · · · · · · · · · · · · · · · ·
b2396	115 kV station and install		
	30 MVAR capacitor		BGE (100%)

		inidal recvende receptionent	
1.000 6 1	Install a tie breaker at		
b2396.1	Mays Chapel 115 kV		
	substation		BGE (100%)
	Upgrade the Riverside		
	115 kV substation strain		
	bus conductors on		
	circuits 115012 and		
b2567	115011 with double		
	bundled 1272 ACSR to		
	achieve ratings of		
	491/577 MVA SN/SE on		
	both transformer leads		BGE (100%)
	Reconductor Northwest –		
	Northwest #2 115 kV		
10500	110574 substation tie		
b2568	circuit with 2167 ACSR		
	to achieve ratings of		
	400/462 MVA SN/SE		BGE (100%)
	Conastone 230 kV		
	substation tie-in work		
	(install a new circuit		AEP (6.46%) / APS (8.74%) /
10750 (	breaker at Conastone		BGE (19.74%) / ComEd (2.16%)
b2752.6	230 kV and upgrade any		/ Dayton (0.59%) / DEOK
	required terminal		(1.02%) / DL (0.01%) /
	equipment to terminate		Dominion (39.95%) / EKPC
	the new circuit)		(0.45%) / PEPCO (20.88%)
1			
b2752.7			
	10		
	equipment on both ends		
	Replace the Conastone		
b2752.8	230 kV '2322 B5'		
	breaker with a 63 kA		
	breaker		BGE (100%)
b2752.7 b2752.8	Reconductor/Rebuild the two Conastone – Northwest 230 kV lines and upgrade terminal equipment on both ends Replace the Conastone 230 kV '2322 B5' breaker with a 63 kA		AEP (6.46%) / APS (8.74%) / BGE (19.74%) / ComEd (2.16%) / Dayton (0.59%) / DEOK (1.02%) / DL (0.01%) / Dominion (39.95%) / EKPC (0.45%) / PEPCO (20.88%)

		1
b2752.9	Replace the Conastone 230 kV '2322 B6' breaker with a 63 kA breaker	BGE (100%)
b2766.1	Upgrade substation equipment at Conastone 500 kV to increase facility rating to 2826 MVA normal and 3525 MVA emergency	Load-Ratio Share Allocation: AEC (1.65%) / AEP ( $13.6814.29\%$ ) / APS ( $5.765.82\%$ ) / ATSI ( $8.047.49\%$ ) / BGE ( $4.114.01\%$ ) / ComEd ( $13.3914.06\%$ ) / Dayton ( $2.122.03\%$ ) / DEOK ( $3.253.21\%$ ) / DL ( $1.711.59\%$ ) / DPL ( $2.602.55\%$ ) / Dominion ( $13.3213.89\%$ ) / EKPC ( $1.892.35\%$ ) / JCPL ( $3.863.59\%$ ) / ME ( $1.901.81\%$ ) / NEPTUNE* ( $0.42\%$ ) / OVEC ( $0.080.06\%$ ) / PECO ( $5.405.11\%$ ) / PENELEC ( $1.781.73\%$ ) / PENELEC ( $1.781.73\%$ ) / PEPCO ( $3.673.68\%$ ) / PPL ( $4.724.43\%$ ) / PSEG ( $6.395.99\%$ ) / RE ( $0.260.24\%$ ) DFAX Allocation: APS ( $3.98\%$ ) / ATSI ( $0.03\%$ ) / BGE ( $20.9812.36\%$ ) / DL ( $0.01\%$ ) / Dominion ( $32.0624.57\%$ ) / DPL ( $0.0225.17\%$ ) / JCPL ( $7.057.90\%$ ) / NEPTUNE* ( $0.810.88\%$ ) / PENELEC ( $1.60\%$ ) / PEPCO ( $17.7012.32\%$ ) / PPL ( $2.72\%$ ) / PSEG ( $14.0714.57\%$ ) / RE ( $0.570.63\%$ )

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required II		al Revenue Requirement Responsible Customer(s)
b2816	Re-connect the Crane – Windy Edge 110591 & 110592 115 kV circuits into the Northeast Substation with the addition of a new	
	115 kV 3-breaker bay	BGE (100%)
b2992.1	Reconductor the Conastone to Graceton 230 kV 2323 & 2324 circuits. Replace 7 disconnect switches at Conastone substation	AEP (2.25%) / APS (2.58%) / BGE (44.61%) / ComEd (0.51%) / Dayton (0.40%) / DEOK (1.39%) / DL (0.14%) / Dominion (27.05%) / EKPC (0.52%) / PENELEC (0.02%) / PEPCO (20.53%)
b2992.2	Add Bundle conductor on the Graceton – Bagley – Raphael Road 2305 & 2313 230 kV circuits	AEP (2.25%) / APS (2.58%) / BGE (44.61%) / ComEd (0.51%) / Dayton (0.40%) / DEOK (1.39%) / DL (0.14%) / Dominion (27.05%) / EKPC (0.52%) / PENELEC (0.02%) / PEPCO (20.53%)
b2992.3	Replacing short segment of substation conductor on the Windy Edge to Glenarm 110512 115 kV circuit	AEP (2.25%) / APS (2.58%) / BGE (44.61%) / ComEd (0.51%) / Dayton (0.40%) / DEOK (1.39%) / DL (0.14%) / Dominion (27.05%) / EKPC (0.52%) / PENELEC (0.02%) / PEPCO (20.53%)
b2992.4	Reconductor the Raphael Road – Northeast 2315 & 2337 230 kV circuits	AEP (2.25%) / APS (2.58%) / BGE (44.61%) / ComEd (0.51%) / Dayton (0.40%) / DEOK (1.39%) / DL (0.14%) / Dominion (27.05%) / EKPC (0.52%) / PENELEC (0.02%) / PEPCO (20.53%)
b3228	Replace two (2) relays at Center substation to increase ratings on the Westport to Center 110552 115 kV circuit	BGE (100%)
b3305	Replace Pumphrey 230/115 kV transformer	BGE (100%)

Itequileu II	ansimission Linancements Anno	dai Revende Requirement Responsible Customer(s)
b3668	Upgrade Windy Edge 115 kV substation conductor to increase ratings of the Windy Edge – Chesco Park 110501 115 kV line	BGE (100%)
b3770	Rebuild 1.4 miles of existing single circuit 230 kV tower line between BGE's Graceton substation to the Brunner Island PPL tie-line at the MD/PA state line to double circuit steel pole line with one circuit installed to uprate 2303 circuit	BGE (99.98%) / ME (0.01%) / PPL (0.01%)
b3771	Reconductor two (2) 230 kV circuits from Conastone to Northwest #2	BGE (70.70%) / PEPCO (29.30%)
b3780.4	Peach Bottom to Graceton (BGE) 500 kV transmission line. New rating is 4503 MVA SN/ 5022 MVA SE	Load-Ratio Share Allocation:         AEC (1.65%) / AEP $(13.6814.29\%)$ / APS $(5.765.82\%)$ / ATSI $(8.047.49\%)$ / BGE $(4.114.01\%)$ / ComEd $(13.3914.06\%)$ / Dayton $(2.122.03\%)$ / DEOK $(3.253.21\%)$ / DL $(1.711.59\%)$ / DPL $(2.602.55\%)$ / Dominion $(13.3213.89\%)$ / EKPC $(1.892.35\%)$ / JCPL $(3.863.59\%)$ / ME $(1.901.81\%)$ / NEPTUNE* $(0.42\%)$ / OVEC $(0.080.06\%)$ / PECO $(5.405.11\%)$ / PENELEC $(1.7781.73\%)$ / PEPCO $(3.673.68\%)$ / PPL $(4.724.43\%)$ / PSEG $(6.395.99\%)$ / RE $(0.260.24\%)$

	DFAX Allocation:
	ATSI (0.03%) / BGE (28.40%)
	/ DPL (0.02%) / Dominion
	(33.36%) / JCPL (6.36%) /
	NEPTUNE* (0.73%) / PEPCO
	(17.90%) / PSEG (12.69%) /
	RE (0.51%)

Required Tra	ansmission Enhancements Annual Reven	ue Requirement	Responsible Customer(s)
	Build 230 kV Solley Road		
	substation and STATCOM.		
b3780.5	New STATCOM rating: 350		
	MVAR. Add 4x 230 kV breakers		
	bays		BGE (100%)
	Build 230 kV Granite substation and		
	STATCOM.		
b3780.6	New STATCOM rating: 350		
	MVAR. Add 4x 230 kV breaker		
	bays		BGE (100%)
	Build Batavia Road 230 kV		
b3780.7	substation. Add 4x 230 kV breaker		
03700.7	bays		BGE (100%)
	Graceton 500 kV substation		DGE (10070)
	expansion: Add 3x 500 kV breaker		
	bays, two 500/230 kV auto		
b3780.8	transformers, and one 250 MVAR		
00700.0	capacitor. New transformer rating:		
	1559 MVA SN / 1940 MVA SE.		
	New capacitor rating: 250 MVAR		BGE (81.92%) / PEPCO (18.08%)
	Build Graceton to Batavia Road 230		DOL (01.9270) / 1 El CO (10.0070)
b3780.9	kV double circuit line. New rating:		
03700.9	1331 MVA SN/ 1594 MVA SE		BGE (100%)
			Load-Ratio Share Allocation:
			AEC (1.65%) / AEP ( <del>13.68<u>14.29</u>%)</del>
			/ APS ( <del>5.76</del> 5.82%) / ATSI
			( <del>8.047.49</del> %) / BGE ( <del>4.114.01</del> %) /
			ComEd $(\frac{13.3914.06}{\%})$ / Dayton
			(2.122.03%) / DEOK $(3.253.21%)$ /
			(2.122.05/0) DEOR $(3.259.21/0)DL (1.711.59\%) / DPL (2.602.55\%)$
			· / · · _ /
b3780.10	Install new 350 MVAR capacitor at		/ Dominion ( <del>13.32<u>13.89</u>%) / EKPC</del>
03780.10	Conastone 500 kV substation		( <del>1.892.35</del> %) / JCPL ( <del>3.863.59</del> %) / ME (1.001.81%) / NEPTLINE*
			$ME (\frac{1.901.81}{0}) / NEPTUNE*$
			(0.42%) / OVEC (0.080.06%) / DECO (5.405.11%) / DECO (5.405.11%) / DECE
			PECO ( <u>5.405.11</u> %) / PENELEC
			$(\frac{1.781.73}{1.73}) / PEPCO (\frac{3.673.68}{1.73}) / PEPCO $
			PPL (4.724.43%) / PSEG
			( <del>6.395.99</del> %) / RE ( <del>0.26</del> <u>0.24</u> %)
			DFAX Allocation:
	Descendenten Deter 'D 14		BGE (100.00%)
12790 12	Reconductor Batavia Road to		
b3780.13	Riverside 230 kV line. New rating:		DCE (51 340/) / DEDCO (49 7/0/)
	1941 MVA SN / 2181 MVA SE		BGE (51.24%) / PEPCO (48.76%)

# PJM Open Access Transmission Tariff Schedule 12-Appendix A Section 2 – Baltimore Gas and Electric Co.

Version 24.0.0 Effective April 9, 2024 (Accepted in Docket No. ER24-843-000)

#### **SCHEDULE 12 – APPENDIX A**

# (2) Baltimore Gas and Electric Company

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Annual Revenue Requirement	Responsible Customer(s)

		1	1
	Install a 115 kV tie		
	breaker at Wagner to		
b2219	create a separation from		
	line 110535 and		
	transformer 110-2		BGE (100%)
b2220	Install four 115 kV		
02220	breakers at Chestnut Hill		BGE (100%)
	Install an SPS to trip		
b2221	approximately 19 MW		
02221	load at Green St. and		
	Concord		BGE (100%)
	Install a 230/115 kV		
	transformer at Raphael		
	Rd and construct		
	approximately 3 miles of		
b2307	115 kV line from		
	Raphael Rd. to		
	Joppatowne. Construct a		
	115 kV three breaker		
	ring at Joppatowne		BGE (100%)
	Build approximately 3		
	miles of 115 kV		
	underground line from		
	Bestgate tap to Waugh		
b2308	Chapel. Create two		
	breaker bay at Waugh		
	Chapel to accommodate		
	the new underground		
	circuit		BGE (100%)
	Build a new Camp Small		
b2396	115 kV station and install		
	30 MVAR capacitor		BGE (100%)

		inidal recvende receptionent	
1.00000	Install a tie breaker at		
b2396.1	Mays Chapel 115 kV		
	substation		BGE (100%)
	Upgrade the Riverside		
	115 kV substation strain		
	bus conductors on		
	circuits 115012 and		
b2567	115011 with double		
	bundled 1272 ACSR to		
	achieve ratings of		
	491/577 MVA SN/SE on		
	both transformer leads		BGE (100%)
	Reconductor Northwest –		
	Northwest #2 115 kV		
105(0	110574 substation tie		
b2568	circuit with 2167 ACSR		
	to achieve ratings of		
	400/462 MVA SN/SE		BGE (100%)
	Conastone 230 kV		
	substation tie-in work		
	(install a new circuit		AEP (6.46%) / APS (8.74%) /
10750 (	breaker at Conastone		BGE (19.74%) / ComEd (2.16%)
b2752.6	230 kV and upgrade any		/ Dayton (0.59%) / DEOK
	required terminal		(1.02%) / DL (0.01%) /
	equipment to terminate		Dominion (39.95%) / EKPC
	the new circuit)		(0.45%) / PEPCO (20.88%)
			AEP (6.46%) / APS (8.74%) /
	Reconductor/Rebuild the		
1			
b2752.7			
	10		
	equipment on both ends		
	Replace the Conastone		
1 2752 0	230 kV '2322 B5'		
02/52.8	breaker with a 63 kA		
	breaker		BGE (100%)
b2752.7 b2752.8	two Conastone – Northwest 230 kV lines and upgrade terminal equipment on both ends Replace the Conastone 230 kV '2322 B5' breaker with a 63 kA		BGE (19.74%) / ComEd (2.16%) / Dayton (0.59%) / DEOK (1.02%) / DL (0.01%) / Dominion (39.95%) / EKPC (0.45%) / PEPCO (20.88%) BGE (100%)

		1	
b2752.9	Replace the Conastone 230 kV '2322 B6' breaker with a 63 kA breaker		BGE (100%)
b2766.1	Upgrade substation equipment at Conastone 500 kV to increase facility rating to 2826 MVA normal and 3525		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)
	MVA emergency		DFAX Allocation: APS (3.98%) / ATSI (0.03%) / BGE (20.98%) / DL (0.01%) / Dominion (32.06%) / DPL (0.02%) / JCPL (7.05%) / NEPTUNE* (0.81%) / PEPCO (17.70%) / PPL (2.72%) / PSEG (14.07%) / RE (0.57%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Ir		ial Revenue Requirement	nt Responsible Customer(s)
1-2017	Re-connect the Crane – Windy Edge 110591 & 110592 115 kV circuits into		
b2816	the Northeast Substation		
	with the addition of a new		
	115 kV 3-breaker bay		BGE (100%)
			AEP (2.25%) / APS (2.58%) /
	Reconductor the Conastone		BGE (44.61%) / ComEd
	to Graceton 230 kV 2323 &		(0.51%) / Dayton $(0.40%)$ /
b2992.1	2324 circuits. Replace 7		DEOK (1.39%) / DL (0.14%) /
	disconnect switches at		Dominion (27.05%) / EKPC
	Conastone substation		(0.52%) / PENELEC (0.02%) /
			PEPCO (20.53%)
			AEP (2.25%) / APS (2.58%) /
	Add Bundle conductor on		BGE (44.61%) / ComEd
1.000.00	the Graceton – Bagley –		(0.51%) / Dayton (0.40%) /
b2992.2	Raphael Road 2305 & 2313		DEOK (1.39%) / DL (0.14%) /
	230 kV circuits		Dominion (27.05%) / EKPC
			(0.52%) / PENELEC (0.02%) /
			PEPCO (20.53%)
			AEP (2.25%) / APS (2.58%) /
	Replacing short segment of		BGE (44.61%) / ComEd
1 2002 2	substation conductor on the		(0.51%) / Dayton $(0.40%)$ /
b2992.3	Windy Edge to Glenarm		DEOK (1.39%) / DL (0.14%) /
	110512 115 kV circuit		Dominion (27.05%) / EKPC
			(0.52%) / PENELEC (0.02%) / PEPCO (20.53%)
			AEP (2.25%) / APS (2.58%) /
			BGE (44.61%) / ComEd
	Reconductor the Raphael		(0.51%) / Dayton $(0.40%)$ /
b2992.4	Road – Northeast 2315 &		DEOK (1.39%) / DL (0.14%) /
02772.4	2337 230 kV circuits		Deck (1.57%) / DE (0.147%) / Dominion (27.05%) / EKPC
			(0.52%) / PENELEC (0.02%) /
			PEPCO (20.53%)
	Replace two (2) relays at		
	Center substation to		
b3228	increase ratings on the		
	Westport to Center 110552		
	115 kV circuit		BGE (100%)
1,2205	Replace Pumphrey 230/115		
b3305	kV transformer		BGE (100%)

Required II		an Revenue Requiremente	nt Responsible Customer(s)
	Upgrade Windy Edge 115		
	kV substation conductor to		
b3668	increase ratings of the		
	Windy Edge – Chesco Park		
	110501 115 kV line		BGE (100%)
	Rebuild 1.4 miles of		
	existing single circuit 230		
	kV tower line between		
	BGE's Graceton substation		
1 2770	to the Brunner Island PPL		
b3770	tie-line at the MD/PA state		
	line to double circuit steel		
	pole line with one circuit		
	installed to uprate 2303		BGE (99.98%) / ME (0.01%) /
	circuit		PPL (0.01%)
	Reconductor two (2) 230		
b3771	kV circuits from Conastone		BGE (70.70%) / PEPCO
	to Northwest #2		(29.30%)
			Load-Ratio Share Allocation:
			AEC (1.65%) / AEP (13.68%) /
			APS (5.76%) / ATSI (8.04%) /
			BGE (4.11%) / ComEd
			(13.39%) / Dayton (2.12%) /
			DEOK (3.25%) / DL (1.71%) /
			Dominion (13.32%) / DPL
			(2.60%) / EKPC (1.89%) /
			JCPL (3.86%) / ME (1.90%) /
	Peach Bottom to Graceton		NEPTUNE* (0.42%) / OVEC
b3780.4	(BGE) 500 kV transmission		(0.08%) / PECO (5.40%) /
	line. New rating is 4503		PENELEC (1.78%) / PEPCO
	MVA SN/ 5022 MVA SE		(3.67%) / PPL (4.72%) / PSEG
			(6.39%) / RE (0.26%)
			DFAX Allocation:
			ATSI (0.03%) / BGE (28.40%)
			/ DPL (0.02%) / Dominion
			(33.36%) / JCPL (6.36%) /
			NEPTUNE* (0.73%) / PEPCO
			(17.90%) / PSEG (12.69%) /
			RE (0.51%)
		<u> </u>	

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tra	Insmission Enhancements Annual Reven	ue Requirement	Responsible Customer(s)
	Build 230 kV Solley Road		
	substation and STATCOM.		
b3780.5	New STATCOM rating: 350		
	MVAR. Add 4x 230 kV breakers		
	bays		BGE (100%)
	Build 230 kV Granite substation and		
	STATCOM.		
b3780.6	New STATCOM rating: 350		
	MVAR. Add 4x 230 kV breaker		
	bays		BGE (100%)
	Build Batavia Road 230 kV		
b3780.7	substation. Add 4x 230 kV breaker		
03700.7	bays		BGE (100%)
	Graceton 500 kV substation		BGE (10070)
	expansion: Add 3x 500 kV breaker		
	bays, two 500/230 kV auto		
b3780.8	transformers, and one 250 MVAR		
05780.8			
	capacitor. New transformer rating:		
	1559 MVA SN / 1940 MVA SE.		DCE(91.020/)/DEDCO(19.090/)
	New capacitor rating: 250 MVAR		BGE (81.92%) / PEPCO (18.08%)
1.2790.0	Build Graceton to Batavia Road 230		
b3780.9	kV double circuit line. New rating:		DCE(1000/)
	1331 MVA SN/ 1594 MVA SE		BGE (100%)
			Load-Ratio Share Allocation:
			AEC (1.65%) / AEP (13.68%) / APS
			(5.76%) / ATSI (8.04%) / BGE
			(4.11%) / ComEd (13.39%) / Dayton
			(2.12%) / DEOK (3.25%) / DL
			(1.71%) / Dominion (13.32%) / DPL
	Install new 350 MVAR capacitor at		(2.60%) EKPC (1.89%) / JCPL
b3780.10	Conastone 500 kV substation		(3.86%) / ME (1.90%) /
			NEPTUNE* (0.42%) / OVEC
			(0.08%) / PECO (5.40%) /
			PENELEC (1.78%) / PEPCO
			(3.67%) / PPL (4.72%) / PSEG
			(6.39%) / RE (0.26%)
			<b>DFAX Allocation:</b>
			BGE (100%)
	Reconductor Batavia Road to		
b3780.13	Riverside 230 kV line. New rating:		
	1941 MVA SN / 2181 MVA SE		BGE (51.24%) / PEPCO (48.76%)
Nentune Re	egional Transmission System, LLC		<b>DOL</b> (31.2770)71 EI CO (70.7070)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tra	ansmission Enhancements	Annual Revenu	e Requirement	Responsible Customer(s)
<u>b3800.4</u>	New Otter Creek to Dou line (MD Border - PSE) Demarcation Point). Re expand existing approxi- miles of Otter Creek - C 230 kV line to become a circuit 500 kV and 230	G build and mately 6 Conastone a double-		Load-Ratio Share Allocation: <u>AEC (1.65%) / AEP (13.68%) / APS</u> (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / <u>NEPTUNE* (0.42%) / OVEC</u> (0.08%) / PECO (5.40%) / <u>PENELEC (1.78%) / PEPCO</u> (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) <u>DFAX Allocation:</u> <u>APS (13.16%) / BGE (0.79%) /</u> <u>Dominion (74.28%) / DPL (0.41%) /</u>
<u>b3800.26</u>	Build High Ridge 500 k - Three bay breaker and configuration			PECO (0.77%) / PEPCO (10.59%) This upgrade ID is only for tracking purpose. Cost allocation details are available from b3800.27 ~ b3800.33
<u>b3800.27</u>	High Ridge 500 kV sub into Brighton - Waugh kV line) - Waugh Chap	<u>Chapel 500</u> el side		Load-Ratio Share Allocation:           AEC (1.65%) / AEP (13.68%) / APS           (5.76%) / ATSI (8.04%) / BGE           (4.11%) / ComEd (13.39%) / Dayton           (2.12%) / DEOK (3.25%) / DL           (1.71%) / Dominion (13.32%) / DPL           (2.60%) / EKPC (1.89%) / JCPL           (3.86%) / ME (1.90%) /           NEPTUNE* (0.42%) / OVEC           (0.08%) / PECO (5.40%) /           PENELEC (1.78%) / PEPCO           (3.67%) / PPL (4.72%) / PSEG           (6.39%) / RE (0.26%)           DFAX Allocation:           BGE (70.66%) / PEPCO (29.34%)

Required Tra	ansmission Enhancements Annual Reven	ue Requirement	Responsible Customer(s)
<u>b3800.28</u>	High Ridge 500 kV substation (cut into Brighton - Waugh Chapel 500 kV line) - Brighton side		Load-Ratio Share Allocation: <u>AEC (1.65%) / AEP (13.68%) / APS</u> (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / <u>NEPTUNE* (0.42%) / OVEC</u> (0.08%) / PECO (5.40%) / <u>PENELEC (1.78%) / PEPCO</u> (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) <u>DFAX Allocation:</u> <u>APS (0.68%) / BGE (97.41%) /</u> <u>Dominion (1.91%)</u>
<u>b3800.29</u>	High Ridge termination for the North Delta - High Ridge 500 kV line		Load-Ratio Share Allocation: <u>AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE</u> (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / <u>NEPTUNE* (0.42%) / OVEC</u> (0.08%) / PECO (5.40%) / <u>PENELEC (1.78%) / PEPCO</u> (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) <u>DFAX Allocation:</u> <u>BGE (2.58%) / Dominion (59.28%)</u> / DPL (0.02%) / PEPCO (28.48%) / <u>PSEG (9.24%) / RE (0.40%)</u>
<u>b3800.30</u>	High Ridge - Install two 500/230 kV transformers		<u>BGE (62.75%) / PEPCO (37.25%)</u>
*Neptune F	Regional Transmission System, LLC	•	

Required Tr	ansmission Enhancements Annual Reve	nue Requirement	Responsible Customer(s)
<u>b3800.32</u>	<u>Build new North Delta – High</u> <u>Ridge 500 kV line (approximately</u> <u>59 miles)</u>		Load-Ratio Share Allocation: <u>AEC (1.65%) / AEP (13.68%) / APS</u> (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / <u>NEPTUNE* (0.42%) / OVEC</u> (0.08%) / PECO (5.40%) / <u>PENELEC (1.78%) / PEPCO</u> (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) <u>DFAX Allocation:</u> <u>BGE (2.58%) / Dominion (59.28%)</u> / DPL (0.02%) / PEPCO (28.48%) / PSEG (9.24%) / RE (0.40%)
<u>b3800.34</u>	Rebuild 5012 (existing Peach Bottom - Conastone) (new Graceton - Conastone) 500 kV line on single circuit structures within existing right-of-way (ROW) and cut into North Delta 500 kV and Graceton 500 kV stations		PSEG (9.24%) / RE (0.40%)         Load-Ratio Share Allocation:         AEC (1.65%) / AEP (13.68%) / APS         (5.76%) / ATSI (8.04%) / BGE         (4.11%) / ComEd (13.39%) / Dayton         (2.12%) / DEOK (3.25%) / DL         (1.71%) / Dominion (13.32%) / DPL         (2.60%) / EKPC (1.89%) / JCPL         (3.86%) / ME (1.90%) /         NEPTUNE* (0.42%) / OVEC         (0.08%) / PECO (5.40%) /         PENELEC (1.78%) / PEPCO         (3.67%) / PPL (4.72%) / PSEG         (6.39%) / RE (0.26%)         DFAX Allocation:         BGE (12.36%) / Dominion (24.57%)         / DPL (25.17%) / JCPL (7.90%) /         NEPTUNE* (0.88%) / PENELEC         (1.60%) / PEPCO (12.32%) / PSEG         (14.57%) / RE (0.63%)

Required Tra	ansmission Enhancements	Annual Revenue F	equirement Responsible Customer(s)
<u>b3800.36</u>	Rebuild 5012 (existing Bottom - Conastone) (n Delta - Graceton BGE) on single circuit structu existing ROW and cut i Delta 500 kV and Grace stations	ew North 500 kV line res within nto North	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPI (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: BGE (51.35%) / Dominion (32.44% / DPL (0.01%) / JCPL (0.01%) / PEPCO (16.17%) / PSEG (0.02%)
<u>b3800.37</u>	Replace terminal equip limitations at Conastone on the existing Peach B Conastone, future <del>or (m</del> — Conastone, <del>)</del> 500 kV	e 500 kV - ottom ew-Graceton	Load-Ratio Share Allocation:         AEC (1.65%) / AEP (13.68%) / APS         (5.76%) / ATSI (8.04%) / BGE         (4.11%) / ComEd (13.39%) / Dayton         (2.12%) / DEOK (3.25%) / DL         (1.71%) / Dominion (13.32%) / DPI         (2.60%) / EKPC (1.89%) / JCPL         (3.86%) / ME (1.90%) /         NEPTUNE* (0.42%) / OVEC         (0.08%) / PECO (5.40%) /         PENELEC (1.78%) / PEPCO         (3.67%) / PPL (4.72%) / PSEG         (6.39%) / RE (0.26%)         DFAX Allocation:         BGE (12.36%) / Dominion (24.57%         / DPL (25.17%) / JCPL (7.90%) /         NEPTUNE* (0.88%) / PENELEC         (1.60%) / PEPCO (12.32%) / PSEG         (14.57%) / RE (0.63%)

### **Baltimore Gas and Electric Company (cont.)**

Required Tra	ansmission Enhancements Annual Reven	ue Requirement Responsible Customer(s)
<u>b3800.41</u>	Conastone - Brighton 500 kV line (5011 line) - Replace terminal equipment limitations at Conastone 500 kV substation	Load-Ratio Share Allocation:           AEC (1.65%) / AEP (13.68%) / APS           (5.76%) / ATSI (8.04%) / BGE           (4.11%) / ComEd (13.39%) / Daytor           (2.12%) / DEOK (3.25%) / DL           (1.71%) / Dominion (13.32%) / DPL           (2.60%) / EKPC (1.89%) / JCPL           (3.86%) / ME (1.90%) /           NEPTUNE* (0.42%) / OVEC           (0.08%) / PECO (5.40%) /           PENELEC (1.78%) / PEPCO           (3.67%) / PPL (4.72%) / PSEG           (6.39%) / RE (0.26%)           DFAX Allocation:           BGE (9.65%) / Dominion (63.04%)           / DPL (0.02%) / PEPCO (27.29%)
<u>*Neptune R</u>	Regional Transmission System, LLC	

# PJM Open Access Transmission TariffSchedule 12-Appendix ASection 3 – Delmarva Power & Light Co.

Version 24.0.0 Effective January 1, 2024 (Accepted in Docket No. ER24-786-000)

### SCHEDULE 12 – APPENDIX A

#### (3) Delmarva Power & Light Company

cequired Trai		ual Revenue Requirement	Responsible Customer(s)
	Build a new 138 kV line		
b2288	from Piney Grove –		
	Wattsville		DPL (100%)
	Reconductor the Harmony		
b2395	– Chapel St 138 kV		
	circuit		DPL (100%)
	Replace Terminal		
b2569	equipment at Silverside		
	69 kV substation		DPL (100%)
			Load-Ratio Share Allocation:
			AEC (1.65%) / AEP
			( <del>13.68</del> 14.29%) / APS
			( <del>5.76</del> 5.82%) / ATSI
			(8.047.49%) / BGE $(4.114.01%)$
			/ ComEd ( <del>13.39</del> 14.06%) /
			Dayton $(2.122.03\%)$ / DEOK
			(3.253.21%) / DL (1.711.59%)
			DPL $(2.602.55\%)$ / Dominion
	Implement high speed		(13.3213.89%) / EKPC
	Implement high speed		(1.892.35%) / JCPL
b2633.7	relaying utilizing OPGW		· _ /
	on Red Lion – Hope		(3.863.59%) / ME (1.901.81%)
	Creek 500 kV line		NEPTUNE* (0.42%) / OVEC
			(0.080.06%) / PECO
			$(\frac{5.405.11}{7.01}\%)$ / PENELEC
			(1.781.73%) / PEPCO
			(3.673.68%) / PPL $(4.724.43%)$
			/ PSEG ( <del>6.39<u>5.99</u>%) / RE</del>
			( <u>0.26</u> <u>0.24</u> %)
			DFAX Allocation:
			AEC (0.01%) / DPL (99.98%)
			JCPL (0.01%)
	Interconnect the new		AEC (8.01%) / BGE (1.94%) /
	Silver Run 230 kV		DPL (12.99%) / JCPL (13.85%
b2633.10	substation with existing		/ ME (5.88%) / NEPTUNE*
52055.10	Red Lion – Cartanza and		(3.45%) / PECO (17.62%) /
	Red Lion – Cedar Creek		PPL (14.85%) / PSEG (20.79%)
	230 kV lines		/ RE (0.62%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

*Neptune Regional Transmission System, LLC

Required Tra	nsmission Enhancements Annu	al Revenue Requirement	Responsible Customer(s)
	Rebuild Worcester –		
b2695	Ocean Pine 69 kV ckt. 1 to		
02093	1400A capability summer		
	emergency		DPL (100%)
	Convert existing Preston		
b2946	69 kV substation to DPL's		
02740	current design standard of		
	a 3-breaker ring bus		DPL (100%)
	Upgrade terminal		
b2947.1	equipment at DPL's		
02747.1	Naamans substation		
	(Darley - Naamans 69 kV)		DPL (100%)
	Reconductor 0.11 mile		
b2947.2	section of Darley -		
	Naamans 69 kV circuit		DPL (100%)
	Upgrade terminal		
	equipment at DPL's		
b2948	Silverside Road substation		
	(Dupont Edge Moor –		
	Silver R. 69 kV)		DPL (100%)
	Install a 30 MVAR		
	capacitor bank at DPL's		
	Cool Springs 69 kV		
b2987	substation. The capacitor		
02907	bank would be installed in		
	two separate 15 MVAR		
	stages allowing DPL		
	operational flexibility		DPL (100%)
	Reconductor the Silverside		
b3143.1	Road – Darley 69 kV		
	circuit		DPL (100%)
h2142.2	Reconductor the Darley –		
b3143.2	Naamans 69 kV circuit		DPL (100%)
	Replace three (3) existing		
	1200 A disconnect		
	switches with 2000 A		
b3143.3	disconnect switches and		
0.017.0.0	install three (3) new 2000		
	A disconnect switches at		
	Silverside 69 kV station		DPL (100%)
L		l	

Required Trar	nsmission Enhancements Annu	al Revenue Requirement	Responsible Customer(s)
	Replace two (2) 1200 A		
	disconnect switches with		
	2000 A disconnect		
	switches. Replace existing		
	954 ACSR and 500 SDCU		
	stranded bus with two (2)		
b3143.4	954 ACSR stranded bus.		
03143.4	Reconfigure four (4) CTs		
	from 1200 A to 2000 A		
	and install two (2) new		
	2000 A disconnect		
	switches and two (2) new		
	954 ACSR stranded bus at		
	Naamans 69 kV station		DPL (100%)
	Replace four (4) 1200 A		
	disconnect switches with		
	2000 A disconnect		
	switches. Replace existing		
	954 ACSR and 1272		
	MCM AL stranded bus		
	with two (2) 954 ACSR		
	stranded bus. Reconfigure		
b3143.5	eight (8) CTs from 1200 A		
	to 2000 A and install four		
	(4) new 2000 A (310 MVA		
	SE / 351 MVA WE)		
	disconnect switches and		
	two (2) new 954 ACSR		
	(331 MVA SE / 369 MVA		
	WE) stranded bus at		
	Darley 69 kV station		DPL (100%)
	Rebuild approx. 12 miles		
b3155	of Wye Mills –		
	Stevensville line		DPL (100%)
	Replace a disconnect		
	switch and reconductor a		
b3224	short span of the Mt.		
	Pleasant – Middletown tap		
	138 kV line		DPL (100%)

required fild	ismission enhancements Annual Reve	nue Requirement	
b3326	Rebuild the Vienna - Nelson 138 kV line		DPL (100%)
b3327	Upgrade the disconnect switch at Kent 69 kV station		DPL (100%)
b3328	Upgrade the disconnect switch and CT at Vienna 138 kV station		DPL (100%)
b3329	Rebuild the Farmview - Milford 138 kV line		DPL (100%)
b3330	Rebuild the Farmview - S. Harrington 138 kV line		DPL (100%)
b3331	Upgrade stranded bus and relay at Seaford 138 kV station		DPL (100%)
b3332	Rebuild the Steel - Milford 230 kV line		DPL (100%)
b3669.1	Replace terminal equipment (stranded bus, disconnect switch and circuit breaker) at Church 138 kV substation		DPL (100%)
b3669.2	Replace terminal equipment (circuit breaker) at Townsend 138 kV substation		DPL (100%)
b3670	Upgrade terminal equipment on the Loretto – Fruitland 69 kV circuit. Replace the 477 ACSR stranded bus on the 6711 line terminal inside Loretto 69 KV substation and the 500 SDCU stranded bus on the 6711 line terminal inside 69 kV Fruitland substation with 954 ACSR conductor		DPL (100%)
b3688	Replace the 4/0 SDCU stranded bus with 954 ACSR and a 600 A disconnect switch with a 1200 A disconnect switch on the 6716 line terminal inside Todd substation on Preston – Todd 69 kV line		DPL (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

b3749	Rebuild the New Church - Piney Grove 138 kV line		DPL (100%)
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PJM Open Access Transmission TariffSchedule 12-Appendix ASection 3 – Delmarva Power & Light Co.

Version 25.0.0 Effective April 9, 2024 (Accepted in Docket No. ER24-843-000)

### SCHEDULE 12 – APPENDIX A

### (3) Delmarva Power & Light Company

Build a new 138 kV line from Piney Grove – WattsvilleDPL (100%)b2395Reconductor the Harmony – Chapel St 138 kV circuitDPL (100%)Replace Terminal equipment at Silverside 69 kV substationDPL (100%)b2569Replace Terminal equipment at Silverside (69 kV substationDPL (100%)b2633.7Implement high speed relaying utilizing OPGW on Red Lion – Hope Creek 500 kV lineLoad-Ratio Share Allocation: (13.39%) / DAyton (2.12%) / DPL (2.60%) / DEI (1.71%) / DEOK (3.25%) / DL (1.71%) / DEOK (3.25%) / DL (1.71%) / DEOK (3.25%) / DE (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PEI (4.72%) / PEPCO (3.67%) / PL (4.72%) / PSEG (6.39%) / RE (0.26%)	Required Trai	ISTRISSION ETIMATICEMENTS ATTI	uai Revenue Requirement	Responsible Customer(s)
Wattsville         DPL (100%)           b2395         Reconductor the Harmony – Chapel St 138 kV circuit         DPL (100%)           B2569         Replace Terminal equipment at Silverside 69 kV substation         DPL (100%)           Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / DDL (2.60%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / DECK (3.25%) / DL (1.71%) / DPL (2.60%) / DECK (3.25%) / DL (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PECO (5.40%) / PENELEC (1.78%) / PECO (3.67%) / PL (4.72%) / PSEG (6.39%) / RE (0.26%)           DFAX Allocation: AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)	1.000			
b2395         Reconductor the Harmony – Chapel St 138 kV circuit         DPL (100%)           b2569         Replace Terminal equipment at Silverside 69 kV substation         DPL (100%)           Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / DDL (2.60%) / DPL (2.60%) / DECK (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)	b2288			
b2395         - Chapel St 138 kV circuit         DPL (100%)           b2569         Replace Terminal equipment at Silverside 69 kV substation         DPL (100%)           Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PL (4.72%) / PSEG (6.39%) / RE (0.26%)           DFAX Allocation: AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)		Wattsville		DPL (100%)
circuit         DPL (100%)           b2569         Replace Terminal equipment at Silverside 69 kV substation         DPL (100%)           Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)           b2633.7         The provide the provided the p		Reconductor the Harmony		
b2569         Replace Terminal equipment at Silverside 69 kV substation         DPL (100%)           Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)           DFAX Allocation: AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)	b2395	– Chapel St 138 kV		
b2569         equipment at Silverside 69 kV substation         DPL (100%)           Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)           DFAX Allocation: AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)		circuit		DPL (100%)
69 kV substation         DPL (100%)           Load-Ratio Share Allocation:         AEC (1.65%) / AEP (13.68%) /           APS (5.76%) / ATSI (8.04%) /         BGE (4.11%) / ComEd           (13.39%) / Dayton (2.12%) /         DEOK (3.25%) / DL (1.71%) /           b2633.7         Implement high speed           relaying utilizing OPGW         OR Red Lion – Hope           Creek 500 kV line         JCPL (3.86%) / ME (1.90%) /           NEPTUNE* (0.42%) / OVEC         (0.08%) / PECO (5.40%) /           OBFAX Allocation:         AEC (0.01%) / DPL (99.98%) /           JCPL (0.01%)         JCPL (0.01%)		Replace Terminal		
b2633.7         Implement high speed relaying utilizing OPGW on Red Lion – Hope Creek 500 kV line         Implement high speed (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)           DFAX Allocation: AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)	b2569	equipment at Silverside		
b2633.7       Implement high speed relaying utilizing OPGW on Red Lion – Hope Creek 500 kV line       Implement high speed relaying utilizing OPGW on Red Lion – Hope Creek 500 kV line       Implement high speed (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / DDL (1.71%) / DPL (2.60%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)         DFAX Allocation: AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)		69 kV substation		DPL (100%)
b2633.7       Implement high speed relaying utilizing OPGW on Red Lion – Hope Creek 500 kV line       Implement high speed (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)         DFAX Allocation: AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)				Load-Ratio Share Allocation:
b2633.7       Implement high speed relaying utilizing OPGW on Red Lion – Hope Creek 500 kV line       Implement high speed (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)         DFAX Allocation: AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)				AEC (1.65%) / AEP (13.68%) /
b2633.7       Implement high speed relaying utilizing OPGW on Red Lion – Hope Creek 500 kV line       (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)         DFAX Allocation: AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)				APS (5.76%) / ATSI (8.04%) /
b2633.7       Implement high speed relaying utilizing OPGW on Red Lion – Hope Creek 500 kV line       DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)         DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / DPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)         DFAX Allocation: AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)				BGE (4.11%) / ComEd
b2633.7       Implement high speed relaying utilizing OPGW on Red Lion – Hope Creek 500 kV line       DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)         DPL (2.60%) / Dominion       DPL (2.60%) / Dominion         B2633.7       Implement high speed relaying utilizing OPGW on Red Lion – Hope Creek 500 kV line       DPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)         DFAX Allocation: AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)				(13.39%) / Dayton (2.12%) /
b2633.7       Implement high speed relaying utilizing OPGW on Red Lion – Hope Creek 500 kV line       (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)         DFAX Allocation: AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)				DEOK (3.25%) / DL (1.71%) /
b2633.7       relaying utilizing OPGW on Red Lion – Hope Creek 500 kV line       relaying utilizing OPGW on Red Lion – Hope Creek 500 kV line       ICPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)         DFAX Allocation: AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)		1 0 1		DPL (2.60%) / Dominion
b2633.7       relaying utilizing OPG w         on Red Lion – Hope       JCPL (3.86%) / ME (1.90%) /         Creek 500 kV line       NEPTUNE* (0.42%) / OVEC         (0.08%) / PECO (5.40%) /       PENELEC (1.78%) / PEPCO         (3.67%) / PPL (4.72%) / PSEG       (6.39%) / RE (0.26%)         DFAX Allocation:       AEC (0.01%) / DPL (99.98%) /         JCPL (0.01%)       JCPL (0.01%)				(13.32%) / EKPC (1.89%) /
Creek 500 kV line Creek 500 kV line NEPTONE* (0.42%)/ OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) <b>DFAX Allocation:</b> AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)	b2633.7			JCPL (3.86%) / ME (1.90%) /
(0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) <b>DFAX Allocation:</b> AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)		1		NEPTUNE* (0.42%) / OVEC
(3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) <b>DFAX Allocation:</b> AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)		Creek 500 KV line		(0.08%) / PECO (5.40%) /
(6.39%) / RE (0.26%)           DFAX Allocation:           AEC (0.01%) / DPL (99.98%) /           JCPL (0.01%)				PENELEC (1.78%) / PEPCO
(6.39%) / RE (0.26%)           DFAX Allocation:           AEC (0.01%) / DPL (99.98%) /           JCPL (0.01%)				(3.67%) / PPL (4.72%) / PSEG
AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)				
JCPL (0.01%)				DFAX Allocation:
				AEC (0.01%) / DPL (99.98%) /
				JCPL (0.01%)
Interconnect the new $AEC (8.01\%) / BGE (1.94\%) /$		Interconnect the new		AEC (8.01%) / BGE (1.94%) /
Silver Run 230 kV         DPL (12.99%) / JCPL (13.85%)				
b2633.10 substation with existing / ME (5.88%) / NEPTUNE*	b2633 10	substation with existing		/ ME (5.88%) / NEPTUNE*
Red Lion – Cartanza and $(3.45\%) / PECO (17.62\%) /$	02035.10			
Red Lion – Cedar Creek         PPL (14.85%) / PSEG (20.79%)		Red Lion – Cedar Creek		PPL (14.85%) / PSEG (20.79%)
230 kV lines / RE (0.62%)		230 kV lines		/ RE (0.62%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

*Neptune Regional Transmission System, LLC

Required Trai	nsmission Enhancements Annu	al Revenue Requirement	Responsible Customer(s)
	Rebuild Worcester –		
b2695	Ocean Pine 69 kV ckt. 1 to		
02095	1400A capability summer		
	emergency		DPL (100%)
	Convert existing Preston		
b2946	69 kV substation to DPL's		
02740	current design standard of		
	a 3-breaker ring bus		DPL (100%)
	Upgrade terminal		
b2947.1	equipment at DPL's		
02747.1	Naamans substation		
	(Darley - Naamans 69 kV)		DPL (100%)
	Reconductor 0.11 mile		
b2947.2	section of Darley -		
	Naamans 69 kV circuit		DPL (100%)
	Upgrade terminal		
	equipment at DPL's		
b2948	Silverside Road substation		
	(Dupont Edge Moor –		
	Silver R. 69 kV)		DPL (100%)
	Install a 30 MVAR		
	capacitor bank at DPL's		
	Cool Springs 69 kV		
b2987	substation. The capacitor		
	bank would be installed in		
	two separate 15 MVAR		
	stages allowing DPL		
	operational flexibility		DPL (100%)
1.21.42.1	Reconductor the Silverside		
b3143.1	Road – Darley 69 kV		
	circuit		DPL (100%)
b3143.2	Reconductor the Darley –		
63143.2	Naamans 69 kV circuit		DPL (100%)
	Replace three (3) existing		
	1200 A disconnect		
	switches with 2000 A		
b3143.3	disconnect switches and		
	install three (3) new 2000		
	A disconnect switches at		
	Silverside 69 kV station		DPL (100%)
L			

Required Tran	nsmission Enhancements Annu	al Revenue Requirement	Responsible Customer(s)
	Replace two (2) 1200 A		
	disconnect switches with		
	2000 A disconnect		
	switches. Replace existing		
	954 ACSR and 500 SDCU		
	stranded bus with two (2)		
b3143.4	954 ACSR stranded bus.		
03143.4	Reconfigure four (4) CTs		
	from 1200 A to 2000 A		
	and install two (2) new		
	2000 A disconnect		
	switches and two (2) new		
	954 ACSR stranded bus at		
	Naamans 69 kV station		DPL (100%)
	Replace four (4) 1200 A		
	disconnect switches with		
	2000 A disconnect		
	switches. Replace existing		
	954 ACSR and 1272		
	MCM AL stranded bus		
	with two (2) 954 ACSR		
	stranded bus. Reconfigure		
b3143.5	eight (8) CTs from 1200 A		
	to 2000 A and install four		
	(4) new 2000 A (310 MVA		
	SE / 351 MVA WE)		
	disconnect switches and		
	two (2) new 954 ACSR		
	(331 MVA SE / 369 MVA		
	WE) stranded bus at		
	Darley 69 kV station		DPL (100%)
	Rebuild approx. 12 miles		
b3155	of Wye Mills –		
	Stevensville line		DPL (100%)
	Replace a disconnect		
	switch and reconductor a		
b3224	short span of the Mt.		
	Pleasant – Middletown tap		
	138 kV line		DPL (100%)

required fild	ismission enhancements Annual Reve	nue Requirement	
b3326	Rebuild the Vienna - Nelson 138 kV line		DPL (100%)
b3327	Upgrade the disconnect switch at Kent 69 kV station		DPL (100%)
b3328	Upgrade the disconnect switch and CT at Vienna 138 kV station		DPL (100%)
b3329	Rebuild the Farmview - Milford 138 kV line		DPL (100%)
b3330	Rebuild the Farmview - S. Harrington 138 kV line		DPL (100%)
b3331	Upgrade stranded bus and relay at Seaford 138 kV station		DPL (100%)
b3332	Rebuild the Steel - Milford 230 kV line		DPL (100%)
b3669.1	Replace terminal equipment (stranded bus, disconnect switch and circuit breaker) at Church 138 kV substation		DPL (100%)
b3669.2	Replace terminal equipment (circuit breaker) at Townsend 138 kV substation		DPL (100%)
b3670	Upgrade terminal equipment on the Loretto – Fruitland 69 kV circuit. Replace the 477 ACSR stranded bus on the 6711 line terminal inside Loretto 69 KV substation and the 500 SDCU stranded bus on the 6711 line terminal inside 69 kV Fruitland substation with 954 ACSR conductor		DPL (100%)
b3688	Replace the 4/0 SDCU stranded bus with 954 ACSR and a 600 A disconnect switch with a 1200 A disconnect switch on the 6716 line terminal inside Todd substation on Preston – Todd 69 kV line		DPL (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

	Rebuild the New Church	
b3749	- Piney Grove 138 kV	
	line	DPL (100%)
<u>b3800.39</u>	Red Lion - Hope Creek 500 kV - Replace terminal equipment at Red Lion substation	Load-Ratio Share Allocation:           AEC (1.65%) / AEP (13.68%) /           APS (5.76%) / ATSI (8.04%) /           BGE (4.11%) / ComEd (13.39%           / Dayton (2.12%) / DEOK           (3.25%) / DL (1.71%) /           Dominion (13.32%) / DPL           (2.60%) / EKPC (1.89%) / JCPI           (3.86%) / ME (1.90%) /           NEPTUNE* (0.42%) / OVEC           (0.08%) / PECO (5.40%) /           PENELEC (1.78%) / PEPCO           (3.67%) / PPL (4.72%) / PSEG           (6.39%) / RE (0.26%)           Dominion (48.61%) / DPL           (9.46%) / JCPL (0.03%) /           PEPCO (18.96%) / PSEG           (0.03%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

*Neptune Regional Transmission System, LLC

PJM Open Access Transmission Tariff Schedule 12-Appendix A Section 5 – Metropolitan Edison Co.

Version 27.0.0 Effective January 1, 2024 (Accepted in Docket No. ER24-786-000)

### SCHEDULE 12 – APPENDIX A

#### (5) Mid-Atlantic Interstate Transmission, LLC for the Metropolitan Edison Company Zone

Required Tran	smission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
			Load-Ratio Share
			Allocation:
			AEC (1.65%) / AEP
			( <del>13.68<u>14.29</u>%) / APS</del>
			( <del>5.76</del> <u>5.82</u> %) / ATSI
			( <del>8.0</del> 4 <u>7.49</u> %) / BGE
			(4.114.01%) / ComEd
			( <del>13.39</del> 14.06%) / Dayton
			( <u>2.122.03</u> %) / DEOK
			( <del>3.25</del> <u>3.21</u> %) / DL ( <del>1.71</del> <u>1.59</u> %)
	Least the 2026 (TMI		/ DPL ( <u>2.60</u> 2.55%) / Dominion
b2006.1.1	Loop the 2026 (TMI –		( <del>13.32<u>13.89</u>%) / EKPC</del>
02000.1.1	Hosensack 500 kV) line in to the Lauschtown		( <del>1.89<u>2.35</u>%) / JCPL</del>
	In to the Lausentown		( <del>3.86</del> <u>3.59</u> %) / ME ( <del>1.90</del> <u>1.81</u> %)
			/ NEPTUNE* (0.42%) / OVEC
			( <del>0.08<u>0.06</u>%) / PECO</del>
			( <del>5.40<u>5.11</u>%) / PENELEC</del>
			( <u>1.781.73</u> %) / PEPCO
			( <del>3.67<u>3.68</u>%) / PPL</del>
			( <u>4.72<u>4.43</u>%) / PSEG</u>
			( <del>6.39<u>5.99</u>%) / RE (<u>0.260.24</u>%)</del>
			<b>DFAX Allocation:</b>
			BGE ( <del>24.31<u>20.30</u>%) / PPL</del>
			( <del>75.69<u>79.70</u>%)</del>
	Upgrade relay at South		
b2006.2.1	Reading on the 1072 230		
	V line		ME (100%)
	Replace the South		
b2006.4	Reading 69 kV '81342'		
020000	breaker with 40 kA		
	breaker		ME (100%)
	Replace the South		
b2006.5	Reading 69 kV '82842'		
	breaker with 40 kA		
	breaker		ME (100%)
			APS (8.30%) / BGE (14.70%)
b2452	Install 2nd Hunterstown		/ DEOK (0.48%) / Dominion
0 <i>2</i> -т <i>J</i> 2	230/115 kV transformer		(36.92%) / ME (23.85%) /
			PEPCO (15.75%)

* Neptune Regional Transmission System, LLC

Required Trar	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2452.1	Reconductor Hunterstown - Oxford 115 kV line		APS (8.30%) / BGE (14.70%) / DEOK (0.48%) / Dominion (36.92%) / ME (23.85%) / PEPCO (15.75%)
b2452.3	Replace the Hunterstown 115 kV breaker '96192' with 40 kA		ME (100%)
b2588	Install a 36.6 MVAR 115 kV capacitor at North Bangor substation		ME (100%)
b2637	Convert Middletown Junction 230 kV substation to nine bay double breaker configuration.		ME (100%)
b2644	Install a 28.8 MVAR 115 kV capacitor at the Mountain substation		ME (100%)
b2688.1	Lincoln Substation: Upgrade the bus conductor and replace CTs		AEP (12.91%) / APS (19.04%)/ ATSI (1.24%) / ComEd (0.35%) / Dayton (1.45%) / DEOK (2.30%) / DL (1.11%)/ Dominion (44.85%) / EKPC (0.78%)/ PEPCO (15.85%) / RE (0.12%)
b2688.2	Germantown Substation: Replace 138/115 kV transformer with a 135/180/224 MVA bank. Replace Lincoln 115 kV breaker, install new 138 kV breaker, upgrade bus conductor and adjust/replace CTs		AEP (12.91%) / APS (19.04%)/ ATSI (1.24%) / ComEd (0.35%) / Dayton (1.45%) / DEOK (2.30%) / DL (1.11%)/ Dominion (44.85%) / EKPC (0.78%)/ PEPCO (15.85%) / RE (0.12%)

Required Tran	nsmission Enhancements A	nnual Revenue Requirement	Responsible Customer(s)
b2743.4	Upgrade terminal equipment at Hunterstown 500 kV on the Conemaugh – Hunterstown 500 kV circuit		AEP (6.46%) / APS (8.74%) / BGE (19.74%) / ComEd (2.16%) / Dayton (0.59%) / DEOK (1.02%) / DL (0.01%) / Dominion (39.95%) / EKPC (0.45%) / PEPCO (20.88%)
b2752.4	Upgrade terminal equipment and required relay communication at TMI 500 kV: on the Beach Bottom – TMI 500 kV circuit		AEP (6.46%) / APS (8.74%) / BGE (19.74%) / ComEd (2.16%) / Dayton (0.59%) / DEOK (1.02%) / DL (0.01%) / Dominion (39.95%) / EKPC (0.45%) / PEPCO (20.88%)
b2749	Replace relay at West Boyertown 69 kV station on the West Boyertown – North Boyertown 69 kV circuit		ME (100%)
b2765	Upgrade bus conductor at Gardners 115 kv substation; Upgrade bus conductor and adjust CT ratios at Carlisle Pike 115 kV		ME (100%)
b2950	Upgrade limiting 115 kV switches on the 115 kV side of the 230/115 kV Northwood substation and adjust setting on limiting ZR relay		ME (100%)
b3136	Replace bus conductor at Smith 115 kV substation		ME (100%)
b3145	Rebuild the Hunterstown – Lincoln 115 kV Line No. 962 (approx. 2.6 miles). Upgrade limiting terminal equipment at Hunterstown and Lincoln		AEP (16.60%) / APS (8.09%) / BGE (2.74%) / Dayton (2.00%) / DEOK (0.35%) / DL (1.31%) / Dominion (52.77%) / EKPC (1.54%) / OVEC (0.06%) / PEPCO (14.54%)
b3311	Install a 120.75 kV 79.4 MVAR capacitor bank at Yorkana 115 kV		ME (100%)

Required Tran	smission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Rebuild approximately 3.6		
	miles of North Boyertown	-	
	West Boyertown 69 kV		
	line. Upgrade terminal		
b3671	equipment (circuit breaker,		
030/1	disconnect switches,		
	substation conductor) and		
	relays at North Boyertown		
	and West Boyertown 69 kV	7	
	substation		ME (100%)
	Install a new Allen four		
	breaker ring bus switchyard	1	
	near the existing ME Allen		
	substation on adjacent		
b3715.3	property presently owned		
03713.3	by FirstEnergy. Terminate		
	the Round Top-Allen and		
	the Allen-PPGI (PPG		
	Industries) 115 kV lines		
	into the new switchyard		ME (100%)
	Rebuild/Reconductor the		
	Germantown – Lincoln 115	5	
b3768	kV line. Upgrade limiting		
03700	terminal equipment at		
	Lincoln, Germantown and		
	Straban stations		ME (100%)
	Install second TMI 500/23	)	
b3769	kV transformer with		
03709	additional 500 kV and 230		
	kV bus expansions		ME (45.74%) / PPL (54.26%)

PJM Open Access Transmission TariffSchedule 12-Appendix ASection 5 – Metropolitan Edison Co.

Version 28.0.0 Effective April 9, 2024 (Accepted in Docket No. ER24-843-000)

### **SCHEDULE 12 – APPENDIX A**

#### (5) Mid-Atlantic Interstate Transmission, LLC for the Metropolitan Edison Company Zone

Required Tran	smission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
			Load-Ratio Share
			Allocation:
			AEC (1.65%) / AEP (13.68%)
			/ APS (5.76%) / ATSI (8.04%)
			/ BGE (4.11%) / ComEd
			(13.39%) / Dayton (2.12%) /
			DEOK (3.25%) / DL (1.71%) /
	Loop the 2026 (TMI –		DPL (2.60%) / Dominion
b2006.1.1	Hosensack 500 kV) line		(13.32%) / EKPC (1.89%) /
	in to the Lauschtown		JCPL (3.86%) / ME (1.90%) /
			NEPTUNE* (0.42%) / OVEC
			(0.08%) / PECO (5.40%) /
			PENELEC (1.78%) / PEPCO
			(3.67%) / PPL (4.72%) / PSEG
			(6.39%) / RE (0.26%)
			<b>DFAX Allocation:</b>
			BGE (24.31%) / PPL (75.69%)
	Upgrade relay at South		
b2006.2.1	Reading on the 1072 230		
	V line		ME (100%)
	Replace the South		
b2006.4	Reading 69 kV '81342'		
02000.1	breaker with 40 kA		
	breaker		ME (100%)
	Replace the South		
b2006.5	Reading 69 kV '82842'		
02000.0	breaker with 40 kA		
	breaker		ME (100%)
	x 11 A 1 X-		APS (8.30%) / BGE (14.70%)
b2452	Install 2nd Hunterstown		/ DEOK (0.48%) / Dominion
b2452	230/115 kV transformer		(36.92%) / ME (23.85%) /
			PEPCO (15.75%)

* Neptune Regional Transmission System, LLC

Required Trar	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2452.1	Reconductor Hunterstown - Oxford 115 kV line		APS (8.30%) / BGE (14.70%) / DEOK (0.48%) / Dominion (36.92%) / ME (23.85%) / PEPCO (15.75%)
b2452.3	Replace the Hunterstown 115 kV breaker '96192' with 40 kA		ME (100%)
b2588	Install a 36.6 MVAR 115 kV capacitor at North Bangor substation		ME (100%)
b2637	Convert Middletown Junction 230 kV substation to nine bay double breaker configuration.		ME (100%)
b2644	Install a 28.8 MVAR 115 kV capacitor at the Mountain substation		ME (100%)
b2688.1	Lincoln Substation: Upgrade the bus conductor and replace CTs		AEP (12.91%) / APS (19.04%)/ ATSI (1.24%) / ComEd (0.35%) / Dayton (1.45%) / DEOK (2.30%) / DL (1.11%)/ Dominion (44.85%) / EKPC (0.78%)/ PEPCO (15.85%) / RE (0.12%)
b2688.2	Germantown Substation: Replace 138/115 kV transformer with a 135/180/224 MVA bank. Replace Lincoln 115 kV breaker, install new 138 kV breaker, upgrade bus conductor and adjust/replace CTs		AEP (12.91%) / APS (19.04%)/ ATSI (1.24%) / ComEd (0.35%) / Dayton (1.45%) / DEOK (2.30%) / DL (1.11%)/ Dominion (44.85%) / EKPC (0.78%)/ PEPCO (15.85%) / RE (0.12%)

Required Tran	nsmission Enhancements A	nnual Revenue Requirement	Responsible Customer(s)
b2743.4	Upgrade terminal equipment at Hunterstown 500 kV on the Conemaugh – Hunterstown 500 kV circuit		AEP (6.46%) / APS (8.74%) / BGE (19.74%) / ComEd (2.16%) / Dayton (0.59%) / DEOK (1.02%) / DL (0.01%) / Dominion (39.95%) / EKPC (0.45%) / PEPCO (20.88%)
b2752.4	Upgrade terminal equipment and required relay communication at TMI 500 kV: on the Beach Bottom – TMI 500 kV circuit		AEP (6.46%) / APS (8.74%) / BGE (19.74%) / ComEd (2.16%) / Dayton (0.59%) / DEOK (1.02%) / DL (0.01%) / Dominion (39.95%) / EKPC (0.45%) / PEPCO (20.88%)
b2749	Replace relay at West Boyertown 69 kV station on the West Boyertown – North Boyertown 69 kV circuit		ME (100%)
b2765	Upgrade bus conductor at Gardners 115 kv substation; Upgrade bus conductor and adjust CT ratios at Carlisle Pike 115 kV		ME (100%)
b2950	Upgrade limiting 115 kV switches on the 115 kV side of the 230/115 kV Northwood substation and adjust setting on limiting ZR relay		ME (100%)
b3136	Replace bus conductor at Smith 115 kV substation		ME (100%)
b3145	Rebuild the Hunterstown – Lincoln 115 kV Line No. 962 (approx. 2.6 miles). Upgrade limiting terminal equipment at Hunterstown and Lincoln		AEP (16.60%) / APS (8.09%) / BGE (2.74%) / Dayton (2.00%) / DEOK (0.35%) / DL (1.31%) / Dominion (52.77%) / EKPC (1.54%) / OVEC (0.06%) / PEPCO (14.54%)
b3311	Install a 120.75 kV 79.4 MVAR capacitor bank at Yorkana 115 kV		ME (100%)

Required Tran	smission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Rebuild approximately 3.6		
	miles of North Boyertown		
	West Boyertown 69 kV		
	line. Upgrade terminal		
1.2(71	equipment (circuit breaker,		
b3671	disconnect switches,		
	substation conductor) and		
	relays at North Boyertown		
	and West Boyertown 69 kV	7	
	substation		ME (100%)
	Install a new Allen four		
	breaker ring bus switchyard	1	
	near the existing ME Allen		
	substation on adjacent		
b3715.3	property presently owned		
03/13.3	by FirstEnergy. Terminate		
	the Round Top-Allen and		
	the Allen-PPGI (PPG		
	Industries) 115 kV lines		
	into the new switchyard		ME (100%)
	Rebuild/Reconductor the		
	Germantown – Lincoln 115		
b3768	kV line. Upgrade limiting		
03/08	terminal equipment at		
	Lincoln, Germantown and		
	Straban stations		ME (100%)
	Install second TMI 500/230	)	
b3769	kV transformer with		
03/09	additional 500 kV and 230		
	kV bus expansions		ME (45.74%) / PPL (54.26%)

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Required Tran	smission Enhancements Annua	<u>l Revenue Requirement</u>	Res	ponsible Customer(s)
<u>b3800.2</u>	Break the existing Three Mile Island - Peach Bottom 500 kV line and terminate into adjacent Otter Creek 500 kV switchyard			Load-Ratio Share <u>Allocation:</u> <u>AEC (1.65%) / AEP (13.68%)</u> / <u>APS (5.76%) / ATSI (8.04%)</u> / <u>BGE (4.11%) / ComEd</u> (13.39%) / Dayton (2.12%) / <u>DEOK (3.25%) / DL (1.71%) /</u> <u>DEOK (3.25%) / DEL (2.60%) /</u> <u>JCPL (3.86%) / ME (1.90%) /</u> <u>NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) /</u> <u>PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)</u> <u>DFAX Allocation:</u> <u>APS (13.16%) / BGE (0.71%) / <u>Dominion (74.28%) / DPL (0.36%) / PECO (0.68%) /</u> <u>PEPCO (10.59%) / PPL (0.22%)</u></u>

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

* Neptune Regional Transmission System, LLC

Required Tran	smission Enhancements Annua	Revenue Requirement	<u>Responsible Customer(s)</u>
			Load-Ratio Share
			Allocation:
			AEC (1.65%) / AEP (13.68%)
			/ APS (5.76%) / ATSI (8.04%)
			/ BGE (4.11%) / ComEd
			(13.39%) / Dayton $(2.12%)$ /
			DEOK (3.25%) / DL (1.71%) /
			Dominion (13.32%) / DPL
			(2.60%) / EKPC (1.89%) /
			JCPL (3.86%) / ME (1.90%) /
			NEPTUNE* (0.42%) / OVEC
	Replace terminal equipment		(0.08%) / PECO (5.40%) /
<u>b3800.6</u>	at TMI Peach Bottom - TMI		PENELEC (1.78%) / PEPCO
	<u>500 kV line</u>		(3.67%) / PPL (4.72%) / PSEG
			(6.39%) / RE (0.26%)
			<u>(0.5)/0// RE (0.20/0/</u>
			DFAX Allocation:
			APS (7.41%) / BGE (15.50%)
			/ Dominion (45.08%) / DPL
			(2.46%) / JCPL (0.80%) / ME
			(0.34%) / NEPTUNE* $(0.09%)$
			/ PECO (10.72%) / PEPCO
			(15.72%) / PPL (0.43%) /
			PSEG (1.39%) / RE (0.06%)
	Rebuild the Germantown -		
1 2000 10	Lincoln 115 kV line for 230		
<u>b3800.10</u>	kV double circuit		
	construction		ME (100%)
	Rebuild the Hunterstown -		
1 2 9 0 0 1 1	Lincoln 115 kV line for 230		
<u>b3800.11</u>	kV double circuit		
	construction		<u>ME (100%)</u>
<u>b3800.12</u>	Rebuild the Germantown -		
	Carroll 138 kV line for 230		
	kV double circuit		
	construction (MAIT		
	Section)		<u>ME (100%)</u>
	Construct new 230 kV		
<u>b3800.14</u>	Hunterstown - Carroll line		
	(MAIT Section)		<u>APS (99.86%) / ME (0.14%)</u>
* Neptune Re	egional Transmission System, 1	LLC	

<u>b3800.18</u>	Add a new 230 kV breaker at the Hunterstown 230 kV substation for the new Hunterstown - Carroll 230 kV termination		<u>APS (99.86%) / ME (0.14%)</u>
<u>b3800.19</u>	<u>Reconductor Lincoln -</u> Orrtanna 115 kV line		<u>ME (100%)</u>
<u>b3800.22</u>	Install DTT relaying at Straban 115 kV substation		<u>ME (100%)</u>
<u>b3800.23</u>	Revise Relay Settings at Lincoln 115 kV substation		<u>ME (100%)</u>
<u>b3800.24</u>	Revise Relay Settings at Germantown 115 kV substation		<u>ME (100%)</u>

PJM Open Access Transmission Tariff Schedule 12-Appendix A Section 7 – Penelec

Version 32.0.0 Effective January 1, 2024 (Accepted in Docket No. ER24-786-000)

### **SCHEDULE 12 – APPENDIX A**

Required Tr	ransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2212	Shawville Substation: Relocate 230 kV and 115 kV controls from the generating station building		$\mathbf{DENELEC}(1000/)$
b2293	to new control building Replace the Erie South 115 kV breaker 'Buffalo Rd' with 40 kA breaker		PENELEC (100%) PENELEC (100%)
b2294	Replace the Johnstown 115 kV breaker 'Bon Aire' with 40 kA breaker		PENELEC (100%)
b2302	Replace the Erie South 115 kV breaker 'French #2' with 40 kA breaker		PENELEC (100%)
b2304	Replace the substation conductor and switch at South Troy 115 kV substation		PENELEC (100%)
b2371	Install 75 MVAR capacitor at the Erie East 230 kV substation		PENELEC (100%)
b2441	Install +250/-100 MVAR SVC at the Erie South 230 kV station		PENELEC (100%)
b2442	Install three 230 kV breakers on the 230 kV side of the Lewistown #1, #2 and #3 transformers		PENELEC (100%)
b2450	Construct a new 115 kV line from Central City West to Bedford North		PENELEC (100%)
b2463	Rebuild and reconductor 115 kV line from East Towanda to S. Troy and upgrade terminal equipment at East Towanda, Tennessee Gas and South Troy		PENELEC (100%)

b2494ring bus and install a second Warren 230/115 kV transformerPENELEC (100%)Reconductor the North Meshoppen – Oxbow- Lackawanna 230 kV circuit and upgrade terminal equipment (MAIT portion)PENELEC (75.48100.00%)/ PPL (24.52%)b2552.1Replace the Warren 115 kV 'B12' breaker with a 40 kA breakerPENELEC (100%)b2573Replace the Warren 115 b2573PENELEC (100%)b2587Reconfigure Pierce Brook 345 kV station to a ring bus and install a 125 MVAR shunt reactor at the stationPENELEC (100%)b26211Replace relays at East Towanda and East Sayre 115 kV substations (158/191 MVA SN/SE)PENELEC (100%)b2677Replace relays at Prospect and Cooper substations b2677PENELEC (100%)b2678Convert the East Towanda 115 kV substation to breaker and half configurationPENELEC (100%)b2679Install a 115 kV Venango Jct. line breaker at Edinboro SouthPENELEC (100%)b2679Install a 115 kV breaker on Hooversville #1 115/23PENELEC (100%)	Required Tr	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2494     second Warren 230/115     PENELEC (100%)       Reconductor the North     Meshoppen – Oxbow- Lackawanna 230 kV     PENELEC (100%)       b2552.1     Reconductor the North     PENELEC (75.48100.00%)/f       (MAIT portion)     PENELEC (75.48100.00%)/f       b2573     Replace the Warren 115     PENELEC (100%)       b2573     Replace the Warren 115     PENELEC (100%)       b2573     Replace the Warren 115     PENELEC (100%)       Reconfigure Pierce Brook     345 kV station to a ring     PENELEC (100%)       b2587     Bus and install a 125     MVAR shunt reactor at the station     PENELEC (100%)       Replace relays at East     Towanda and East Sayre 115 kV substations     PENELEC (100%)       b2621     Replace wave trap, bus conductor and relay at Hilltop 115 kV substation. Replace wave trap, bus conductor and relay at Prospect and Cooper substations     PENELEC (100%)       b2678     Convert the East Towanda 115 kV vubstation to breaker at Edinboro South     PENELEC (100%)       b2679     Install a 115 kV Venango Jct. line breaker at Edinboro South     PENELEC (100%)       b2680     Install a 115 kV breaker on Hoversville #1 115/23     PENELEC (100%)		Construct Warren 230 kV		
second Warren 230/115     PENELEC (100%)       Reconductor the North     Meshoppen – Oxbow-       Lackawana 230 kV     circuit and upgrade       terminal equipment     PENELEC (75.48100.00%)//       (MAIT portion)     PPL (24.52%)       b2573     Replace the Warren 115       b2573     KV station to a ring       b2587     Bus and install a 125       MVAR shunt reactor at the station     PENELEC (100%)       Replace relays at East     Towanda and East Sayre       115 kV substations     (158/191 MVA SN/SE)       b2677     Hilltop 115 kV substation.       Replace relays at Prospect and Cooper substationts     PENELEC (100%)       convert the East Towanda     115 kV venango       b2678     Convert the East Towanda     PENELEC (100%)       b2679     Install a 115 kV venango     Jct. line breaker at Edihoro South       b2679     Install a 115 kV venango     Jct. line breaker at Edihoro South	1.2404	ring bus and install a		
Reconductor the North Meshoppen – Oxbow- Lackawanna 230 kV circuit and upgrade terminal equipment (MAIT portion)       PENELEC (75.48100.00%)// PPL (24.52%)         Replace the Warren 115 b2573       Replace the Warren 115 kV 'B12' breaker with a 40 kA breaker       PENELEC (100%)         Reconfigure Pierce Brook 345 kV station to a ring b2587       Reconfigure Pierce Brook 345 kV station to a ring bus and install a 125 MVAR shunt reactor at the station       PENELEC (100%)         Replace relays at East Towanda and East Sayre 115 kV substations (158/191 MVA SN/SE)       PENELEC (100%)         Replace relays at Fast 100 and and East Sayre 115 kV substations (158/191 MVA SN/SE)       PENELEC (100%)         Convert the East Towanda 115 kV substation to breaker and half configuration       PENELEC (100%)         Location of the reaker at Edinboro South       PENELEC (100%)         Install a 115 kV breaker on Hooversville #1 115/23       PENELEC (100%)	02494	second Warren 230/115		
b2552.1     Meshoppen – Oxbow- Lackawanna 230 kV circuit and upgrade terminal equipment (MAIT portion)     PENELEC (75:48]00.00%)-/ PPL (24:52%)       b2573     Replace the Warren 115 kV 'B12' breaker with a 40 kA breaker     PENELEC (100%)       B2587     Reconfigure Pierce Brook 345 kV station to a ring bus and install a 125 MVAR shunt reactor at the station     PENELEC (100%)       B2621     Replace relays at East Towanda and East Sayre 115 kV substations (158/191 MVA SN/SE)     PENELEC (100%)       B2677     Replace wave trap, bus conductor and relay at Hiltop 115 kV substation. Replace relays at Prospect and Cooper substations     PENELEC (100%)       B2678     Convert the East Towanda 115 kV substation to breaker and half configuration     PENELEC (100%)       B2679     Install a 115 kV venango Jct. line breaker at Edinboro South     PENELEC (100%)       Install a 115 kV breaker on Hooversville #1 115/23     PENELEC (100%)		kV transformer		PENELEC (100%)
b2552.1     Lackawanna 230 kV circuit and upgrade terminal equipment (MAIT portion)     PENELEC (75.48100.00%)/ PPL (24.52%)       b2573     Replace the Warren 115 kV 'B12' breaker with a 40 kA breaker     PENELEC (100%)       b2587     Reconfigure Pierce Brook 345 kV station to a ring bus and install a 125 MVAR shunt reactor at the station     PENELEC (100%)       b2621     Replace relays at East Towanda and East Sayre 115 kV substations (158/191 MVA SN/SE)     PENELEC (100%)       Replace relays at East Towanda and East Sayre 115 kV substation. Replace relays at Prospect and Cooper substation. Replace relays at Prospect and Cooper substations     PENELEC (100%)       b2678     Convert the East Towanda 115 kV substation to breaker and half configuration     PENELEC (100%)       b2679     Install a 115 kV Venango Jct. line breaker at Edinboro South     PENELEC (100%)       b2680     Install a 115 kV breaker on Hooversville #1 115/23     PENELEC (100%)		Reconductor the North		
b2552.1       circuit and upgrade terminal equipment (MAIT portion)       PENELEC (75.48100.00%)-/ PPL (24.52%)         Replace the Warren 115 b2573       Replace the Warren 115 kV 'B12' breaker with a 40 kA breaker       PENELEC (100%)         Reconfigure Pierce Brook 345 kV station to a ring b2587       Bester and a station a ring bus and install a 125 MVAR shunt reactor at the station       PENELEC (100%)         Replace relays at East Towanda and East Sayre 115 kV substations (158/191 MVA SN/SE)       PENELEC (100%)         Replace wave trap, bus conductor and relay at b2677       PENELEC (100%)         Replace relays at Prospect and Cooper substation. Replace rulay at Prospect and Cooper substation to breaker and half configuration       PENELEC (100%)         b2679       Install a 115 kV venango Jct. line breaker at Edinboro South       PENELEC (100%)         Install a 115 kV breaker on Hooversville #1 115/23       PENELEC (100%)		Meshoppen – Oxbow-		
circuit and upgrade terminal equipment (MAIT portion)PENELEC (75.48100.00%)-/ PPL (24.52%)Replace the Warren 115 b2573Replace the Warren 115 kV 'B12' breaker with a 40 kA breakerPENELEC (100%)Reconfigure Pierce Brook 345 kV station to a ring bus and install a 125 MVAR shunt reactor at the stationPENELEC (100%)B2587Bus and install a 125 MVAR shunt reactor at the stationPENELEC (100%)Replace relays at East Towanda and East Sayre 115 kV substations (158/191 MVA SN/SE)PENELEC (100%)Replace wave trap, bus conductor and relay at b2677PENELEC (100%)Replace relays at Prospect and Cooper substation. Replace relays at Prospect and Cooper substation to breaker and half configurationPENELEC (100%)b2678Install a 115 kV venango Jct. line breaker at Edinboro SouthPENELEC (100%)b2680Install a 115 kV breaker on Hooversville #1 115/23PENELEC (100%)	h2552 1	Lackawanna 230 kV		
(MAIT portion)PPL (24.52%)b2573Replace the Warren 115 kV 'B12' breaker with a 40 kA breakerPENELEC (100%)B2573Reconfigure Pierce Brook 345 kV station to a ring bus and install a 125 MVAR shunt reactor at the stationPENELEC (100%)b2587Bus and install a 125 MVAR shunt reactor at the stationPENELEC (100%)b2621Replace relays at East Towanda and East Sayre 115 kV substations (158/191 MVA SN/SE)PENELEC (100%)b2677Replace wave trap, bus conductor and relay at b2677PENELEC (100%)b2678Convert the East Towanda 115 kV substation. Replace relays at Prospect and Cooper substation to breaker and half configurationPENELEC (100%)b2678Install a 115 kV Venango Jct. line breaker at Edinboro SouthPENELEC (100%)b2680Install a 115 kV breaker on Hooversville #1 115/23PENELEC (100%)	02332.1	circuit and upgrade		
b2573Replace the Warren 115 kV 'B12' breaker with a 40 kA breakerPENELEC (100%)B2587Reconfigure Pierce Brook 345 kV station to a ring bus and install a 125 MVAR shunt reactor at the stationPENELEC (100%)b2587Replace relays at East Towanda and East Sayre 115 kV substations (158/191 MVA SN/SE)PENELEC (100%)b2621Replace relays at East Towanda and East Sayre 115 kV substations (158/191 MVA SN/SE)PENELEC (100%)b2677Replace wave trap, bus conductor and relay at Hilltop 115 kV substation. Replace relays at Prospect and Cooper substationsPENELEC (100%)b2678Convert the East Towanda 115 kV substation to breaker and half configurationPENELEC (100%)b2679J.ct. line breaker at Edinboro SouthPENELEC (100%)b2680Install a 115 kV breaker on Hooversville #1 115/23PENELEC (100%)		terminal equipment		PENELEC ( <del>75.48<u>100.00</u>%)</del> ≁
b2573kV 'B12' breaker with a 40 kA breakerPENELEC (100%)Reconfigure Pierce Brook 345 kV station to a ring bus and install a 125 MVAR shunt reactor at the stationb2587bus and install a 125 MVAR shunt reactor at the stationPENELEC (100%)Replace relays at East Towanda and East Sayre 115 kV substations (158/191 MVA SN/SE)b2621Replace wave trap, bus conductor and relay at b2677PENELEC (100%)Replace relays at Prospect and Cooper substationsPENELEC (100%)convert the East Towanda 115 kV substation to breaker and half configurationPENELEC (100%)b2678Install a 115 kV Venango Jct. line breaker at Edinboro SouthPENELEC (100%)b2680Install a 115 kV breaker on Hooversville #1 115/23PENELEC (100%)		(MAIT portion)		<del>PPL (24.52%)</del>
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b2680Install a 115 kV breaker on Hooversville #1 115/23	b2679	Jct. line breaker at		
b2680 on Hooversville #1 115/23		Edinboro South		PENELEC (100%)
	b2680	Install a 115 kV breaker		
		on Hooversville #1 115/23		
KV transformer   PENELEC (100%)		kV transformer		PENELEC (100%)
Install a 115 kV breaker		Install a 115 kV breaker		· · · ·
b2681 on the Eclipse #2 115/34.5	b2681	on the Eclipse #2 115/34.5		
kV transformer PENELEC (100%)				PENELEC (100%)

	ion Ennancements Ann	iual Revenue Requirement	Responsible Customer(s)
	l two 21.6 MVAR		
b2682 capac	itors at the Shade Gap		
	V substation		PENELEC (100%)
Instal	l a 36 MVAR 115 kV		
b2683 capac	itor and associated		
equip	ment at Morgan		
	substation		PENELEC (100%)
Instal	l a 36 MVAR 115 kV		
b2684 capac	itor at Central City		
West	substation		PENELEC (100%)
Instal	l a second 115 kV		
	A bus tie breaker at		
Hoov	ersville substation		PENELEC (100%)
Repla	ce the Warren 115		
b2735 kV 'N	O. 2 XFMR' breaker		
with 4	0 kA breaker		PENELEC (100%)
	ce the Warren 115		
b2736 kV 'V	Varren #1' breaker		
with 4	0 kA breaker		PENELEC (100%)
Repla	ce the Warren 115		
b2737 kV 'A	TX #1' breaker with		
40 kA	breaker		PENELEC (100%)
Repla	ce the Warren 115		
b2738 kV 'A	TX #2' breaker with		
40 kA	breaker		PENELEC (100%)
Repla	ce the Warren 115		
b2739 kV 'V	Varren #2' breaker		
with 4	0 kA breaker		PENELEC (100%)
Revis	e the reclosing of the		
b2740 Hoov	ersville 115 kV		
'Ralp	hton' breaker		PENELEC (100%)
Revis	e the reclosing of the		
b2741 Hoov	ersville 115 kV		
'Statle	er Hill' breaker		PENELEC (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tra	ansmission Enhancements Ann	ual Revenue Requirement	Responsible Customer(s)
b2743.2	Tie in new Rice substation to Conemaugh – Hunterstown 500 kV		AEP (6.46%) / APS (8.74%) / BGE (19.74%) / ComEd (2.16%) / Dayton (0.59%) / DEOK (1.02%) / DL (0.01%) / Dominion (39.95%) / EKPC (0.45%) / PEPCO (20.88%)
b2743.3	Upgrade terminal equipment at Conemaugh 500 kV on the Conemaugh – Hunterstown 500 kV circuit		AEP (6.46%) / APS (8.74%) / BGE (19.74%) / ComEd (2.16%) / Dayton (0.59%) / DEOK (1.02%) / DL (0.01%) / Dominion (39.95%) / EKPC (0.45%) / PEPCO (20.88%)
b2748	Install two 28 MVAR capacitors at Tiffany 115 kV substation		PENELEC (100%)
b2767	Construct a new 345 kV breaker string with three (3) 345 kV breakers at Homer City and move the North autotransformer connection to this new breaker string		PENELEC (100%)
b2803	Reconductor 3.7 miles of the Bethlehem – Leretto 46 kV circuit and replace terminal equipment at Summit 46 kV		PENELEC (100%)
b2804	Install a new relay and replace 4/0 CU bus conductor at Huntingdon 46 kV station, on the Huntingdon – C tap 46 kV circuit		PENELEC (100%)
b2805	Install a new relay and replace 4/0 CU & 250 CU substation conductor at Hollidaysburg 46 kV station, on the Hollidaysburg – HCR Tap 46 kV circuit		PENELEC (100%)

Required Transmission Enhancements An	nnual Revenue Requirement	Responsible Customer(s)
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		luai Revenue Requirement	Responsible Customer(s)
b2806	Install a new relay and		
	replace meter at the		
	Raystown 46 kV		
	substation, on the		
	Raystown – Smithfield 46		
	kV circuit		PENELEC (100%)
	Replace the CHPV and		
	CRS relay, and adjust the		
	IAC overcurrent relay trip		
b2807	setting; or replace the relay		
	at Eldorado 46 kV		
	substation, on the Eldorado		
	– Gallitzin 46 kV circuit		<b>PENELEC (100%)</b>
	Adjust the JBC overcurrent		
	relay trip setting at		
	Raystown 46 kV, and		
	replace relay and 4/0 CU		
b2808	bus conductor at		
	Huntingdon 46 kV		
	substations, on the		
	Raystown – Huntingdon 46		
	kV circuit		<b>PENELEC (100%)</b>
	Replace Seward 115 kV		
b2865	breaker "Jackson Road"		
02000	with 63 kA breaker		<b>PENELEC (100%)</b>
	Replace Seward 115 kV		
b2866	breaker "Conemaugh N."		
	with 63 kA breaker		<b>PENELEC (100%)</b>
	Replace Seward 115 kV		
b2867	breaker "Conemaugh S."		
	with 63 kA breaker		<b>PENELEC (100%)</b>
b2868			
	Replace Seward 115 kV breaker "No.8 Xfmr" with		
	63 kA breaker		PENELEC (100%)
			FENELEC (10070)
1-2044	Install two 345 kV 80		
b2944	MVAR shunt reactors at		
	Mainesburg station		PENELEC (100%)

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b2951	Seward, Blairsville East, Shelocta work		PENELEC (100%)
b2951.1	Upgrade Florence 115 kV line terminal equipment at Seward SS		PENELEC (100%)
b2951.2	Replace Blairsville East / Seward 115 kV line tuner, coax, line relaying and carrier set at Shelocta SS		PENELEC (100%)
b2951.3	Replace Seward / Shelocta 115 kV line CVT, tuner, coax, and line relaying at Blairsville East SS		PENELEC (100%)
b2952	Replace the North Meshoppen #3 230/115 kV transformer eliminating the old reactor and installing two breakers to complete a 230 kV ring bus at North Meshoppen		PENELEC (100%)
b2953	Replace the Keystone 500 kV breaker "NO. 14 Cabot" with 50 kA breaker		PENELEC (100%)
b2954	Replace the Keystone 500 kV breaker "NO. 16 Cabot" with 50 kA breaker		PENELEC (100%)
b2984	Reconfigure the bus at Glory and install a 50.4 MVAR 115 kV capacitor		PENELEC (100%)
b3007.2	Reconductor the Blairsville East to Social Hall 138 kV line and upgrade terminal equipment - PENELEC portion. 4.8 miles total. The new conductor will be 636 ACSS replacing the existing 636 ACSR conductor. At Blairsville East, the wave trap and breaker disconnects will be replaced		PENELEC (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

138/115 kV transformer terminals. This project is an upgrade to the tap of the Seward – Shelocta 115 kV line into Blairsville substation. The project will replace the circuit breaker and adjust relay settingsPENELEC (100%)b3009Upgrade Blairsville East 115 kV terminal equipment. Replace 115 kV circuit breaker and disconnectsPENELEC (100%)b3014Replace the existing Shelocta 230/115 kV transformer and construct a 230 kV ring busPENELEC (100%)b3016Upgrade terminal equipment at Corry East 115 kV to increase rating of Four Mile to Corry East 115 kV line. Replace the Warren 230 kV line with hi-temp conductor and substation terminal upgrades. 11.53 miles. New conductor will be 1033 ACSS. Existing conductor will be 1033 ACSS. Existing conductor will be 1033 ACSS. Existing conductor, wave traps, and relayingPENELEC (100%)b3017.1Glade substation terminal upgrades. Replace bus conductor, wave traps, and relayingPENELEC (100%)b3017.3Replace. Saxton 115 kV b3022PENELEC (100%)b3017.3Replace Saxton 115 kV baser ib US TIE' with aPENELEC (100%)	Required II		al Revenue Requirement	Responsible Customer(s)
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b3017.2       conductor, wave traps, and relaying       PENELEC (100%)         b3017.3       Warren substation terminal upgrades. Replace bus conductor, wave traps, and relaying       PENELEC (100%)         b3022       Replace Saxton 115 kV breaker 'BUS TIE' with a       PENELEC (100%)		Glade substation terminal		`````````````````````````````````
b3017.2       conductor, wave traps, and relaying       PENELEC (100%)         b3017.3       Warren substation terminal upgrades. Replace bus conductor, wave traps, and relaying       PENELEC (100%)         B3017.3       Replace Saxton 115 kV       PENELEC (100%)	1 2017 2	upgrades. Replace bus		
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b3017.3       conductor, wave traps, and relaying       PENELEC (100%)         Replace Saxton 115 kV       breaker 'BUS TIE' with a       PENELEC (100%)				, , , , , , , , , , , , , , , ,
b3017.3       conductor, wave traps, and relaying       PENELEC (100%)         Replace Saxton 115 kV       breaker 'BUS TIE' with a       PENELEC (100%)	b3017.3	upgrades. Replace bus		
relayingPENELEC (100%)Replace Saxton 115 kVbreaker 'BUS TIE' with a				
Replace Saxton 115 kV       b3022     breaker 'BUS TIE' with a		-		<b>PENELEC (100%)</b>
b3022 breaker 'BUS TIE' with a				
	b3022			
		40 kA breaker		<b>PENELEC (100%)</b>

Required Ir	ansmission Enhancements Annual R	levenue Requirement	Responsible Customer(s)
	Upgrade terminal equipment		
b3024	at Corry East 115 kV to		
	increase rating of Warren to		
	Corry East 115 kV line.		
	Replace bus conductor		PENELEC (100%)
	Install one 115 kV 36		
b3043	MVAR capacitor at West		
	Fall 115 kV substation		PENELEC (100%)
	Replace the Blairsville East		
	138/115 kV transformer and		
b3073	associated equipment such		
	as breaker disconnects and		
	bus conductor		PENELEC (100%)
	Reconductor the Franklin		
b3077	Pike B – Wayne 115 kV line		
	(6.78 miles)		PENELEC (100%)
	Reconductor the 138 kV bus		
	and replace the line trap,		
b3078	relays Morgan Street.		
	Reconductor the 138 kV bus		
	at Venango Junction		PENELEC (100%)
b3082	Construct 4-breaker 115 kV		
03002	ring bus at Geneva		PENELEC (100%)
	Rebuild 20 miles of the East		
b3137	Towanda – North		
	Meshoppen 115 kV line		PENELEC (100%)
	Upgrade bus conductor and		
b3144	relay panels of the Jackson		
0.5111	Road – Nanty Glo 46 kV		
	SJN line		PENELEC (100%)
	Upgrade line relaying and		
b3144.1	substation conductor on the		
	46 kV Nanty Glo line exit at		
	Jackson Road substation		PENELEC (100%)
b3144.2	Upgrade line relaying and		
	substation conductor on the		
	46 kV Jackson Road line		
	exit at Nanty Glo substation		PENELEC (100%)
b3154	Install one (1) 13.2 MVAR		
	46 kV capacitor at the		
	Logan substation		PENELEC (100%)

Required Ir	ansmission Enhancements Annu	al Revenue Requirement	Responsible Customer(s)
	Replace the existing No. 2		
b3231	cap bank breaker at		
	Huntingdon substation with		
	a new breaker with higher		
	interrupting capability		PENELEC (100%)
	Replace the existing		
	Williamsburg, ALH		
	(Hollidaysburg) and bus		
b3232	section breaker at the		
	Altoona substation with a		
	new breaker with higher		
	interrupting capability		PENELEC (100%)
	Install one (1) 34 MVAR		
	115 kV shunt reactor and		
b3233	breaker. Install one (1) 115		
03233	kV circuit breaker to expand		
	the substation to a 4-breaker		
	ring bus		PENELEC (100%)
	Install two (2) 46 kV 6.12		
b3237	MVAR capacitors effective		
	at Mt. Union		PENELEC (100%)
	Construct a new breaker-		
	and-a-half substation near		
	Tiffany substation. All		
	transmission assets and lines		
	will be relocated to the new		
b3245	substation. The two (2)		
	distribution transformers		
	will be fed via two (2)		
	dedicated 115 kV feeds to		
	the existing Tiffany		
	substation		PENELEC (100%)
b3306	Install a second 125 MVAR		
	345 kV shunt reactor and		
	associated equipment at		
	Pierce Brook substation.		
	Install a 345 kV breaker on		
	the high side of the 345/230		
	kV transformer #1		PENELEC (100%)

Required Transmission Enhancements Annual Revenue Requirement	Responsible Customer(s)
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Required II		al Revenue Requirement	Responsible Customer(s)
	Replace several pieces of		
	1033.5 AAC substation		
b3665	conductor at East Towanda		
05005	230 kV station on East		
	Towanda - Canyon 230 kV		
	line		PENELEC (100%)
	Install dual reactors and		
b3666	expand existing ring bus at		
	Marshall 230 kV substation		PENELEC (100%)
	Install second 230/115 kV		
b3667	transformer at Pierce Brook		
	substation		PENELEC (100%)
	Rebuild 2.5 miles of East		
	Towanda-North Meshoppen		
	115 kV line with 1113		
b3672	ACSS conductor using		
05072	single circuit construction.		
	Upgrade all terminal		
	equipment to the rating of		
	1113 ACSS		PENELEC (100%)
	Replace the relay panels at		
b3673	Bethlehem 33 46 kV		
05075	substation on the Cambria		
	Prison line		PENELEC (100%)
	Replace the Shawville		
	230/115/17.2 kV		
	transformer with a new		
	Shawville 230/115 kV		
b3708	transformer and associated		
	facilities. Replace the plant's		
	No. 2B 115/17.2 kV		
	transformer with a larger		
	230/17.2 kV transformer		PENELEC (100%)
	Upgrade Seward terminal		
	equipment of Seward –		
	Blairsville 115 kV line to		
b3750	increase the line rating such		
	that the transmission line		
	conductor is the limiting		
	component		PENELEC (100%)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
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rtequirea in		ai Revenue Requirement	Responsible Customer(s)
	Rebuild 6.4 miles of		
	Roxbury – Shade Gap 115		
b3751	kV line from Roxbury to the		
00701	AE1-071 115 kV ring bus		
	with single circuit 115 kV		
	construction		PENELEC (100%)
	Rebuild 7.2 miles of the		
	Shade Gap – AE1-071 115		
b3752	kV line section of the		
	Roxbury – Shade Gap 115		
	kV line		PENELEC (100%)
	Replace the Tyrone North		
	115 /46 kV transformer with		
	a new standard 75 MVA top		
b3753	rated bank and upgrade the		
	entire terminal to minimum		
	100 MVA capability for		
	both SN and SE rating		PENELEC (100%)
	Construct a new three		
	breaker ring bus to tie into		
b3754	the Warrior Ridge -		
	Belleville 46 kV D line and		
	the 1LK line at Maclane Tap		PENELEC (100%)
	Purchase one 80 MVAR 345		
b3765	kV spare reactor, to be		
03703	located at the Mainesburg		
	345 kV station		PENELEC (100%)

PJM Open Access Transmission Tariff Schedule 12-Appendix A Section 7 – Penelec

Version 31.0.0 Effective January 31, 2024 (Accepted in Docket No. ER24-321-000)

#### **SCHEDULE 12 – APPENDIX A**

Required Tr	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2212	Shawville Substation: Relocate 230 kV and 115 kV controls from the generating station building		
	to new control building		PENELEC (100%)
b2293	Replace the Erie South 115 kV breaker 'Buffalo Rd' with 40 kA breaker		PENELEC (100%)
b2294	Replace the Johnstown 115 kV breaker 'Bon Aire' with 40 kA breaker		PENELEC (100%)
b2302	Replace the Erie South 115 kV breaker 'French #2' with 40 kA breaker		PENELEC (100%)
b2304	Replace the substation conductor and switch at South Troy 115 kV substation		PENELEC (100%)
b2371	Install 75 MVAR capacitor at the Erie East 230 kV substation		PENELEC (100%)
b2441	Install +250/-100 MVAR SVC at the Erie South 230 kV station		PENELEC (100%)
b2442	Install three 230 kV breakers on the 230 kV side of the Lewistown #1,		
b2450	#2 and #3 transformers Construct a new 115 kV line from Central City West to Bedford North		PENELEC (100%) PENELEC (100%)
b2463	Rebuild and reconductor 115 kV line from East Towanda to S. Troy and upgrade terminal equipment at East Towanda, Tennessee Gas and South Troy		PENELEC (100%)

Lequired Tr	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Construct Warren 230 kV		
b2494	ring bus and install a		
02171	second Warren 230/115		
	kV transformer		PENELEC (100%)
	Reconductor the North		
	Meshoppen – Oxbow-		
b2552.1	Lackawanna 230 kV		
02332.1	circuit and upgrade		
	terminal equipment		PENELEC (75.48%) / PPL
	(MAIT portion)		(24.52%)
	Replace the Warren 115		
b2573	kV 'B12' breaker with a		
	40 kA breaker		PENELEC (100%)
	Reconfigure Pierce Brook		
	345 kV station to a ring		
b2587	bus and install a 125		
	MVAR shunt reactor at		
	the station		PENELEC (100%)
	Replace relays at East		
1.2(21	Towanda and East Sayre		
b2621	115 kV substations		
	(158/191 MVA SN/SE)		PENELEC (100%)
	Replace wave trap, bus		X X
	conductor and relay at		
b2677	Hilltop 115 kV substation.		
	Replace relays at Prospect		
	and Cooper substations		<b>PENELEC (100%)</b>
	Convert the East Towanda		
1.2(70	115 kV substation to		
b2678	breaker and half		
	configuration		PENELEC (100%)
	Install a 115 kV Venango		
b2679	Jct. line breaker at		
	Edinboro South		<b>PENELEC (100%)</b>
	Install a 115 kV breaker		\
b2680	on Hooversville #1 115/23		
	kV transformer		PENELEC (100%)
	Install a 115 kV breaker		
b2681	on the Eclipse #2 115/34.5		
02001	kV transformer		PENELEC (100%)

Required II	ansmission Enhancements Ann	luai Revenue Requirement	Responsible Customer(s)
	Install two 21.6 MVAR		
b2682	capacitors at the Shade Gap		
	115 kV substation		PENELEC (100%)
	Install a 36 MVAR 115 kV		
b2683	capacitor and associated		
02005	equipment at Morgan		
	Street substation		PENELEC (100%)
	Install a 36 MVAR 115 kV		
b2684	capacitor at Central City		
	West substation		PENELEC (100%)
	Install a second 115 kV		
b2685	3000A bus tie breaker at		
	Hooversville substation		<b>PENELEC (100%)</b>
	Replace the Warren 115		
b2735	kV 'NO. 2 XFMR' breaker		
	with 40 kA breaker		<b>PENELEC (100%)</b>
	Replace the Warren 115		
b2736	kV 'Warren #1' breaker		
	with 40 kA breaker		<b>PENELEC (100%)</b>
	Replace the Warren 115		
b2737	kV 'A TX #1' breaker with		
	40 kA breaker		<b>PENELEC (100%)</b>
	Replace the Warren 115		
b2738	kV 'A TX #2' breaker with		
	40 kA breaker		PENELEC (100%)
	Replace the Warren 115		
b2739	kV 'Warren #2' breaker		
	with 40 kA breaker		PENELEC (100%)
	Revise the reclosing of the		
b2740	Hooversville 115 kV		
	'Ralphton' breaker		PENELEC (100%)
	Revise the reclosing of the		
b2741	Hooversville 115 kV		
	'Statler Hill' breaker		PENELEC (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tra	ansmission Enhancements Ann	ual Revenue Requirement	Responsible Customer(s)
b2743.2	Tie in new Rice substation to Conemaugh – Hunterstown 500 kV		AEP (6.46%) / APS (8.74%) / BGE (19.74%) / ComEd (2.16%) / Dayton (0.59%) / DEOK (1.02%) / DL (0.01%) / Dominion (39.95%) / EKPC (0.45%) / PEPCO (20.88%)
b2743.3	Upgrade terminal equipment at Conemaugh 500 kV on the Conemaugh – Hunterstown 500 kV circuit		AEP (6.46%) / APS (8.74%) / BGE (19.74%) / ComEd (2.16%) / Dayton (0.59%) / DEOK (1.02%) / DL (0.01%) / Dominion (39.95%) / EKPC (0.45%) / PEPCO (20.88%)
b2748	Install two 28 MVAR capacitors at Tiffany 115 kV substation		PENELEC (100%)
b2767	Construct a new 345 kV breaker string with three (3) 345 kV breakers at Homer City and move the North autotransformer connection to this new breaker string		PENELEC (100%)
b2803	Reconductor 3.7 miles of the Bethlehem – Leretto 46 kV circuit and replace terminal equipment at Summit 46 kV		PENELEC (100%)
b2804	Install a new relay and replace 4/0 CU bus conductor at Huntingdon 46 kV station, on the Huntingdon – C tap 46 kV circuit		PENELEC (100%)
b2805	Install a new relay and replace 4/0 CU & 250 CU substation conductor at Hollidaysburg 46 kV station, on the Hollidaysburg – HCR Tap 46 kV circuit		PENELEC (100%)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
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		iual Revenue Requirement	Responsible Customer(s)
b2806	Install a new relay and		
	replace meter at the		
	Raystown 46 kV		
02000	substation, on the		
	Raystown – Smithfield 46		
	kV circuit		PENELEC (100%)
	Replace the CHPV and		
	CRS relay, and adjust the		
	IAC overcurrent relay trip		
b2807	setting; or replace the relay		
	at Eldorado 46 kV		
	substation, on the Eldorado		
	– Gallitzin 46 kV circuit		PENELEC (100%)
	Adjust the JBC overcurrent		
	relay trip setting at		
	Raystown 46 kV, and		
	replace relay and 4/0 CU		
b2808	bus conductor at		
	Huntingdon 46 kV		
	substations, on the		
	Raystown – Huntingdon 46		
	kV circuit		<b>PENELEC (100%)</b>
	Replace Seward 115 kV		``````````````````````````````````````
b2865	breaker "Jackson Road"		
	with 63 kA breaker		<b>PENELEC (100%)</b>
	Replace Seward 115 kV		
b2866	breaker "Conemaugh N."		
	with 63 kA breaker		<b>PENELEC (100%)</b>
	Replace Seward 115 kV		
b2867	breaker "Conemaugh S."		
02007	with 63 kA breaker		<b>PENELEC (100%)</b>
	Replace Seward 115 kV		
b2868	breaker "No.8 Xfmr" with		
02000	63 kA breaker		<b>PENELEC (100%)</b>
	Install two 345 kV 80		
b2944	MVAR shunt reactors at		
02744	Mainesburg station		<b>PENELEC (100%)</b>
	manicsourg station		1  ENELEC (10070)

requirea II		tai i te venue i tequirement	
b2951	Seward, Blairsville East, Shelocta work		PENELEC (100%)
b2951.1	Upgrade Florence 115 kV line terminal equipment at Seward SS		PENELEC (100%)
b2951.2	Replace Blairsville East / Seward 115 kV line tuner, coax, line relaying and carrier set at Shelocta SS		PENELEC (100%)
b2951.3	Replace Seward / Shelocta 115 kV line CVT, tuner, coax, and line relaying at Blairsville East SS		PENELEC (100%)
b2952	Replace the North Meshoppen #3 230/115 kV transformer eliminating the old reactor and installing two breakers to complete a 230 kV ring bus at North Meshoppen		PENELEC (100%)
b2953	Replace the Keystone 500 kV breaker "NO. 14 Cabot" with 50 kA breaker		PENELEC (100%)
b2954	Replace the Keystone 500 kV breaker "NO. 16 Cabot" with 50 kA breaker		PENELEC (100%)
b2984	Reconfigure the bus at Glory and install a 50.4 MVAR 115 kV capacitor		PENELEC (100%)
b3007.2	Reconductor the Blairsville East to Social Hall 138 kV line and upgrade terminal equipment - PENELEC portion. 4.8 miles total. The new conductor will be 636 ACSS replacing the existing 636 ACSR conductor. At Blairsville East, the wave trap and breaker disconnects will be replaced		PENELEC (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required II		al Revenue Requirement	Responsible Customer(s)
	Upgrade Blairsville East		
	138/115 kV transformer		
	terminals. This project is an		
	upgrade to the tap of the		
b3008	Seward – Shelocta 115 kV		
	line into Blairsville		
	substation. The project will		
	replace the circuit breaker		
	and adjust relay settings		PENELEC (100%)
	Upgrade Blairsville East		
b3009	115 kV terminal equipment.		
03009	Replace 115 kV circuit		
	breaker and disconnects		PENELEC (100%)
	Replace the existing		
b3014	Shelocta 230/115 kV		
03014	transformer and construct a		
	230 kV ring bus		PENELEC (100%)
	Upgrade terminal equipment		
	at Corry East 115 kV to		
b3016	increase rating of Four Mile		
	to Corry East 115 kV line.		
	Replace bus conductor		PENELEC (100%)
	Rebuild Glade to Warren		
	230 kV line with hi-temp		
	conductor and substation		
b3017.1	terminal upgrades. 11.53		
	miles. New conductor will		
	be 1033 ACSS. Existing		
	conductor is 1033 ACSR		PENELEC (100%)
	Glade substation terminal		· · · · ·
1-2017-2	upgrades. Replace bus		
b3017.2	conductor, wave traps, and		
	relaying		PENELEC (100%)
	Warren substation terminal		
1.2017.2	upgrades. Replace bus		
b3017.3	conductor, wave traps, and		
	relaying		<b>PENELEC (100%)</b>
	Replace Saxton 115 kV		
b3022	breaker 'BUS TIE' with a		
	40 kA breaker		<b>PENELEC (100%)</b>

Required Ir	ansmission Enhancements Annu	al Revenue Requirement	Responsible Customer(s)
	Upgrade terminal equipment		
	at Corry East 115 kV to		
b3024	increase rating of Warren to		
	Corry East 115 kV line.		
	Replace bus conductor		PENELEC (100%)
	Install one 115 kV 36		
b3043	MVAR capacitor at West		
	Fall 115 kV substation		PENELEC (100%)
	Replace the Blairsville East		
	138/115 kV transformer and		
b3073	associated equipment such		
	as breaker disconnects and		
	bus conductor		PENELEC (100%)
	Reconductor the Franklin		
b3077	Pike B – Wayne 115 kV line		
	(6.78 miles)		PENELEC (100%)
	Reconductor the 138 kV bus		
	and replace the line trap,		
b3078	relays Morgan Street.		
	Reconductor the 138 kV bus		
	at Venango Junction		PENELEC (100%)
b3082	Construct 4-breaker 115 kV		
03082	ring bus at Geneva		PENELEC (100%)
	Rebuild 20 miles of the East		
b3137	Towanda – North		
	Meshoppen 115 kV line		PENELEC (100%)
	Upgrade bus conductor and		
b3144	relay panels of the Jackson		
03144	Road – Nanty Glo 46 kV		
	SJN line		PENELEC (100%)
	Upgrade line relaying and		
b3144.1	substation conductor on the		
	46 kV Nanty Glo line exit at		
	Jackson Road substation		PENELEC (100%)
	Upgrade line relaying and		
b3144.2	substation conductor on the		
	46 kV Jackson Road line		
	exit at Nanty Glo substation		PENELEC (100%)
	Install one (1) 13.2 MVAR		
b3154	46 kV capacitor at the		
	Logan substation		PENELEC (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Replace the existing No. 2       cap bank breaker at         b3231       Huntingdon substation with         a new breaker with higher       interrupting capability         PENELEC (100%)         Replace the existing         Williamsburg, ALH         (Hollidaysburg) and bus         b3232			
b3231       Huntingdon substation with a new breaker with higher interrupting capability       PENELEC (100%)         Replace the existing Williamsburg, ALH (Hollidaysburg) and bus       PENELEC (100%)	1	Replace the existing No. 2	
a new breaker with higher interrupting capability     PENELEC (100%)       Replace the existing Williamsburg, ALH (Hollidaysburg) and bus     Herein and a structure		cap bank breaker at	
interrupting capabilityPENELEC (100%)Replace the existing Williamsburg, ALH (Hollidaysburg) and bus	b3231	Huntingdon substation with	
Replace the existing Williamsburg, ALH (Hollidaysburg) and bus		a new breaker with higher	
Williamsburg, ALH (Hollidaysburg) and bus		interrupting capability	PENELEC (100%)
(Hollidaysburg) and bus		Replace the existing	
		Williamsburg, ALH	
b3232 section breaker at the		(Hollidaysburg) and bus	
	b3232	section breaker at the	
Altoona substation with a		Altoona substation with a	
new breaker with higher		new breaker with higher	
interrupting capability PENELEC (100%)		interrupting capability	PENELEC (100%)
Install one (1) 34 MVAR		Install one (1) 34 MVAR	
115 kV shunt reactor and		115 kV shunt reactor and	
b3233 breaker. Install one (1) 115	1,2222	breaker. Install one (1) 115	
kV circuit breaker to expand	03233	kV circuit breaker to expand	
the substation to a 4-breaker		the substation to a 4-breaker	
ring bus PENELEC (100%)		ring bus	PENELEC (100%)
Install two (2) 46 kV 6.12		Install two (2) 46 kV 6.12	
b3237 MVAR capacitors effective	b3237	MVAR capacitors effective	
at Mt. Union PENELEC (100%)		at Mt. Union	PENELEC (100%)
Construct a new breaker-		Construct a new breaker-	
and-a-half substation near		and-a-half substation near	
Tiffany substation. All		Tiffany substation. All	
transmission assets and lines		transmission assets and lines	
will be relocated to the new		will be relocated to the new	
b3245 substation. The two (2)	b3245	substation. The two (2)	
distribution transformers		distribution transformers	
will be fed via two (2)		will be fed via two (2)	
dedicated 115 kV feeds to		dedicated 115 kV feeds to	
the existing Tiffany		the existing Tiffany	
substation PENELEC (100%)		substation	PENELEC (100%)
Install a second 125 MVAR		Install a second 125 MVAR	
345 kV shunt reactor and		345 kV shunt reactor and	
associated equipment at		associated equipment at	
b3306 Pierce Brook substation.	b3306	Pierce Brook substation.	
Install a 345 kV breaker on		Install a 345 kV breaker on	
the high side of the 345/230		the high side of the 345/230	
kV transformer #1 PENELEC (100%)		kV transformer #1	PENELEC (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Transmission Enhancements Annual Revenue Requirement	Responsible Customer(s)
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Replace several pieces of 1033.5 AAC substation conductor at East Towanda 230 kV station on East Towanda - Canyon 230 kV linePENELEC (100%)Install dual reactors and expand existing ring bus at Marshall 230 kV substationPENELEC (100%)b3666Install dual reactors and expand existing ring bus at Marshall 230 kV substationPENELEC (100%)b3667Install second 230/115 kV transformer at Pierce Brook substationPENELEC (100%)b3667Rebuild 2.5 miles of East Towanda-North Meshoppen 115 kV line with 1113 ACSS conductor using single circuit construction. Upgrade all terminal equipment to the rating of 1113 ACSSPENELEC (100%)b3673Replace the relay panels at Bethlehem 33 46 kV substation on the Cambria Prison linePENELEC (100%)cReplace the Shawville 230/115/17.2 kV transformer with a new Shawville 230/115 kV transformer with a new Shawville 230/115 kV transformer with a larger 230/17.2 kV transformerPENELEC (100%)b3700Upgrade Seward terminal equipment of Seward – Blairsville 115 kV line to increase the line rating such that the transmission line conductor is the limiting componentPENELEC (100%)	Required II		al Revenue Requirement	Responsible Customer(s)
b3665     conductor at East Towanda 230 kV station on East Towanda - Canyon 230 kV line     PENELEC (100%)       Install dual reactors and expand existing ring bus at Marshall 230 kV substation     PENELEC (100%)       b3666     Install second 230/115 kV transformer at Pierce Brook substation     PENELEC (100%)       b3667     Rebuild 2.5 miles of East Towanda-North Meshoppen 115 kV line with 1113 ACSS conductor using single circuit construction. Upgrade all terminal equipment to the rating of 1113 ACSS     PENELEC (100%)       b3673     Replace the relay panels at Bethlehem 33 46 kV substation on the Cambria Prison line     PENELEC (100%)       Replace the Shawville 230/115/17.2 kV transformer with a new Shawville 230/115 kV transformer with a larger 230/17.2 kV transformer     PENELEC (100%)       b3708     Replace the plant's No. 2B 115/17.2 kV transformer with a larger 230/17.2 kV transformer     PENELEC (100%)       b3750     Upgrade Seward terminal equipment of Seward – Blairsville 115 kV line to increase the line rating such that the transmission line conductor is the limiting     PENELEC (100%)		Replace several pieces of		
b3665     230 kV station on East Towanda - Canyon 230 kV line     PENELEC (100%)       Install dual reactors and expand existing ring bus at Marshall 230 kV substation     PENELEC (100%)       b3666     Install second 230/115 kV transformer at Pierce Brook substation     PENELEC (100%)       b3667     Rebuild 2.5 miles of East Towanda-North Meshoppen 115 kV line with 1113 ACSS conductor using single circuit construction. Upgrade all terminal equipment to the rating of 1113 ACSS     PENELEC (100%)       b3673     Replace the relay panels at Bethlehem 33 46 kV substation on the Cambria Prison line     PENELEC (100%)       b3678     Replace the shawville 230/115/17.2 kV transformer with a new Shawville 230/115 kV transformer with a larger 230/17.2 kV transformer     PENELEC (100%)       b3708     Il5/IV.2 kV transformer with a larger 230/17.2 kV transformer     PENELEC (100%)       b3750     Upgrade Seward - Blairsville 115 kV line to increase the line rating such that the transmission line conductor is the limiting     PENELEC (100%)				
230 kV station on hast Towanda - Canyon 230 kV       PENELEC (100%)         Install dual reactors and expand existing ring bus at Marshall 230 kV substation       PENELEC (100%)         Install second 230/115 kV       PENELEC (100%)         b3666       Install second 230/115 kV         b3667       Install second 230/115 kV         b3667       Rebuild 2.5 miles of East Towanda-North Meshoppen 115 kV line with 1113         b3672       Rebuild 2.5 miles of East Towanda-North Meshoppen 115 kV line with 1113         b3673       Replace the relay panels at Bethlehem 33 46 kV substation on the Cambria Prison line         Bethlehem 33 46 kV substation on the Cambria Prison line       PENELEC (100%)         Replace the Shawville 230/115/17.2 kV transformer with a new Shawville 230/115 kV       PENELEC (100%)         b3708       transformer and associated facilities. Replace the plant's No. 2B 115/17.2 kV transformer with a larger 230/17.2 kV transformer       PENELEC (100%)         upgrade Seward terminal equipment of Seward – Blairsville 115 kV line to increase the line rating such that the transmission line conductor is the limiting       PENELEC (100%)	b3665			
linePENELEC (100%)b3666Install dual reactors and expand existing ring bus at Marshall 230 kV substationPENELEC (100%)Install second 230/115 kV transformer at Pierce Brook substationPENELEC (100%)B3667Install second 230/115 kV transformer at Pierce Brook substationPENELEC (100%)B3667Rebuild 2.5 miles of East Towanda-North Meshoppen 115 kV line with 1113 ACSS conductor using single circuit construction. Upgrade all terminal equipment to the rating of 1113 ACSSPENELEC (100%)Bethlehem 33 46 kV substation on the Cambria Prison linePENELEC (100%)Replace the relay panels at Bethlehem 33 46 kV substation on the Cambria Prison linePENELEC (100%)Shawville 230/115/17.2 kV transformer with a new Shawville 230/115/17.2 kV transformer and associated facilities. Replace the plant's No. 2B 115/17.2 kV transformer with a larger 230/17.2 kV transformerPENELEC (100%)Upgrade Seward - Blairsville 115 kV line to increase the line rating such that the transmission line conductor is the limitingPENELEC (100%)	02002			
Install dual reactors and       expand existing ring bus at         Marshall 230 kV substation       PENELEC (100%)         Install second 230/115 kV       transformer at Pierce Brook         substation       PENELEC (100%)         Rebuild 2.5 miles of East       PENELEC (100%)         Towanda-North Meshoppen       115 kV         15 kV line with 1113       ACSS conductor using         single circuit construction.       Upgrade all terminal         equipment to the rating of       1113 ACSS         Bethlehem 33 46 kV       substation on the Cambria         Prison line       PENELEC (100%)         Replace the relay panels at       Bethlehem 33 46 kV         substation on the Cambria       PENELEC (100%)         Replace the shawville       230/115/17.2 kV         transformer with a new       Shawville 230/115 kV         b3708       transformer and associated         facilities. Replace the plant's       No. 2B 115/17.2 kV         transformer with a larger       230/17.2 kV transformer         230/17.2 kV transformer       PENELEC (100%)         Upgrade Seward terminal       equipment of Seward –         Blairsville 115 kV line to       increase the line rating such         hat the transmission line       conductor is the limiting		2		
b3666     expand existing ring bus at Marshall 230 kV substation     PENELEC (100%)       Install second 230/115 kV transformer at Pierce Brook substation     PENELEC (100%)       Rebuild 2.5 miles of East Towanda-North Meshoppen 115 kV line with 1113 ACSS conductor using single circuit construction. Upgrade all terminal equipment to the rating of 1113 ACSS     PENELEC (100%)       Replace the relay panels at Bethlehem 33 46 kV substation on the Cambria Prison line     PENELEC (100%)       Replace the Shawville 230/115/17.2 kV transformer with a new Shawville 230/115 kV transformer with a larger 230/17.2 kV transformer     PENELEC (100%)       b3708     Upgrade Seward terminal equipment of Seward – Blairsville 115 kV line to increase the line rating such that the transmission line conductor is the limiting     PENELEC (100%)				PENELEC (100%)
Marshall 230 kV substation     PENELEC (100%)       Install second 230/115 kV     transformer at Pierce Brook       substation     PENELEC (100%)       Rebuild 2.5 miles of East     PENELEC (100%)       Towanda-North Meshoppen     115 kV line with 1113       ACSS conductor using     single circuit construction.       Upgrade all terminal     equipment to the rating of       1113 ACSS     PENELEC (100%)       Bethlehem 33 46 kV     substation on the Cambria       Prison line     PENELEC (100%)       Replace the relay panels at     Bethlehem 33 46 kV       substation on the Cambria     PENELEC (100%)       Replace the Shawville     230/115/17.2 kV       transformer and associated     facilities. Replace the plant's       No. 2B 115/17.2 kV     transformer       transformer with a larger     230/17.2 kV transformer       230/17.2 kV transformer     PENELEC (100%)       b3750     Upgrade Seward terminal       equipment of Seward –     Blairsville 115 kV line to       increase the line rating such     that the transmission line       conductor is the limiting     conductor is the limiting				
Install second 230/115 kV         b3667         Install second 230/115 kV         transformer at Pierce Brook         substation         PENELEC (100%)         Rebuild 2.5 miles of East         Towanda-North Meshoppen         115 kV line with 1113         ACSS conductor using         single circuit construction.         Upgrade all terminal         equipment to the rating of         1113 ACSS         Replace the relay panels at         Bethlehem 33 46 kV         substation on the Cambria         Prison line         PENELEC (100%)         Replace the Shawville         230/115/17.2 kV         transformer with a new         Shawville 230/115 kV         transformer with a larger         230/17.2 kV transformer         transformer with a larger         230/17.2 kV transformer         transformer of Seward –         Blairsville 115 kV line to         increase the line rating such         that the transmission line         conductor is the limiting	b3666			
b3667     transformer at Pierce Brook substation     PENELEC (100%)       Rebuild 2.5 miles of East Towanda-North Meshoppen 115 kV line with 1113 ACSS conductor using single circuit construction. Upgrade all terminal equipment to the rating of 1113 ACSS     PENELEC (100%)       Replace the relay panels at Bethlehem 33 46 kV substation on the Cambria Prison line     PENELEC (100%)       Replace the Shawville 230/115/17.2 kV transformer with a new Shawville 230/115 kV transformer and associated facilities. Replace the plant's No. 2B 115/17.2 kV transformer with a larger 230/17.2 kV transformer     PENELEC (100%)       b3708     Upgrade Seward terminal equipment of Seward – Blairsville 115 kV line to increase the line rating such that the transmission line conductor is the limiting     PENELEC (100%)				PENELEC (100%)
substationPENELEC (100%)Rebuild 2.5 miles of East Towanda-North Meshoppen 115 kV line with 1113 ACSS conductor using single circuit construction. Upgrade all terminal equipment to the rating of 1113 ACSSPENELEC (100%)b3673Replace the relay panels at Bethlehem 33 46 kV substation on the Cambria Prison linePENELEC (100%)Replace the Shawville 230/115/17.2 kV transformer with a new Shawville 230/115 kV transformer and associated facilities. Replace the plant's No. 2B 115/17.2 kV transformer with a larger 230/17.2 kV transformerPENELEC (100%)b3708Upgrade Seward terminal equipment of Seward – Blairsville 115 kV line to increase the line rating such that the transmission line conductor is the limitingPENELEC (100%)				
Rebuild 2.5 miles of East Towanda-North Meshoppen 115 kV line with 1113 ACSS conductor using single circuit construction. Upgrade all terminal equipment to the rating of 1113 ACSS       PENELEC (100%)         Replace the relay panels at Bethlehem 33 46 kV substation on the Cambria Prison line       PENELEC (100%)         Replace the shawville 230/115/17.2 kV transformer with a new Shawville 230/115 kV       PENELEC (100%)         b3708       transformer and associated facilities. Replace the plant's No. 2B 115/17.2 kV transformer with a larger 230/17.2 kV transformer       PENELEC (100%)         b3709       Upgrade Seward terminal equipment of Seward – Blairsville 115 kV line to increase the line rating such that the transmission line conductor is the limiting       PENELEC (100%)	b3667	transformer at Pierce Brook		
b3672Towanda-North Meshoppen 115 kV line with 1113 ACSS conductor using single circuit construction. Upgrade all terminal equipment to the rating of 1113 ACSSPENELEC (100%)b3673Replace the relay panels at Bethlehem 33 46 kV substation on the Cambria Prison linePENELEC (100%)b3673Replace the shawville 230/115/17.2 kV transformer with a new Shawville 230/115 kVPENELEC (100%)b3708transformer and associated facilities. Replace the plant's No. 2B 115/17.2 kV transformer with a larger 230/17.2 kV transformerPENELEC (100%)b3709Upgrade Seward terminal equipment of Seward – Blairsville 115 kV line to increase the line rating such that the transmission line conductor is the limitingPENELEC (100%)		substation		PENELEC (100%)
b3672115 kV line with 1113 ACSS conductor using single circuit construction. Upgrade all terminal equipment to the rating of 1113 ACSSPENELEC (100%)b3673Replace the relay panels at Bethlehem 33 46 kV substation on the Cambria Prison linePENELEC (100%)Replace the Shawville 230/115/17.2 kV transformer with a new Shawville 230/115 kV transformer and associated facilities. Replace the plant's No. 2B 115/17.2 kV transformer with a larger 230/17.2 kV transformerPENELEC (100%)Upgrade Seward terminal equipment of Seward – Blairsville 115 kV line to increase the line rating such that the transmission line conductor is the limitingPENELEC (100%)		Rebuild 2.5 miles of East		
b3672ACSS conductor using single circuit construction. Upgrade all terminal equipment to the rating of 1113 ACSSPENELEC (100%)b3673Replace the relay panels at Bethlehem 33 46 kV substation on the Cambria Prison linePENELEC (100%)Replace the Shawville 230/115/17.2 kV transformer with a new Shawville 230/115 kV transformer and associated facilities. Replace the plant's No. 2B 115/17.2 kV transformer with a larger 230/17.2 kV transformerPENELEC (100%)b3708Upgrade Seward terminal equipment of Seward – Blairsville 115 kV line to increase the line rating such that the transmission line conductor is the limitingPENELEC (100%)		Towanda-North Meshoppen		
b3072       single circuit construction. Upgrade all terminal equipment to the rating of 1113 ACSS       PENELEC (100%)         Replace the relay panels at Bethlehem 33 46 kV substation on the Cambria Prison line       PENELEC (100%)         Replace the Shawville 230/115/17.2 kV transformer with a new Shawville 230/115 kV transformer and associated facilities. Replace the plant's No. 2B 115/17.2 kV transformer       PENELEC (100%)         Upgrade Seward terminal equipment of Seward – Blairsville 115 kV line to increase the line rating such that the transmission line conductor is the limiting       PENELEC (100%)		115 kV line with 1113		
single circuit construction.       Upgrade all terminal         equipment to the rating of       1113 ACSS         perform to the rating of       PENELEC (100%)         Replace the relay panels at       Bethlehem 33 46 kV         substation on the Cambria       Penselec (100%)         Prison line       PENELEC (100%)         Replace the Shawville       230/115/17.2 kV         transformer with a new       Shawville 230/115 kV         b3708       transformer and associated         facilities. Replace the plant's       No. 2B 115/17.2 kV         transformer with a larger       230/17.2 kV transformer         230/17.2 kV transformer       PENELEC (100%)         Upgrade Seward terminal       equipment of Seward –         Blairsville 115 kV line to       increase the line rating such         that the transmission line       conductor is the limiting	h2672	ACSS conductor using		
equipment to the rating of 1113 ACSSPENELEC (100%)Bathlehem 33 46 kV substation on the Cambria Prison linePENELEC (100%)Replace the shawville 230/115/17.2 kV transformer with a new Shawville 230/115 kV transformer and associated facilities. Replace the plant's No. 2B 115/17.2 kV transformer with a larger 230/17.2 kV transformerPENELEC (100%)b3708Upgrade Seward terminal equipment of Seward – Blairsville 115 kV line to increase the line rating such that the transmission line conductor is the limitingPENELEC (100%)	03072	single circuit construction.		
1113 ACSS       PENELEC (100%)         Replace the relay panels at Bethlehem 33 46 kV substation on the Cambria Prison line       PENELEC (100%)         Replace the Shawville 230/115/17.2 kV transformer with a new Shawville 230/115 kV transformer and associated facilities. Replace the plant's No. 2B 115/17.2 kV transformer with a larger 230/17.2 kV transformer       PENELEC (100%)         Upgrade Seward terminal equipment of Seward – Blairsville 115 kV line to increase the line rating such that the transmission line conductor is the limiting       PENELEC (100%)		Upgrade all terminal		
b3673       Replace the relay panels at Bethlehem 33 46 kV substation on the Cambria Prison line       PENELEC (100%)         Replace the Shawville 230/115/17.2 kV transformer with a new Shawville 230/115 kV       PENELEC (100%)         b3708       transformer and associated facilities. Replace the plant's No. 2B 115/17.2 kV transformer with a larger 230/17.2 kV transformer       PENELEC (100%)         Upgrade Seward terminal equipment of Seward – Blairsville 115 kV line to increase the line rating such that the transmission line conductor is the limiting       PENELEC (100%)		equipment to the rating of		
b3673Bethlehem 33 46 kV substation on the Cambria Prison linePENELEC (100%)Replace the Shawville 230/115/17.2 kV transformer with a new Shawville 230/115 kV b3708PENELEC (100%)b3708transformer and associated facilities. Replace the plant's No. 2B 115/17.2 kV transformer with a larger 230/17.2 kV transformerPENELEC (100%)Upgrade Seward terminal equipment of Seward – Blairsville 115 kV line to increase the line rating such that the transmission line conductor is the limitingPENELEC (100%)		1113 ACSS		PENELEC (100%)
b36/3       substation on the Cambria Prison line       PENELEC (100%)         Replace the Shawville 230/115/17.2 kV transformer with a new Shawville 230/115 kV       PENELEC (100%)         b3708       transformer and associated facilities. Replace the plant's No. 2B 115/17.2 kV transformer with a larger 230/17.2 kV transformer       PENELEC (100%)         Upgrade Seward terminal equipment of Seward – Blairsville 115 kV line to increase the line rating such that the transmission line conductor is the limiting       PENELEC (100%)		Replace the relay panels at		
substation on the Cambria       Prison line       PENELEC (100%)         Replace the Shawville       230/115/17.2 kV       transformer with a new         Shawville 230/115 kV       transformer and associated       facilities. Replace the plant's         b3708       transformer with a larger       230/17.2 kV         transformer with a larger       230/17.2 kV transformer       PENELEC (100%)         Upgrade Seward terminal       equipment of Seward –       Blairsville 115 kV line to         b3750       increase the line rating such that the transmission line conductor is the limiting       Example 100 minutes	h2672	Bethlehem 33 46 kV		
Replace the Shawville         230/115/17.2 kV         transformer with a new         Shawville 230/115 kV         transformer and associated         facilities. Replace the plant's         No. 2B 115/17.2 kV         transformer with a larger         230/17.2 kV transformer         PENELEC (100%)         Upgrade Seward terminal         equipment of Seward –         Blairsville 115 kV line to         increase the line rating such         that the transmission line         conductor is the limiting	03075	substation on the Cambria		
230/115/17.2 kV         transformer with a new         Shawville 230/115 kV         b3708         transformer and associated         facilities. Replace the plant's         No. 2B 115/17.2 kV         transformer with a larger         230/17.2 kV transformer         PENELEC (100%)         Upgrade Seward terminal         equipment of Seward –         Blairsville 115 kV line to         increase the line rating such         that the transmission line         conductor is the limiting		Prison line		PENELEC (100%)
transformer with a new Shawville 230/115 kV transformer and associated facilities. Replace the plant's No. 2B 115/17.2 kV transformer with a larger 230/17.2 kV transformerPENELEC (100%)Upgrade Seward terminal equipment of Seward – Blairsville 115 kV line to increase the line rating such that the transmission line conductor is the limitingPENELEC (100%)		Replace the Shawville		
b3708Shawville 230/115 kV transformer and associated facilities. Replace the plant's No. 2B 115/17.2 kV transformer with a larger 230/17.2 kV transformerPENELEC (100%)Upgrade Seward terminal equipment of Seward – Blairsville 115 kV line to increase the line rating such that the transmission line conductor is the limitingPENELEC (100%)		230/115/17.2 kV		
b3708       transformer and associated facilities. Replace the plant's No. 2B 115/17.2 kV transformer with a larger 230/17.2 kV transformer       PENELEC (100%)         Upgrade Seward terminal equipment of Seward – Blairsville 115 kV line to increase the line rating such that the transmission line conductor is the limiting       PENELEC (100%)		transformer with a new		
facilities. Replace the plant's No. 2B 115/17.2 kV transformer with a larger 230/17.2 kV transformerPENELEC (100%)Upgrade Seward terminal equipment of Seward – Blairsville 115 kV line to increase the line rating such that the transmission line conductor is the limitingPENELEC (100%)		Shawville 230/115 kV		
No. 2B 115/17.2 kV         transformer with a larger         230/17.2 kV transformer         PENELEC (100%)         Upgrade Seward terminal         equipment of Seward –         Blairsville 115 kV line to         increase the line rating such         that the transmission line         conductor is the limiting	b3708	transformer and associated		
transformer with a larger 230/17.2 kV transformerPENELEC (100%)Upgrade Seward terminal equipment of Seward – Blairsville 115 kV line to increase the line rating such that the transmission line conductor is the limitingPENELEC (100%)		facilities. Replace the plant's		
230/17.2 kV transformer     PENELEC (100%)       Upgrade Seward terminal     equipment of Seward –       Blairsville 115 kV line to     increase the line rating such       that the transmission line     conductor is the limiting		No. 2B 115/17.2 kV		
b3750 Upgrade Seward terminal equipment of Seward – Blairsville 115 kV line to increase the line rating such that the transmission line conductor is the limiting		transformer with a larger		
<ul> <li>equipment of Seward –</li> <li>Blairsville 115 kV line to</li> <li>increase the line rating such</li> <li>that the transmission line</li> <li>conductor is the limiting</li> </ul>		230/17.2 kV transformer		PENELEC (100%)
<ul> <li>equipment of Seward –</li> <li>Blairsville 115 kV line to</li> <li>increase the line rating such</li> <li>that the transmission line</li> <li>conductor is the limiting</li> </ul>	b3750	Upgrade Seward terminal		
b3750 Blairsville 115 kV line to increase the line rating such that the transmission line conductor is the limiting		equipment of Seward –		
that the transmission line conductor is the limiting				
that the transmission line conductor is the limiting		increase the line rating such		
		-		
		conductor is the limiting		
		component		PENELEC (100%)

Required Transmission Enhancements Annual Revenue Requirement	Responsible Customer(s)
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Rebuild 6.4 miles of Roxbury – Shade Gap 115 kV line from Roxbury to the AE1-071 115 kV ring bus with single circuit 115 kV constructionPENELEC (100%)Rebuild 7.2 miles of the Shade Gap – AE1-071 115 b3752 kV line section of the Roxbury – Shade Gap 115 kV linePENELEC (100%)Replace the Tyrone North 115 /46 kV transformer with a new standard 75 MVA topPENELEC (100%)b3753rated bank and upgrade the entire terminal to minimum 100 MVA capability for both SN and SE ratingPENELEC (100%)b3754Construct a new three breaker ring bus to tie into the LLK line at Maclane TapPENELEC (100%)b3765Cut and remove the 345 kV and 230 kV generator lead lines at Homer City station. Install new station service supply, separate AC station service, separate protection and controls schemes, and review and adjust relay protection settingsPENELEC (100%)	Required II		ai Revenue Requirement	Responsible Customer(s)
b3751       kV line from Roxbury to the AE1-071 115 kV ring bus with single circuit 115 kV construction       PENELEC (100%)         Rebuild 7.2 miles of the Shade Gap – AE1-071 115       PENELEC (100%)         b3752       kV line section of the Roxbury – Shade Gap 115       PENELEC (100%)         KV line       PENELEC (100%)         Replace the Tyrone North 115 /46 kV transformer with a new standard 75 MVA top rated bank and upgrade the entire terminal to minimum 100 MVA capability for both SN and SE rating       PENELEC (100%)         Construct a new three breaker ring bus to tie into the Warrior Ridge - Belleville 46 kV D line and the 1LK line at Maclane Tap       PENELEC (100%)         Purchase one 80 MVAR 345 kV spare reactor, to be located at the Mainesburg 345 kV station       PENELEC (100%)         Cut and remove the 345 kV and 230 kV generator lead lines at Homer City station. Install new station service supply, separate AC station service, separate protection and controls schemes, and review and adjust relay       PENELEC (100%)				
b3/51       AE1-071 115 kV ring bus with single circuit 115 kV construction       PENELEC (100%)         Rebuild 7.2 miles of the Shade Gap – AE1-071 115 kV line section of the Roxbury – Shade Gap 115 kV line       PENELEC (100%)         Replace the Tyrone North 115 /46 kV transformer with a new standard 75 MVA top b3753       PENELEC (100%)         b3754       Replace the Tyrone North 115 /46 kV transformer with a new standard 75 MVA top both SN and SE rating       PENELEC (100%)         Construct a new three breaker ring bus to tie into the Warrior Ridge - Belleville 46 kV D line and the 1LK line at Maclane Tap       PENELEC (100%)         Purchase one 80 MVAR 345 kV spare reactor, to be located at the Mainesburg 345 kV station       PENELEC (100%)         Cut and remove the 345 kV and 230 kV generator lead lines at Homer City station. Install new station service supply, separate AC station service, separate protection and controls schemes, and review and adjust relay		• •		
with single circuit 115 kV construction     PENELEC (100%)       Rebuild 7.2 miles of the Shade Gap – AE1-071 115 b3752     Rebuild 7.2 miles of the Shade Gap 115 kV line section of the Roxbury – Shade Gap 115 kV line     PENELEC (100%)       Replace the Tyrone North 115 /46 kV transformer with a new standard 75 MVA top     PENELEC (100%)       b3753     rated bank and upgrade the entire terminal to minimum 100 MVA capability for both SN and SE rating     PENELEC (100%)       Construct a new three breaker ring bus to tie into the Warrior Ridge - Belleville 46 kV D line and the 1LK line at Maclane Tap     PENELEC (100%)       Purchase one 80 MVAR 345 kV spare reactor, to be located at the Mainesburg 345 kV station     PENELEC (100%)       Cut and remove the 345 kV and 230 kV generator lead lines at Homer City station. Install new station service supply, separate AC station service, separate protection and controls schemes, and review and adjust relay     PENELEC (100%)	b3751			
constructionPENELEC (100%)Rebuild 7.2 miles of the Shade Gap – AE1-071 115 kV line section of the Roxbury – Shade Gap 115 kV linePENELEC (100%)Replace the Tyrone North 115 /46 kV transformer with a new standard 75 MVA top rated bank and upgrade the entire terminal to minimum 100 MVA capability for both SN and SE ratingPENELEC (100%)Construct a new three breaker ring bus to tie into the Warrior Ridge - Belleville 46 kV D line and the 1LK line at Maclane TapPENELEC (100%)Purchase one 80 MVAR 345 kV spare reactor, to be located at the Mainesburg 345 kV stationPENELEC (100%)Cut and remove the 345 kV and 230 kV generator lead lines at Homer City station, Install new station service supply, separate AC station service, separate protection and controls schemes, and review and adjust relayPENELEC (100%)		e		
Rebuild 7.2 miles of the Shade Gap – AE1-071 115 kV line section of the Roxbury – Shade Gap 115 kV line       PENELEC (100%)         Replace the Tyrone North 115 /46 kV transformer with a new standard 75 MVA top rated bank and upgrade the entire terminal to minimum 100 MVA capability for both SN and SE rating       PENELEC (100%)         Construct a new three breaker ring bus to tie into the Warrior Ridge - Belleville 46 kV D line and the 1LK line at Maclane Tap       PENELEC (100%)         Purchase one 80 MVAR 345 kV spare reactor, to be located at the Mainesburg 345 kV station       PENELEC (100%)         Cut and remove the 345 kV and 230 kV generator lead lines at Homer City station. Install new station service supply, separate AC station service, separate protection and controls schemes, and review and adjust relay		e		<b>DENIEL EC (1000/)</b>
b3752Shade Gap – AE1-071 115 kV line section of the Roxbury – Shade Gap 115 kV linePENELEC (100%)aReplace the Tyrone North 115 /46 kV transformer with a new standard 75 MVA top rated bank and upgrade the entire terminal to minimum 100 MVA capability for both SN and SE ratingPENELEC (100%)b3753Construct a new three breaker ring bus to tie into the Warrior Ridge - Belleville 46 kV D line and the 1LK line at Maclane TapPENELEC (100%)b3765Purchase one 80 MVAR 345 kV spare reactor, to be located at the Mainesburg 345 kV stationPENELEC (100%)b3783Cut and remove the 345 kV and 230 kV generator lead lines at Homer City station. Install new station service supply, separate AC station service, separate protection and controls schemes, and review and adjust relayPENELEC (100%)				PENELEC (100%)
b3752kV line section of the Roxbury – Shade Gap 115 kV linePENELEC (100%)PENELEC (100%)Replace the Tyrone North 115 /46 kV transformer with a new standard 75 MVA top rated bank and upgrade the entire terminal to minimum 100 MVA capability for both SN and SE ratingPENELEC (100%)Construct a new three breaker ring bus to tie into the Warrior Ridge - Belleville 46 kV D line and the 1LK line at Maclane TapPENELEC (100%)b3765Purchase one 80 MVAR 345 kV spare reactor, to be located at the Mainesburg 345 kV stationPENELEC (100%)Cut and remove the 345 kV and 230 kV generator lead lines at Homer City station. Install new station service supply, separate AC station service, separate protection and controls schemes, and review and adjust relayPENELEC (100%)				
Roxbury - Shade Gap 115 kV linePENELEC (100%)Replace the Tyrone North 115 /46 kV transformer with a new standard 75 MVA top rated bank and upgrade the entire terminal to minimum 100 MVA capability for both SN and SE ratingPENELEC (100%)Construct a new three breaker ring bus to tie into the Warrior Ridge - Belleville 46 kV D line and the 1LK line at Maclane TapPENELEC (100%)b3753Purchase one 80 MVAR 345 kV spare reactor, to be located at the Mainesburg 345 kV stationPENELEC (100%)b3783Cut and remove the 345 kV and 230 kV generator lead lines at Homer City station. Install new station service supply, separate AC station service, separate protection and controls schemes, and review and adjust relayPENELEC (100%)				
kV linePENELEC (100%)Replace the Tyrone North 115 /46 kV transformer with a new standard 75 MVA top rated bank and upgrade the entire terminal to minimum 100 MVA capability for both SN and SE ratingPENELEC (100%)Construct a new three breaker ring bus to tie into the Warrior Ridge - Belleville 46 kV D line and the 1LK line at Maclane TapPENELEC (100%)Balleville 46 kV D line and the 1LK line at Maclane TapPENELEC (100%)Purchase one 80 MVAR 345 kV spare reactor, to be located at the Mainesburg 345 kV stationPENELEC (100%)Cut and remove the 345 kV and 230 kV generator lead lines at Homer City station. Install new station service supply, separate AC station service, separate protection and controls schemes, and review and adjust relayPENELEC (100%)	b3752			
Barrow Standard 75 MVA top         b3753         rated bank and upgrade the         entire terminal to minimum         100 MVA capability for         both SN and SE rating         PENELEC (100%)         Construct a new three         breaker ring bus to tie into         the Warrior Ridge -         Belleville 46 kV D line and         the 1LK line at Maclane Tap         Purchase one 80 MVAR 345         kV spare reactor, to be         located at the Mainesburg         345 kV station         PENELEC (100%)         Cut and remove the 345 kV         and 230 kV generator lead         lines at Homer City station.         Install new station service         supply, separate AC station         service, separate protection         and controls schemes, and         review and adjust relay				
b3753115 /46 kV transformer with a new standard 75 MVA top rated bank and upgrade the entire terminal to minimum 100 MVA capability for both SN and SE ratingPENELEC (100%)construct a new three breaker ring bus to tie into the Warrior Ridge - Belleville 46 kV D line and the 1LK line at Maclane TapPENELEC (100%)b3754Purchase one 80 MVAR 345 kV spare reactor, to be located at the Mainesburg 345 kV stationPENELEC (100%)cut and remove the 345 kV and 230 kV generator lead lines at Homer City station. Install new station service supply, separate AC station service, separate protection and controls schemes, and review and adjust relayPENELEC				PENELEC (100%)
a new standard 75 MVA topb3753rated bank and upgrade theentire terminal to minimum100 MVA capability forboth SN and SE ratingPENELEC (100%)Construct a new threebreaker ring bus to tie intothe Warrior Ridge -Belleville 46 kV D line andthe 1LK line at Maclane TapPurchase one 80 MVAR 345kV spare reactor, to belocated at the Mainesburg345 kV stationPENELEC (100%)Cut and remove the 345 kVand 230 kV generator leadlines at Homer City station.Install new station servicesupply, separate AC stationservice, separate protectionand controls schemes, andreview and adjust relay				
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entire terminal to minimum 100 MVA capability for both SN and SE ratingPENELEC (100%)Both SN and SE ratingPENELEC (100%)Construct a new three breaker ring bus to tie into the Warrior Ridge - Belleville 46 kV D line and the 1LK line at Maclane TapPENELEC (100%)Purchase one 80 MVAR 345 kV spare reactor, to be located at the Mainesburg 345 kV stationPENELEC (100%)Cut and remove the 345 kV and 230 kV generator lead lines at Homer City station. Install new station service supply, separate AC station service, separate protection and controls schemes, and review and adjust relayPENELEC (100%)		a new standard 75 MVA top		
100 MVA capability for both SN and SE ratingPENELEC (100%)AConstruct a new three breaker ring bus to tie into the Warrior Ridge - Belleville 46 kV D line and the 1LK line at Maclane TapPENELEC (100%)BPurchase one 80 MVAR 345 kV spare reactor, to be located at the Mainesburg 345 kV stationPENELEC (100%)Cut and remove the 345 kV and 230 kV generator lead lines at Homer City station. Install new station service supply, separate AC station service, separate protection and controls schemes, and review and adjust relayPENELEC (100%)	b3753	rated bank and upgrade the		
both SN and SE ratingPENELEC (100%)Construct a new three breaker ring bus to tie into the Warrior Ridge - Belleville 46 kV D line and the 1LK line at Maclane TapPENELEC (100%)Purchase one 80 MVAR 345 kV spare reactor, to be located at the Mainesburg 345 kV stationPENELEC (100%)Cut and remove the 345 kV and 230 kV generator lead lines at Homer City station. Install new station service supply, separate AC station service, separate protection and controls schemes, and review and adjust relayPENELEC (100%)		entire terminal to minimum		
Construct a new three breaker ring bus to tie into the Warrior Ridge - Belleville 46 kV D line and the 1LK line at Maclane TapPENELEC (100%)Barrow Purchase one 80 MVAR 345 kV spare reactor, to be located at the Mainesburg 345 kV stationPENELEC (100%)Cut and remove the 345 kV and 230 kV generator lead lines at Homer City station. Install new station service supply, separate AC station service, separate protection and controls schemes, and review and adjust relayPENELEC (100%)		100 MVA capability for		
b3754breaker ring bus to tie into the Warrior Ridge - Belleville 46 kV D line and the 1LK line at Maclane TapPENELEC (100%)B3765Purchase one 80 MVAR 345 kV spare reactor, to be located at the Mainesburg 345 kV stationPENELEC (100%)Cut and remove the 345 kV and 230 kV generator lead lines at Homer City station. Install new station service supply, separate AC station service, separate protection and controls schemes, and review and adjust relayPENELEC (100%)		both SN and SE rating		PENELEC (100%)
b3754the Warrior Ridge - Belleville 46 kV D line and the 1LK line at Maclane TapPENELEC (100%)b3765Purchase one 80 MVAR 345 kV spare reactor, to be located at the Mainesburg 345 kV stationPENELEC (100%)b3765Cut and remove the 345 kV and 230 kV generator lead lines at Homer City station. Install new station service supply, separate AC station service, separate protection and controls schemes, and review and adjust relayPENELEC (100%)				
Belleville 46 kV D line and the 1LK line at Maclane TapPENELEC (100%)Purchase one 80 MVAR 345 kV spare reactor, to be located at the Mainesburg 345 kV stationPENELEC (100%)Cut and remove the 345 kV and 230 kV generator lead lines at Homer City station. Install new station service supply, separate AC station service, separate protection and controls schemes, and review and adjust relayPENELEC (100%)		breaker ring bus to tie into		
the 1LK line at Maclane TapPENELEC (100%)b3765Purchase one 80 MVAR 345 kV spare reactor, to be located at the Mainesburg 345 kV stationPENELEC (100%)Cut and remove the 345 kV and 230 kV generator lead lines at Homer City station. Install new station service supply, separate AC station service, separate protection and controls schemes, and review and adjust relayPENELEC (100%)	b3754	the Warrior Ridge -		
b3765       Purchase one 80 MVAR 345 kV spare reactor, to be located at the Mainesburg 345 kV station       PENELEC (100%)         Cut and remove the 345 kV and 230 kV generator lead lines at Homer City station. Install new station service supply, separate AC station service, separate protection and controls schemes, and review and adjust relay       PENELEC (100%)		Belleville 46 kV D line and		
b3765kV spare reactor, to be located at the Mainesburg 345 kV stationPENELEC (100%)Cut and remove the 345 kV and 230 kV generator lead lines at Homer City station. Install new station service supply, separate AC station service, separate protection and controls schemes, and review and adjust relayPENELEC (100%)		the 1LK line at Maclane Tap		PENELEC (100%)
b3763       located at the Mainesburg 345 kV station       PENELEC (100%)         Cut and remove the 345 kV and 230 kV generator lead lines at Homer City station. Install new station service supply, separate AC station service, separate protection and controls schemes, and review and adjust relay       PENELEC (100%)		Purchase one 80 MVAR 345		
base     located at the Mainesburg       345 kV station     PENELEC (100%)       Cut and remove the 345 kV     and 230 kV generator lead       lines at Homer City station.     Install new station service       b3783     supply, separate AC station       service, separate protection     and controls schemes, and       review and adjust relay     review	h2765	kV spare reactor, to be		
b3783       Cut and remove the 345 kV and 230 kV generator lead lines at Homer City station. Install new station service supply, separate AC station service, separate protection and controls schemes, and review and adjust relay	03/03	located at the Mainesburg		
b3783and 230 kV generator lead lines at Homer City station. Install new station service supply, separate AC station service, separate protection and controls schemes, and review and adjust relay		345 kV station		PENELEC (100%)
b3783lines at Homer City station. Install new station service supply, separate AC station service, separate protection and controls schemes, and review and adjust relay		Cut and remove the 345 kV		
b3783lines at Homer City station. Install new station service supply, separate AC station service, separate protection and controls schemes, and review and adjust relay		and 230 kV generator lead		
b3783       Install new station service supply, separate AC station service, separate protection and controls schemes, and review and adjust relay	b3783			
service, separate protection and controls schemes, and review and adjust relay		•		
service, separate protection and controls schemes, and review and adjust relay		supply, separate AC station		
and controls schemes, and review and adjust relay				
review and adjust relay				
				<u>PENELEC (100%)</u>

PJM Open Access Transmission Tariff Schedule 12-Appendix A Section 8 – PECO Energy Co.

Version 25.0.0 Effective January 1, 2024 (Accepted in Docket No. ER24-786-000)

#### **SCHEDULE 12 – APPENDIX A**

### (8) **PECO Energy Company**

Required Tra	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Replace Waneeta 138 kV		
b2130	breaker '15' with 63 kA		
	rated breaker		PECO (100%)
	Replace Waneeta 138 kV		
b2131	breaker '35' with 63 kA		
	rated breaker		PECO (100%)
	Replace Waneeta 138 kV		
b2132	breaker '875' with 63 kA		
	rated breaker		PECO (100%)
	Replace Waneeta 138 kV		
b2133	breaker '895' with 63 kA		
	rated breaker		PECO (100%)
	Plymouth Meeting 230 kV		
b2134	breaker '115' with 63 kA		
	rated breaker		PECO (100%)
b2222	Install a second Eddystone		
02222	230/138 kV transformer		PECO (100%)
	Replace the Eddystone 138		
b2222.1	kV #205 breaker with 63		
	kA breaker		PECO (100%)
	Increase Rating of		
b2222.2	Eddystone #415 138 kV		
	Breaker		PECO (100%)
b2236	50 MVAR reactor at		
02230	Buckingham 230 kV		PECO (100%)
	Replace Whitpain 230 kV		
b2527	breaker '155' with 80 kA		
	breaker		PECO (100%)
	Replace Whitpain 230 kV		
b2528	breaker '525' with 80 kA		
	breaker		PECO (100%)
b2529	Replace Whitpain 230 kV		
	breaker '175' with 80 kA		
	breaker		PECO (100%)
	Replace terminal		
	equipment inside		
b2549	Chichester substation on		
	the 220-36 (Chichester –		
	Eddystone) 230 kV line		PECO (100%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Replace terminal		
	equipment inside		
1.2550	Nottingham substation on		
b2550	the 220-05 (Nottingham –		
	Daleville- Bradford) 230		
	kV line		PECO (100%)
	Replace terminal		``````````````````````````````````````
	equipment inside		
b2551	Llanerch substation on the		
	130-45 (Eddystone to		
	Llanerch) 138 kV line		PECO (100%)
	Replace the Peach Bottom		``````````````````````````````````````
b2572	500 kV '#225' breaker		
	with a 63 kA breaker		PECO (100%)
			AEC (3.97%)/ AEP (5.77%)/
			APS (4.27%)/ ATSI (6.15%)/
			BGE (1.63%)/ ComEd
			(0.72%) Dayton $(1.06%)$
	Increase ratings of Peach		DEOK (1.97%)/ DL (2.25%)/
	Bottom 500/230 kV		Dominion (0.35%)/ DPL
b2694	transformer to 1479 MVA		(14.29%)/ ECP** (0.69%)/
	normal/1839 MVA		EKPC (0.39%)/ HTP***
	emergency		(0.96%)/ JCPL (6.84%) MetEd
	emergeney		(3.28%)/ NEPTUNE* (2.14%)/
			PECO (16.42%)/ PENELEC
			(3.94%)/ PPL (8.32%)/ PSEG
			(14.13%)/ RE (0.44%)
			AEP (6.46%) / APS (8.74%) /
			BGE (19.74%) / ComEd
	Tie in new Furnace Run		(2.16%) / Dayton (0.59%) /
b2752.2	substation to Peach		DEOK (1.02%) / DL (0.01%) /
	Bottom – TMI 500 kV		Dominion (39.95%) / EKPC
			(0.45%) / PEPCO (20.88%)
	Upgrade terminal		AEP (6.46%) / APS (8.74%) /
b2752.3	equipment and required		BGE (19.74%) / ComEd
	relay communication at		(2.16%) / Dayton $(0.59%)$ /
	Peach Bottom 500 kV: on		DEOK (1.02%) / DL (0.01%) /
	the Beach Bottom – TMI		Deok (1.02%) / DL (0.01%) / Dominion (39.95%) / EKPC
	500 kV circuit		(0.45%) / PEPCO (20.88%)
kNI antran a Da			(0.4370) / FEFCO (20.8876)

*Neptune Regional Transmission System, LLC ** East Coast Power, L.L.C.

***Hudson Transmission Partners, LLC

lequired Tr	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
			Load-Ratio Share
			Allocation:
			AEC (1.65%) / AEP
			( <del>13.68<u>14.29</u>%) / APS</del>
			( <del>5.76<u>5.82</u>%) / ATSI</del>
			( <del>8.04<u>7.49</u>%) / BGE</del>
			(4 <u>.114.01</u> %) / ComEd
			( <del>13.39<u>14.06</u>%) / Dayton</del>
			( <del>2.12<u>2.03</u>%)</del> / DEOK
			( <del>3.25<u>3.21</u>%) / DL</del>
			( <u>1.71<u>1.59</u>%) / DPL</u>
			( <del>2.60<u>2.55</u>%) / Dominion</del>
			( <del>13.32<u>13.89</u>%) / EKPC</del>
	Upgrade substation		( <del>1.89<u>2.35</u>%) / JCPL</del>
	equipment at Peach		( <del>3.86<u>3.59</u>%) / ME</del>
b2766.2	Bottom 500 kV to		( <del>1.90<u>1.81</u>%) / NEPTUNE</del>
02700.2	increase facility rating to		(0.42%) / OVEC
	2826 MVA normal and		( <del>0.08<u>0.06</u>%) / PECO</del>
	3525 MVA emergency		( <del>5.40<u>5.11</u>%) / PENELEC</del>
			( <del>1.78<u>1.73</u>%) / PEPCO</del>
			( <del>3.67<u>3.68</u>%) / PPL</del>
			(4.72 <u>4.43</u> %) / PSEG
			( <del>6.39<u>5.99</u>%) / RE</del>
			( <del>0.26</del> <u>0.24</u> %)
			DFAX Allocation:
			AEC $(0.7211.03\%)$ / APS
			(11.06%) / ATSI (1.43%)
			BGE ( <u>34.2537.40</u> %) / DPI
			(1.8322.91%) - PECO
			(1.80%) / PEPCO
			( <del>35.49<u>28.66</u>%) / PSEG</del> ( <del>12.92%) / RE (0.50%)</del>

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Reconductor the Emilie -		
b2774	Falls 138 kV line, and		
02774	replace station cable and		
	relay		PECO (100%)
b2775	Reconductor the Falls -		
02773	U.S. Steel 138 kV line		PECO (100%)
	Replace the Waneeta		
b2850	230 kV "285" with 63 kA		
	breaker		PECO (100%)
	Replace the Chichester		
b2852	230 kV "195" with 63 kA		
	breaker		PECO (100%)
	Replace the North		
b2854	Philadelphia 230 kV "CS		
	775" with 63 kA breaker		PECO (100%)
	Replace the North		
b2855	Philadelphia 230 kV "CS		
	885" with 63 kA breaker		PECO (100%)
	Replace the Parrish		
b2856	230 kV "CS 715" with 63		
	kA breaker		PECO (100%)
	Replace the Parrish		
b2857	230 kV "CS 825" with 63		
	kA breaker		PECO (100%)
	Replace the Parrish 230		
b2858	kV "CS 935" with 63 kA		
	breaker		PECO (100%)
	Replace the Plymouth		
b2859	Meeting 230 kV "215"		
	with 63 kA breaker		PECO (100%)
	Replace the Plymouth		
b2860	Meeting 230 kV "235"		
	with 63 kA breaker		PECO (100%)
	Replace the Plymouth		
b2861	Meeting 230 kV "325"		
	with 63 kA breaker		PECO (100%)
	Replace the Grays Ferry		
b2862	230 kV "705" with 63 kA		
	breaker		PECO (100%)

equired Tr	ansmission Enhancements Annual Revenue Requ	uirement Responsible Customer(s)
	Replace the Grays Ferry 230	
b2863	kV "985" with 63 kA	
	breaker	PECO (100%)
	Replace the Grays Ferry 230	
b2864	kV "775" with 63 kA	
	breaker	PECO (100%)
	Replace the China Tap 230	
b2923	kV 'CS 15' breaker with a	
	63 kA breaker	PECO (100%)
	Replace the Emilie 230 kV	
b2924	'CS 15' breaker with 63 kA	
	breaker	PECO (100%)
	Replace the Emilie 230 kV	
b2925	'CS 25' breaker with 63 kA	
	breaker	PECO (100%)
	Replace the Chichester 230	
b2926	kV '215' breaker with 63	
	kA breaker	PECO (100%)
	Replace the Plymouth	
b2927	Meeting 230 kV '125'	
	breaker with 63 kA breaker	PECO (100%)
	Replace the 230 kV CB	
	#225 at Linwood Substation	
b2985	(PECO) with a double	
02705	circuit breaker (back to back	
	circuit breakers in one	
	device)	PECO (100%)
	Peach Bottom – Furnace	
b3041	Run 500 kV terminal	
	equipment	PECO (100%)
	Replace the Whitpain 230	
b3120	kV breaker "125" with a 63	
	kA breaker	PECO (100%)
	Move 2 MVA load from the	
	Roxborough to Bala	
b3138	substation. Adjust the tap	
	setting on the Master 138/69	
	kV transformer #2	PECO (100%)
	Upgrade the Richmond 69	
b3146	kV breaker "140" with 40	
	kA breaker	PECO (100%)

Required Tra	Insmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Replace station conductor		
	and metering inside		
	Whitpain and Plymouth		
b3697	230 kV substations to		
	increase the ratings of the		
	Whitpain – Plymouth 230		
	kV line		PECO (100%)
			Load-Ratio Share
			Allocation:
			AEC (1.65%) / AEP
			( <del>13.68<u>14.29</u>%) / APS</del>
			( <del>5.76<u>5.82</u>%) / ATSI</del>
			( <del>8.04<u>7.49</u>%) / BGE</del>
			( <u>4.11<u>4.01</u>%) / ComEd</u>
			( <del>13.39<u>14.06</u>%) / Dayton</del>
			( <del>2.12<u>2.03</u>%) / DEOK</del>
			( <del>3.25<u>3.21</u>%) / DL (<u>1.71<u>1.59</u>%)</u></del>
			/ DPL (2.602.55%) / Dominion
			( <del>13.32<u>13.89</u>%) / EKPC</del>
	Deplace 4 meters and hus		( <del>1.89<u>2.35</u>%) / JCPL</del>
	Replace 4 meters and bus work inside Peach Bottom		( <del>3.86<u>3.59</u>%) / ME</del>
b3728.2	substation on the 500 kV		( <del>1.90<u>1.81</u>%) / NEPTUNE*</del>
03720.2	Line 5012 (Conastone –		(0.42%) / OVEC ( <u>0.080.06</u> %)
	Peach Bottom)		/ PECO ( <del>5.40<u>5.11</u>%) /</del>
	reach Bottom)		PENELEC ( <del>1.78<u>1.73</u>%) /</del>
			PEPCO ( <del>3.67<u>3.68</u>%) / PPL</del>
			(4.72 <u>4.43</u> %) / PSEG
			( <del>6.39<u>5.99</u>%) / RE (<u>0.260.24</u>%)</del>
			<b>DFAX</b> Allocation:
			APS (3.94%) / ATSI (0.03%) /
			BGE (20.78%) / DL (0.01%) /
			DPL (0.02%) / Dominion
			(31.75%) / JCPL (6.99%) /
			NEPTUNE* (0.80%) / PECO
			(0.98%) / PEPCO (17.52%) /
			PPL (2.69%) / PSEG (13.93%)
			/ RE (0.56%)

Required Tra	Insmission Enhancements Ann	ual Revenue Requirement Responsible Customer(s)
		Load-Ratio Share Allocation:
		AEC (1.65%) / AEP ( <del>13.6814.29</del> %) / APS
		( <del>5.76</del> <u>5.82</u> %) / ATSI ( <del>8.04</del> <u>7.49</u> %) / BGE
		(4.114.01%) / ComEd (13.3914.06%) /
		Dayton (2.122.03%) / DEOK (3.253.21%)
		/ DL ( <del>1.71<u>1.59</u>%) / DPL (<u>2.602.55</u>%) /</del>
		Dominion ( <del>13.32<u>13.89</u>%) / EKPC</del>
	Deach Pottom North unaradas	( <del>1.89<u>2.35</u>%) / JCPL (<u>3.86<u>3.59</u>%) / ME</u></del>
	Peach Bottom North upgrades – 500 kV substation work.	( <del>1.90</del> 1.81%) / NEPTUNE* (0.42%) /
b3780.1	Add 3x 500 kV breakers to	OVEC (0.080.06%) / PECO (5.405.11%) /
	form a breaker-and-a-half bay	PENELEC ( <u>1.781.73</u> %) / PEPCO
	Torm a breaker-and-a-main bay	( <del>3.67<u>3.68</u>%) / PPL (4.72<u>4.43</u>%) / PSEG</del>
		( <del>6.39<u>5.99</u>%) / RE (<u>0.26</u><u>0.24</u>%)</del>
		DFAX Allocation:
		ATSI (0.02%) / BGE (28.40%) /
		Dominion (33.36%) / DPL (0.02%) /
		JCPL (6.36%) / NEPTUNE* (0.73%) /
		PECO (0.01%) / PEPCO (17.90%) /
		PSEG (12.69%) / RE (0.51%)
	Peach Bottom to Graceton (PECO) new 500 kV transmission line. New rating: 4503 MVA SN/5022 MVA SE	Load-Ratio Share Allocation:
		AEC (1.65%) / AEP ( <del>13.68<u>14.29</u>%) / APS</del>
		( <del>5.76<u>5.82</u>%) / ATSI (<del>8.04<u>7.49</u>%) / BGE</del></del>
		(4.114.01%) / ComEd (13.3914.06%) /
		Dayton ( <u>2.122.03</u> %) / DEOK ( <u>3.253.21</u> %)
		/ DL ( <del>1.71<u>1.59</u>%) / DPL (<u>2.602.55</u>%) /</del>
		Dominion ( <del>13.32<u>13.89</u>%) / EKPC</del>
		( <del>1.892.35</del> %) / JCPL ( <del>3.863.59</del> %) / ME
		( <del>1.901.81</del> %) / NEPTUNE* (0.42%) /
b3780.2		OVEC (0.080.06%) / PECO (5.405.11%) /
		PENELEC (1.781.73%) / PEPCO
		( <del>3.67<u>3.68</u>%) / PPL (4.72<u>4.43</u>%) / PSEG</del>
		( <del>6.39<u>5.99</u>%) / RE (<u>0.26</u><u>0.24</u>%)</del>
		DFAX Allocation:
		ATSI (0.02%) / BGE (28.40%) /
		Dominion $(33.36\%)$ / DPL $(0.02\%)$ /
		JCPL (6.36%) / NEPTUNE* (0.73%) /
		PECO (0.01%) / PEPCO (17.90%) / PSEC (12.60%) / PE (0.51%)
	West Cooper substation work	PSEG (12.69%) / RE (0.51%)
	West Cooper substation work includes 3 breaker ring,	
b3780.3	500/230 kV transformer,	
03/00.3	control house, substation	
	build, and reconfigure Cooper	DPL (41.52%) / PECO (58.48%)
	ound, and reconfigure Cooper	DFL(41.3270) / FECU(30.4670)

distribution station feed. New	
transformer rating: 1559	
MVA SN/ 1940 MVA SE	

PJM Open Access Transmission Tariff Schedule 12-Appendix A Section 8 – PECO Energy Co.

Version 26.0.0 Effective April 9, 2024 (Accepted in Docket No. ER24-843-000)

#### **SCHEDULE 12 – APPENDIX A**

### (8) **PECO Energy Company**

Required Tra	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Replace Waneeta 138 kV		
b2130	breaker '15' with 63 kA		
	rated breaker		PECO (100%)
	Replace Waneeta 138 kV		
b2131	breaker '35' with 63 kA		
	rated breaker		PECO (100%)
	Replace Waneeta 138 kV		
b2132	breaker '875' with 63 kA		
	rated breaker		PECO (100%)
	Replace Waneeta 138 kV		
b2133	breaker '895' with 63 kA		
	rated breaker		PECO (100%)
	Plymouth Meeting 230 kV		
b2134	breaker '115' with 63 kA		
	rated breaker		PECO (100%)
b2222	Install a second Eddystone		
02222	230/138 kV transformer		PECO (100%)
	Replace the Eddystone 138		
b2222.1	kV #205 breaker with 63		
	kA breaker		PECO (100%)
	Increase Rating of		
b2222.2	Eddystone #415 138 kV		
	Breaker		PECO (100%)
b2236	50 MVAR reactor at		
02230	Buckingham 230 kV		PECO (100%)
	Replace Whitpain 230 kV		
b2527	breaker '155' with 80 kA		
	breaker		PECO (100%)
	Replace Whitpain 230 kV		
b2528	breaker '525' with 80 kA		
	breaker		PECO (100%)
	Replace Whitpain 230 kV		
b2529	breaker '175' with 80 kA		
	breaker		PECO (100%)
	Replace terminal		
	equipment inside		
b2549	Chichester substation on		
	the 220-36 (Chichester –		
	Eddystone) 230 kV line		PECO (100%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Replace terminal		
	equipment inside		
1.2550	Nottingham substation on		
b2550	the 220-05 (Nottingham –		
	Daleville- Bradford) 230		
	kV line		PECO (100%)
	Replace terminal		``````````````````````````````````````
	equipment inside		
b2551	Llanerch substation on the		
	130-45 (Eddystone to		
	Llanerch) 138 kV line		PECO (100%)
	Replace the Peach Bottom		``````````````````````````````````````
b2572	500 kV '#225' breaker		
	with a 63 kA breaker		PECO (100%)
			AEC (3.97%)/ AEP (5.77%)/
			APS (4.27%)/ ATSI (6.15%)/
			BGE (1.63%)/ ComEd
			(0.72%) Dayton $(1.06%)$
	Increase ratings of Peach		DEOK (1.97%)/ DL (2.25%)/
	Bottom 500/230 kV		Dominion (0.35%)/ DPL
b2694	transformer to 1479 MVA		(14.29%)/ ECP** (0.69%)/
	normal/1839 MVA		EKPC (0.39%)/ HTP***
	emergency		(0.96%)/ JCPL (6.84%) MetEd
			(3.28%)/ NEPTUNE* (2.14%)/
			PECO (16.42%)/ PENELEC
			(3.94%)/ PPL (8.32%)/ PSEG
			(14.13%)/ RE (0.44%)
			AEP (6.46%) / APS (8.74%) /
			BGE (19.74%) / ComEd
	Tie in new Furnace Run		(2.16%) / Dayton (0.59%) /
b2752.2	substation to Peach		DEOK (1.02%) / DL (0.01%) /
	Bottom – TMI 500 kV		Dominion (39.95%) / EKPC
			(0.45%) / PEPCO (20.88%)
	Upgrade terminal		AEP (6.46%) / APS (8.74%) /
	equipment and required		BGE (19.74%) / ComEd
	relay communication at		(2.16%) / Dayton $(0.59%)$ /
b2752.3	Peach Bottom 500 kV: on		DEOK (1.02%) / DL (0.01%) /
	the Beach Bottom – TMI		Deok (1.02%) / DL (0.01%) / Dominion (39.95%) / EKPC
	500 kV circuit		(0.45%) / PEPCO (20.88%)
kNI antran a Da			(0.4370) / FEFCO (20.8876)

*Neptune Regional Transmission System, LLC ** East Coast Power, L.L.C.

***Hudson Transmission Partners, LLC

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
			Load-Ratio Share
			Allocation:
			AEC (1.67%) / AEP
			(13.94%) / APS (5.64%) /
			ATSI (8.02%) / BGE
			(4.12%) / ComEd (13.46%) /
			Dayton (2.12%) / DEOK
			(3.37%) / DL (1.76%) / DPL
			(2.55%) / Dominion
	Upgrade substation equipment at Peach Bottom 500 kV to increase facility rating to 2826 MVA normal and 3525 MVA emergency		(12.97%) / EKPC (1.81%) /
			JCPL (3.92%) / ME (1.95%)
b2766.2			/ NEPTUNE* (0.24%) /
02700.2			OVEC (0.07%) / PECO
			(5.39%) / PENELEC
			(1.84%) / PEPCO (3.71%) /
			PPL (4.78%) / PSEG
			(6.40%) / RE (0.27%)
			<b>DFAX Allocation:</b>
			AEC (0.72%) / APS
			(11.06%) / ATSI (1.43%) /
			BGE (34.25%) / DPL
			(1.83%) / PECO (1.80%) /
			PEPCO (35.49%) / PSEG
			(12.92%) / RE (0.50%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Reconductor the Emilie -		
b2774	Falls 138 kV line, and		
02774	replace station cable and		
	relay		PECO (100%)
b2775	Reconductor the Falls -		
02775	U.S. Steel 138 kV line		PECO (100%)
	Replace the Waneeta		
b2850	230 kV "285" with 63 kA		
	breaker		PECO (100%)
	Replace the Chichester		
b2852	230 kV "195" with 63 kA		
	breaker		PECO (100%)
	Replace the North		
b2854	Philadelphia 230 kV "CS		
	775" with 63 kA breaker		PECO (100%)
	Replace the North		
b2855	Philadelphia 230 kV "CS		
	885" with 63 kA breaker		PECO (100%)
	Replace the Parrish		
b2856	230 kV "CS 715" with 63		
	kA breaker		PECO (100%)
	Replace the Parrish		
b2857	230 kV "CS 825" with 63		
	kA breaker		PECO (100%)
	Replace the Parrish 230		
b2858	kV "CS 935" with 63 kA		
	breaker		PECO (100%)
	Replace the Plymouth		
b2859	Meeting 230 kV "215"		
	with 63 kA breaker		PECO (100%)
	Replace the Plymouth		
b2860	Meeting 230 kV "235"		
	with 63 kA breaker		PECO (100%)
	Replace the Plymouth		
b2861	Meeting 230 kV "325"		
	with 63 kA breaker		PECO (100%)
	Replace the Grays Ferry		
b2862	230 kV "705" with 63 kA		
	breaker		PECO (100%)

equired Tr	ansmission Enhancements Annual Revenue Requ	uirement Responsible Customer(s)
	Replace the Grays Ferry 230	
b2863	kV "985" with 63 kA	
	breaker	PECO (100%)
	Replace the Grays Ferry 230	
b2864	kV "775" with 63 kA	
	breaker	PECO (100%)
	Replace the China Tap 230	
b2923	kV 'CS 15' breaker with a	
	63 kA breaker	PECO (100%)
	Replace the Emilie 230 kV	
b2924	'CS 15' breaker with 63 kA	
	breaker	PECO (100%)
	Replace the Emilie 230 kV	
b2925	'CS 25' breaker with 63 kA	
	breaker	PECO (100%)
	Replace the Chichester 230	
b2926	kV '215' breaker with 63	
	kA breaker	PECO (100%)
	Replace the Plymouth	
b2927	Meeting 230 kV '125'	
	breaker with 63 kA breaker	PECO (100%)
	Replace the 230 kV CB	
	#225 at Linwood Substation	
b2985	(PECO) with a double	
02705	circuit breaker (back to back	
	circuit breakers in one	
	device)	PECO (100%)
	Peach Bottom – Furnace	
b3041	Run 500 kV terminal	
	equipment	PECO (100%)
	Replace the Whitpain 230	
b3120	kV breaker "125" with a 63	
	kA breaker	PECO (100%)
	Move 2 MVA load from the	
	Roxborough to Bala	
b3138	substation. Adjust the tap	
	setting on the Master 138/69	
	kV transformer #2	PECO (100%)
	Upgrade the Richmond 69	
b3146	kV breaker "140" with 40	
	kA breaker	PECO (100%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3697	Replace station conductor and metering inside Whitpain and Plymouth 230 kV substations to increase the ratings of the Whitpain – Plymouth 230		
	kV line		PECO (100%)
b3728.2	Replace 4 meters and bus work inside Peach Bottom substation on the 500 kV Line 5012 (Conastone – Peach Bottom)		Load-Ratio Share Allocation: AEC (1.67%) / AEP (13.94%) / APS (5.64%) / ATSI (8.02%) / BGE (4.12%) / ComEd (13.46%) / Dayton (2.12%) / DEOK (3.37%) / DL (1.76%) / DPL (2.55%) / Dominion (12.97%) / EKPC (1.81%) / JCPL (3.92%) / ME (1.95%) / NEPTUNE* (0.24%) / OVEC (0.07%) / PECO (5.39%) / PENELEC (1.84%) / PEPCO (3.71%) / PPL (4.78%) / PSEG (6.40%) / RE (0.27%)
			DFAX Allocation: APS (3.94%) / ATSI (0.03%) / BGE (20.78%) / DL (0.01%) / DPL (0.02%) / Dominion (31.75%) / JCPL (6.99%) / NEPTUNE* (0.80%) / PECO (0.98%) / PEPCO (17.52%) / PPL (2.69%) / PSEG (13.93%) / RE (0.56%)

Required Tra	nsmission Enhancements Annu	al Revenue Requirement Responsible Customer(s)
_		Load-Ratio Share Allocation:
		AEC (1.65%) / AEP (13.68%) / APS
		(5.76%) / ATSI (8.04%) / BGE (4.11%) /
		ComEd (13.39%) / Dayton (2.12%) /
		DEOK (3.25%) / DL (1.71%) / Dominion
		(13.32%) / DPL (2.60%) / EKPC (1.89%)
		/ JCPL (3.86%) / ME (1.90%) /
	Peach Bottom North upgrades	NEPTUNE* (0.42%) / OVEC (0.08%) /
b3780.1	- 500 kV substation work.	PECO (5.40%) / PENELEC (1.78%) /
	Add 3x 500 kV breakers to	PEPCO (3.67%) / PPL (4.72%) / PSÉG
	form a breaker-and-a-half bay	(6.39%) / RE (0.26%)
		DFAX Allocation:
		ATSI (0.02%) / BGE (28.40%) /
		Dominion (33.36%) / DPL (0.02%) /
		JCPL (6.36%) / NEPTUNE* (0.73%) /
		PECO (0.01%) / PEPCO (17.90%) /
		PSEG (12.69%) / RE (0.51%)
		Load-Ratio Share Allocation:
	Peach Bottom to Graceton	AEC (1.65%) / AEP (13.68%) / APS
		(5.76%) / ATSI (8.04%) / BGE (4.11%) /
		ComEd (13.39%) / Dayton (2.12%) /
		DEOK (3.25%) / DL (1.71%) / Dominion
		(13.32%) / DPL (2.60%) / EKPC (1.89%)
		/ JCPL (3.86%) / ME (1.90%) /
	(PECO) new 500 kV	NEPTUNE* (0.42%) / OVEC (0.08%) /
b3780.2	transmission line. New rating:	PECO (5.40%) / PENELEC (1.78%) /
	4503 MVA SN/5022 MVA	PEPCO (3.67%) / PPL (4.72%) / PSEG
	SE	(6.39%) / RE (0.26%)
		DFAX Allocation:
		ATSI (0.02%) / BGE (28.40%) /
		Dominion (33.36%) / DPL (0.02%) /
		JCPL (6.36%) / NEPTUNE* (0.73%) /
		PECO (0.01%) / PEPCO (17.90%) /
		PSEG (12.69%) / RE (0.51%)
	West Cooper substation work	
	includes 3 breaker ring,	
	500/230 kV transformer,	
b3780.3	control house, substation	
03780.3	build, and reconfigure Cooper	
	distribution station feed. New	
	transformer rating: 1559	
	MVA SN/ 1940 MVA SE	DPL (41.52%) / PECO (58.48%)

Required Tra	insmission Enhancements	Annual Revenue Requirement Responsible Customer(s)
<u>b3800.5</u>	Replace terminal equipment at Peach Bottom on Peach Bottom - TMI 500 kV line	Load-Ratio Share Allocation:           AEC (1.65%) / AEP (13.68%) / APS           (5.76%) / ATSI (8.04%) / BGE           (4.11%) / ComEd (13.39%) / Dayton           (2.12%) / DEOK (3.25%) / DL           (1.71%) / Dominion (13.32%) / DPL           (2.60%) / EKPC (1.89%) / JCPL           (3.86%) / ME (1.90%) / NEPTUNE*           (0.42%) / OVEC (0.08%) / PECO           (5.40%) / PENELEC (1.78%) /           PEPCO (3.67%) / PPL (4.72%) /           PSEG (6.39%) / RE (0.26%)           DFAX Allocation:           AEC (6.40%) / BGE (20.32%) / DPL           (9.76%) / JCPL (17.57%) /           NEPTUNE* (1.73%) / PECO (6.33%)           / PEPCO (7.48%) / PSEG (29.15%) /
<u>b3800.31</u>	Build new North Delta – High Ridge 500 kV line	RE (1.26%)           Load-Ratio Share Allocation:           AEC (1.65%) / AEP (13.68%) / APS           (5.76%) / ATSI (8.04%) / BGE           (4.11%) / ComEd (13.39%) / Dayton           (2.12%) / DEOK (3.25%) / DL           (1.71%) / Dominion (13.32%) / DPL           (2.60%) / EKPC (1.89%) / JCPL           (3.86%) / ME (1.90%) / NEPTUNE*           (0.42%) / OVEC (0.08%) / PECO           (5.40%) / PENELEC (1.78%) /           PEPCO (3.67%) / PPL (4.72%) /           PSEG (6.39%) / RE (0.26%)           Dominion (60.85%) / DPL (0.01%) /           PECO (0.01%) / PEPCO (29.24%) /           PSEG (9.48%) / RE (0.41%)

Required Tra	Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)				
<u>b3800.35</u>	Rebuild 5012 (existing <u>Peach Bottom -</u> <u>Conastone) (new North</u> <u>Delta - Graceton PECO)</u> <u>500 kV line on single</u> <u>circuit structures within</u> <u>existing ROW and cut</u> <u>into North Delta 500 kV</u> <u>and Graceton 500 kV</u> <u>stations</u>		Load-Ratio Share Allocation:           AEC (1.65%) / AEP (13.68%) / APS           (5.76%) / ATSI (8.04%) / BGE           (4.11%) / ComEd (13.39%) / Dayton           (2.12%) / DEOK (3.25%) / DL           (1.71%) / Dominion (13.32%) / DPL           (2.60%) / EKPC (1.89%) / JCPL           (3.86%) / ME (1.90%) / NEPTUNE*           (0.42%) / OVEC (0.08%) / PECO           (5.40%) / PENELEC (1.78%) /           PEPCO (3.67%) / PPL (4.72%) /           PSEG (6.39%) / RE (0.26%)           DFAX Allocation:           BGE (49.42%) / Dominion (31.22%) /           DPL (0.01%) / JCPL (0.01%) / PECO           (3.75%) / PEPCO (15.57%) / PSEG           (0.02%)		
<u>b3800.42</u>	Peach Bottom North 500 <u>kV bus upgrade -</u> <u>Replace 11 Hinstances of</u> <u>strain bus conductor used</u> <u>for breaker drops or CT</u> <u>drops, seven 500 kV</u> <u>disconnect switches,</u> <u>seven Free Standing CTs,</u> <u>one 500 kV breaker, two</u> <u>breaker relays or meters</u>		Load-Ratio Share Allocation:           AEC (1.65%) / AEP (13.68%) / APS           (5.76%) / ATSI (8.04%) / BGE           (4.11%) / ComEd (13.39%) / Dayton           (2.12%) / DEOK (3.25%) / DL           (1.71%) / Dominion (13.32%) / DPL           (2.60%) / EKPC (1.89%) / JCPL           (3.86%) / ME (1.90%) / NEPTUNE*           (0.42%) / OVEC (0.08%) / PECO           (5.40%) / PENELEC (1.78%) /           PEPCO (3.67%) / PPL (4.72%) /           PSEG (6.39%) / RE (0.26%)           DFAX Allocation:           BGE (62.82%) / DPL (7.25%) / JCPL           (0.09%) / NEPTUNE* (0.01%) /           PECO (0.01%) / PEPCO (29.63%) /           PSEG (0.18%) / RE (0.01%)		

Required Tra	nsmission Enhancements An	nual Revenue Requireme	ent Responsible Customer(s)
<u>b3800.44</u>	<u>North Delta termination</u> <u>for the North Delta -</u> <u>High Ridge 500 kV line</u> (PECO work)		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) Dominion (60.85%) / DPL (0.01%) / PECO (0.01%) / PEPCO (29.24%) / PSEG (9.48%) / RE (0.41%)
<u>b3800.45</u>	North Delta 500 kV termination for the Rock Springs 500 kV line (5034/5014 line) (PECO work)		PSEG (9.48%) / RE (0.41%)           Load-Ratio Share Allocation:           AEC (1.65%) / AEP (13.68%) / APS           (5.76%) / ATSI (8.04%) / BGE           (4.11%) / ComEd (13.39%) / Dayton           (2.12%) / DEOK (3.25%) / DL           (1.71%) / Dominion (13.32%) / DPL           (2.60%) / EKPC (1.89%) / JCPL           (3.86%) / ME (1.90%) / NEPTUNE*           (0.42%) / OVEC (0.08%) / PECO           (5.40%) / PENELEC (1.78%) /           PEPCO (3.67%) / PPL (4.72%) /           PSEG (6.39%) / RE (0.26%)           DFAX Allocation:           AEC (17.65%) / BGE (4.43%) /           Dominion (9.87%) / DPL (22.25%) /           CPL (3.16%) / NEPTUNE* (0.36%) /           PEPCO (3.80%) / PPL (5.99%) /           PEPCO (3.80%) / PPL (5.99%) /           PSEG (27.86%) / RE (1.21%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)		
<u>b3800.46</u>	<u>North Delta 500 kV</u> <u>termination for the new</u> <u>Peach Bottom - North</u> <u>Delta 500 kV line (PECO</u> <u>work)</u>	Load-Ratio Share Allocation:           AEC (1.65%) / AEP (13.68%) / APS           (5.76%) / ATSI (8.04%) / BGE           (4.11%) / ComEd (13.39%) / Dayton           (2.12%) / DEOK (3.25%) / DL           (1.71%) / Dominion (13.32%) / DPL           (2.60%) / EKPC (1.89%) / JCPL           (3.86%) / ME (1.90%) / NEPTUNE*           (0.42%) / OVEC (0.08%) / PECO           (5.40%) / PENELEC (1.78%) /           PEPCO (3.67%) / PPL (4.72%) /           PSEG (6.39%) / RE (0.26%)           DFAX Allocation:           AEC (11.03%) / BGE (37.40%) / DPL           (22.91%) / PEPCO (28.66%)
<u>b3800.47</u>	Build new Peach Bottom South - North Delta 500 kV line – cut in to Peach Bottom tie No.1 and extending line to North Delta (Approximately 1.25 miles new ROW)	Load-Ratio Share Allocation:           AEC (1.65%) / AEP (13.68%) / APS           (5.76%) / ATSI (8.04%) / BGE           (4.11%) / ComEd (13.39%) / Dayton           (2.12%) / DEOK (3.25%) / DL           (1.71%) / Dominion (13.32%) / DPL           (2.60%) / EKPC (1.89%) / JCPL           (3.86%) / ME (1.90%) / NEPTUNE*           (0.42%) / OVEC (0.08%) / PECO           (5.40%) / PENELEC (1.78%) /           PEPCO (3.67%) / PPL (4.72%) /           PSEG (6.39%) / RE (0.26%)           DFAX Allocation:           AEC (11.03%) / BGE (37.40%) / DPL           (22.91%) / PEPCO (28.66%)

PJM Open Access Transmission Tariff Schedule 12-Appendix A Section 9 – PPL Electric Utilities

Version 27.0.0 Effective January 1, 2024 (Accepted in Docket No. ER24-786-000)

### SCHEDULE 12 – APPENDIX A

## (9) **PPL Electric Utilities Corporation**

equired Tra	nsmission Enhancements	Annual Revenue Requiremen	t Responsible Customer(s)
b1813.12	Replace the Blooming Grove 230 kV breaker 'Peckville'		PPL (100%)
b2223	Rebuild and reconductor 2.6 miles of the Sunbury - Dauphin 69 kV circuit		PPL (100%)
b2224	Add a 2nd 150 MVA 230/69 kV transformer at Springfield		PPL (100%)
b2237	150 MVAR shunt reactor at Alburtis 500 kV		Load-Ratio Share Allocation AEC (1.65%) / AEP (13.6814.29%) / APS (5.765.82%) / ATSI (8.047.49%) / BGE (4.114.01%) / ComEd (13.3914.06%) / Dayton (2.122.03%) / DEOK (3.253.21%) / DL (1.711.59%) DPL (2.602.55%) / Dominion (13.3213.89%) / EKPC (1.892.35%) / JCPL (3.863.59%) / ME (1.901.81%) / NEPTUNE (0.42%) / OVEC (0.080.06%) PECO (5.405.11%) / PENELE (1.781.73%) / PEPCO (3.673.68%) / PPL (4.724.43%) PSEG (6.395.99%) / RE (0.260.24%) DFAX Allocation: PPL (100%)
b2238	100 MVAR shunt reactor at Elimsport 230 kV		PPL (100%)

Required Tr	ansmission Enhancements	Annual Revenue Requirer	ment Responsible Customer(s)
	Rebuild approximately		
	23.7 miles of the		
	Susquehanna - Jenkins		
	230 kV circuit. This		
b2269	replaces a temporary SPS		
	that is already planned to		
	mitigate the violation		
	until this solution is		
	implemented		PPL (100%)
	imprementeu		1112(10070)
1,2292	Rebuild the Siegfried-		
b2282	Frackville 230 kV line		
			PPL (100%)
	Rebuild Stanton-		
b2406.1	Providence 69 kV 2&3		
	9.5 miles with 795 SCSR		PPL (100%)
	Reconductor 7 miles of		
	the Lackawanna -		
b2406.2	Providence 69 kV #1 and		
	#2 with 795 ACSR		PPL (100%)
	Rebuild SUB2 Tap 1		1112(10070)
	(Lackawanna - Scranton		
b2406.3	1) 69 kV 1.5 miles 556		
	ACSR		PPL (100%)
	Rebuild SUB2 Tap 2		
	(Lackawanna - Scranton		
b2406.4	1) 69 kV 1.6 miles 556		
	ACSR		PPL (100%)
	Create Providence -		1112 (10070)
	Scranton 69 kV #1 and		
b2406.5	#2, 3.5 miles with 795		
	ACSR		<b>DDI</b> (100%)
	ACSK		PPL (100%)
	Rebuild Providence 69		
b2406.6	kV switchyard		
	ii + 5 ··· itelij al d		PPL (100%)
	Install 2 - 10.8 MVAR		
b2406.7	capacitors at EYNO 69		
	kV		PPL (100%)
			11L (10070)
10406.0	Rebuild Stanton 230 kV		
b2406.8	yard		
	-		PPL (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

- une i		<u>¹ minual ite venue itequitem</u>	icht Responsible Customer(s)
b2446	Replace wave trap and protective relays at Montour		PPL (100%)
b2447	Replace wave trap and protective relays at Montour		PPL (100%)
b2448	Install a 2nd Sunbury 900 MVA 500-230 kV transformer and associated equipment		PPL (100%)
b2552.2	Reconductor the North Meshoppen - Oxbow – Lackawanna 230 kV circuit and upgrade terminal equipment (PPL portion)		PENELEC ( <del>72.85<u>98.86</u>%) / PPL (<u>27.151.14</u>%)</del>
b2574	Replace the Sunbury 230 kV 'MONTOUR NORT' breaker with a 63 kA breaker		PPL (100%)
b2690	Reconductor two spans of the Graceton – Safe Harbor 230 kV transmission line. Includes termination point upgrades		PPL (100%)
b2691	Reconductor three spans limiting Brunner Island – Yorkana 230 kV line, add 2 breakers to Brunner Island switchyard, upgrade associated terminal equipment		PPL (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required T	ransmission Enhancements	Annual Revenue Requirement Responsible Customer(s)
b2716	Add a 200 MVAR shunt reactor at Lackawanna 500 kV substation	Load-Ratio Share Allocation:           AEC (1.65%) / AEP           (13.6814.29%) / APS           (5.765.82%) / ATSI (8.047.49%)           / BGE (4.114.01%) / ComEd           (13.3914.06%) / Dayton           (2.122.03%) / DEOK           (3.253.21%) / DL (1.711.59%) /           DPL (2.602.55%) / Dominion           (13.3213.89%) / EKPC           (1.892.35%) / JCPL (3.863.59%)           / ME (1.901.81%) / NEPTUNE*           (0.42%) / OVEC (0.080.06%) /           PECO (5.405.11%) / PENELEC           (1.781.73%) / PEPCO           (3.673.68%) / PPL (4.724.43%) /           PSEG (6.395.99%) / RE           (0.260.24%)           DFAX Allocation:           PPL (100%)
b2754.1	Install 7 miles of optical ground wire (OPGW) between Gilbert and Springfield 230 kV substations	PPL (100%)
b2754.4	Use ~ 40 route miles of existing fibers on PPL 230 kV system to establish direct fiber circuits	PPL (100%)
b2754.5	Upgrade relaying at Martins Creek 230 kV	PPL (100%)
b2756	Install 2% reactors at Martins Creek 230 kV	PPL (100%)
b2813	Expand existing Lycoming 69 kV yard to double bus double breaker arrangement Regional Transmission Syst	PPL (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement Responsible Customer(s)
b2824	Reconfigure/Expand the Lackawanna 500 kV substation by adding a third bay with three breakers	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68]4.29%) / APS (5.765.82%) / ATSI (8.047.49%) / BGE (4.114.01%) / ComEd (13.39]4.06%) / Dayton (2.122.03%) / DEOK (3.253.21%) / DL (1.711.59%) / DPL (2.602.55%) / Dominion (13.3213.89%) / EKPC (1.892.35%) / JCPL (3.863.59%) / ME (1.901.81%) / NEPTUNE* (0.42%) / OVEC (0.080.06%) / PECO (5.405.11%) / PENELEC (1.781.73%) / PEPCO (3.673.68%) / PPL (4.724.43%) / PSEG (6.395.99%) / RE (0.260.24%) DFAX Allocation: PPL (100%)
b2838	Build a new 230/69 kV substation by tapping the Montour – Susquehanna 230 kV double circuits and Berwick – Hunlock & Berwick – Colombia 69 kV circuits	PPL (100%)
b2979	Replace Martins Creek 230 kV circuit breakers with 80 kA rating	PPL (100%)
b3221	Replace terminal equipment (bus conductor) on the 230 kV side of the Steel City 500/230 kV Transformer #1	PPL (100%)
b3222	Install one (1) 7.2 MVAR fixed cap bank on the Lock Haven – Reno 69 kV line and one (1) 7.2 MVAR fixed cap bank on the Lock Haven – Flemington 69 kV line	PPL (100%)

near the Flemington	
69/12 kV substation	

Required T	ransmission Enhancements	Annual Revenue Require	ement Responsible Customer(s)
b3664	Replace the limiting 230 kV T2 transformer leads, bay conductor and bus conductor with double bundle 1590 ACSR at the Juniata station; Replace the limiting 1200 A MODs on the bus tie breaker with 3000 A MODs		PPL (100%)
b3698	Reconductor the 14.2 miles of the existing Juniata –Cumberland 230 kV line with 1272 ACSS/TW HS285 "Pheasant" conductor		AEC (4.17%) / BGE (13.18%) / DEOK (1.22%) / Dominion (3.25%) / DPL (9.14%) / ECP** (0.11%) / EKPC (0.22%) / HTP*** (0.20%) /JCPL (1.15%) / ME (27.02%) / NEPTUNE* (0.64%) / PECO (18.88%) / PEPCO (4.68%) / PSEG (16.14%)
b3715.1	Install a new 300 MVA 230/115 kV transformer at the existing PPL Williams Grove substation		ME (100%)
b3715.2	Construct a new approximately 3.4 miles 115 kV single circuit transmission line from Williams Grove to Allen substation		ME (100%)

<b>Required Transmission Enhancements</b>	Annual Revenue Requirement	Responsible Customer(s)
Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)

* Neptune Regional Transmission System, LLC **East Coast Power, L.L.C. ***Hudson Transmission Partners, LLC

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)
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	Upgrade terminal		
	equipment at Brunner		
b3774	Island station on		
	Brunner Island –		
	Yorkana 230 kV line		PPL (100%)

PJM Open Access Transmission Tariff Schedule 12-Appendix A Section 9 – PPL Electric Utilities

Version 28.0.0 Effective April 9, 2024 (Accepted in Docket No. ER24-843-000)

### **SCHEDULE 12 – APPENDIX A**

## (9) **PPL Electric Utilities Corporation**

Required Tra	nsmission Enhancements	Annual Revenue Requiremen	nt Responsible Customer(s)
b1813.12	Replace the Blooming Grove 230 kV breaker 'Peckville'		PPL (100%)
b2223	Rebuild and reconductor 2.6 miles of the Sunbury - Dauphin 69 kV circuit		PPL (100%)
b2224	Add a 2nd 150 MVA 230/69 kV transformer at Springfield		PPL (100%)
b2237	150 MVAR shunt reactor at Alburtis 500 kV		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: PPL (100%)
b2238	100 MVAR shunt reactor at Elimsport 230 kV		PPL (100%)

Required Tr	ansmission Enhancements	Annual Revenue Requirer	ment Responsible Customer(s)
	Rebuild approximately		
	23.7 miles of the		
	Susquehanna - Jenkins		
	230 kV circuit. This		
b2269	replaces a temporary SPS		
	that is already planned to		
	mitigate the violation		
	until this solution is		
	implemented		PPL (100%)
	imprementeu		1112(10070)
1,2292	Rebuild the Siegfried-		
b2282	Frackville 230 kV line		
			PPL (100%)
	Rebuild Stanton-		
b2406.1	Providence 69 kV 2&3		
	9.5 miles with 795 SCSR		PPL (100%)
	Reconductor 7 miles of		
	the Lackawanna -		
b2406.2	Providence 69 kV #1 and		
	#2 with 795 ACSR		PPL (100%)
	Rebuild SUB2 Tap 1		1112(10070)
	(Lackawanna - Scranton		
b2406.3	1) 69 kV 1.5 miles 556		
	ACSR		PPL (100%)
	Rebuild SUB2 Tap 2		
	(Lackawanna - Scranton		
b2406.4	1) 69 kV 1.6 miles 556		
	ACSR		PPL (100%)
	Create Providence -		1112 (10070)
	Scranton 69 kV #1 and		
b2406.5	#2, 3.5 miles with 795		
	ACSR		<b>DDI</b> (100%)
	ACSK		PPL (100%)
	Rebuild Providence 69		
b2406.6	kV switchyard		
	ii + 5 ··· itelij al d		PPL (100%)
	Install 2 - 10.8 MVAR		
b2406.7	capacitors at EYNO 69		
	kV		PPL (100%)
			11L (10070)
10406.0	Rebuild Stanton 230 kV		
b2406.8	yard		
	-		PPL (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

required i		Timual Revenue Requirem	lient Responsible Customer(s)
b2446	Replace wave trap and protective relays at Montour		PPL (100%)
b2447	Replace wave trap and protective relays at Montour		PPL (100%)
b2448	Install a 2nd Sunbury 900 MVA 500-230 kV transformer and associated equipment		PPL (100%)
b2552.2	Reconductor the North Meshoppen - Oxbow – Lackawanna 230 kV circuit and upgrade terminal equipment (PPL portion)		PENELEC (72.85%) / PPL (27.15%)
b2574	Replace the Sunbury 230 kV 'MONTOUR NORT' breaker with a 63 kA breaker		PPL (100%)
b2690	Reconductor two spans of the Graceton – Safe Harbor 230 kV transmission line. Includes termination point upgrades		PPL (100%)
b2691	Reconductor three spans limiting Brunner Island – Yorkana 230 kV line, add 2 breakers to Brunner Island switchyard, upgrade associated terminal equipment		PPL (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required T	ransmission Enhancements	Annual Revenue Requirement Responsible Customer(s)
b2716	Add a 200 MVAR shunt reactor at Lackawanna 500 kV substation	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: PPL (100%)
b2754.1	Install 7 miles of optical ground wire (OPGW) between Gilbert and Springfield 230 kV substations	PPL (100%)
b2754.4	Use ~ 40 route miles of existing fibers on PPL 230 kV system to establish direct fiber circuits	PPL (100%)
b2754.5	Upgrade relaying at Martins Creek 230 kV	PPL (100%)
b2756	Install 2% reactors at Martins Creek 230 kV	PPL (100%)
b2813	Expand existing Lycoming 69 kV yard to double bus double breaker arrangement	PPL (100%)

Required T	ransmission Enhancements	Annual Revenue Requirement Responsible Customer(s)
b2824	Reconfigure/Expand the Lackawanna 500 kV substation by adding a third bay with three breakers	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: PPL (100%)
b2838	Build a new 230/69 kV substation by tapping the Montour – Susquehanna 230 kV double circuits and Berwick – Hunlock & Berwick – Colombia 69 kV circuits	PPL (100%)
b2979	Replace Martins Creek 230 kV circuit breakers with 80 kA rating	PPL (100%)
b3221	Replace terminal equipment (bus conductor) on the 230 kV side of the Steel City 500/230 kV Transformer #1	PPL (100%)
b3222	Install one (1) 7.2 MVAR fixed cap bank on the Lock Haven – Reno 69 kV line and one (1) 7.2 MVAR fixed cap bank on the Lock Haven – Flemington 69 kV line near the Flemington 69/12 kV substation	PPL (100%)

Required Tr	ransmission Enhancements	Annual Revenue Require	ement Responsible Customer(s)
b3664	Replace the limiting 230 kV T2 transformer leads, bay conductor and bus conductor with double bundle 1590 ACSR at the Juniata station; Replace the limiting 1200 A MODs on the bus tie breaker with 3000 A MODs		PPL (100%)
b3698	Reconductor the 14.2 miles of the existing Juniata –Cumberland 230 kV line with 1272 ACSS/TW HS285 "Pheasant" conductor		AEC (4.17%) / BGE (13.18%) / DEOK (1.22%) / Dominion (3.25%) / DPL (9.14%) / ECP** (0.11%) / EKPC (0.22%) / HTP*** (0.20%) /JCPL (1.15%) / ME (27.02%) / NEPTUNE* (0.64%) / PECO (18.88%) / PEPCO (4.68%) / PSEG (16.14%)
b3715.1	Install a new 300 MVA 230/115 kV transformer at the existing PPL Williams Grove substation		ME (100%)
b3715.2	Construct a new approximately 3.4 miles 115 kV single circuit transmission line from Williams Grove to Allen substation		ME (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

* Neptune Regional Transmission System, LLC **East Coast Power, L.L.C.

***Hudson Transmission Partners, LLC

Required	ransmission Enhancements	Annual Revenue Requireme	ent Responsible Customer(s)
b3774	Upgrade terminal equipment at Brunner Island station on Brunner Island – Yorkana 230 kV line		PPL (100%)
<u>b3800.1</u>	Build a New Otter Creek 500 kV (Collinsville) switching station with two bay three breaker configuration		Load-Ratio Share Allocation:           AEC (1.65%) / AEP (13.68%) /           APS (5.76%) / ATSI (8.04%) /           GE (4.11%) / ComEd (13.39%)           / Dayton (2.12%) / DEOK           (3.25%) / DL (1.71%) /           Dominion (13.32%) / DPL           2.60%) / EKPC (1.89%) / JCPL           (3.86%) / ME (1.90%) /           NEPTUNE* (0.42%) / OVEC           (0.08%) / PECO (5.40%) /           PENELEC (1.78%) / PEPCO           3.67%) / PPL (4.72%) / PSEG           (6.39%) / RE (0.26%)           DFAX Allocation:           APS (13.16%) / BGE (0.71%) /           Dominion (74.28%) / DPL           (0.36%) / PECO (0.68%) /           EPCO (10.59%) / PPL (0.22%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Load-Ratio Share	Customer(s)
b3800.3AEC (1.65%) / AE APS (5.76%) / AT BGE (4.11%) / Cor / Dayton (2.12% (3.25%) / DL ( Dominion (13.3) 500 kV Line (Otter Creek 500 kV - MD Border). Rebuild and expand existing approximately 12 miles of Otter Creek - Conastone 230 kV line to become a double-circuit 500 and 230 kV linesAEC (1.65%) / AE APS (5.76%) / AT BGE (4.11%) / Cor / Dayton (2.12%) (3.25%) / DL ( Dominion (13.3) (2.60%) / EKPC (1 (3.86%) / ME (0.08%) / PECC PENELEC (1.78%) (3.67%) / PPL (4.7%) (6.39%) / REb3800.3AEC (1.65%) / AE APS (3.25%) / DL ( (3.25%) / DL ( (3.86%) / ME ( (3.86%) / PECC (3.86%) / PECC (1.78%) (3.67%) / PPL (4.7%) / PPL (4.7\%) / PPL (	<u>Allocation:</u> <u>P (13.68%) /</u> <u>SI (8.04%) /</u> <u>nEd (13.39%)</u> <u>6) / DEOK</u> (1.71%) / <u>2%) / DPL</u> <u>89%) / JCPL</u> (1.90%) / <u>2%) / OVEC</u> <u>0 (5.40%) /</u> <u>%) / PEPCO</u> <u>72%) / PSEG</u> (0.26%) <u>cation:</u> <u>GE (0.71%) /</u>

# PJM Open Access Transmission Tariff Schedule 12-Appendix A Section 12 – Public Service Electric & Gas Co.

Version 31.0.0 Effective January 1, 2024 (Accepted in Docket No. ER24-786-000)

### SCHEDULE 12 – APPENDIX A

#### (12) **Public Service Electric and Gas Company**

Required Tra		Annual Revenue Requirement	Responsible Customer(s)
b2218	Rebuild 4 miles of overhead line from Edisor - Meadow Rd - Metuchen (Q 1317)		PSEG (100%)
b2239	50 MVAR reactor at Saddlebrook 230 kV		PSEG (100%)
b2240	50 MVAR reactor at Athenia 230 kV		PSEG (100%)
b2241	50 MVAR reactor at Bergen 230 kV		PSEG (100%)
b2242	50 MVAR reactor at Hudson 230 kV		PSEG (100%)
b2243	Two 50 MVAR reactors a Stanley Terrace 230 kV	t	PSEG (100%)
b2244	50 MVAR reactor at West Orange 230 kV		PSEG (100%)
b2245	50 MVAR reactor at Aldene 230 kV		PSEG (100%)
b2246	150 MVAR reactor at Camden 230 kV		PSEG (100%)
b2247	150 MVAR reactor at Gloucester 230 kV		PSEG (100%)
b2248	50 MVAR reactor at Clarksville 230 kV		PSEG (100%)
b2249	50 MVAR reactor at Hinchmans 230 kV		PSEG (100%)
b2250	50 MVAR reactor at Beaverbrook 230 kV		PSEG (100%)
b2251	50 MVAR reactor at Cox's Corner 230 kV	5	PSEG (100%)

The Annual Revenue Requirement for all Public Service Electric and Gas Company Projects (Required Transmission Enhancements) in this Section 12 shall be as specified in Attachment 7 of Attachment H-10A and under the procedures detailed in Attachment H-10B.

Required Tra	nsmission Enhancements Annual Revenue Requirement	ent Responsible Customer(s)
	Eliminate the Sewaren 138	
b2276	kV bus by installing a new	
02270	230 kV bay at Sewaren	PSEG ( <del>100<u>95.85</u>%) / <u>RE</u></del>
	230 kV	(4.15%)
	Convert the two 138 kV	
	circuits from Sewaren –	
b2276.1	Metuchen to 230 kV	
022/0.1	circuits including	
	Lafayette and Woodbridge	PSEG ( <del>100<u>95.85</u>%) / <u>RE</u></del>
	substation	(4.15%)
	Reconfigure the Metuchen	
100760	230 kV station to	
b2276.2	accommodate the two	PSEG ( <del>100<u>95.85</u>%) / <u>RE</u></del>
	converted circuits	(4.15%)
	Replace disconnect	
	switches at Kilmer, Lake	
	Nilson and Greenbrook	
b2290	230 kV substations on the	
	Raritian River - Middlesex	
	(I-1023) circuit	PSEG (100%)
	Replace circuit switcher at	
	Lake Nelson 230 kV	
b2291	substation on the Raritian	
02271	River - Middlesex (W-	
	1037) circuit	PSEG (100%)
	Replace the Salem 500 kV	1 SLO (10070)
b2295	breaker 10X with 63 kA	
02293		DSEC(1009/)
	breaker	PSEG (100%)
	Install all 69 kV lines to	
	interconnect Plainfield,	
b2421	Greenbrook, and	
	Bridgewater stations and	
	establish the 69 kV	
	network	PSEG (100%)
	Install two 18 MVAR	
b2421.1	capacitors at Plainfield	
04741.1	and S. Second St	
	substation	PSEG (100%)

Required Tra		nnual Revenue Requirement Responsible Customer(s)
b2421.2	Install a second four (4) breaker 69 kV ring bus at Bridgewater Switching Station	PSEG (100%)
b2436.10	Convert the Bergen – Marion 138 kV path to double circuit 345 kV and associated substation upgrades	Load-Ratio Share Allocation: AEC (1.671.65%) / AEP (13.9414.29%) / APS (5.645.82%) / ATSI (8.027.49%) / BGE (4.124.01%) / ComEd (13.4614.06%) / Dayton (2.122.03%) / DEOK (3.373.21%) / DL (1.761.59%) / DPL (2.55%) / Dominion (12.9713.89%) / EKPC (1.812.35%) / JCPL (3.923.59%) / ME (1.951.81%) / NEPTUNE* (0.240.42%) / OVEC (0.070.06%) / PECO (5.395.11%) / PENELEC (1.841.73%) / PEPCO (3.713.68%) / PPL (4.784.43%) / PSEG (6.405.99%) / RE (0.270.24%) DFAX Allocation:
b2436.21	Convert the Marion - Bayonne "L" 138 kV circuit to 345 kV and any associated substation upgrades	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$

	PSEG ( <del>6.40<u>5.99</u>%) / RE</del>
	( <del>0.27<u>0.24</u>%)</del>
	DFAX Allocation:
	PSEG ( <del>100<u>9</u>5.85</del> %) <u>/ RE</u>
	(4.15%)

Required Tra	nsmission Enhancements Ann	ual Revenue Requirement	Responsible Customer(s)
b2436.22	Convert the Marion - Bayonne "C" 138 kV circuit to 345 kV and any associated substation upgrades		Load-Ratio Share Allocation: AEC ( $1.671.65\%$ ) / AEP ( $13.9414.29\%$ ) / APS ( $5.645.82\%$ ) / ATSI ( $8.027.49\%$ / BGE ( $4.124.01\%$ ) / ComEd ( $13.4614.06\%$ ) / Dayton ( $2.122.03\%$ ) / DEOK ( $3.373.21\%$ ) / DL ( $1.761.59\%$ ) DPL ( $2.55\%$ ) / Dominion ( $12.9713.89\%$ ) / EKPC ( $1.812.35\%$ ) / JCPL ( $3.923.59\%$ / ME ( $1.951.81\%$ ) / NEPTUNE ( $0.240.42\%$ ) / OVEC ( $0.070.06\%$ ) / PECO ( $5.395.11\%$ ) / PENELEC ( $1.841.73\%$ ) / PENELEC ( $1.841.73\%$ ) / PEPCO ( $3.713.68\%$ ) / PPL ( $4.784.43\%$ ) PSEG ( $6.405.99\%$ ) / RE ( $0.270.24\%$ ) DFAX Allocation: PSEG ( $10095.85\%$ ) / RE ( $4.15\%$ )
b2436.33	Construct a new Bayway – Bayonne 345 kV circuit and any associated substation upgrades		PSEG ( <del>96.26<u>9</u>5.85</del> %) / RE ( <u>3.744.15</u> %)
b2436.34	Construct a new North Ave – Bayonne 345 kV circuit and any associated substation upgrades		PSEG ( <u>95.85</u> 96.26%) / RE ( <u>3.744.15</u> %)

astruct a new North e - Airport 345 kV uit and any associated station upgrades ocate the underground tion of North Ave - den "T" 138 kV circuit Bayway, convert it to kV, and any ociated substation rades astruct a new Airport - tway 345 kV circuit any associated station upgrades		PSEG ( <u>10095.85</u> %) / RE ( <u>4.15%</u> ) PSEG ( <u>95.8596.26</u> %) / RE ( <u>3.744.15</u> %) PSEG ( <u>10095.85</u> %) / RE ( <u>4.15%</u> ) Load-Ratio Share Allocation AEC ( <u>1.671.65</u> %) / AEP ( <u>13.9414.29</u> %) / APS ( <u>5.645.82</u> %) / ATSI
uit and any associated station upgrades ocate the underground tion of North Ave - den "T" 138 kV circuit Bayway, convert it to kV, and any ociated substation rades struct a new Airport - way 345 kV circuit any associated		(4.15%) PSEG (95.8596.26%) / RE (3.744.15%) PSEG (10095.85%) / RE (4.15%) Load-Ratio Share Allocation AEC (1.671.65%) / AEP (13.9414.29%) / APS (5.645.82%) / ATSI
station upgrades ocate the underground tion of North Ave - den "T" 138 kV circuit Bayway, convert it to kV, and any ociated substation rades struct a new Airport - way 345 kV circuit any associated		(4.15%) PSEG (95.8596.26%) / RE (3.744.15%) PSEG (10095.85%) / RE (4.15%) Load-Ratio Share Allocation AEC (1.671.65%) / AEP (13.9414.29%) / APS (5.645.82%) / ATSI
ocate the underground tion of North Ave - den "T" 138 kV circuit Bayway, convert it to kV, and any ociated substation rades astruct a new Airport - way 345 kV circuit any associated		PSEG ( <u>95.8596.26</u> %) / RE ( <u>3.744.15</u> %) PSEG ( <u>10095.85</u> %) <u>/ RE</u> ( <u>4.15%)</u> Load-Ratio Share Allocation AEC ( <u>1.671.65</u> %) / AEP ( <u>13.9414.29</u> %) / APS ( <u>5.645.82</u> %) / ATSI
tion of North Ave - den "T" 138 kV circuit Bayway, convert it to kV, and any ociated substation rades astruct a new Airport - way 345 kV circuit any associated		(3.744.15%) PSEG (10095.85%) / RE (4.15%) Load-Ratio Share Allocation AEC (1.671.65%) / AEP (13.9414.29%) / APS (5.645.82%) / ATSI
den "T" 138 kV circuit Bayway, convert it to kV, and any ociated substation rades astruct a new Airport - way 345 kV circuit any associated		(3.744.15%) PSEG (10095.85%) / RE (4.15%) Load-Ratio Share Allocation AEC (1.671.65%) / AEP (13.9414.29%) / APS (5.645.82%) / ATSI
Bayway, convert it to kV, and any ociated substation rades astruct a new Airport - way 345 kV circuit any associated		(3.744.15%) PSEG (10095.85%) / RE (4.15%) Load-Ratio Share Allocation AEC (1.671.65%) / AEP (13.9414.29%) / APS (5.645.82%) / ATSI
kV, and any ociated substation rades astruct a new Airport - way 345 kV circuit any associated		(3.744.15%) PSEG (10095.85%) / RE (4.15%) Load-Ratio Share Allocation AEC (1.671.65%) / AEP (13.9414.29%) / APS (5.645.82%) / ATSI
ociated substation rades astruct a new Airport - way 345 kV circuit any associated		(3.744.15%) PSEG (10095.85%) / RE (4.15%) Load-Ratio Share Allocation AEC (1.671.65%) / AEP (13.9414.29%) / APS (5.645.82%) / ATSI
rades astruct a new Airport - way 345 kV circuit any associated		(3.744.15%) PSEG (10095.85%) / RE (4.15%) Load-Ratio Share Allocation AEC (1.671.65%) / AEP (13.9414.29%) / APS (5.645.82%) / ATSI
struct a new Airport - way 345 kV circuit any associated		PSEG (10095.85%) / RE (4.15%) Load-Ratio Share Allocation AEC (1.671.65%) / AEP (13.9414.29%) / APS (5.645.82%) / ATSI
way 345 kV circuit any associated		(4.15%) Load-Ratio Share Allocation AEC (1.671.65%) / AEP (13.9414.29%) / APS (5.645.82%) / ATSI
any associated		(4.15%) Load-Ratio Share Allocation AEC (1.671.65%) / AEP (13.9414.29%) / APS (5.645.82%) / ATSI
station upgrades		(4.15%) Load-Ratio Share Allocation AEC (1.671.65%) / AEP (13.9414.29%) / APS (5.645.82%) / ATSI
		AEC ( <u>1.67</u> <u>1.65</u> %) / AEP ( <u>13.94</u> <u>14.29</u> %) / APS ( <u>5.64</u> <u>5.82</u> %) / ATSI
ocate the overhead tion of Linden - North e "T" 138 kV circuit to tway, convert it to 345 and any associated station upgrades		(8.027.49%) / BGE (4.124.01%) / ComEd (13.4614.06%) / Dayton (2.122.03%) / DEOK (3.373.21%) / DL (1.761.59% / DPL (2.55%) / Dominion (12.9713.89%) / EKPC (1.812.35%) / JCPL (3.923.59%) / ME (1.951.81% / NEPTUNE* (0.240.42%) / OVEC (0.070.06%) / PECO (5.395.11%) / PENELEC (1.841.73%) / PEPCO (3.713.68%) / PPL (4.784.43%) / PSEG (6.405.99%) / RE (0.270.24%)
)	"T" 138 kV circuit to way, convert it to 345 and any associated	"T" 138 kV circuit to way, convert it to 345 and any associated

<b>Public Service Electric and Gas</b>	Company (cont.)
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Required Tran	nsmission Enhancements A	Annual Revenue Requirement Responsible Customer(s)
b2436.83	Convert the Bayway - Linden "Z" 138 kV circuit to 345 kV and any associated substation upgrades	Load-Ratio Share Allocation: AEC (4.671.65%) / AEP (13.9414.29%) / APS (5.645.82%) / ATSI (8.027.49% / BGE (4.124.01%) / ComEd (13.4614.06%) / Dayton (2.122.03%) / DEOK (3.373.21%) / DL (1.761.59%) / DPL (2.55%) / Dominion (12.9713.89%) / EKPC (1.812.35%) / JCPL (3.923.59% / ME (1.951.81%) / NEPTUNE ³ (0.240.42%) / OVEC (0.070.06%) / PECO (5.395.11%) / PENELEC (1.841.73%) / PEPCO (3.713.68%) / PPL (4.784.43%) PSEG (6.405.99%) / RE (0.270.24%) DFAX Allocation: PSEG (96.2695.85%) / RE (3.744.15%)
b2436.84	Convert the Bayway – Linden "W" 138 kV circuit to 345 kV and any associated substation upgrades	Load-Ratio Share Allocation: AEC (1.671.65%) / AEP (13.9414.29%) / APS (5.645.82%) / ATSI (8.027.49% / BGE (4.124.01%) / ComEd (13.4614.06%) / Dayton (2.122.03%) / DEOK (3.373.21%) / DL (1.761.59%) / DPL (2.55%) / Dominion (12.9713.89%) / EKPC (1.812.35%) / JCPL (3.923.59% / ME (1.951.81%) / NEPTUNE* (0.240.42%) / OVEC (0.070.06%) / PECO (5.395.11%) / PENELEC (1.841.73%) / PEPCO (3.713.68%) / PPL (4.784.43%) PSEG (6.405.99%) / RE (0.270.24%) DFAX Allocation:

	PSEG ( <del>96.26</del> 95.8	<u>5</u> %) / RE
	( <del>3.74<u>4.15</u>)</del>	%)

Required Tra	nsmission Enhancements	Annual Revenue Requirement Responsible Customer(s)
b2436.85	Convert the Bayway – Linden "M" 138 kV circuit to 345 kV and any associated substation upgrades	Load-Ratio Share Allocation:         AEC $(\frac{1.671.65\%}{1.65\%})$ / AEP $(\frac{13.9414.29\%}{1.4.29\%})$ / APS         ( $\frac{5.645.82\%}{1.4.29\%}$ ) / ATSI $(\frac{8.027.49\%}{1.49\%})$ / BGE $(4.124.01\%)$ / ComEd $(\frac{13.4614.06\%}{1.4.06\%})$ / Dayton $(\frac{2.122.03\%}{1.4.10\%})$ / DeOK $(\frac{3.373.21\%}{1.4.06\%})$ / DEOK $(\frac{3.373.21\%}{1.4.10\%})$ / DEOK $(\frac{3.373.21\%}{1.4.10\%})$ / DEOK $(\frac{1.2.9713.89\%}{1.89\%})$ / DEVC $(\frac{1.812.35\%}{1.1.89\%})$ / DEPTUNE* $(\frac{0.2740.42\%}{0.42\%})$ / OVEC $(\frac{0.070.06\%}{1.841.73\%})$ / PEPCO $(\frac{3.7143.68\%}{1.73\%})$ / PEPCO $(\frac{3.7143.68\%}{1.73\%})$ / RE $(\frac{0.270.24\%}{0.40\%})$ DFAX Allocation:         PSEG ( $\frac{96.2695.85\%}{9.85\%}$ ) / RE $(\frac{3.744.15\%}{0.415\%})$
b2436.90	Relocate Farragut - Hudson "B" and "C" 345 kV circuits to Marion 345 kV and any associated substation upgrades	Load-Ratio Share Allocation:           AEC (1.671.65%) / AEP           (13.9414.29%) / APS           (5.645.82%) / ATSI (8.027.49%)           / BGE (4.124.01%) / ComEd           (13.4614.06%) / Dayton           (2.122.03%) / DEOK           (3.373.21%) / DL (1.761.59%) /           DPL (2.55%) / Dominion           (12.9713.89%) / EKPC           (1.812.35%) / JCPL (3.923.59%)           / ME (1.951.81%) / NEPTUNE*           (0.240.42%) / OVEC           (0.770.06%) / PECO           (5.395.11%) / PENELEC           (1.841.73%) / PEPCO           (3.713.68%) / PPL (4.784.43%) /           PSEG (6.405.99%) / RE           (0.270.24%)           DFAX Allocation:           PSEG (100%)

	b2436.91	Relocate the Hudson 2 generation to inject into the 345 kV at Marion and any associated upgrades		PSEG (100%)
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Required That	IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Revenue Requirement Responsible Customer(s)
	New Bergen 345/230 kV	
b2437.10	transformer and any	
	associated substation	
	upgrades	PSEG ( <del>100</del> <u>95.85</u> %) / <u>RE (4.15%)</u>
	New Bergen 345/138 kV	
b2437.11	transformer #1 and any	
02457.11	associated substation	
	upgrades	PSEG ( <del>100</del> <u>95.85</u> %) / <u>RE (4.15%)</u>
	New Bayway 345/138 kV	
b2437.20	transformer #1 and any	
02437.20	associated substation	
	upgrades	PSEG ( <del>100<u>95.85</u>%) / RE (4.15%)</del>
	New Bayway 345/138 kV	
1-2427-21	transformer #2 and any	
b2437.21	associated substation	
	upgrades	PSEG ( <del>100</del> 95.85%) / RE (4.15%)
	New Linden 345/230 kV	
10407.00	transformer and any	
b2437.30	associated substation	PSEG ( <del>96.26<u>9</u>5.85</del> %) / RE
	upgrades	(3.744.15%)
	New Bayonne 345/69 kV	
1 0 4 0 7 0 0	transformer and any	
b2437.33	associated substation	
	upgrades	PSEG ( <del>10095.85</del> %) / RE (4.15%)
	Install two reactors at	
b2438	Tosco 230 kV	DSEC (1000/)
		PSEG (100%)
1 2 4 2 0	Replace the Tosco 138 kV	
b2439	breaker 'CB1/2 (CBT)'	
	with 63 kA	PSEG (100%)
b2474	Rebuild Athenia 138 kV to	
02474	80 kA	PSEG (100%)
	Install a 100 MVAR 230	
b2589	kV shunt reactor at Mercer	
	station	PSEG (100%)
	Install two 75 MVAR 230	
b2590	kV capacitors at Sewaren	
	station	PSEG (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tra	nsmission Enhancements Ann	ual Revenue Requirement Responsible Customer(s)
		Load-Ratio Share Allocation
		AEC ( <u>1.671.65</u> %) / AEP
		( <del>13.94<u>14.29</u>%) / APS</del>
		( <del>5.64</del> <u>5.82</u> %) / ATSI ( <del>8.02</del> <u>7.49</u> %
		/ BGE (4.124.01%) / ComEd
		( <del>13.46</del> 14.06%) / Dayton
		( <u>2.122.03</u> %) / DEOK
		( <del>3.37</del> <u>3.21</u> %) / DL ( <del>1.76</del> <u>1.59</u> %)
		DPL (2.55%) / Dominion
		( <del>12.97</del> 13.89%) / EKPC
10(00.0	Install an SVC at New	( <del>1.81</del> 2.35%) / JCPL ( <del>3.92</del> 3.59%
b2633.3	Freedom 500 kV	) / ME ( <u>1.951.81</u> %) / NEPTUNE
	substation	( <del>0.24</del> 0.42%) / OVEC
		( <del>0.07</del> 0.06%) / PECO
		( <del>5.39</del> 5.11%) / PENELEC
		( <del>1.841.73%</del> ) / PEPCO
		( <del>3.713.68</del> %)/PPL ( <del>4.784.43</del> %)
		PSEG ( <del>6.40</del> 5.99%) / RE
		(0.270.24%)
		DFAX Allocation:
		AEC (0.01%) / DPL (99.98%)
		JCPL (0.01%)
		Load-Ratio Share Allocation
		AEC ( <u>1.67</u> <u>1.65</u> %) / AEP
		( <del>13.94<u>14.29</u>%) / APS</del>
		( <del>5.64<u>5.82</u>%) / ATSI (<u>8.027.49</u>%</del>
		/ BGE (4 <u>.124.01</u> %) / ComEd
	Add a new 500 kV bay at Hope Creek (Expansion of Hope Creek substation)	( <del>13.46<u>14.06</u>%) / Dayton</del>
		( <u>2.122.03</u> %) / DEOK
b2633.4		( <del>3.37<u>3.21</u>%) / DL (<u>1.761.59</u>%)</del>
		DPL (2.55%) / Dominion
		( <del>12.97<u>1</u>3.89</del> %) / EKPC
		( <del>1.81</del> 2.35%) / JCPL ( <del>3.92</del> 3.59%
		/ ME ( <del>1.95</del> 1.81%) / NEPTUNE
		(0.240.42%) / OVEC
		( <del>0.07</del> 0.06%) / PECO
		( <del>5.39</del> 5.11%) / PENELEC
		( <del>1.84</del> 1.73%) / PEPCO
		( <del>3.71</del> 3.68%)/PPL (4.784.43%)
		PSEG ( <del>6.405.99</del> %) / RE
	1	(0.270.24%)

	DFAX Allocation:
	AEC (8.01%) / BGE (1.94%) /
	DPL (12.99%) / JCPL (13.85%)
	/ ME (5.88%) / NEPTUNE*
	(3.45%) / PECO (17.62%) / PPL
	(14.85%) / PSEG (20.79%) / RE
	(0.62%)

equired Tra	nsmission Enhancements Annual Revenue	
		AEC (8.01%) / BGE (1.94%)
	Add a new 500/230 kV	DPL (12.99%) / JCPL (13.85%
b2633.5	autotransformer at Hope	/ ME (5.88%) / NEPTUNE*
02033.3	Creek and a new Hope	(3.45%) / PECO (17.62%) / PI
	Creek 230 kV substation	(14.85%) / PSEG (20.79%) / H
		(0.62%)
		Load-Ratio Share Allocation
		AEC ( <u>1.671.65</u> %) / AEP
		( <del>13.94<u>14.29</u>%) / APS</del>
		( <del>5.64<u>5.82</u>%) / ATSI (<del>8.02<u>7.49</u></del></del>
		/ BGE ( <u>4.124.01</u> %) / ComEc
		( <u>13.4614.06</u> %) / Dayton
b2633.8	Implement high speed	( <u>2.122.03</u> %) / DEOK
	relaying utilizing OPGW	( <del>3.37<u>3.21</u>%) / DL (<u>1.761.59</u>%</del>
	on Salem – Orchard 500	DPL (2.55%) / Dominion
	kV, Hope Creek – New	( <del>12.97<u>13.89</u>%) / EKPC</del>
	Freedom 500 kV, New	( <del>1.81</del> <u>2.35</u> %) / JCPL ( <del>3.92</del> <u>3.59</u>
	Freedom - Salem 500 kV,	/ ME ( <del>1.95<u>1.81</u>%) / NEPTUN</del>
	Hope Creek – Salem 500 kV,	( <del>0.24<u>0.42</u>%) / OVEC</del>
	kV, and New Freedom –	( <del>0.07<u>0.06</u>%) / PECO</del>
	Orchard 500 kV lines	( <del>5.39<u>5.11</u>%) / PENELEC</del>
	Orenard 500 KV miles	( <del>1.84<u>1.73</u>%) / PEPCO</del>
		( <del>3.71<u>3.68</u>%) / PPL (4.78<u>4.43</u>%</del>
		PSEG ( <del>6.40<u>5.99</u>%) / RE</del>
		( <del>0.27<u>0.24</u>%)</del>
		DFAX Allocation:
		AEC (0.01%) / DPL (99.98%
		JCPL (0.01%)

Required Trai	nsmission Enhancements Annu	al Revenue Requirement	Responsible Customer(s)
b2633.91	Implement changes to the tap settings for the two Salem units' step up transformers		AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)
b2633.92	Implement changes to the tap settings for the Hope Creek unit's step up transformers		AEC (0.01%) / DPL (99.98%) JCPL (0.01%)
b2702	Install a 350 MVAR reactor at Roseland 500 kV		Load-Ratio Share Allocation: AEC ( $1.671.65\%$ ) / AEP ( $13.9414.29\%$ ) / APS ( $5.645.82\%$ ) / ATSI ( $8.027.49\%$ / BGE ( $4.124.01\%$ ) / ComEd ( $13.4614.06\%$ ) / Dayton ( $2.122.03\%$ ) / DEOK ( $3.373.21\%$ ) / DL ( $1.761.59\%$ ) / DPL ( $2.55\%$ ) / Dominion ( $12.9713.89\%$ ) / EKPC ( $1.812.35\%$ ) / JCPL ( $3.923.59\%$ / ME ( $1.951.81\%$ ) / NEPTUNE ( $0.240.42\%$ ) / OVEC ( $0.070.06\%$ ) / PECO ( $5.395.11\%$ ) / PENELEC ( $1.841.73\%$ ) / PEPCO ( $3.713.68\%$ ) / PPL ( $4.784.43\%$ ) PSEG ( $6.405.99\%$ ) / RE ( $0.270.24\%$ ) DFAX Allocation: PSEG ( $100\%$ )
b2703	Install a 100 MVAR reactor at Bergen 230 kV		PSEG (100%)
b2704	Install a 150 MVAR reactor at Essex 230 kV		PSEG (100%)
b2705	Install a 200 MVAR reactor (variable) at Bergen 345 kV		PSEG (100%)
b2706	Install a 200 MVAR reactor (variable) at Bayway 345 kV		PSEG (100%)
b2707	Install a 100 MVAR reactor at Bayonne 345 kV		PSEG (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Replace the Bergen 138 kV '40P'breaker with 80 kA breakerPSEG (100%)Replace the Bergen 138 kV '90P' breaker with 80 kA breakerPSEG (100%)b2713'90P' breaker with 80 kA breakerPSEG (100%)b2713'90P' breaker with 80 kA breakerPSEG (100%)b2714Bergen - Bergen GT 138 kV circuit (B-1302)PSEG (100%)b2755Build a third 345 kV source into Newark AirportPSEG (100%)b2810.1Install second 230/69 kV transformer at Cedar GrovePSEG (10095.85%)/RE (4.15%)b2810.2Build a new 69 kV circuit from Cedar Grove to Great NotchPSEG (10095.85%)/RE (4.15%)b2811Build 69 kV circuit from Locust Street to DelairPSEG (10095.85%)/RE (4.15%)b2812Construct River Road to Tonnelle Avenue 69kV CircuitPSEG (10095.85%)/RE (4.15%)b2825.1Install 2X50 MVAR shunt reactors at Kearny 230 kV substationPSEG (100%)b2825.2Install 2X50 MVAR shunt reactors at Kearny 230 kV substationPSEG (100%)b2825.3Install 2X100 MVAR shunt reactors at Bayway 345 kV substationPSEG (100%)b2825.3Install 2X100 MVAR shuntPSEG (100%)	Required Trai	nsmission Enhancements Annua	al Revenue Requirement	Responsible Customer(s)
Replace the Bergen 138 kV '90P' breaker with 80 kA breakerPSEG (100%)b2713Reconductor the 1 mile Bergen – Bergen GT 138 kV circuit (B-1302)PSEG (100%)b2755Build a third 345 kV source into Newark AirportPSEG (100%)b2810.1Install second 230/69 kV transformer at Cedar GrovePSEG (10095.85%)/RE (4.15%)b2810.2Build a new 69 kV circuit from Cedar Grove to Great NotchPSEG (10095.85%)/RE (4.15%)b2811Build 69 kV circuit from Locust Street to DelairPSEG (10095.85%)/RE (4.15%)b2812Construct River Road to Tonnelle Avenue 69kV CircuitPSEG (10095.85%)/RE (4.15%)b2825.1Install 2X50 MVAR shunt reactors at Kearny 230 kV substationPSEG (100%)b2825.2Increase the size of the Hudson 230 kV, 2X50 MVAR shunt reactors to 2X100 MVARPSEG (100%)b2825.3Install 2X100 MVAR shunt reactors at Bayway 345 kV substationPSEG (100%)	b2712	1 0		
Replace the Bergen 138 kV '90P' breaker with 80 kA breakerb2713'90P' breaker with 80 kA breakerPSEG (100%)b2722Reconductor the 1 mile Bergen – Bergen GT 138 kV circuit (B-1302)PSEG (100%)b2755Build a third 345 kV source into Newark AirportPSEG (100%)b2810.1Install second 230/69 kV transformer at Cedar GrovePSEG (10095.85%)/RE (4.15%)b2810.2Build a new 69 kV circuit from Cedar Grove to Great NotchPSEG (10095.85%)/RE (4.15%)b2811Build 69 kV circuit from Locust Street to DelairPSEG (10095.85%)/RE (4.15%)b2812Construct River Road to Tonnelle Avenue 69kV CircuitPSEG (10095.85%)/RE (4.15%)b2825.1Install 2X50 MVAR shunt reactors at Kearny 230 kV substationPSEG (100%)b2825.2Increase the size of the Hudson 230 kV, 2X50 MVAR shunt reactors to 2X100 MVARPSEG (100%)b2825.3Install 2X100 MVAR shunt reactors at Bayway 345 kVPSEG (100%)		breaker		PSEG (100%)
b2722Reconductor the 1 mile Bergen – Bergen GT 138 kV circuit (B-1302)PSEG (100%)b2755Build a third 345 kV source into Newark AirportPSEG ( $10095.85\%$ ) / RE ( $4.15\%$ )b2810.1Install second 230/69 kV transformer at Cedar GrovePSEG ( $10095.85\%$ ) / RE ( $4.15\%$ )b2810.2Build a new 69 kV circuit from Cedar Grove to Great NotchPSEG ( $10095.85\%$ ) / RE ( $4.15\%$ )b2811Build 69 kV circuit from Locust Street to Delair Construct River Road to Tonnelle Avenue 69kV CircuitPSEG ( $10095.85\%$ ) / RE ( $4.15\%$ )b2812Install 2X50 MVAR shunt reactors at Kearny 230 kV substationPSEG ( $10095.85\%$ ) / RE ( $4.15\%$ )b2825.2Install 2X50 MVAR shunt reactors at Kearny 230 kV substationPSEG ( $100\%$ )b2825.3Install 2X100 MVAR shunt reactors at Bayway 345 kV substationPSEG ( $100\%$ )	b2713			
b2722Bergen – Bergen GT 138 kV circuit (B-1302)PSEG (100%)b2755Build a third 345 kV source into Newark AirportPSEG ( $10095.85\%$ )/RE (4.15%)b2810.1Install second 230/69 kV transformer at Cedar GrovePSEG ( $10095.85\%$ )/RE (4.15%)b2810.1Install second 230/69 kV transformer at Cedar GrovePSEG ( $10095.85\%$ )/RE (4.15%)b2810.2Build a new 69 kV circuit from Cedar Grove to Great NotchPSEG ( $10095.85\%$ )/RE (4.15%)b2811Build 69 kV circuit from Locust Street to DelairPSEG ( $10095.85\%$ )/RE (4.15%)b2812Construct River Road to Tonnelle Avenue 69kV CircuitPSEG ( $10095.85\%$ )/RE (4.15%)b2825.1Install 2X50 MVAR shunt reactors at Kearny 230 kV substationPSEG ( $100\%$ )b2825.2Install 2X100 MVAR shunt reactors to 2X100 MVARPSEG ( $100\%$ )b2825.3Install 2X100 MVAR shunt reactors at Bayway 345 kV substationPSEG ( $100\%$ )		breaker		PSEG (100%)
		Reconductor the 1 mile		
b2755Build a third 345 kV source into Newark AirportPSEG $(10095.85\%)/RE$ $(4.15\%)$ b2810.1Install second 230/69 kV transformer at Cedar GrovePSEG $(10095.85\%)/RE$ $(4.15\%)$ b2810.1Build a new 69 kV circuit from Cedar Grove to Great NotchPSEG $(10095.85\%)/RE$ $(4.15\%)$ b2810.2Build 69 kV circuit from Locust Street to DelairPSEG $(10095.85\%)/RE$ $(4.15\%)$ b2811Build 69 kV circuit from Locust Street to DelairPSEG $(10095.85\%)/RE$ $(4.15\%)$ b2812Construct River Road to Tonnelle Avenue 69kV CircuitPSEG $(10095.85\%)/RE$ $(4.15\%)$ b2825.1Install 2X50 MVAR shunt reactors at Kearny 230 kV substationPSEG $(100\%)$ b2825.2Increase the size of the Hudson 230 kV, 2X50 MVAR shunt reactors to 2X100 MVARPSEG $(100\%)$ b2825.3Install 2X100 MVAR shunt reactors at Bayway 345 kV substationPSEG $(100\%)$	b2722	Bergen – Bergen GT		
b2/55into Newark Airport $(4.15%)$ $b2810.1$ Install second 230/69 kV transformer at Cedar GrovePSEG (10095.85%)/RE (4.15%) $b2810.2$ Build a new 69 kV circuit from Cedar Grove to Great NotchPSEG (10095.85%)/RE (4.15%) $b2810.2$ Build 69 kV circuit from Locust Street to DelairPSEG (10095.85%)/RE (4.15%) $b2811$ Build 69 kV circuit from Locust Street to DelairPSEG (10095.85%)/RE (4.15%) $b2812$ Construct River Road to Tonnelle Avenue 69kV CircuitPSEG (10095.85%)/RE (4.15%) $b2825.1$ Install 2X50 MVAR shunt reactors at Kearny 230 kV substationPSEG (100%) $b2825.2$ Increase the size of the Hudson 230 kV, 2X50 MVAR shunt reactors to 2X100 MVARPSEG (100%) $b2825.3$ Install 2X100 MVAR shunt reactors at Bayway 345 kV substationPSEG (100%)		138 kV circuit (B-1302)		PSEG (100%)
b2/55into Newark Airport $(4.15%)$ $b2810.1$ Install second 230/69 kV transformer at Cedar GrovePSEG (10095.85%)/RE (4.15%) $b2810.2$ Build a new 69 kV circuit from Cedar Grove to Great NotchPSEG (10095.85%)/RE (4.15%) $b2810.2$ Build 69 kV circuit from Locust Street to DelairPSEG (10095.85%)/RE (4.15%) $b2811$ Build 69 kV circuit from Locust Street to DelairPSEG (10095.85%)/RE (4.15%) $b2812$ Construct River Road to Tonnelle Avenue 69kV CircuitPSEG (10095.85%)/RE (4.15%) $b2825.1$ Install 2X50 MVAR shunt reactors at Kearny 230 kV substationPSEG (100%) $b2825.2$ Increase the size of the Hudson 230 kV, 2X50 MVAR shunt reactors to 2X100 MVARPSEG (100%) $b2825.3$ Install 2X100 MVAR shunt reactors at Bayway 345 kV substationPSEG (100%)	10555	Build a third 345 kV source		PSEG (10095 85%) / RE
b2810.1Install second 230/69 kV transformer at Cedar GrovePSEG ( $10095.85\%$ )/RE ( $4.15\%$ )b2810.2Build a new 69 kV circuit from Cedar Grove to Great NotchPSEG ( $10095.85\%$ )/RE ( $4.15\%$ )b2810.2Build 69 kV circuit from Locust Street to DelairPSEG ( $10095.85\%$ )/RE ( $4.15\%$ )b2811Build 69 kV circuit from Locust Street to DelairPSEG ( $10095.85\%$ )/RE ( $4.15\%$ )b2812Construct River Road to Tonnelle Avenue 69kV CircuitPSEG ( $10095.85\%$ )/RE ( $4.15\%$ )b2825.1Install 2X50 MVAR shunt reactors at Kearny 230 kV substationPSEG ( $100\%$ )b2825.2Increase the size of the Hudson 230 kV, 2X50 MVAR shunt reactors to 2X100 MVARPSEG ( $100\%$ )b2825.3Install 2X100 MVAR shunt reactors at Bayway 345 kV substationPSEG ( $100\%$ )	b2755			
b2810.1transformer at Cedar Grove15DG (100 <u>22.02</u> /3)/1KE (4.15%)b2810.2Build a new 69 kV circuit from Cedar Grove to Great NotchPSEG (100 <u>95.85%) / RE (4.15%)</u> b2811Build 69 kV circuit from Locust Street to DelairPSEG (100 <u>95.85%) / RE (4.15%)</u> b2812Construct River Road to Tonnelle Avenue 69kV CircuitPSEG (100 <u>95.85%) / RE (4.15%)</u> b2825.1Install 2X50 MVAR shunt reactors at Kearny 230 kV substationPSEG (100%)b2825.2Increase the size of the Hudson 230 kV, 2X50 MVAR shunt reactors to 2X100 MVARPSEG (100%)b2825.3Install 2X100 MVAR shunt reactors at Bayway 345 kV substationPSEG (100%)		1		· · · · · · · · · · · · · · · · · · ·
Build a new 69 kV circuit from Cedar Grove to Great NotchPSEG (10095.85%) / RE (4.15%)b2810.2Build 69 kV circuit from Locust Street to DelairPSEG (10095.85%) / RE (4.15%)b2811Build 69 kV circuit from Locust Street to DelairPSEG (10095.85%) / RE (4.15%)b2812Construct River Road to Tonnelle Avenue 69kV CircuitPSEG (10095.85%) / RE (4.15%)b2812Install 2X50 MVAR shunt reactors at Kearny 230 kV substationPSEG (10095.85%) / RE (4.15%)b2825.1Install 2X50 MVAR shunt reactors at Kearny 230 kV substationPSEG (100%)b2825.2MVAR shunt reactors to 2X100 MVARPSEG (100%)b2825.3Install 2X100 MVAR shunt reactors at Bayway 345 kV substationPSEG (100%)	b2810.1			
b2810.2from Cedar Grove to Great NotchPSEG (10095.85%) / RE (4.15%)b2811Build 69 kV circuit from Locust Street to DelairPSEG (10095.85%) / RE (4.15%)b2812Construct River Road to Tonnelle Avenue 69kV CircuitPSEG (10095.85%) / RE (4.15%)b2825.1Install 2X50 MVAR shunt reactors at Kearny 230 kV substationPSEG (100%)b2825.2Increase the size of the Hudson 230 kV, 2X50 MVAR shunt reactors to 2X100 MVARPSEG (100%)b2825.3Install 2X100 MVAR shunt reactors at Bayway 345 kV substationPSEG (100%)				<u>(4.15%)</u>
Notch(4.15%)b2811Build 69 kV circuit from Locust Street to DelairPSEG (10095.85%) / RE (4.15%)b2812Construct River Road to Tonnelle Avenue 69kV CircuitPSEG (10095.85%) / RE (4.15%)b2825.1Install 2X50 MVAR shunt reactors at Kearny 230 kV substationPSEG (100%)b2825.2Increase the size of the Hudson 230 kV, 2X50 MVAR shunt reactors to 2X100 MVARPSEG (100%)b2825.3Install 2X100 MVAR shunt reactors at Bayway 345 kV substationPSEG (100%)				
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b2811Locust Street to DelairI bBC (100 <u>20.00</u> / 0) / HEb2812Construct River Road to Tonnelle Avenue 69kV CircuitPSEG (100 <u>95.85</u> %) / RE (4.15%)b2825.1Install 2X50 MVAR shunt reactors at Kearny 230 kV substationPSEG (100%)b2825.2Increase the size of the Hudson 230 kV, 2X50 MVAR shunt reactors to 2X100 MVARPSEG (100%)b2825.3Install 2X100 MVAR shunt reactors at Bayway 345 kV substationPSEG (100%)		Notch		<u>(4.15%)</u>
b2011Locust Street to Delair(4.15%)b2812Construct River Road to Tonnelle Avenue 69kV CircuitPSEG (10095.85%) / RE (4.15%)b2825.1Install 2X50 MVAR shunt reactors at Kearny 230 kV substationPSEG (100%)b2825.2Increase the size of the Hudson 230 kV, 2X50 MVAR shunt reactors to 2X100 MVARPSEG (100%)b2825.3Install 2X100 MVAR shunt reactors at Bayway 345 kV substationPSEG (100%)	62011	Build 69 kV circuit from		PSEG ( <del>100</del> 95.85%) / RE
b2812Tonnelle Avenue 69kV CircuitPSEG (10095.85%) / RE (4.15%)b2825.1Install 2X50 MVAR shunt reactors at Kearny 230 kV substationPSEG (100%)b2825.2Increase the size of the Hudson 230 kV, 2X50 MVAR shunt reactors to 2X100 MVARPSEG (100%)b2825.3Install 2X100 MVAR shunt reactors at Bayway 345 kV substationPSEG (100%)	02011	Locust Street to Delair		
Circuit(4.15%)Install 2X50 MVAR shunt reactors at Kearny 230 kV substationb2825.1Install 2X50 MVAR shunt reactors at Kearny 230 kV substationb2825.2Increase the size of the Hudson 230 kV, 2X50 MVAR shunt reactors to 2X100 MVARb2825.3Install 2X100 MVAR shunt reactors at Bayway 345 kV substationb2825.3Install 2X100 MVAR shunt reactors at Bayway 345 kV substation		Construct River Road to		
Circuit(4.15%)b2825.1Install 2X50 MVAR shunt reactors at Kearny 230 kV substationPSEG (100%)b2825.2Increase the size of the Hudson 230 kV, 2X50 MVAR shunt reactors to 2X100 MVARPSEG (100%)b2825.3Install 2X100 MVAR shunt reactors at Bayway 345 kV substationPSEG (100%)	b2812	Tonnelle Avenue 69kV		PSEG ( <del>100</del> 95.85%) / RE
b2825.1reactors at Kearny 230 kV substationPSEG (100%)b2825.2Increase the size of the Hudson 230 kV, 2X50 MVAR shunt reactors to 2X100 MVARPSEG (100%)b2825.3Install 2X100 MVAR shunt reactors at Bayway 345 kV substationPSEG (100%)		Circuit		
substationPSEG (100%)b2825.2Increase the size of the Hudson 230 kV, 2X50 MVAR shunt reactors to 2X100 MVARPSEG (100%)b2825.3Install 2X100 MVAR shunt reactors at Bayway 345 kV substationPSEG (100%)		Install 2X50 MVAR shunt		
substationPSEG (100%)b2825.2Increase the size of the Hudson 230 kV, 2X50 MVAR shunt reactors to 2X100 MVARPSEG (100%)b2825.3Install 2X100 MVAR shunt reactors at Bayway 345 kV substationPSEG (100%)	b2825.1	reactors at Kearny 230 kV		
b2825.2Hudson 230 kV, 2X50 MVAR shunt reactors to 2X100 MVARPSEG (100%)b2825.3Install 2X100 MVAR shunt reactors at Bayway 345 kV substationPSEG (100%)				PSEG (100%)
b2825.2MVAR shunt reactors to 2X100 MVARPSEG (100%)Install 2X100 MVAR shunt reactors at Bayway 345 kV substationPSEG (100%)		Increase the size of the		
b2825.2MVAR shunt reactors to 2X100 MVARPSEG (100%)Install 2X100 MVAR shunt reactors at Bayway 345 kV substationPSEG (100%)	10005.0	Hudson 230 kV, 2X50		
b2825.3Install 2X100 MVAR shunt reactors at Bayway 345 kV substationPSEG (100%)	62825.2			
b2825.3reactors at Bayway 345 kV substationPSEG (100%)		2X100 MVAR		PSEG (100%)
substation PSEG (100%)	b2825.3	Install 2X100 MVAR shunt		
		reactors at Bayway 345 kV		
Install 2X100 MVAR shunt		substation		PSEG (100%)
				` / /
b2825.4 reactors at Linden 345 kV	b2825.4	reactors at Linden 345 kV		
substation PSEG (100%)				PSEG (100%)
Convert the R-1318 and	b2835	Convert the R-1318 and		\/
O1317 (Edison –				
b2835 Metuchen) 138 kV circuits				
to one 230 kV circuit See sub-IDs for cost allocations		,		See sub-IDs for cost allocations

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Lequired Tra	nsmission Enhancements Annu	al Revenue Requirement	Responsible Customer(s)
	Conver the R-1318 and Q-		
b2835.1	1317 (Edison – Metuchen)		
	138 kV circuits to one 230		AEC ( <del>30.19<u>14.94</u>%) / PECO</del>
	kV circuit (Brunswick –		( <u>44.49</u> 69.81%) / PSEG
	Meadow Road)		(38.89%) / RE (1.68%)
b2835.2	Convert the R-1318 and Q-		
	1317 (Edison - Metuchen)		
	138 kV circuits to one 230		AEC ( <del>30.21<u>13.15</u>%) / PECO</del>
	kV circuit (Meadow Road -		( <del>69.79<u>39.12</u>%)/PSEG</del>
	Pierson Ave)		(45.75%) / RE (1.98%)
b2835.3	Convert the R-1318 and Q-		
	1317 (Edison - Metuchen)		
	138 kV circuits to one 230		AEC ( <del>30.21<u>11.57</u>%) / PECO</del>
	kV circuit (Pierson Ave -		( <del>69.79<u>34.41</u>%) / PSEG</del>
	Metuchen)		(51.78%) / RE (2.24%)
b2836	Convert the N-1340 and T-		
	1372/D-1330 (Brunswick –		
02830	Trenton) 138 kV circuits to		
	230 kV circuits		See sub-IDs for cost allocation
	Convert the N-1340 and T-		
	1372/D-1330 (Brunswick -		
b2836.1	Trenton) 138 kV circuits to		AEC (1008.23%) / NEPTUNE
	230 kV circuits (Brunswick		(43.36%) / PECO (30.19%) /
	- Hunterglen)		PSEG (17.46%) / RE (0.76%)
b2836.2	Convert the N-1340 and T-		
	1372/D-1330 (Brunswick -		AEC ( <del>49.19<u>2.14</u>%)</del> /
	Trenton) 138 kV circuits to		NEPTUNE* ( <del>50.81<u>11.80</u>%)_</del>
	230 kV circuits (Hunterglen		<u>PECO (7.72%) / PSEG</u>
	- Trenton)		<u>(75.09%) / RE (3.25%)</u>
b2836.3	Convert the N-1340 and T-		
	1372/D-1330 (Brunswick -		
	Trenton) 138 kV circuits to		<u>AEC (6.98%) / NEPTUNE*</u>
	230 kV circuits (Brunswick		(64.26%) / PECO (25.38%)
	- Devils Brook)		PSEG ( <u>3.24</u> 100%) / RE (0.14%
b2836.4	Convert the N-1340 and T-		
	1372/D-1330 (Brunswick -		<u>AEC (5.13%) / NEPTUNE*</u>
	Trenton) 138 kV circuits to		(28.43%) / PECO (18.69%)
	230 kV circuits (Devils		PSEG ( <del>100<u>45.77</u>%) / <u>RE</u></del>
	Brook - Trenton)		(1.98%)

Required Tra	nsmission Ennancements Annua	a Revenue Requirement	Responsible Customer(s)
b2837	Convert the F-1358/Z1326 and K1363/Y-1325 (Trenton – Burlington) 138 kV circuits to 230 kV circuits		See sub-IDs for cost allocations
b2837.1	Convert the F-1358/Z-1326 and K-1363/Y-1325 (Trenton - Burlington) 138 kV circuits to 230 kV circuits (Trenton - Yardville K)		NEPTUNE* ( <del>100</del> <u>10.75</u> %) <u>/</u> PSEG (85.55%) / RE (3.70%)
b2837.2	Convert the F-1358/Z-1326 and K-1363/Y-1325 (Trenton - Burlington) 138 kV circuits to 230 kV circuits (Yardville - Ward Ave K)		NEPTUNE* ( <del>8.89<u>8.84</u>%) / PSEG (<del>87.70<u>87.38</u>%) / RE (<u>3.413.78</u>%)</del></del>
b2837.3	Convert the N-1340 and T- 1372/D-1330 (Brunswick - Trenton) 138 kV circuits to 230 kV circuits (Brunswick - Devils Brook)		NEPTUNE* ( <u>8.278.24</u> %) / PSEG ( <u>88.3087.95</u> %) / RE ( <u>3.433.81</u> %)
b2837.4	Convert the F-1358/Z-1326 and K-1363/Y-1325 (Trenton - Burlington) 138 kV circuits to 230 kV circuits (Crosswicks - Bustleton Y)		NEPTUNE* ( <del>6.79<u>6.96</u>%) / PSEG (<del>89.73<u>89.18</u>%) / RE (<u>3.483.86</u>%)</del></del>
b2837.5	Convert the F-1358/Z-1326 and K-1363/Y-1325 (Trenton - Burlington) 138 kV circuits to 230 kV circuits (Bustleton - Burlington Y)		NEPTUNE* ( <u>5.625.95</u> %) / PSEG ( <u>90.8590.15</u> %) / RE ( <u>3.533.90</u> %)
b2837.6	Convert the F-1358/Z-1326 and K-1363/Y-1325 (Trenton - Burlington) 138 kV circuits to 230 kV circuits (Trenton - Yardville F)		NEPTUNE* ( <del>100</del> <u>12.83</u> %)/ <u>PSEG (83.55%) / RE (3.62%)</u>

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Ira	nsmission Enhancements Annua	al Revenue Requirement	Responsible Customer(s)
	Convert the F-1358/Z-1326		
1 2027 7	and K-1363/Y-1325		
	(Trenton - Burlington) 138		
b2837.7	kV circuits to 230 kV		
	circuits (Yardville - Ward		NEPTUNE* ( <del>100<u>9</u>.98</del> %) <u>/</u>
	Ave F)		PSEG (86.29%) / RE (3.73%)
	Convert the F-1358/Z-1326		
	and K-1363/Y-1325		
1.2027.0	(Trenton - Burlington) 138		
b2837.8	kV circuits to 230 kV		
	circuits (Ward Ave -		NEPTUNE* ( <del>100<u>9.98</u>%)<u>/</u></del>
	Crosswicks Z)		PSEG (86.29%) / RE (3.73%)
	Convert the F-1358/Z-1326		
	and K-1363/Y-1325		
1.2927.0	(Trenton - Burlington) 138		
b2837.9	kV circuits to 230 kV		NEPTUNE* ( <u>8.228.01</u> %) /
	circuits (Crosswicks -		PSEG ( <del>88.35<u>88.18</u>%) / RE</del>
	Williams Z)		(3.433.81%)
	Convert the F-1358/Z-1326		· · · · ·
	and K-1363/Y-1325		
b2837.10	(Trenton - Burlington) 138		
02837.10	kV circuits to 230 kV		NEPTUNE* ( <del>6.71<u>7.16</u>%) /</del>
	circuits (Williams -		PSEG ( <del>89.80<u>88.99</u>%) / RE</del>
	Bustleton Z)		( <del>3.49<u>3.85</u>%)</del>
	Convert the F-1358/Z-1326		
	and K-1363/Y-1325		
b2837.11	(Trenton - Burlington) 138		
02837.11	kV circuits to 230 kV		NEPTUNE* ( <u>5.205.54</u> %) /
	circuits (Bustleton -		PSEG ( <del>91.26<u>9</u>0.54</del> %) / RE
	Burlington Z)		( <del>3.54<u>3.92</u>%)</del>
	Build new 138/26 kV		
	Newark GIS station in a		
	building (layout #1A)		
b2870	located adjacent to the		
	existing Newark Switch and		
	demolish the existing		
	Newark Switch		PSEG (100%)
	Third Source for		<u>PSEG (95.85%) / RE</u>
b2933	Springfield Rd. and Stanley		(4.15%)See sub-IDs for cost
	Terrace Stations		allocations
K Nontuno D	egional Transmission System		

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tra	nsmission Enhancements Annua	al Revenue Requirement	Responsible Customer(s)
b2933.1	Construct a 230/69 kV station at Springfield		PSEG ( <del>100</del> 95.85%) / RE (4.15%)
b2933.2	Construct a 230/69 kV station at Stanley Terrace		PSEG ( <del>100<u>95.85</u>%) / RE</del> (4.15%)
b2933.31	Construct a 69 kV network between Front Street, Springfield and Stanley Terrace (Front Street - Springfield)		<u>PSEG (95.85%) / RE</u> (4.15%)NEPTUNE* (100%)
b2933.32	Construct a 69 kV network between Front Street, Springfield and Stanley Terrace (Springfield – Stanley Terrace)		PSEG ( <u>10095.85</u> %) <u>/ RE</u> (4.15%)
b2934	Build a new 69 kV line between Hasbrouck Heights and Carlstadt		PSEG ( <del>100</del> 95.85%) / <u>RE</u> (4.15%)
b2935	Third Supply for Runnemede 69 kV and Woodbury 69 kV		PSEG ( <del>100<u>95.85</u>%) / RE</del> (4.15%)
b2935.1	Build a new 230/69 kV switching substation at Hilltop utilizing the PSE&G property and the K-2237 230 kV line		PSEG ( <del>10095.85</del> %) <u>/ RE</u> (4.15%)
b2935.2	Build a new line between Hilltop and Woodbury 69 kV providing the 3rd supply		PSEG ( <u>10095.85</u> %) <u>/ RE</u> (4.15%)

Required Transmission Enhancements Annual Re nue Requirement Responsible Customer(s)

Required Tra	nsmission Enhancements Annua	al Revenue Requirement	Responsible Customer(s)
b2935.3	Convert Runnemede's straight bus to a ring bus and construct a 69 kV line		
	from Hilltop to Runnemede 69 kV		PSEG ( <del>100<u>95.85</u>%) / <u>RE</u> (4.15%)</del>
b2955	Wreck and rebuild the VFT – Warinanco – Aldene 230 kV circuit with paired conductor		PSEG (95.85%) / RE (4.15%)JCPL (91.73%) / NEPTUNE* (8.27%)
b2956	Replace existing cable on Cedar Grove - Jackson Rd. with 5000 kcmil XLPE cable		PSEG ( <del>100</del> 95.85%) <u>/ RE</u> (4.15%)
b2982	Construct a 230/69 kV station at Hillsdale Substation and tie to Paramus and Dumont at 69 kV		PSEG ( <del>100<u>95.85</u>%)<u>/ RE</u> (4.15%)</del>
b2982.1	Install a 69 kV ring bus and one (1) 230/69 kV transformer at Hillsdale		PSEG ( <del>100</del> 95.85%) / RE (4.15%)
b2982.2	Construct a 69 kV network between Paramus, Dumont, and Hillsdale Substation using existing 69 kV circuits		PSEG ( <del>10095.85</del> %) <u>/ RE</u> (4.15%)
b2983	Convert Kuller Road to a 69/13 kV station		PSEG ( <del>100<u>95.85</u>%)<u>/RE</u> (4.15%)</del>
b2983.1	Install 69 kV ring bus and two (2) 69/13 kV transformers at Kuller Road		PSEG ( <del>100<u>95.85</u>%) / RE</del> (4.15%)
b2983.2	Construct a 69 kV network between Kuller Road, Passaic, Paterson, and Harvey (new Clifton area switching station)		PSEG ( <del>100<u>95.85</u>%)<u>/ RE</u> (4.15%)</del>
b2986	Replace the existing Roseland – Branchburg – Pleasant Valley 230 kV corridor with new structures		See sub-IDs for cost allocation

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tran	nsmission Enhancements Annua	l Revenue Requirement	Responsible Customer(s)
	Roseland-Branchburg 230		
b2986.11	kV corridor rebuild		PSEG (100 <u>95.85</u> %) / <u>RE</u>
	(Roseland - Readington)		<u>(4.15%)</u>
	Roseland-Branchburg 230		
b2986.12	kV corridor rebuild		JCPL ( <del>100<u>58.66</u>%) / PSEG</del>
	(Readington - Branchburg)		<u>(39.62%) / RE (1.72%)</u>
	Branchburg-Pleasant Valley		
b2986.21	230 kV corridor rebuild		<u>NEPTUNE* (0.37%) / </u> PECO
02780.21	(Branchburg - East		( <del>100<u>98.94</u>%) / PSEG (0.66%) /</del>
	Flemington)		<u>RE (0.03%)</u>
	Branchburg-Pleasant Valley		
b2986.22	230 kV corridor rebuild		NEPTUNE* ( <del>0.77<u>5.83</u>%) /</del>
02980.22	(East Flemington - Pleasant		PECO ( <del>99.23</del> 83.73%) / PSEG
	Valley)		<u>(10.01%) / RE (0.43%)</u>
	Branchburg-Pleasant Valley		JCPL ( <del>31.39<u>26.89</u>%) /</del>
	230 kV corridor rebuild (Pleasant Valley -		NEPTUNE* ( <del>5.26<u>4.81</u>%)</del> /
b2986.23			PECO ( <del>6.68<u>8.88</u>%) / PSEG</del>
	Rocktown)		( <del>54.43<u>56.96</u>%)</del> / RE
			( <del>2.23<u>2.46</u>%)</del>
	Branchburg-Pleasant Valley		JCPL ( <del>37.95<u>33.60</u>%) /</del>
	230 kV corridor rebuild		NEPTUNE* ( <u>4.704.40</u> %) /
b2986.24	(the PSEG portion of		PECO ( <del>5.38<u>6.02</u>%) / PSEG</del>
	Rocktown - Buckingham)		(4 <u>9.9253.66</u> %) / RE
	Roonto witi Duoningituiti)		( <u>2.05</u> 2.32%)
b3003	Construct a 230/69 kV		PSEG ( <del>100<u>95.85</u>%) / RE</del>
03003	station at Maywood		(4.15%)
	Purchase properties at		, <u>,</u>
b3003.1	Maywood to accommodate		PSEG (100 <u>95.85</u> %) / <u>RE</u>
	new construction		(4.15%)
	Extend Maywood 230 kV		
b3003.2	bus and install one (1) 230		PSEG (100 <u>95.85</u> %) / <u>RE</u>
	kV breaker		(4.15%)
1 2002 2	Install one (1) 230/69 kV		PSEG ( <del>100<u>95.85</u>%) / <u>RE</u></del>
b3003.3	transformer at Maywood		(4.15%)
L			

mirod Tr al D ue Requirement R D incian Enh monta ٨ nsible Customer(s)

Required Tra	nsmission Enhancements Annua	al Revenue Requirement	Responsible Customer(s)
b3003.4	Install Maywood 69 kV ring bus		PSEG ( <del>100<u>95.85</u>%)/RE</del> (4.15%)
b3003.5	Construct a 69 kV network between Spring Valley Road, Hasbrouck Heights, and Maywood		PSEG ( <u>10095.85</u> %) <u>/ RE</u> (4.15%)
b3004	Construct a 230/69/13 kV station by tapping the Mercer – Kuser Rd 230 kV circuit		PSEG ( <u>10095.85</u> %) <u>/ RE</u> (4.15%)
b3004.1	Install a new Clinton 230 kV ring bus with one (1) 230/69 kV transformer Mercer - Kuser Rd 230 kV circuit		PSEG ( <u>10095.85</u> %) <u>/ RE</u> (4.15%)
b3004.2	Expand existing 69 kV ring bus at Clinton Ave with two (2) additional 69 kV breakers		PSEG ( <u>10095.85</u> %) <u>/ RE</u> ( <u>4.15%)</u>
b3004.3	Install two (2) 69/13 kV transformers at Clinton Ave		PSEG ( <u>10095.85</u> %) <u>/ RE</u> (4.15%)
b3004.4	Install 18 MVAR capacitor bank at Clinton Ave 69 kV		PSEG ( <del>100</del> 95.85%) / RE (4.15%)
b3025	Construct two (2) new 69/13 kV stations in the Doremus area and relocate the Doremus load to the new stations		PSEG ( <del>100</del> 95.85%) <u>/ RE</u> (4.15%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Trai	nsmission Enhancements Annual Revenue Requirement	Responsible Customer(s)
	Install a new 69/13 kV	
b3025.1	station (Vauxhall) with a ring	
	bus configuration	PSEG ( <del>100</del> 95.85%) / RE (4.15%)
	Install a new 69/13 kV	
b3025.2	station (19th Ave) with a ring	
	bus configuration	PSEG (10095.85%) / RE (4.15%)
	Construct a 69 kV network	
	between Stanley Terrace,	
1,2025.2	Springfield Road, McCarter,	
b3025.3	Federal Square, and the two	
	new stations (Vauxhall &	
	19th Ave)	PSEG (10095.85%) / RE (4.15%)
	Construct a third 69 kV	
b3703	supply line from Penns Neck	
03703	substation to West Windsor	
	substation	PSEG (100%)
	Replace the Lawrence	
	switching station 230/69 kV	
	Transformer No. 220-4 and	
	its associated circuit	
	switchers with a new larger	
	capacity transformer with	
	load tap changer (LTC) and	
b3704	new dead tank circuit	
	breaker. Install a new 230 kV	
	gas insulated breaker,	
	associated disconnects,	
	overhead bus and other	
	necessary equipment to	
	complete the bay within the	
	Lawrence 230 kV switchyard	PSEG (100%)
	Replace existing 230/138 kV	
b3705	Athenia Transformer No.	
	220-1	PSEG ( <del>100</del> <u>95.85</u> %) / RE (4.15%)
	Replace Fair Lawn 230/138	
b3706	kV transformer No. 220-1	
03700	with an existing O&M	
	system spare at Burlington	PSEG (100%)
	Construct a third 69 kV	
b3716	supply line from Totowa	
05/10	substation to the customer's	
	substation	PSEG (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tha	Ismission ennancements Annual	Revenue Requirement	Responsible Customer(s)
	Replace the two existing		
	1200A Bergen 138 kV circuit		
	switchers with two 138 kV		
	disconnect switches to		
b3719	achieve a minimum summer		
	normal device rating of 298		
	MVA and a minimum		
	summer emergency rating of		
	454 MVA		PSEG (100%)
	Convert existing Medford 69		
	kV straight bus to seven-		
	breaker ring bus, construct a		
b3757	new 230/69 kV transformer		
03/3/	at Cox's Corner station and a		
	new 69 kV line from Cox's		
	Corner station to Medford		
	station		PSEG (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

# PJM Open Access Transmission Tariff Schedule 12-Appendix A Section 12 – Public Service Electric & Gas Co.

Version 32.0.0 Effective April 9, 2024 (Accepted in Docket No. ER24-843-000)

#### SCHEDULE 12 – APPENDIX A

#### (12) **Public Service Electric and Gas Company**

Required Tra		Annual Revenue Requirement	Responsible Customer(s)
b2218	Rebuild 4 miles of overhead line from Edisor - Meadow Rd - Metuchen (Q 1317)		PSEG (100%)
b2239	50 MVAR reactor at Saddlebrook 230 kV		PSEG (100%)
b2240	50 MVAR reactor at Athenia 230 kV		PSEG (100%)
b2241	50 MVAR reactor at Bergen 230 kV		PSEG (100%)
b2242	50 MVAR reactor at Hudson 230 kV		PSEG (100%)
b2243	Two 50 MVAR reactors a Stanley Terrace 230 kV	t	PSEG (100%)
b2244	50 MVAR reactor at West Orange 230 kV		PSEG (100%)
b2245	50 MVAR reactor at Aldene 230 kV		PSEG (100%)
b2246	150 MVAR reactor at Camden 230 kV		PSEG (100%)
b2247	150 MVAR reactor at Gloucester 230 kV		PSEG (100%)
b2248	50 MVAR reactor at Clarksville 230 kV		PSEG (100%)
b2249	50 MVAR reactor at Hinchmans 230 kV		PSEG (100%)
b2250	50 MVAR reactor at Beaverbrook 230 kV		PSEG (100%)
b2251	50 MVAR reactor at Cox's Corner 230 kV	5	PSEG (100%)

The Annual Revenue Requirement for all Public Service Electric and Gas Company Projects (Required Transmission Enhancements) in this Section 12 shall be as specified in Attachment 7 of Attachment H-10A and under the procedures detailed in Attachment H-10B.

Required Tra	nsmission Enhancements Annual Revenue Requirement	ent Responsible Customer(s)
	Eliminate the Sewaren 138	
b2276	kV bus by installing a new	
02270	230 kV bay at Sewaren	PSEG ( <del>100<u>95.85</u>%) / <u>RE</u></del>
	230 kV	(4.15%)
	Convert the two 138 kV	
	circuits from Sewaren –	
b2276.1	Metuchen to 230 kV	
022/0.1	circuits including	
	Lafayette and Woodbridge	PSEG ( <del>100<u>95.85</u>%) / <u>RE</u></del>
	substation	(4.15%)
	Reconfigure the Metuchen	
100760	230 kV station to	
b2276.2	accommodate the two	PSEG ( <del>100<u>95.85</u>%) / <u>RE</u></del>
	converted circuits	(4.15%)
	Replace disconnect	
	switches at Kilmer, Lake	
	Nilson and Greenbrook	
b2290	230 kV substations on the	
	Raritian River - Middlesex	
	(I-1023) circuit	PSEG (100%)
	Replace circuit switcher at	
	Lake Nelson 230 kV	
b2291	substation on the Raritian	
02271	River - Middlesex (W-	
	1037) circuit	PSEG (100%)
	Replace the Salem 500 kV	1 SLO (10070)
b2295	breaker 10X with 63 kA	
02293		DSEC(1009/)
	breaker	PSEG (100%)
	Install all 69 kV lines to	
	interconnect Plainfield,	
b2421	Greenbrook, and	
	Bridgewater stations and	
	establish the 69 kV	
	network	PSEG (100%)
	Install two 18 MVAR	
b2421.1	capacitors at Plainfield	
02421.1	and S. Second St	
	substation	PSEG (100%)

b2421.2	Install a second four (4) breaker 69 kV ring bus at Bridgewater Switching Station	PSEG (100%)
b2436.10	Convert the Bergen – Marion 138 kV path to double circuit 345 kV and associated substation upgrades	Load-Ratio Share Allocation:           AEC (1.671.65%) / AEP           (13.9414.29%) / APS           (5.645.82%) / ATSI (8.027.49%           / BGE (4.124.01%) / ComEd           (13.4614.06%) / Dayton           (2.122.03%) / DEOK           (3.373.21%) / DL (1.761.59%)           DPL (2.55%) / Dominion           (12.9713.89%) / EKPC           (1.812.35%) / JCPL (3.923.59%)           / ME (1.951.81%) / NEPTUNE           (0.240.42%) / OVEC           (0.070.06%) / PECO           (5.395.11%) / PENELEC           (1.841.73%) / PEPCO           (3.713.68%) / PPL (4.784.43%)           PSEG (6.405.99%) / RE           (0.270.24%)           DFAX Allocation:           PSEG (10095.85%) / RE           (4.15%)
b2436.21	Convert the Marion - Bayonne "L" 138 kV circuit to 345 kV and any associated substation upgrades	Load-Ratio Share Allocation:           AEC (1.671.65%) / AEP           (13.9414.29%) / APS           (5.645.82%) / ATSI (8.027.49%)           / BGE (4.124.01%) / ComEd           (13.4614.06%) / Dayton           (2.122.03%) / DEOK           (3.373.21%) / DL (1.761.59%)           DPL (2.55%) / Dominion           (12.9713.89%) / EKPC           (1.812.35%) / JCPL (3.923.59%)           / ME (1.951.81%) / NEPTUNE           (0.240.42%) / OVEC           (0.070.06%) / PECO           (5.395.11%) / PENELEC           (1.841.73%) / PEPCO           (3.713.68%) / PPL (4.784.43%)

	PSEG ( <del>6.40<u>5.99</u>%) / RE</del>
	( <del>0.27<u>0.24</u>%)</del>
	DFAX Allocation:
	PSEG ( <del>100<u>9</u>5.85</del> %) <u>/ RE</u>
	(4.15%)

Required Tra	nsmission Enhancements Ann	ual Revenue Requirement	1
b2436.22	Convert the Marion - Bayonne "C" 138 kV circuit to 345 kV and any associated substation upgrades		Load-Ratio Share Allocation: AEC ( $1.671.65\%$ ) / AEP ( $13.9414.29\%$ ) / APS ( $5.645.82\%$ ) / ATSI ( $8.027.49\%$ / BGE ( $4.124.01\%$ ) / ComEd ( $13.4614.06\%$ ) / Dayton ( $2.122.03\%$ ) / DEOK ( $3.373.21\%$ ) / DL ( $1.761.59\%$ ) DPL ( $2.55\%$ ) / Dominion ( $12.9713.89\%$ ) / EKPC ( $1.812.35\%$ ) / JCPL ( $3.923.59\%$ / ME ( $1.951.81\%$ ) / NEPTUNE ( $0.240.42\%$ ) / OVEC ( $0.070.06\%$ ) / PECO ( $5.395.11\%$ ) / PENELEC ( $1.841.73\%$ ) / PEPCO ( $3.713.68\%$ ) / PPL ( $4.784.43\%$ ) PSEG ( $6.405.99\%$ ) / RE ( $0.270.24\%$ ) DFAX Allocation: PSEG ( $10095.85\%$ ) / RE ( $4.15\%$ )
b2436.33	Construct a new Bayway – Bayonne 345 kV circuit and any associated substation upgrades		PSEG ( <del>96.26<u>9</u>5.85</del> %) / RE ( <del>3.74<u>4.15</u>%)</del>
b2436.34	Construct a new North Ave – Bayonne 345 kV circuit and any associated substation upgrades		PSEG ( <u>95.8596.26</u> %) / RE ( <u>3.744.15</u> %)

e - Airport 345 kV uit and any associated station upgrades ocate the underground tion of North Ave - den "T" 138 kV circuit Bayway, convert it to kV, and any ociated substation rades struct a new Airport - tway 345 kV circuit any associated station upgrades		PSEG ( <u>10095.85</u> %) / RE ( <u>4.15%</u> ) PSEG ( <u>95.8596.26</u> %) / RE ( <u>3.744.15</u> %) PSEG ( <u>10095.85</u> %) / RE ( <u>4.15%</u> ) Load-Ratio Share Allocation AEC ( <u>1.671.65</u> %) / AEP ( <u>13.9414.29</u> %) / APS ( <u>5.645.82</u> %) / ATSI
uit and any associated station upgrades ocate the underground tion of North Ave - den "T" 138 kV circuit Bayway, convert it to kV, and any ociated substation rades struct a new Airport - way 345 kV circuit any associated		(4.15%) PSEG (95.8596.26%) / RE (3.744.15%) PSEG (10095.85%) / RE (4.15%) Load-Ratio Share Allocation AEC (1.671.65%) / AEP (13.9414.29%) / APS (5.645.82%) / ATSI
station upgrades ocate the underground tion of North Ave - den "T" 138 kV circuit Bayway, convert it to kV, and any ociated substation rades struct a new Airport - way 345 kV circuit any associated		(4.15%) PSEG (95.8596.26%) / RE (3.744.15%) PSEG (10095.85%) / RE (4.15%) Load-Ratio Share Allocation AEC (1.671.65%) / AEP (13.9414.29%) / APS (5.645.82%) / ATSI
ocate the underground tion of North Ave - den "T" 138 kV circuit Bayway, convert it to kV, and any ociated substation rades astruct a new Airport - way 345 kV circuit any associated		PSEG ( <u>95.8596.26</u> %) / RE ( <u>3.744.15</u> %) PSEG ( <u>10095.85</u> %) <u>/ RE</u> ( <u>4.15%)</u> Load-Ratio Share Allocation AEC ( <u>1.671.65</u> %) / AEP ( <u>13.9414.29</u> %) / APS ( <u>5.645.82</u> %) / ATSI
tion of North Ave - den "T" 138 kV circuit Bayway, convert it to kV, and any ociated substation rades astruct a new Airport - way 345 kV circuit any associated		(3.744.15%) PSEG (10095.85%) / RE (4.15%) Load-Ratio Share Allocation AEC (1.671.65%) / AEP (13.9414.29%) / APS (5.645.82%) / ATSI
den "T" 138 kV circuit Bayway, convert it to kV, and any ociated substation rades astruct a new Airport - way 345 kV circuit any associated		(3.744.15%) PSEG (10095.85%) / RE (4.15%) Load-Ratio Share Allocation AEC (1.671.65%) / AEP (13.9414.29%) / APS (5.645.82%) / ATSI
Bayway, convert it to kV, and any ociated substation rades astruct a new Airport - way 345 kV circuit any associated		(3.744.15%) PSEG (10095.85%) / RE (4.15%) Load-Ratio Share Allocation AEC (1.671.65%) / AEP (13.9414.29%) / APS (5.645.82%) / ATSI
kV, and any ociated substation rades astruct a new Airport - way 345 kV circuit any associated		(3.744.15%) PSEG (10095.85%) / RE (4.15%) Load-Ratio Share Allocation AEC (1.671.65%) / AEP (13.9414.29%) / APS (5.645.82%) / ATSI
ociated substation rades astruct a new Airport - way 345 kV circuit any associated		(3.744.15%) PSEG (10095.85%) / RE (4.15%) Load-Ratio Share Allocation AEC (1.671.65%) / AEP (13.9414.29%) / APS (5.645.82%) / ATSI
rades astruct a new Airport - way 345 kV circuit any associated		(3.744.15%) PSEG (10095.85%) / RE (4.15%) Load-Ratio Share Allocation AEC (1.671.65%) / AEP (13.9414.29%) / APS (5.645.82%) / ATSI
struct a new Airport - way 345 kV circuit any associated		PSEG (10095.85%) / RE (4.15%) Load-Ratio Share Allocation AEC (1.671.65%) / AEP (13.9414.29%) / APS (5.645.82%) / ATSI
way 345 kV circuit any associated		(4.15%) Load-Ratio Share Allocation AEC (1.671.65%) / AEP (13.9414.29%) / APS (5.645.82%) / ATSI
any associated		(4.15%) Load-Ratio Share Allocation AEC (1.671.65%) / AEP (13.9414.29%) / APS (5.645.82%) / ATSI
station upgrades		(4.15%) Load-Ratio Share Allocation AEC (1.671.65%) / AEP (13.9414.29%) / APS (5.645.82%) / ATSI
		AEC ( <u>1.67</u> <u>1.65</u> %) / AEP ( <u>13.94</u> <u>14.29</u> %) / APS ( <u>5.64</u> <u>5.82</u> %) / ATSI
ocate the overhead tion of Linden - North e "T" 138 kV circuit to tway, convert it to 345 and any associated station upgrades		(8.027.49%) / BGE (4.124.01%) / ComEd (13.4614.06%) / Dayton (2.122.03%) / DEOK (3.373.21%) / DL (1.761.59% / DPL (2.55%) / Dominion (12.9713.89%) / EKPC (1.812.35%) / JCPL (3.923.59%) / ME (1.951.81% / NEPTUNE* (0.240.42%) / OVEC (0.070.06%) / PECO (5.395.11%) / PENELEC (1.841.73%) / PEPCO (3.713.68%) / PPL (4.784.43%) / PSEG (6.405.99%) / RE (0.270.24%)
)	"T" 138 kV circuit to way, convert it to 345 and any associated	"T" 138 kV circuit to way, convert it to 345 and any associated

<b>Public Service Electric and Gas</b>	Company (cont.)
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Required Tran	nsmission Enhancements A	nnual Revenue Requirement Responsible Customer(s)
		Load-Ratio Share Allocation:
		AEC ( <u>1.671.65</u> %) / AEP
		( <del>13.94<u>14.29</u>%) / APS</del>
	Convert the Bayway -	( <del>5.64</del> <u>5.82</u> %) / ATSI ( <del>8.02</del> <u>7.49</u> %)
		/ BGE (4.124.01%) / ComEd
		( <u>13.4614.06</u> %) / Dayton
		( <u>2.122.03</u> %) / DEOK
		( <del>3.37<u>3.21</u>%) / DL (<u>1.761.59</u>%) /</del>
		DPL (2.55%) / Dominion
	Linden "Z" 138 kV circuit	( <del>12.97<u>13.89</u>%) / EKPC</del>
b2436.83	to 345 kV and any	( <del>1.81<u>2.35</u>%) / JCPL (<u>3.92<u>3.59</u>%)</u></del>
02450.05	associated substation	/ ME ( <del>1.95<u>1.81</u>%) / NEPTUNE*</del>
	upgrades	( <del>0.24<u>0.42</u>%) / OVEC</del>
	upgrades	( <del>0.07<u>0.06</u>%) / PECO</del>
		( <del>5.39<u>5.11</u>%) / PENELEC</del>
		( <del>1.84<u>1.73</u>%) / PEPCO</del>
		( <del>3.71<u>3.68</u>%) / PPL (4.78<u>4.43</u>%) /</del>
		PSEG ( <del>6.40<u>5.99</u>%) / RE</del>
		( <u>0.270.24</u> %)
		DFAX Allocation:
		PSEG ( <u>96.2695.85</u> %) / RE
		( <u>3.744.15</u> %)
		Load-Ratio Share Allocation:
		AEC ( <u>1.671.65</u> %) / AEP
		( <del>13.94<u>14.29</u>%) / APS</del>
		( <del>5.64<u>5.82</u>%)/ATSI (<del>8.027.49</del>%)</del>
		/ BGE (4.124.01%) / ComEd
		$(\frac{13.4614.06}{9})$ / Dayton
		(2.122.03%) / DEOK
	Convert the Bayway –	(3.373.21%) / DL (1.761.59%) / DPL (2.55%) / DPL (2.5%%)
	Linden "W" 138 kV	DPL (2.55%) / Dominion
b2436.84	circuit to 345 kV and any associated substation	$(\frac{12.9713.89}{12.97}) / EKPC$
02100101		$(\frac{1.812.35}{0.000}) / \text{JCPL} (\frac{3.923.59}{0.000}))$
	upgrades	/ ME ( <del>1.95<u>1.81</u>%) / NEPTUNE*</del>
	upgrades	(0.240.42%) / OVEC
		$(\frac{0.070.06}{5}) / PECO$
		( <del>5.39<u>5.11</u>%) / PENELEC (<u>1.841.73</u>%) / PEPCO</del>
		$(\frac{1.841.75}{3.713.68})$ / PPL $(\frac{4.784.43}{3.713})$
		$\frac{(3.713.08\%)}{\text{PSEG}} \frac{(4.784.43\%)}{\text{RE}}$
		$\frac{(0.405.99\%)}{(0.270.24\%)}$
		· · · · · · · · · · · · · · · · · · ·
		DFAX Allocation:

	PSEG ( <del>96.26</del> 95.8	<u>5</u> %) / RE
	( <del>3.74<u>4.15</u>)</del>	%)

Required Tra	nsmission Enhancements A	nnual Revenue Requirement Responsible Customer(s)
b2436.85	Convert the Bayway – Linden "M" 138 kV circuit to 345 kV and any associated substation upgrades	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$
b2436.90	Relocate Farragut - Hudson "B" and "C" 345 kV circuits to Marion 345 kV and any associated substation upgrades	Load-Ratio Share Allocation:           AEC (1.671.65%) / AEP           (13.9414.29%) / APS           (5.645.82%) / ATSI (8.027.49%)           / BGE (4.124.01%) / ComEd           (13.4614.06%) / Dayton           (2.122.03%) / DEOK           (3.373.21%) / DL (1.761.59%) /           DPL (2.55%) / Dominion           (12.9713.89%) / EKPC           (1.812.35%) / JCPL (3.923.59%)           / ME (1.951.81%) / NEPTUNE*           (0.240.42%) / OVEC           (0.070.06%) / PECO           (5.395.11%) / PENELEC           (1.841.73%) / PEPCO           (3.713.68%) / PPL (4.784.43%) /           PSEG (6.405.99%) / RE           (0.270.24%)           DFAX Allocation:           PSEG (100%)

b2436.91	Relocate the Hudson 2 generation to inject into the 345 kV at Marion and any associated upgrades	PSEG (100%)
	any associated apgrades	I SEO (10070)

Required That	IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Revenue Requirement Responsible Customer(s)
	New Bergen 345/230 kV	
b2437.10	transformer and any	
	associated substation	
	upgrades	PSEG ( <del>100</del> <u>95.85</u> %) / <u>RE (4.15%)</u>
	New Bergen 345/138 kV	
b2437.11	transformer #1 and any	
02457.11	associated substation	
	upgrades	PSEG ( <del>100</del> <u>95.85</u> %) / <u>RE (4.15%)</u>
	New Bayway 345/138 kV	
b2437.20	transformer #1 and any	
02437.20	associated substation	
	upgrades	PSEG ( <del>100<u>95.85</u>%) / RE (4.15%)</del>
	New Bayway 345/138 kV	
1-2427-21	transformer #2 and any	
b2437.21	associated substation	
	upgrades	PSEG ( <del>100</del> 95.85%) / RE (4.15%)
	New Linden 345/230 kV	
10407.00	transformer and any	
b2437.30	associated substation	PSEG ( <del>96.26<u>9</u>5.85</del> %) / RE
	upgrades	(3.744.15%)
	New Bayonne 345/69 kV	
1 0 4 0 7 0 0	transformer and any	
b2437.33	associated substation	
	upgrades	PSEG ( <del>10095.85</del> %) / RE (4.15%)
	Install two reactors at	
b2438	Tosco 230 kV	DSEC (1000/)
		PSEG (100%)
1 2 4 2 0	Replace the Tosco 138 kV	
b2439	breaker 'CB1/2 (CBT)'	
	with 63 kA	PSEG (100%)
b2474	Rebuild Athenia 138 kV to	
02474	80 kA	PSEG (100%)
	Install a 100 MVAR 230	
b2589	kV shunt reactor at Mercer	
	station	PSEG (100%)
	Install two 75 MVAR 230	
b2590	kV capacitors at Sewaren	
	station	PSEG (100%)
L		

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tra	nsmission Enhancements Ann	ual Revenue Requirement	Responsible Customer(s)
b2633.3	Install an SVC at New Freedom 500 kV substation		Load-Ratio Share Allocation: AEC ( $1.671.65\%$ ) / AEP ( $13.9414.29\%$ ) / APS ( $5.645.82\%$ ) / ATSI ( $8.027.49\%$ / BGE ( $4.124.01\%$ ) / ComEd ( $13.4614.06\%$ ) / Dayton ( $2.122.03\%$ ) / DEOK ( $3.373.21\%$ ) / DL ( $1.761.59\%$ ) / DPL ( $2.55\%$ ) / Dominion ( $12.9713.89\%$ ) / EKPC ( $1.812.35\%$ ) / JCPL ( $3.923.59\%$ / ME ( $1.951.81\%$ ) / NEPTUNE ( $0.240.42\%$ ) / OVEC ( $0.070.06\%$ ) / PECO ( $5.395.11\%$ ) / PENELEC ( $1.841.73\%$ ) / PEPCO ( $3.713.68\%$ ) / PPL ( $4.784.43\%$ ) PSEG ( $6.405.99\%$ ) / RE ( $0.270.24\%$ ) DFAX Allocation: AEC ( $0.01\%$ ) / DPL ( $99.98\%$ ) / JCPL ( $0.01\%$ )
b2633.4	Add a new 500 kV bay at Hope Creek (Expansion of Hope Creek substation)		Load-Ratio Share Allocation: AEC (1.671.65%) / AEP (13.9414.29%) / APS (5.645.82%) / ATSI (8.027.49% / BGE (4.124.01%) / ComEd (13.4614.06%) / Dayton (2.122.03%) / DEOK (3.373.21%) / DL (1.761.59%) DPL (2.55%) / Dominion (12.9713.89%) / EKPC (1.812.35%) / JCPL (3.923.59% / ME (1.951.81%) / NEPTUNE (0.240.42%) / OVEC (0.070.06%) / PECO (5.395.11%) / PENELEC (1.841.73%) / PEPCO (3.713.68%) / PPL (4.784.43%) PSEG (6.405.99%) / RE (0.270.24%)

	DFAX Allocation:
	AEC (8.01%) / BGE (1.94%) /
	DPL (12.99%) / JCPL (13.85%)
	/ ME (5.88%) / NEPTUNE*
	(3.45%) / PECO (17.62%) / PPL
	(14.85%) / PSEG (20.79%) / RE
	(0.62%)

equired Tra	nsmission Enhancements Annual Revenue	
		AEC (8.01%) / BGE (1.94%)
	Add a new 500/230 kV	DPL (12.99%) / JCPL (13.85%
b2633.5	autotransformer at Hope	/ ME (5.88%) / NEPTUNE*
02033.3	Creek and a new Hope	(3.45%) / PECO (17.62%) / PI
	Creek 230 kV substation	(14.85%) / PSEG (20.79%) / H
		(0.62%)
		Load-Ratio Share Allocation
		AEC ( <u>1.671.65</u> %) / AEP
		( <del>13.94<u>14.29</u>%) / APS</del>
		( <del>5.64<u>5.82</u>%) / ATSI (<del>8.02<u>7.49</u></del></del>
		/ BGE ( <u>4.124.01</u> %) / ComEc
		( <u>13.4614.06</u> %) / Dayton
	Implement high speed	( <u>2.122.03</u> %) / DEOK
	relaying utilizing OPGW	( <del>3.37<u>3.21</u>%) / DL (<u>1.761.59</u>%</del>
	on Salem – Orchard 500	DPL (2.55%) / Dominion
	kV, Hope Creek – New	( <del>12.97<u>13.89</u>%) / EKPC</del>
b2633.8	Freedom 500 kV, New	( <del>1.81</del> <u>2.35</u> %) / JCPL ( <del>3.92</del> <u>3.59</u>
02033.0	Freedom - Salem 500 kV,	/ ME ( <del>1.95<u>1.81</u>%) / NEPTUN</del>
	Hope Creek – Salem 500 kV,	( <del>0.24<u>0.42</u>%) / OVEC</del>
	kV, and New Freedom –	( <del>0.07<u>0.06</u>%) / PECO</del>
	Orchard 500 kV lines	( <del>5.39<u>5.11</u>%) / PENELEC</del>
Orenard 500 KV miles	Orenard 500 KV miles	( <del>1.84<u>1.73</u>%) / PEPCO</del>
		( <del>3.71<u>3.68</u>%) / PPL (4.78<u>4.43</u>%</del>
		PSEG ( <del>6.40<u>5.99</u>%) / RE</del>
		( <del>0.27<u>0.24</u>%)</del>
		DFAX Allocation:
		AEC (0.01%) / DPL (99.98%
		JCPL (0.01%)

Required Trai	nsmission Enhancements Annu	al Revenue Requirement	Responsible Customer(s)
b2633.91	Implement changes to the tap settings for the two Salem units' step up transformers		AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)
b2633.92	Implement changes to the tap settings for the Hope Creek unit's step up transformers		AEC (0.01%) / DPL (99.98%) JCPL (0.01%)
b2702	Install a 350 MVAR reactor at Roseland 500 kV		Load-Ratio Share Allocation: AEC ( $1.671.65\%$ ) / AEP ( $13.9414.29\%$ ) / APS ( $5.645.82\%$ ) / ATSI ( $8.027.49\%$ / BGE ( $4.124.01\%$ ) / ComEd ( $13.4614.06\%$ ) / Dayton ( $2.122.03\%$ ) / DEOK ( $3.373.21\%$ ) / DL ( $1.761.59\%$ ) / DPL ( $2.55\%$ ) / Dominion ( $12.9713.89\%$ ) / EKPC ( $1.812.35\%$ ) / JCPL ( $3.923.59\%$ / ME ( $1.951.81\%$ ) / NEPTUNE ( $0.240.42\%$ ) / OVEC ( $0.070.06\%$ ) / PECO ( $5.395.11\%$ ) / PENELEC ( $1.841.73\%$ ) / PEPCO ( $3.713.68\%$ ) / PPL ( $4.784.43\%$ ) PSEG ( $6.405.99\%$ ) / RE ( $0.270.24\%$ ) DFAX Allocation: PSEG ( $100\%$ )
b2703	Install a 100 MVAR reactor at Bergen 230 kV		PSEG (100%)
b2704	Install a 150 MVAR reactor at Essex 230 kV		PSEG (100%)
b2705	Install a 200 MVAR reactor (variable) at Bergen 345 kV		PSEG (100%)
b2706	Install a 200 MVAR reactor (variable) at Bayway 345 kV		PSEG (100%)
b2707	Install a 100 MVAR reactor at Bayonne 345 kV		PSEG (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Ira	nsmission Enhancements Annua	al Revenue Requirement	Responsible Customer(s)
b2712	Replace the Bergen 138 kV '40P'breaker with 80 kA		
	breaker		PSEG (100%)
	Replace the Bergen 138 kV		
b2713	'90P' breaker with 80 kA		
-	breaker		PSEG (100%)
	Reconductor the 1 mile		
b2722	Bergen – Bergen GT		
	138 kV circuit (B-1302)		PSEG (100%)
b2755	Build a third 345 kV source		PSEG ( <del>100<u>95.85</u>%) / RE</del>
02755	into Newark Airport		(4.15%)
1 0 0 1 0 1	Install second 230/69 kV		PSEG ( <del>10095.85</del> %) / <u>RE</u>
b2810.1	transformer at Cedar Grove		(4.15%)
	Build a new 69 kV circuit		<u>(</u>
b2810.2	from Cedar Grove to Great		PSEG ( <del>100</del> 95.85%) / RE
	Notch		(4.15%)
	Build 69 kV circuit from		PSEG ( <del>100</del> 95.85%) / RE
b2811	Locust Street to Delair		(4.15%)
	Construct River Road to		(1.1370)
b2812	Tonnelle Avenue 69kV		PSEG ( <del>100<u>9</u>5.85</del> %) / <u>RE</u>
02012	Circuit		(4.15%)
	Install 2X50 MVAR shunt		**************************************
b2825.1	reactors at Kearny 230 kV		
	substation		PSEG (100%)
	Increase the size of the		
b2825.2	Hudson 230 kV, 2X50		
02023.2	MVAR shunt reactors to		
	2X100 MVAR		PSEG (100%)
	Install 2X100 MVAR shunt		
b2825.3	reactors at Bayway 345 kV		
	substation		PSEG (100%)
1.000	Install 2X100 MVAR shunt		
b2825.4	reactors at Linden 345 kV		
	substation		PSEG (100%)
	Convert the R-1318 and		
b2835	Q1317 (Edison – Matuahan) 128 kW ainquita		
	Metuchen) 138 kV circuits to one 230 kV circuit		See sub-IDs for cost allocations
	to one 250 KV circuit		See sub-IDs for cost allocations

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

equired Tra	nsmission Enhancements Annua	l Revenue Requirement	Responsible Customer(s)
	Conver the R-1318 and Q-		
	1317 (Edison – Metuchen)		
b2835.1	138 kV circuits to one 230		AEC ( <del>30.19<u>14.94</u>%) / PECO</del>
	kV circuit (Brunswick –		( <u>44.49</u> 69.81%) / PSEG
	Meadow Road)		(38.89%) / RE (1.68%)
	Convert the R-1318 and Q-		
	1317 (Edison - Metuchen)		
b2835.2	138 kV circuits to one 230		AEC ( <del>30.21<u>13.15</u>%) / PECO</del>
	kV circuit (Meadow Road -		( <del>69.79<u>39.12</u>%) / PSEG</del>
	Pierson Ave)		(45.75%) / RE (1.98%)
	Convert the R-1318 and Q-		*
	1317 (Edison - Metuchen)		
b2835.3	138 kV circuits to one 230		AEC ( <del>30.21<u>11.57</u>%) / PECO</del>
	kV circuit (Pierson Ave -		( <del>69.79</del> 34.41%) / PSEG
	Metuchen)		(51.78%) / RE (2.24%)
	Convert the N-1340 and T-		
1000	1372/D-1330 (Brunswick –		
b2836	Trenton) 138 kV circuits to		
	230 kV circuits		See sub-IDs for cost allocation
	Convert the N-1340 and T-		
	1372/D-1330 (Brunswick -		
b2836.1	Trenton) 138 kV circuits to		AEC (1008.23%) / NEPTUNE
	230 kV circuits (Brunswick		(43.36%) / PECO (30.19%) /
	- Hunterglen)		PSEG (17.46%) / RE (0.76%
	Convert the N-1340 and T-		· · · · · · · · · · · · · · · · · · ·
	1372/D-1330 (Brunswick -		AEC ( <del>49.19<u>2.14</u>%) /</del>
b2836.2	Trenton) 138 kV circuits to		NEPTUNE* ( <del>50.81<u>11.80</u>%)_</del>
	230 kV circuits (Hunterglen		PECO (7.72%) / PSEG
	- Trenton)		(75.09%) / RE (3.25%)
	Convert the N-1340 and T-		<u>_</u>
b2836.3	1372/D-1330 (Brunswick -		
	Trenton) 138 kV circuits to		AEC (6.98%) / NEPTUNE*
	230 kV circuits (Brunswick		(64.26%) / PECO (25.38%) /
	- Devils Brook)		PSEG (3.24100%) / RE (0.149
	Convert the N-1340 and T-		
	1372/D-1330 (Brunswick -		AEC (5.13%) / NEPTUNE*
b2836.4	Trenton) 138 kV circuits to		(28.43%) / PECO (18.69%) /
	230 kV circuits (Devils		PSEG (10045.77%) / RE

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Required Tha	nsmission Ennancements Annua	a Revenue Requirement	Responsible Customer(s)
b2837	Convert the F-1358/Z1326 and K1363/Y-1325 (Trenton – Burlington) 138 kV circuits to 230 kV circuits		See sub-IDs for cost allocations
b2837.1	Convert the F-1358/Z-1326 and K-1363/Y-1325 (Trenton - Burlington) 138 kV circuits to 230 kV circuits (Trenton - Yardville K)		NEPTUNE* ( <del>100</del> <u>10.75</u> %) <u>/</u> PSEG (85.55%) / RE (3.70%)
b2837.2	Convert the F-1358/Z-1326 and K-1363/Y-1325 (Trenton - Burlington) 138 kV circuits to 230 kV circuits (Yardville - Ward Ave K)		NEPTUNE* ( <del>8.89<u>8.84</u>%) / PSEG (<del>87.70<u>87.38</u>%) / RE (<u>3.413.78</u>%)</del></del>
b2837.3	Convert the N-1340 and T- 1372/D-1330 (Brunswick - Trenton) 138 kV circuits to 230 kV circuits (Brunswick - Devils Brook)		NEPTUNE* ( <u>8.278.24</u> %) / PSEG ( <u>88.3087.95</u> %) / RE ( <u>3.433.81</u> %)
b2837.4	Convert the F-1358/Z-1326 and K-1363/Y-1325 (Trenton - Burlington) 138 kV circuits to 230 kV circuits (Crosswicks - Bustleton Y)		NEPTUNE* ( <del>6.79</del> <u>6.96</u> %) / PSEG ( <del>89.73</del> <u>89.18</u> %) / RE ( <del>3.48<u>3.86</u>%)</del>
b2837.5	Convert the F-1358/Z-1326 and K-1363/Y-1325 (Trenton - Burlington) 138 kV circuits to 230 kV circuits (Bustleton - Burlington Y)		NEPTUNE* ( <u>5.625.95</u> %) / PSEG ( <u>90.8590.15</u> %) / RE ( <u>3.533.90</u> %)
b2837.6	Convert the F-1358/Z-1326 and K-1363/Y-1325 (Trenton - Burlington) 138 kV circuits to 230 kV circuits (Trenton - Yardville F)		NEPTUNE* ( <del>100</del> <u>12.83</u> %) <u>/</u> <u>PSEG (83.55%) / RE (3.62%)</u>

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Ira	nsmission Enhancements Annua	al Revenue Requirement	Responsible Customer(s)
	Convert the F-1358/Z-1326		
	and K-1363/Y-1325		
b2837.7	(Trenton - Burlington) 138		
62837.7	kV circuits to 230 kV		
	circuits (Yardville - Ward		NEPTUNE* ( <del>100<u>9</u>.98</del> %) <u>/</u>
	Ave F)		PSEG (86.29%) / RE (3.73%)
	Convert the F-1358/Z-1326		
	and K-1363/Y-1325		
1.2027.0	(Trenton - Burlington) 138		
b2837.8	kV circuits to 230 kV		
	circuits (Ward Ave -		NEPTUNE* ( <del>100<u>9.98</u>%)<u>/</u></del>
	Crosswicks Z)		PSEG (86.29%) / RE (3.73%)
	Convert the F-1358/Z-1326		
	and K-1363/Y-1325		
1.2927.0	(Trenton - Burlington) 138		
b2837.9	kV circuits to 230 kV		NEPTUNE* ( <u>8.228.01</u> %) /
	circuits (Crosswicks -		PSEG ( <del>88.35<u>88.18</u>%) / RE</del>
	Williams Z)		(3.433.81%)
	Convert the F-1358/Z-1326		· · · · ·
	and K-1363/Y-1325		
b2837.10	(Trenton - Burlington) 138		
02837.10	kV circuits to 230 kV		NEPTUNE* ( <del>6.71<u>7.16</u>%) /</del>
	circuits (Williams -		PSEG ( <del>89.80<u>88.99</u>%) / RE</del>
	Bustleton Z)		( <del>3.49<u>3.85</u>%)</del>
	Convert the F-1358/Z-1326		
	and K-1363/Y-1325		
b2837.11	(Trenton - Burlington) 138		
02837.11	kV circuits to 230 kV		NEPTUNE* ( <u>5.205.54</u> %) /
	circuits (Bustleton -		PSEG ( <del>91.26<u>9</u>0.54</del> %) / RE
	Burlington Z)		( <del>3.54<u>3.92</u>%)</del>
	Build new 138/26 kV		
	Newark GIS station in a		
b2870	building (layout #1A)		
	located adjacent to the		
	existing Newark Switch and		
	demolish the existing		
	Newark Switch		PSEG (100%)
b2933	Third Source for		<u>PSEG (95.85%) / RE</u>
	Springfield Rd. and Stanley		(4.15%)See sub-IDs for cost
	Terrace Stations		allocations
K Nontuno D	egional Transmission System	UC	

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tra	nsmission Enhancements Annua	al Revenue Requirement	Responsible Customer(s)
b2933.1	Construct a 230/69 kV station at Springfield		PSEG ( <del>100</del> 95.85%) / RE (4.15%)
b2933.2	Construct a 230/69 kV station at Stanley Terrace		PSEG ( <del>100<u>95.85</u>%) / RE</del> (4.15%)
b2933.31	Construct a 69 kV network between Front Street, Springfield and Stanley Terrace (Front Street - Springfield)		<u>PSEG (95.85%) / RE</u> (4.15%)NEPTUNE* (100%)
b2933.32	Construct a 69 kV network between Front Street, Springfield and Stanley Terrace (Springfield – Stanley Terrace)		PSEG ( <u>10095.85</u> %) <u>/ RE</u> (4.15%)
b2934	Build a new 69 kV line between Hasbrouck Heights and Carlstadt		PSEG ( <del>100</del> 95.85%) / <u>RE</u> (4.15%)
b2935	Third Supply for Runnemede 69 kV and Woodbury 69 kV		PSEG ( <del>100<u>95.85</u>%) / RE</del> (4.15%)
b2935.1	Build a new 230/69 kV switching substation at Hilltop utilizing the PSE&G property and the K-2237 230 kV line		PSEG ( <del>10095.85</del> %) <u>/ RE</u> (4.15%)
b2935.2	Build a new line between Hilltop and Woodbury 69 kV providing the 3rd supply		PSEG ( <u>10095.85</u> %) <u>/ RE</u> (4.15%)

Required Transmission Enhancements Annual Re nue Requirement Rech nsible Customer(s)

Required Tra	nsmission Enhancements Annu	al Revenue Requirement	Responsible Customer(s)
b2935.3	Convert Runnemede's straight bus to a ring bus and construct a 69 kV line from Hilltop to Runnemede 69 kV		PSEG ( <del>100<u>95.85</u>%)/<u>RE</u> (4.15%)</del>
b2955	Wreck and rebuild the VFT – Warinanco – Aldene 230 kV circuit with paired conductor		<u>PSEG (95.85%) / RE</u> (4.15%)JCPL (91.73%) / NEPTUNE* (8.27%)
b2956	Replace existing cable on Cedar Grove - Jackson Rd. with 5000 kcmil XLPE cable		PSEG ( <del>100</del> 95.85%) / RE (4.15%)
b2982	Construct a 230/69 kV station at Hillsdale Substation and tie to Paramus and Dumont at 69 kV		PSEG ( <u>10095.85</u> %) <u>/ RE</u> (4.15%)
b2982.1	Install a 69 kV ring bus and one (1) 230/69 kV transformer at Hillsdale		PSEG ( <del>100</del> <u>95.85</u> %) / <u>RE</u> (4.15%)
b2982.2	Construct a 69 kV network between Paramus, Dumont, and Hillsdale Substation using existing 69 kV circuits		PSEG ( <del>10095.85</del> %) <u>/ RE</u> ( <u>4.15%)</u>
b2983	Convert Kuller Road to a 69/13 kV station		PSEG ( <del>100<u>95.85</u>%)<u>/ RE</u> (4.15%)</del>
b2983.1	Install 69 kV ring bus and two (2) 69/13 kV transformers at Kuller Road		PSEG ( <del>100<u>95.85</u>%) / RE</del> (4.15%)
b2983.2	Construct a 69 kV network between Kuller Road, Passaic, Paterson, and Harvey (new Clifton area switching station)		PSEG ( <del>100</del> 95.85%) / RE (4.15%)
b2986	Replace the existing Roseland – Branchburg – Pleasant Valley 230 kV corridor with new structures		See sub-IDs for cost allocations

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tra	nsmission Enhancements Annua	al Revenue Requirement	Responsible Customer(s)
	Roseland-Branchburg 230		
b2986.11	kV corridor rebuild		PSEG (100 <u>95.85</u> %) / <u>RE</u>
	(Roseland - Readington)		(4.15%)
	Roseland-Branchburg 230		
b2986.12	kV corridor rebuild		JCPL ( <del>100<u>58.66</u>%) / <u>PSEG</u></del>
	(Readington - Branchburg)		<u>(39.62%) / RE (1.72%)</u>
	Branchburg-Pleasant Valley		
b2986.21	230 kV corridor rebuild		<u>NEPTUNE* (0.37%) / </u> PECO
02980.21	(Branchburg - East		( <del>100<u>98.94</u>%) / PSEG (0.66%) /</del>
	Flemington)		<u>RE (0.03%)</u>
	Branchburg-Pleasant Valley		
b2986.22	230 kV corridor rebuild		NEPTUNE* ( <del>0.77<u>5.83</u>%) /</del>
02980.22	(East Flemington - Pleasant		PECO ( <del>99.23</del> 83.73%) / PSEG
	Valley)		<u>(10.01%) / RE (0.43%)</u>
	Branchburg-Pleasant Valley		JCPL ( <del>31.39<u>26.89</u>%) /</del>
	230 kV corridor rebuild		NEPTUNE* ( <del>5.26<u>4.81</u>%)</del> /
b2986.23	(Pleasant Valley -		PECO ( <del>6.68<u>8.88</u>%) / PSEG</del>
	Rocktown)		( <del>54.43<u>56.96</u>%)</del> / RE
			( <u>2.232.46</u> %)
	Branchburg-Pleasant Valley		JCPL ( <del>37.95<u>33.60</u>%) /</del>
	230 kV corridor rebuild		NEPTUNE* (4 <del>.70<u>4.40</u>%) /</del>
b2986.24	(the PSEG portion of		PECO ( <del>5.38<u>6.02</u>%) / PSEG</del>
	Rocktown - Buckingham)		(4 <u>9.9253.66</u> %) / RE
	Rocktown Duckingham)		( <u>2.05</u> 2.32%)
b3003	Construct a 230/69 kV		PSEG ( <del>100<u>95.85</u>%) / RE</del>
03003	station at Maywood		(4.15%)
	Purchase properties at		· · · · · · · · · · · · · · · · · · ·
b3003.1	Maywood to accommodate		PSEG (100 <u>95.85</u> %) / <u>RE</u>
	new construction		(4.15%)
b3003.2	Extend Maywood 230 kV		
	bus and install one (1) 230		PSEG ( <del>100<u>95.85</u>%) / RE</del>
	kV breaker		(4.15%)
1 2002 2	Install one (1) 230/69 kV		PSEG ( <del>100<u>95.85</u>%) / <u>RE</u></del>
b3003.3	transformer at Maywood		(4.15%)

Required Tra	nsmission Enhancements Annua	al Revenue Requirement	Responsible Customer(s)
b3003.4	Install Maywood 69 kV ring bus		PSEG ( <del>100</del> 95.85%) / RE (4.15%)
b3003.5	Construct a 69 kV network between Spring Valley Road, Hasbrouck Heights, and Maywood		PSEG ( <del>100<u>95.85</u>%) / RE</del> (4.15%)
b3004	Construct a 230/69/13 kV station by tapping the Mercer – Kuser Rd 230 kV circuit		PSEG ( <del>100<u>95.85</u>%) / RE</del> (4.15%)
b3004.1	Install a new Clinton 230 kV ring bus with one (1) 230/69 kV transformer Mercer - Kuser Rd 230 kV circuit		PSEG ( <del>100<u>95.85</u>%)<u>/ RE</u> (4.15%)</del>
b3004.2	Expand existing 69 kV ring bus at Clinton Ave with two (2) additional 69 kV breakers		PSEG ( <u>10095.85</u> %) <u>/ RE</u> ( <u>4.15%)</u>
b3004.3	Install two (2) 69/13 kV transformers at Clinton Ave		PSEG ( <del>100</del> 95.85%) / RE (4.15%)
b3004.4	Install 18 MVAR capacitor bank at Clinton Ave 69 kV		PSEG ( <del>100<u>95.85</u>%) / <u>RE</u> (4.15%)</del>
b3025	Construct two (2) new 69/13 kV stations in the Doremus area and relocate the Doremus load to the new stations		PSEG ( <u>10095.85</u> %) <u>/ RE</u> ( <u>4.15%)</u>

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Install a new 69/13 kV station (Vauxhall) with a ring bus configurationPSEG (10095.85%) / RE (4.15%)Install a new 69/13 kV station (19th Ave) with a ring bus configurationPSEG (10095.85%) / RE (4.15%)6025.2Install a new 69/13 kV station (19th Ave) with a ring bus configurationPSEG (10095.85%) / RE (4.15%)6025.3Construct a 69 kV network between Stanley Terrace, Springfield Road, McCarter, Federal Square, and the two new stations (Vauxhall & 19th Ave)PSEG (10095.85%) / RE (4.15%)6025.3Construct a third 69 kV supply line from Penns Neck substation to West Windsor substation a 230/69 kV Transformer No. 220.4 and its associated circuit switchers with a new larger capacity transformer with load tap changer (LTC) and new dead tank circuit bracker. Install a new 230 kV gas insulated breaker, associated disconnects, overhead bus and other necessary equipment to complete the bay within the Lawrence 230 kV switchyardPSEG (100%)b3704Replace Fair Lawn 230/138 kV Athenia Transformer No. 220-1PSEG (100%)b3706Replace Fair Lawn 230/138 kV transformer No. 220-1 with an existing 020/138 kV Athenia Transformer No. 220-1PSEG (100%)b3706Construct a third 69 kV supptyl line from Totowa substation to the customer's substation SEG (100%)	Required Tra	nsmission Enhancements Annual Revenue Requirement	Responsible Customer(s)
bus configuration         PSEG (10095.85%) / RE (4.15%)           b3025.2         Install a new 69/13 kV           b3025.2         station (19th Avc) with a ring bus configuration         PSEG (10095.85%) / RE (4.15%)           construct a 69 kV network between Stanley Terrace, Springfield Road, McCarter, Federal Square, and the two new stations (Vauxhall & 19th Avc)         PSEG (10095.85%) / RE (4.15%)           b3025.3         Construct a third 69 kV supply line from Penns Nock substation to West Windsor substation         PSEG (100%)           Replace the Lawrence switching station 230/69 kV Transformer No. 220-4 and its associated circuit switchers with a new larger capacity transformer with load tap charger (LTC) and new dead tank circuit breaker. Install a new 230 kV gas insulated breaker, associated disconneets, overhead bus and other necessary equipment to complet the bay within the Lawrence 230 kV switchyard         PSEG (100%)           b3704         Replace existing 230/138 kV Athenia Transformer No. 220-1         PSEG (100%)           b3706         Replace Fair Lawn 230/138 kV transformer No. 220-1 with an existing 0&M system spare at Burlington         PSEG (100%)           b3706         Replace Fair Lawn 230/138 kV transformer No. 220-1 with an existing 0&M substation to the customer's         PSEG (100%)		Install a new 69/13 kV	
Install a new 69/13 kV     station (19th Ave) with a ring     PSEG (40095.85%) / RE (4.15%)       b3025.2     Construct a 69 kV network     PSEG (40095.85%) / RE (4.15%)       b3025.3     Springfield Road, McCarter, Federal Square, and the two new stations (Vauxhall & 19th Ave)     PSEG (40095.85%) / RE (4.15%)       b3703     Construct a third 69 kV supply line from Penns Neck substation to West Windsor substation     PSEG (100%)       Replace the Lawrence switching station 230/69 kV Transformer No. 220-4 and its associated circuit is associated circuit boad tap charger (LTC) and new dead tank circuit breaker, Install a new 230 kV gas insulated breaker, associated disconnects, overhead bus and other necessary equipment to complete the bay within the Lawrence 230 kV switchyard     PSEG (100%)       b3704     Replace existing 230/138 kV Athenia Transformer No. 220-1     PSEG (100%)       b3705     Replace Fair Lawn 230/138 kV transformer No. 220-1 with an existing Q&M system spare at Burlington     PSEG (100%)       b3706     Construct a third 69 kV supply line from Totowa substation to the customer's     PSEG (100%)	b3025.1	station (Vauxhall) with a ring	
Install a new 69/13 kV     station (19th Avc) with a ring     PSEG (10095.85%)/RE (4.15%)       b3025.2     Construct a 69 kV network     PSEG (10095.85%)/RE (4.15%)       b3025.3     Federal Square, and the two new stations (Vauxhall & 19th Avc)     PSEG (10095.85%)/RE (4.15%)       b3025.3     Construct a third 69 kV     Supply line from Penns Neck substation to West Windsor substation to West Windsor substation       b3703     Replace the Lawrence switching station 230/69 kV     PSEG (100%)       Replace the Lawrence switching station 230/69 kV     Transformer No. 220-4 and its associated circuit switchers with a new larger capacity transformer with load tap changer (LTC) and new dead tank circuit breaker, Install a new 230 kV gas insulated breaker, associated disconnects, overhead bus and other necessary equipment to complete the bay within the Lawrence 230 kV switchyard     PSEG (100%)       b3704     Replace cristing 230/138 kV Athenia Transformer No. 220-1 with an existing Q&M system spare at Burlington     PSEG (100%)       b3706     Replace Fair Lawn 230/138 kV supply line from Totwa substation to the customer's     PSEG (100%)		bus configuration	PSEG ( <del>10095.85</del> %) / RE (4.15%)
bus configuration     PSEG (10095.85%) / RE (4.15%)       b3025.3     Construct a 69 kV network between Stanley Terrace, Springfield Road, McCarter, Federal Square, and the two new stations (Vauxhall & 19th Ave)     PSEG (10095.85%) / RE (4.15%)       b3703     Construct a third 69 kV supply line from Penns Neck substation to West Windsor substation     PSEG (100%)       Replace the Lawrence switching station 230/69 kV Transformer No. 220-4 and its associated circuit switchers with a new larger capacity transformer with load tap changer (LTC) and new dead tank circuit breaker. Install a new 230 kV gas insulated breaker, associated disconnects, overhead bus and other necessary equipment to complete the bay within the Lawrence 230 kV switchyard     PSEG (100%)       B3704     Replace Fair Lawn 230/138 kV Athenia Transformer No. 220-1     PSEG (100%)       B3705     Replace Fair Lawn 230/138 kV Athenia Transformer No. 220-1     PSEG (100%)       B3706     Replace Fair Lawn 230/138 kV system spare at Burlington     PSEG (100%)       B3716     Construct a third 69 kV supply line from Totowa substation to the customer's     PSEG (100%)		Install a new 69/13 kV	
bus configurationPSEG (10095.85%) / RE (4.15%)b3025.3Construct a 69 kV network between Stanley Terrace, Springfield Road, McCarter, Federal Square, and the two new stations (Vauxhall & 19th Ave)PSEG (10095.85%) / RE (4.15%)b3703Construct a third 69 kV subpt line from Penns Neck substation to West Windsor substationPSEG (100%)b3703Replace the Lawrence switching station 230/69 kV Transformer No. 220-4 and its associated circuit switchers with a new larger capacity transformer with load tap changer (LTC) and new dead tank circuit bracker. Install a new 230 kV gas insulated breaker, associated disconneets, overhead bus and other necessary equipment to complete the bay within the Lawrence 230 kV switchyardPSEG (100%)b3704Replace existing 230/138 kV Athenia Transformer No. 220-1PSEG (100%)b3706Replace Fair Lawn 230/138 kV transformer No. 220-1 with an existing O&M system spare at BurlingtonPSEG (100%)b3706Construct a third 69 kV supply line from Totowa substation to the customer'sPSEG (100%)	b3025.2	station (19th Ave) with a ring	
Construct a 69 kV network between Stanley Terrace, Springfield Road, McCarter, Federal Square, and the two new stations (Vauxhall & 19th Ave)PSEG (10095.85%) / RE (4.15%)b3703Construct a third 69 kV supply line from Penns Neck substation to West Windsor substation to West Windsor substation 230/69 kV Transformer No. 220-4 and its associated circuit switching station 230/69 kV Transformer with load tap changer (LTC) and new dead tank circuit breaker. Install a new 230 kV gas insulated breaker, associated disconnects, overhead bus and other necessary equipment to complete the bay within the Lawrence 230 kV switchyard 220-1PSEG (100%)B3705Replace existing 230/138 kV Athenia Transformer No. 220-1 wit han existing O&M system spare at BurlingtonPSEG (100%)B3706Replace Fair Lawn 230/138 kV transformer No. 220-1 with an existing O&M system spare at BurlingtonPSEG (100%)B3716Construct a third 69 kV supply line from Totowa substation to the customer'sPSEG (100%)			PSEG ( <del>100</del> 95.85%) / RE (4.15%)
b3025.3Springfield Road, McCarter, Federal Square, and the two new stations (Vauxhall & 19th Ave)PSEG (10095.85%) / RE (4.15%)b3703Supply line from Penns Neck substation to West Windsor substationPSEG (100%)B3703Replace the Lawrence switching station 230/69 kV Transformer No. 220-4 and its associated circuit braker. Install a new 230 kV gas insulated breaker, associated disconnects, overhead bus and other necessary equipment to complete the bay within the Lawrence 230 kV switchyardPSEG (100%)B3704Replace existing 230/138 kV Athenia Transformer No. 220-1PSEG (100%)B3705Replace Fair Lawn 230/138 kV Athenia Transformer No. 220-1PSEG (100%)B3706Replace Fair Lawn 230/138 kV system spare at BurlingtonPSEG (100%)B3716Construct a third 69 kV supply line from Totowa substation to the customer'sPSEG (100%)		Construct a 69 kV network	
b3025.3Springfield Road, McCarter, Federal Square, and the two new stations (Vauxhall & 19th Ave)PSEG (10095.85%) / RE (4.15%)b3703Supply line from Penns Neck substation to West Windsor substationPSEG (100%)B3703Replace the Lawrence switching station 230/69 kV Transformer No. 220-4 and its associated circuit braker. Install a new 230 kV gas insulated breaker, associated disconnects, overhead bus and other necessary equipment to complete the bay within the Lawrence 230 kV switchyardPSEG (100%)B3704Replace existing 230/138 kV 		between Stanley Terrace,	
b3023.3       Federal Square, and the two new stations (Vauxhall & 19th Ave)       PSEG (10095.85%) / RE (4.15%)         b3703       Construct a third 69 kV supply line from Penns Neck substation to West Windsor substation       PSEG (100%)         Replace the Lawrence switching station 230/69 kV Transformer No. 220-4 and its associated circuit switchers with a new larger capacity transformer with load tap changer (LTC) and new dead tank circuit breaker. Install a new 230 kV gas insulated breaker, associated disconnects, overhead bus and other neccessary equipment to complete the bay within the Lawrence 230 kV switchyard       PSEG (100%)         b3704       Replace existing 230/138 kV Athenia Transformer No. 220-1       PSEG (100%)         b3706       Replace Fair Lawn 230/138 kV transformer No. 220-1       PSEG (100%)         b3706       Replace Fair Lawn 230/138 kV transformer No. 220-1       PSEG (100%)         b3706       Construct a third 69 kV supply line from Totowa substation to the customer's       PSEG (100%)	1 2025 2		
new stations (Vauxhall & 19th Ave)PSEG (10095.85%) / RE (4.15%)b3703Construct a third 69 kV supply line from Penns Neck substation to West Windsor substationPSEG (100%)b3703Replace the Lawrence switching station 230/69 kV Transformer No. 220-4 and its associated circuit switchers with a new larger capacity transformer with load tap changer (LTC) and new dead tank circuit breaker. Install a new 230 kV gas insulated breaker, associated disconnects, overhead bus and other necessary equipment to complete the bay within the Lawrence 230 kV switchyardPSEG (100%)B3704Replace existing 230/138 kV Athenia Transformer No. 220-1PSEG (100%)b3706Replace Fair Lawn 230/138 kV transformer No. 220-1PSEG (100%)b3706Replace at Burlington system spare at Burlington substation to the customer'sPSEG (100%)	63025.3		
b3703     Construct a third 69 kV supply line from Penns Neck substation to West Windsor substation     PSEG (100%)       Replace the Lawrence switching station 230/69 kV Transformer No. 220-4 and its associated circuit switchers with a new larger capacity transformer with load tap changer (LTC) and new dead tank circuit breaker. Install a new 230 kV gas insulated breaker, associated disconnects, overhead bus and other necessary equipment to complete the bay within the Lawrence 230 kV switchyard     PSEG (100%)       b3705     Replace existing 230/138 kV Athenia Transformer No. 220-1     PSEG (100%)       kV transformer No. 220-1     PSEG (100%)       b3706     KV transformer No. 220-1 with an existing O&M system spare at Burlington     PSEG (100%)       b3716     Construct a third 69 kV supply line from Totowa substation to the customer's     PSEG (100%)		-	
b3703Construct a third 69 kV supply line from Penns Neck substation to West Windsor substationPSEG (100%)Replace the Lawrence switching station 230/69 kV Transformer No. 220-4 and its associated circuit switchers with a new larger capacity transformer with load tap changer (LTC) and new dead tank circuit breaker. Install a new 230 kV gas insulated breaker, associated disconnects, overhead bus and other necessary equipment to complete the bay within the Lawrence 230 kV switchyardPSEG (100%)B3705Replace Fair Lawn 230/138 kV Athenia Transformer No. 220-1PSEG (100%)Replace Fair Lawn 230/138 with an existing O&M system spare at BurlingtonPSEG (100%)B3716Construct a third 69 kV supply line from Totowa substation to the customer's		ι, ·	PSEG ( <del>10095.85</del> %) / RE (4.15%)
b3703     substation to West Windsor substation     PSEG (100%)       Replace the Lawrence switching station 230/69 kV Transformer No. 220-4 and its associated circuit switchers with a new larger capacity transformer with load tap changer (LTC) and new dead tank circuit breaker. Install a new 230 kV gas insulated breaker, associated disconnects, overhead bus and other necessary equipment to complete the bay within the Lawrence 230 kV switchyard     PSEG (100%)       B     Replace existing 230/138 kV Athenia Transformer No. 220-1     PSEG (100%)       b3706     Replace Fair Lawn 230/138 kV transformer No. 220-1 with an existing O&M system spare at Burlington     PSEG (100%)       b3716     Construct a third 69 kV supply line from Totowa substation to the customer's     PSEG (100%)		Construct a third 69 kV	
b3703     substation to West Windsor substation     PSEG (100%)       Replace the Lawrence switching station 230/69 kV Transformer No. 220-4 and its associated circuit switchers with a new larger capacity transformer with load tap changer (LTC) and new dead tank circuit breaker. Install a new 230 kV gas insulated breaker, associated disconnects, overhead bus and other necessary equipment to complete the bay within the Lawrence 230 kV switchyard     PSEG (100%)       B     Replace existing 230/138 kV Athenia Transformer No. 220-1     PSEG (100%)       b3706     Replace Fair Lawn 230/138 kV transformer No. 220-1 with an existing O&M system spare at Burlington     PSEG (100%)       b3716     Construct a third 69 kV supply line from Totowa substation to the customer's     PSEG (100%)	1 2702	supply line from Penns Neck	
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switching station 230/69 kV Transformer No. 220-4 and its associated circuit switchers with a new larger capacity transformer with load tap changer (LTC) and new dead tank circuit breaker. Install a new 230 kV gas insulated breaker, associated disconnects, overhead bus and other necessary equipment to complete the bay within the Lawrence 230 kV switchyardPSEG (100%)b3705Replace existing 230/138 kV Athenia Transformer No. 220-1PSEG (100%)b3706Replace Fair Lawn 230/138 kV transformer No. 220-1PSEG (100%)b3706System spare at BurlingtonPSEG (100%)b3716Supply line from Totowa substation to the customer'sPSEG (100%)		substation	PSEG (100%)
Transformer No. 220-4 and its associated circuit switchers with a new larger capacity transformer with load tap changer (LTC) and new dead tank circuit breaker. Install a new 230 kV gas insulated breaker, associated disconnects, overhead bus and other necessary equipment to complete the bay within the Lawrence 230 kV switchyardPSEG (100%)b3705Replace existing 230/138 kV Athenia Transformer No. 220-1PSEG (100%)b3706Replace Fair Lawn 230/138 kV transformer No. 220-1PSEG (100%)b3706Construct a third 69 kV supply line from Totowa substation to the customer'sPSEG (100%)		Replace the Lawrence	
its associated circuit switchers with a new larger capacity transformer with load tap changer (LTC) and new dead tank circuit breaker. Install a new 230 kV gas insulated breaker, associated disconnects, overhead bus and other necessary equipment to complete the bay within the Lawrence 230 kV switchyardPSEG (100%)Replace existing 230/138 kV Athenia Transformer No. 220-1PSEG (100%)Replace Fair Lawn 230/138 kV transformer No. 220-1PSEG (100%)Replace Fair Lawn 230/138 kV transformer No. 220-1PSEG (100%)B3706Replace Fair Lawn 230/138 kV transformer No. 220-1b3706Construct a third 69 kV supply line from Totowa substation to the customer's		switching station 230/69 kV	
b3704switchers with a new larger capacity transformer with load tap changer (LTC) and new dead tank circuit breaker. Install a new 230 kV gas insulated breaker, associated disconnects, overhead bus and other necessary equipment to complete the bay within the Lawrence 230 kV switchyardPSEG (100%)BReplace existing 230/138 kV Athenia Transformer No. 220-1PSEG (100%)BReplace Fair Lawn 230/138 kV transformer No. 220-1PSEG (100%)BReplace Fair Lawn 230/138 kV transformer No. 220-1PSEG (100%)BConstruct a third 69 kV supply line from Totowa substation to the customer'sPSEG (100%)		Transformer No. 220-4 and	
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breaker. Install a new 230 kV gas insulated breaker, associated disconnects, overhead bus and other necessary equipment to complete the bay within the Lawrence 230 kV switchyardPSEG (100%)Bay StructureReplace existing 230/138 kV Athenia Transformer No. 220-1PSEG (100%)Bay StructureReplace Fair Lawn 230/138 kV Athenia Transformer No. 220-1PSEG (10095.85%) / RE (4.15%)Bay StructureReplace Fair Lawn 230/138 kV transformer No. 220-1PSEG (100%)Bay StructureSystem spare at BurlingtonPSEG (100%)Bay StructureConstruct a third 69 kV supply line from Totowa substation to the customer'sPSEG (100%)		load tap changer (LTC) and	
gas insulated breaker, associated disconnects, overhead bus and other necessary equipment to complete the bay within the Lawrence 230 kV switchyardPSEG (100%)B3705Replace existing 230/138 kV Athenia Transformer No. 220-1PSEG (100%)B3706Replace Fair Lawn 230/138 kV transformer No. 220-1PSEG (100%)B3706Replace Fair Lawn 230/138 kV transformer No. 220-1PSEG (100%)B3706Replace Fair Lawn 230/138 kV transformer No. 220-1PSEG (100%)B3706Replace Fair Lawn 230/138 kV transformer No. 220-1 with an existing O&M system spare at BurlingtonPSEG (100%)B3716Supply line from Totowa substation to the customer'sPSEG (100%)	b3704	new dead tank circuit	
associated disconnects, overhead bus and other necessary equipment to complete the bay within the Lawrence 230 kV switchyardPSEG (100%)b3705Replace existing 230/138 kV Athenia Transformer No. 220-1PSEG (10095.85%) / RE (4.15%)b3706Replace Fair Lawn 230/138 kV transformer No. 220-1 with an existing O&M system spare at BurlingtonPSEG (100%)b3716Construct a third 69 kV supply line from Totowa substation to the customer'sPSEG (100%)		breaker. Install a new 230 kV	
overhead bus and other necessary equipment to complete the bay within the Lawrence 230 kV switchyardPSEG (100%)b3705Replace existing 230/138 kV Athenia Transformer No. 220-1PSEG (10095.85%) / RE (4.15%)b3706Replace Fair Lawn 230/138 kV transformer No. 220-1PSEG (10095.85%) / RE (4.15%)b3706Replace Fair Lawn 230/138 kV transformer No. 220-1PSEG (10095.85%) / RE (4.15%)b3706Construct a third 69 kV supply line from Totowa substation to the customer'sPSEG (100%)		gas insulated breaker,	
necessary equipment to complete the bay within the Lawrence 230 kV switchyardPSEG (100%)BarrowReplace existing 230/138 kV Athenia Transformer No. 220-1PSEG (10095.85%) / RE (4.15%)b3706Replace Fair Lawn 230/138 kV transformer No. 220-1PSEG (10095.85%) / RE (4.15%)b3706Replace Fair Lawn 230/138 kV transformer No. 220-1PSEG (100%)b3706Construct a third 69 kV supply line from Totowa substation to the customer'sPSEG (100%)		associated disconnects,	
complete the bay within the Lawrence 230 kV switchyardPSEG (100%)b3705Replace existing 230/138 kV Athenia Transformer No. 220-1PSEG (10095.85%) / RE (4.15%)b3706Replace Fair Lawn 230/138 kV transformer No. 220-1 with an existing O&M system spare at BurlingtonPSEG (100%)b3716Construct a third 69 kV supply line from Totowa substation to the customer'sPSEG (100%)		overhead bus and other	
Lawrence 230 kV switchyardPSEG (100%)Replace existing 230/138 kVReplace existing 230/138 kVb3705Athenia Transformer No. 220-1PSEG (10095.85%) / RE (4.15%)b3706Replace Fair Lawn 230/138 kV transformer No. 220-1 with an existing O&M system spare at BurlingtonPSEG (100%)b3716Construct a third 69 kV supply line from Totowa substation to the customer'sPSEG (100%)		necessary equipment to	
BarrowReplace existing 230/138 kV Athenia Transformer No. 220-1PSEG (10095.85%) / RE (4.15%)BarrowReplace Fair Lawn 230/138 kV transformer No. 220-1 with an existing O&M system spare at BurlingtonPSEG (100%)BarrowConstruct a third 69 kV supply line from Totowa substation to the customer'sPSEG (100%)		complete the bay within the	
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b3705Athenia Transformer No. 220-1PSEG (10095.85%) / RE (4.15%)b3706Replace Fair Lawn 230/138 kV transformer No. 220-1 with an existing O&M system spare at BurlingtonPSEG (100%)b3716Construct a third 69 kV supply line from Totowa substation to the customer'sPSEG (100%)			
b3706Replace Fair Lawn 230/138 kV transformer No. 220-1 with an existing O&M system spare at BurlingtonPSEG (100%)b3716Construct a third 69 kV supply line from Totowa substation to the customer'sPSEG (100%)	b3705	Athenia Transformer No.	
b3706kV transformer No. 220-1 with an existing O&M system spare at BurlingtonPSEG (100%)b3716Construct a third 69 kV supply line from Totowa substation to the customer'sPSEG (100%)		220-1	PSEG (10095.85%) / RE (4.15%)
b3706     with an existing O&M       system spare at Burlington     PSEG (100%)       Construct a third 69 kV     supply line from Totowa       substation to the customer's     Supply line from Totowa	b3706	Replace Fair Lawn 230/138	
with an existing O&M       system spare at Burlington       PSEG (100%)       Construct a third 69 kV       supply line from Totowa       substation to the customer's		kV transformer No. 220-1	
b3716 Construct a third 69 kV supply line from Totowa substation to the customer's		with an existing O&M	
b3716 supply line from Totowa substation to the customer's		system spare at Burlington	PSEG (100%)
^{b3/10} substation to the customer's		Construct a third 69 kV	
substation to the customer's	h2716	supply line from Totowa	
substation PSEG (100%)	03/10	substation to the customer's	
		substation	PSEG (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Baseline the two existing 1200A Bergen 138 kV circuit switchers with two 138 kV disconnect switches to achieve a minimum summer normal device rating of 298 MVA and a minimum summer emergency rating of 454 MVA       PSEG (100%)         Baseline to the two existing Medford 69 kV straight bus to seven- breaker ring bus, construct a new 230/69 kV transformer at Cox's Corner station and a new 69 kV line from Cox's Corner station to Medford station       PSEG (100%)         Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%)/ APS (5.76%) / ATSI (8.04%)/ BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / KEPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%)/ PENELEC (1.78%) / PEPCO (3.67%) / PL (4.72%) / PSEG (6.39%) / RE (0.26%)         b3800.7       Construct 38 miles of 500 kV overhead AC line between the Conastone vicinity and the Doubs substations (BGE zone portion)       Detext (1.89%) / JCPL (3.86%) / ME (1.89%) / JCPL (0.26%) / PENELEC (1.78%) / PEPCO (3.67%) / PL (4.72%) / PSEG (6.39%) / RE (0.26%)		
kV straight bus to seven- breaker ring bus, construct a new 230/69 kV transformer at Cox's Corner station and a new 69 kV line from Cox's Corner station to Medford stationPSEG (100%)Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%)/ APS (5.76%) / ATSI (8.04%)/ BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME verhead AC line between the Conastone vicinity and the Doubs substations (BGE zone portion)OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PL (4.72%) / PSEG (6.39%) / RE (0.26%)DFAX Allocation: APS (13.16%) / BGE (0.79%) / Dominion (74.28%) / DPL (0.41%) / PECO (0.07%) /Default Deminion (74.28%) / DPL (0.41%) / PECO (0.77%) /	<ul> <li>1200A Bergen 138 kV circuit switchers with two 138 kV disconnect switches to achieve a minimum summer normal device rating of 298 MVA and a minimum summer emergency rating of</li> </ul>	
b3800.7       Construct 38 miles of 500 kV overhead AC line between the Conastone vicinity and the Doubs substations (BGE zone portion)       Construct 38 miles of 500 kV (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)         DFAX Allocation: APS (13.16%) / BGE (0.79%) / Dominion (74.28%) / DPL (0.41%) / PECO (0.77%) /	b3757Convert existing Medford 69 kV straight bus to seven- breaker ring bus, construct a new 230/69 kV transformer at Cox's Corner station and a new 69 kV line from Cox's Corner station to Medford	
	b3800.7       Construct 38 miles of 500 kV overhead AC line between the Conastone vicinity and the Doubs substations (BGE zone portion)       Construct 38 miles of 500 kV (1.32%) / DL (1.71%) / Dom (13.32%) / DPL (2.60%) / EI (1.89%) / JCPL (3.86%) / N (1.90%) / NEPTUNE* (0.42 OVEC (0.08%) / PECO (5.40 PENELEC (1.78%) / PEPC (3.67%) / PPL (4.72%) / PS (6.39%) / RE (0.26%)         DFAX Allocation: APS (13.16%) / BGE (0.79%) Dominion (74.28%) / DP (0.41%) / PECO (0.77%)	<pre>%) / %) / %9%) % % % % % % % % % % % % % % % % %</pre>

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tran	nsmission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
<u>b3800.43</u>	Construct 31.5 miles of 500 kV overhead AC line between the Conastone vicinity and the Doubs substations (APS Section)		Load-Ratio Share Allocation: <u>AEC (1.65%) / AEP (13.68%) /</u> <u>APS (5.76%) / ATSI (8.04%) /</u> <u>BGE (4.11%) / ComEd (13.39%)</u> <u>/ Dayton (2.12%) / DEOK</u> (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) <u>PENELEC (1.78%) / PEPCO</u> (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)
			DFAX Allocation: <u>APS (13.16%) / BGE (0.79%) /</u> <u>Dominion (74.28%) / DPL</u> (0.41%) / PECO (0.77%) / <u>PEPCO (10.59%)</u>

PJM Open Access Transmission Tariff Schedule 12-Appendix ASection 14 – Monongahela Power Co.

Version 29.0.0 Effective January 1, 2024 (Accepted in Docket No. ER24-284-000)

#### SCHEDULE 12 – APPENDIX A

#### (14) Monongahela Power Company, <u>and</u> The Potomac Edison Company, <del>and West Penn</del> Power Company, all doing business as Allegheny Power

Required Tran	nsmission Enhancements A	nnual Revenue Requirement	Responsible Customer(s)
	Reconductor 0.33 miles of the Parkersburg - Belpre		
b2117	line and upgrade		
02117	Parkersburg terminal		
	equipment		APS (100%)
	Add 44 MVAR Cap at		AI 5 (10070)
b2118	New Martinsville		APS (100%)
	Replace Weirton 138 kV		
b2142	breaker "Wylie Ridge 210"		
	with 63 kA breaker		APS (100%)
	Replace Weirton 138 kV		
b2143	breaker "Wylie Ridge 216"		
	with 63 kA breaker		APS (100%)
	Albright Substation: Install		
	a new control building in		
	the switchyard and relocate		
b2214	controls and SCADA		
	equipment from the		
	generating station building		
	the new control center		APS (100%)
	Rivesville Switching		
	Station: Relocate controls		
b2215	and SCADA equipment		
02210	from the generating station		
	building to new control		
	building		APS (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2216	Willow Island: Install a new 138 kV cross bus at Belmont Substation and reconnect and reconfigure the 138 kV lines to facilitate removal of the		
	equipment at Willow Islam switching station	d	APS (100%)
b2235	130 MVAR reactor at Monocacy 230 kV		APS (100%)
b2260	Install a 32.4 MVAR capacitor at Bartonville		APS (100%)
b2261	Install a 33 MVAR capacitor at Damascus		APS (100%)
b2267	Replace 1000 Cu substatic conductor and 1200 amp wave trap at Marlowe	n	APS (100%)
b2268	Reconductor 6.8 miles of 138kV 336 ACSR with 33 ACSS from Double Toll Gate to Riverton	6	APS (100%)
b2299	Reconductor from Collins Ferry - West Run 138 kV with 556 ACSS		APS (100%)
b2300	Reconductor from Lake Lynn - West Run 138 kV		APS (100%)
b2342	Construct a new 138 kV switching station (Shuman Hill substation), which is next the Mobley 138 kV substation and install a 31. MVAR capacitor		APS (100%)
b2343	Install a 31.7 MVAR capacitor at West Union 138 kV substation		APS (100%)

Required Tra	nsmission Enhancements A	nnual Revenue Requirement	Responsible Customer(s)
b2433.1	Install breaker and a half 138 kV substation (Waldo Run) with 4 breakers to accommodate service to MarkWest Sherwood Facility including metering which is cut into Glen Falls Lamberton 138 kV line		APS (100%)
b2433.2	Install a 70 MVAR SVC at the new WaldoRun 138 kV substation		APS (100%)
b2433.3	Install two 31.7 MVAR capacitors at the new WaldoRun 138 kV substation		APS (100%)
b2424	Replace the Weirton 138 kV breaker 'WYLIE RID210' with 63 kA breakers		APS (100%)
b2425	Replace the Weirton 138 kV breaker 'WYLIE RID216' with 63 kA breakers		APS (100%)

# Monongahela Power Company<del>, <u>and</u> The Potomac Edison Company, <del>and West Penn Power</del> <del>Company, all</del> doing business as Allegheny Power (cont.)</del>

Required Tra		Annual Revenue Requirement	Responsible Customer(s)
	Replace the Oak Grove 13	8	
b2426	kV breaker 'OG1' with 63		
	kA breakers		APS (100%)
	Replace the Oak Grove 13	8	
b2427	kV breaker 'OG2' with 63		
	kA breakers		APS (100%)
	Replace the Oak Grove 13	8	
b2428	kV breaker 'OG3' with 63		
	kA breakers		APS (100%)
	Replace the Oak Grove 13	8	
b2429	kV breaker 'OG4' with 63		
	kA breakers		APS (100%)
	Replace the Oak Grove 13	8	
b2430	kV breaker 'OG5' with 63		
	kA breakers		APS (100%)
	Replace the Oak Grove 13	8	
b2431	kV breaker 'OG6' with 63		
	kA breakers		APS (100%)
	Replace the Ridgeley 138		
b2432	kV breaker 'RC1' with a 40	)	
	kA rated breaker		APS (100%)
	Replace the Ringgold 138		
b2472	kV breaker 'RCM1' with		
	40kA breakers		APS (100%)
	Replace the Ringgold 138		
b2473	kV breaker '#4 XMFR'		
	with 40kA breakers		APS (100%)
	Construct a new line		
b2475	between Oak Mound 138		
024/3	kV substation and Waldo		
	Run 138 kV substation		APS (100%)
	Construct a new 138 kV		
	substation (Shuman Hill		
b2545.1	substation) connected to the	e	
	Fairview – Willow Island		
	(84) 138 kV line		APS (100%)

<del>Customer(s)</del>		
	Replace Yukon 138 kV	
<del>b2666.1</del>	breaker "Y-11(CHARL1)"	
	with an 80 kA breaker	APS (100%)
	Replace Yukon 138 kV	
<del>b2666.2</del>	breaker "Y-13(BETHEL)"	
	with an 80 kA breaker	APS (100%)
	Replace Yukon 138 kV	
<del>b2666.3</del>	breaker "Y-18(CHARL2)"	
	with an 80 kA breaker	APS (100%)
	Replace Yukon 138 kV	
<del>b2666.4</del>	breaker "Y-19(CHARL2)"	
	with an 80 kA breaker	APS (100%)
	Replace Yukon 138 kV	
<del>b2666.5</del>	breaker "Y-4(4B-2BUS)"	
	with an 80 kA breaker	APS (100%)
	Replace Yukon 138 kV	
<del>b2666.6</del>	breaker "Y-5(LAYTON)"	
	with an 80 kA breaker	APS (100%)
	Replace Yukon 138 kV	
<del>b2666.7</del>	breaker "Y-8(HUNTING)"	
	with an 80 kA breaker	APS (100%)
	Replace Yukon 138 kV	
<del>b2666.8</del>	breaker "Y-9(SPRINGD)"	
	with an 80 kA breaker	APS (100%)
	Replace Yukon 138 kV	
<del>b2666.9</del>	breaker "Y-10(CHRL-SP)"	
	with an 80 kA breaker	APS (100%)
	Replace Yukon 138 kV	
<del>b2666.10</del>	breaker "Y-12(1-1BUS)"	
	with an 80 kA breaker	APS (100%)
	Replace Yukon 138 kV	
<del>b2666.11</del>	breaker "Y-14(4-1BUS)"	
	with an 80 kA breaker	APS (100%)

## Monongahela Power Company<del>, and</del> The Potomac Edison Company, <del>and West Penn Power</del> <del>Company, all</del> doing business as Allegheny Power (cont.)

Required Tra	insmission Enhancements	Annual Revenue Requirem	nent Responsible Customer(s)
	Install a ring bus station		
	with five active positions		
b2545.2	and two 52.8 MVAR		
	capacitors with 0.941 mH		
	reactors		APS (100%)
	Install a +90/-30 MVAR		
b2545.3	SVC protected by a 138 kV		
	breaker		APS (100%)
	Remove the 31.7 MVAR		
b2545.4	capacitor bank at Mobley		
	138 kV		APS (100%)
	Eliminate clearance de-rate		
	on Wylie Ridge – Smith		
	138 kV line and upgrade		
b2548	terminals at Smith 138 kV,		APS (100%)
	new line ratings 294 MVA		
	(Rate A)/350 MVA (Rate		
	B)		
	Change CT Ratio at Seneca		
b2672	Caverns from 120/1 to		
02072	160/1 and adjust relay		
	settings accordingly		APS (100%)
		1	AEP (12.91%) / APS (19.04%)
	Carroll Substation: Replace		/ ATSI (1.24%) / ComEd
10,000,0	the Germantown 138 kV		(0.35%) / Dayton (1.45%) /
b2688.3	wave trap, upgrade the bus		DEOK (2.30%) / DL (1.11%) /
	conductor and adjust CT		Dominion (44.85%) / EKPC
	ratios		(0.78%) / PEPCO (15.85%) /
			RECO (0.12%)
b2700	Remove existing Black Oak		A DC (1009/)
	SPS		APS (100%)
			AEP (6.46%) / APS (8.74%) /
	Reconfigure the Ringgold		BGE (19.74%) / ComEd
b2743.6	230 kV substation to double		(2.16%) / Dayton $(0.59%)$ /
	bus double breaker scheme		DEOK (1.02%) / DL (0.01%) /
			Dominion (39.95%) / EKPC
			(0.45%) / PEPCO (20.88%)

Required Tra	nsmission Enhancements	Annual Revenue Requirement	t Responsible Customer(s)
b2743.6.1	Replace the two Ringgold 230/138 kV transformers		AEP (6.46%) / APS (8.74%) / BGE (19.74%) / ComEd (2.16%) / Dayton (0.59%) / DEOK (1.02%) / DL (0.01%) / Dominion (39.95%) / EKPC (0.45%) / PEPCO (20.88%)
b2743.7	Rebuild/Reconductor the Ringgold – Catoctin 138 kV circuit and upgrade terminal equipment on both ends		AEP (6.46%) / APS (8.74%) / BGE (19.74%) / ComEd (2.16%) / Dayton (0.59%) / DEOK (1.02%) / DL (0.01%) / Dominion (39.95%) / EKPC (0.45%) / PEPCO (20.88%)
b2747.1	Relocate the FirstEnergy Pratts 138 kV terminal CVTs at Gordonsville substation to allow for the installation of a new motor operated switch being installed by Dominion		APS (100%)
b2764	Upgrade Fairview 138 kV breaker risers and disconnect leads; Replace 500 CU breaker risers and 556 ACSR disconnect leads with 795 ACSR		APS (100%)
b2964.1	Replace terminal equipment at Pruntytown and Glen Falls 138 kV station		APS (100%)
b2964.2	Reconductor approximately 8.3 miles of the McAlpin - White Hall Junction 138 kV circuit		APS (100%)

Required Tra	insmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2970	Ringgold – Catoctin Solution		APS (100%)
b2970.1	Install two new 230 kV positions at Ringgold for 230/138 kV transformers		APS (100%)
b2970.2	Install new 230 kV position for Ringgold – Catoctin 230 kV line		APS (100%)
b2970.3	Install one new 230 kV breaker at Catoctin substation		APS (100%)
b2970.4	Install new 230/138 kV transformer at Catoctin substation. Convert Ringgold – Catoctin 138 kV line to 230 kV operation		APS (100%)

Monongahela Power Company<del>, and</del> The Potomac Edison Company, <del>and West Penn Power</del> <del>Company, all</del> doing business as Allegheny Power (cont.)

Required Tra	ansmission Enhancements Annu	al Revenue Requirement	Responsible Customer(s
1.2070 5	Convert Garfield 138/12.5 kV		
b2970.5	substation to 230/12.5 kV		APS (100%)
1 2000	Construct new Flint Run		See sub-IDs for cost
b2996	500/138 kV substation		allocations
	Construct a new 500/138 kV substation as a 4-breaker ring bus with expansion plans for		
	double-breaker-double-bus on the 500 kV bus and breaker-and-		
	a-half on the 138 kV bus to provide EHV source to the Marcellus shale load growth		
	area. Projected load growth of additional 160 MVA to current		
	plan of 280 MVA, for a total load of 440 MVA served from		
b2996.1	Waldo Run substation. Construct additional 3-breaker string at		
	Waldo Run 138 kV bus. Relocate the Sherwood #2 line		
	terminal to the new string. Construct two single circuit Flint Run - Waldo Run 138 kV lines		
	using 795 ACSR (approximately 3 miles). After terminal		
	relocation on new 3-breaker		
	string at Waldo Run, terminate new Flint Run 138 kV lines onto		
	the two open terminals		APS (100%)
	Loop the Belmont – Harrison		110 (10070)
	500  kV line into and out of the		
	new Flint Run 500 kV substation		
b2996.2	(less than 1 mile). Replace		
52770.2	primary relaying and carrier sets		
	on Belmont and Harrison 500		
	kV remote end substations		APS (100%)
	Upgrade two (2) existing 138 kV		110 (10070)
	breakers (Rider 50 and #1/4		
b2996.3	transformer breaker) at Glen		
	Falls with 63 kA 3000A units		APS (100%)
			1115(10070)

Required Tr	ansmission Enhancements Ar	nual Revenue Requirement	
	Reconductor the Blairsville East		
	to Social Hall 138 kV line and		
	upgrade terminal equipment -		
	AP portion. 4.8 miles total. The		
	new conductor will be 636		
<del>b3007.1</del>	ACSS replacing the existing		
	636 ACSR conductor. At Social		
	Hall, meters, relays, bus		
	conductor, a wave trap, circuit		
	breaker and disconnects will be		
	replaced		APS (100%)
	Replace terminal equipment at		
	Keystone and Cabot 500 kV		
	buses. At Keystone, bus tubing		
<del>b3010</del>	and conductor, a wave trap, and		
	meter will be replaced. At		
	Cabot, a wave trap and bus		
	conductor will be replaced		APS (100%)
	Construct new Route 51		
<del>b3011.1</del>	substation and connect 10 138		
	kV lines to new substation		<del>DL (100%)</del>
	Upgrade terminal equipment at		
	Yukon to increase rating on		
<del>b3011.2</del>	Yukon to Charleroi #2 138 kV		
	line (New Yukon to Route 51		APS (22.82%) / DL
	#4 138 kV line)		<del>(77.18%)</del>

Required That	isinission Linancements – Annuai Nevenue Neguneme	ni Responsione Customer(s)
	Upgrade terminal equipment	
<del>b3011.3</del>	at Yukon to increase rating	
05011.5	on Yukon to Route 51 #1 138	
	kV line	<del>DL (100%)</del>
	Upgrade terminal equipment	
<del>b3011.4</del>	at Yukon to increase rating	
<del>03011.4</del>	on Yukon to Route 51 #2 138	
	kV line	<del>DL (100%)</del>
	Upgrade terminal equipment	
1.2011.5	at Yukon to increase rating	
<del>b3011.5</del>	on Yukon to Route 51 #3 138	APS (22.82%) / DL
	kV line	(77.18%)
	Upgrade remote end relays	
<del>b3011.6</del>	for Yukon Allenport Iron	
	Bridge 138 kV line	<del>DL (100%)</del>
	Construct two new 138 kV	
	ties with the single structure	
	from APS's new substation	
	to Duquesne's new	
<del>b3012.1</del>	substation. The estimated line	
	length is approximately 4.7	
	miles. The line is planned to	
	use multiple ACSS	ATSI (38.21%) / DL
	conductors per phase	<del>(61.79%)</del>
	Construct a new Elrama	(******)
	Route 51 138 kV No.3 line:	
	reconductor 4.7 miles of the	
1.0010.0	existing line, and construct	
<del>b3012.3</del>	1.5 miles of a new line to the	
	reconductored portion. Install	
	a new line terminal at APS	
	Route 51 substation	<del>DL (100%)</del>
L		== ()

	Upgrade substation	
b3028	disconnect leads at William	
	138 kV substation	APS (100%)
b3051.1	Ronceverte cap bank and	
03031.1	terminal upgrades	APS (100%)
	Install a 138 kV capacitor	
b3052	(29.7 MVAR effective) at	
	West Winchester 138 kV	APS (100%)
b3079	Replace the Wylie Ridge	ATSI (72.30%) / DL
	500/345 kV transformer #7	(27.70%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

requireu Ha	nsmission Enhancements Annual F	cevenue requirement	- Responsible Customer(s)
	Reconductor the Yukon		
	Westraver 138 kV line (2.8		
<del>b3068</del>	miles), replace the line drops		
0.5000	and relays at Yukon 138 kV		
	and replace switches at		
	Westraver 138 kV bus		APS (100%)
	Reconductor the Westraver		
	Route 51 138 kV line (5.63		
<del>b3069</del>	miles) and replace line		
	switches at Westraver 138		
	kV bus		APS (100%)
	Reconductor the Yukon		
	Route 51 #1 138 kV line (8		
<del>b3070</del>	miles), replace the line drops,		
	relays and line disconnect		
	switch at Yukon 138 kV bus		APS (100%)
	Reconductor the Yukon –		
<del>b3071</del>	Route 51 #2 138 kV line (8		
0.5071	miles) and replace relays at		
	Yukon 138 kV bus		APS (100%)
	Reconductor the Yukon		
<del>b3072</del>	Route 51 #3 138 kV line (8		
03072	miles) and replace relays at		
	Yukon 138 kV bus		APS (100%)
<del>b3074</del>	Reconductor the 138 kV bus		
	at Armstrong substation		APS (100%)
	Replace the 500/138 kV		
<del>b3075</del>	transformer breaker and		
05075	reconductor 138 kV bus at		
	Cabot substation		APS (100%)
	Reconductor the Edgewater		
<del>b3076</del>	Loyalhanna 138 kV line		
	<del>(0.67 mile)</del>		APS (100%)
<del>b3079</del>	Replace the Wylie Ridge		ATSI (72.30%) / DL
0.5077	500/345 kV transformer #7		<del>(27.70%)</del>
	Reconductor the 138 kV bus		
<del>b3083</del>	at Butler and reconductor the		
03005	138 kV bus and replace line		
	trap at Karns City		APS (100%)

nsmission Ennancements Annual Revenue Requirement	
8 8	
Smith 138 kV station	APS (100%)
Upgrade Cherry Run and Morgan	
terminals to make the transmission	
line the limiting component	APS (100%)
Install 138 kV, 36 MVAR capacitor	
and a 5 uF reactor protected by a	
138 kV capacitor switcher. Install a	
breaker on the 138 kV Junction	
terminal. Install a 138 kV 3.5 uF	
reactor on the existing Hardy 138	
kV capacitor	APS (100%)
Reconfigure Stonewall 138 kV	
substation from its current	
configuration to a six-breaker,	
breaker-and-a-half layout and add	
two (2) 36 MVAR capacitors with	
capacitor switchers	APS (100%)
Reconductor the existing 556.5	
954 45/7 ACSR to achieve 308/376	
MVA SN/SE and 349/445 MVA	
WN/WE ratings. Replace the remote	
	APS (100%)
	````````````````````````````````
French's Mill and Junction 138 kV	
substations	APS (100%)
	Relocate 34.5 kV lines from generating station roof R. Paul Smith 138 kV stationUpgrade Cherry Run and Morgan terminals to make the transmission line the limiting componentInstall 138 kV, 36 MVAR capacitor and a 5 uF reactor protected by a 138 kV capacitor switcher. Install a breaker on the 138 kV Junction terminal. Install a 138 kV 3.5 uF reactor on the existing Hardy 138 kV capacitorReconfigure Stonewall 138 kV substation from its current configuration to a six-breaker, breaker-and-a-half layout and add two (2) 36 MVAR capacitors with capacitor switchersReconductor the existing 556.5 ACSR line segments on the Messick Road – Ridgeley 138 kV line with 954 45/7 ACSR to achieve 308/376 MVA SN/SE and 349/445 MVA WN/WE ratings. Replace the remote end equipment for the line. The total length of the line is 5.02 milesReplace terminal equipment at French's Mill and Junction 138 kV

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Trai	ismission Enhancements Annual Rev	enue Requirement	Responsible C	usioniei(s)
	At Bedington substation: Replace substation conductor,			
	wave trap, Current Transformers			
	(CT's) and upgrade relaying			
	At Cherry Run substation:			
1 27 42	Replace substation conductor,			
b3743	wave trap, CT's, disconnect			
	switches, circuit breaker and			
	upgrade relaying			
	At Marlowe substation: Replace			
	substation conductor, wave trap,			
	CT's and upgrade relaying			APS (100%)
	Install redundant relaying at			
b3746	Meadow Brook 500 kV			
	substation			APS (100%)
b3747	Install redundant relaying at			
	Bedington 500 kV substation			APS (100%)
	Reconductor 27.3 miles of the			
	Messick Road – Morgan 138 kV			
	line from 556 ACSR to 954			
	ACSR. At Messick Road			
b3772	substation, replace 138 kV wave			
	trap, circuit breaker, CT's,			
	disconnect switch, and substation conductor and			
	upgrade relaying. At Morgan			APS(100%)
	substation, upgrade relaying			APS (100%)

PJM Open Access Transmission Tariff Schedule 12-Appendix A Section 14 – Monongahela Power Co.

Version 31.0.0 Effective January 1, 2024 (Accepted in Docket No. ER24-786-000)

SCHEDULE 12 – APPENDIX A

Required Tran	smission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
10117	Reconductor 0.33 miles of the Parkersburg - Belpre	of	
b2117	line and upgrade		
	Parkersburg terminal equipment		APS (100%)
	Add 44 MVAR Cap at		7 H B (10070)
b2118	New Martinsville		APS (100%)
b2120	Six-Wire Lake Lynn - Lardin 138 kV circuits		APS (100%)
b2142	Replace Weirton 138 kV breaker "Wylie Ridge 21 with 63 kA breaker		APS (100%)
b2143	Replace Weirton 138 kV breaker "Wylie Ridge 21 with 63 kA breaker		APS (100%)
b2174.8	Replace relays at Mitcher substation	11	APS (100%)
b2174.9	Replace primary relay at Piney Fork substation		APS (100%)
b2174.10	Perform relay setting changes at Bethel Park substation		APS (100%)
b2213	Armstrong Substation: Relocate 138 kV controls from the generating static building to new control building		APS (100%)
b2214	Albright Substation: Insta a new control building in the switchyard and reloca controls and SCADA equipment from the generating station building the new control center	ate	APS (100%)
b2215	Rivesville Switching Station: Relocate control and SCADA equipment from the generating static building to new control building		APS (100%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Willow Island: Install a new 138 kV cross bus at		
10010	Belmont Substation and reconfigure		
b2216	the 138 kV lines to		
	facilitate removal of the		
	equipment at Willow Islam	ld	
	switching station		APS (100%)
b2235	130 MVAR reactor at		
	Monocacy 230 kV		APS (100%)
b2260	Install a 32.4 MVAR		A DC (1000/)
	capacitor at Bartonville		APS (100%)
b2261	Install a 33 MVAR capacitor at Damascus		APS (100%)
	Replace 1000 Cu substatio	nn l	AI 5 (10070)
b2267	conductor and 1200 amp	211	
02207	wave trap at Marlowe		APS (100%)
	Reconductor 6.8 miles of		
1 22 (0	138kV 336 ACSR with 33	6	
b2268	ACSS from Double Toll		
	Gate to Riverton		APS (100%)
	Reconductor from Collins		
b2299	Ferry - West Run 138 kV		
	with 556 ACSS		APS (100%)
b2300	Reconductor from Lake		
	Lynn - West Run 138 kV		APS (100%)
1-2241	Install 39.6 MVAR		
b2341	Capacitor at Shaffers Corner 138 kV Substation		APS (100%)
	Construct a new 138 kV		AFS (100%)
	switching station (Shuman		
	Hill substation), which is		
b2342	next the Mobley 138 kV		
	substation and install a 31.	7	
	MVAR capacitor		APS (100%)
	Install a 31.7 MVAR		
b2343	capacitor at West Union		
	138 kV substation		APS (100%)

Required Tra	nsmission Enhancements An	nual Revenue Requirement	Responsible Customer(s)
b2362	Install a 250 MVAR SVC		
02302	at Squab Hollow 230 kV		APS (100%)
	Install a 230 kV breaker at		
b2362.1	Squab Hollow 230 kV		
	substation		APS (100%)
	Convert the Shingletown		
b2363	230 kV bus into a 6 breaker		
	ring bus		APS (100%)
	Install a new 230/138 kV		
	transformer at Squab		
	Hollow 230 kV substation.		
1.00.04	Loop the Forest - Elko 230		
b2364	kV line into Squab Hollow.		
	Loop the Brookville - Elko		
	138 kV line into Squab		
	Hollow		APS (100%)
	Install a 44 MVAR 138 kV		
b2412	capacitor at the Hempfield		
	138 kV substation		APS (100%)
	Install breaker and a half		
	138 kV substation (Waldo		
	Run) with 4 breakers to		
1 0 4 0 0 1	accommodate service to		
b2433.1	MarkWest Sherwood		
	Facility including metering		
	which is cut into Glen Falls		
	Lamberton 138 kV line		APS (100%)
	Install a 70 MVAR SVC at		
b2433.2	the new WaldoRun 138 kV		
	substation		APS (100%)
	Install two 31.7 MVAR		XZ
10400.0	capacitors at the new		
b2433.3	WaldoRun 138 kV		
	substation		APS (100%)
	Replace the Weirton 138		
1.0.40.4	kV breaker 'WYLIE		
b2424	RID210' with 63 kA		
	breakers		APS (100%)
	Replace the Weirton 138		, , , , , , , , , , , , , , , , , , , ,
1-2425	kV breaker 'WYLIE		
b2425	RID216' with 63 kA		
	breakers		APS (100%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Replace the Oak Grove 13	8	
b2426	kV breaker 'OG1' with 63		
	kA breakers		APS (100%)
	Replace the Oak Grove 13	8	
b2427	kV breaker 'OG2' with 63		
	kA breakers		APS (100%)
	Replace the Oak Grove 13	8	
b2428	kV breaker 'OG3' with 63		
	kA breakers		APS (100%)
	Replace the Oak Grove 13	8	
b2429	kV breaker 'OG4' with 63		
	kA breakers		APS (100%)
	Replace the Oak Grove 13	8	
b2430	kV breaker 'OG5' with 63		
	kA breakers		APS (100%)
	Replace the Oak Grove 13	8	
b2431	kV breaker 'OG6' with 63		
	kA breakers		APS (100%)
	Replace the Ridgeley 138		
b2432	kV breaker 'RC1' with a 40)	
	kA rated breaker		APS (100%)
	Replace the Cabot 138kV		
b2440	breaker 'C9-KISKI VLY'		
	with 63kA		APS (100%)
	Replace the Ringgold 138		
b2472	kV breaker 'RCM1' with		
	40kA breakers		APS (100%)
	Replace the Ringgold 138		
b2473	kV breaker '#4 XMFR'		
	with 40kA breakers		APS (100%)
	Construct a new line		
b2475	between Oak Mound 138		
02475	kV substation and Waldo		
	Run 138 kV substation		APS (100%)
	Construct a new 138 kV		
	substation (Shuman Hill		
b2545.1	substation) connected to th	e	
	Fairview – Willow Island		
	(84) 138 kV line		APS (100%)

Required Tr	ansmission Enhancements Annual Revenue Requir	ement Responsible Customer(s)
	Install a ring bus station with five	
b2545.2	active positions and two 52.8	
02343.2	MVAR capacitors with 0.941 mH	
	reactors	APS (100%)
b2545.3	Install a +90/-30 MVAR SVC	
02343.3	protected by a 138 kV breaker	APS (100%)
b2545.4	Remove the 31.7 MVAR capacitor	
02343.4	bank at Mobley 138 kV	APS (100%)
	Install a 51.8 MVAR (rated) 138	
b2546	kV capacitor at Nyswaner 138 kV	
	substation	APS (100%)
b2547.1	Construct a new 138 kV six breaker	
02347.1	ring bus Hillman substation	APS (100%)
b2547.2	Loop Smith- Imperial 138 kV line	
02347.2	into the new Hillman substation	APS (100%)
b2547.3	Install +125/-75 MVAR SVC at	
02347.3	Hillman substation	APS (100%)
b2547.4	Install two 31.7 MVAR 138 kV	
02377.7	capacitors	APS (100%)
	Eliminate clearance de-rate on	
	Wylie Ridge – Smith 138 kV line	
b2548	and upgrade terminals at Smith 138	
	kV, new line ratings 294 MVA	
	(Rate A)/350 MVA (Rate B)	APS (100%)
	Relocate All Dam 6 138 kV line	
b2612.1	and the 138 kV line to AE units	
	1&2	APS (100%)
	Install 138 kV, 3000A bus-tie	
b2612.2	breaker in the open bus-tie position	
02012.2	next to the Shaffers corner 138 kV	
	line	APS (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2612.3	Install a 6-pole manual switch, foundation, control cable, and all associated		
	facilities		APS (100%)
b2666	Yukon 138 kV Breaker Replacement		APS (100%)
b2666.1	Replace Yukon 138 kV breaker "Y-11(CHARL1)" with an 80 kA breaker		APS (100%)
b2666.2	Replace Yukon 138 kV breaker "Y-13(BETHEL)" with an 80 kA breaker		APS (100%)
b2666.3	Replace Yukon 138 kV breaker "Y-18(CHARL2)" with an 80 kA breaker		APS (100%)
b2666.4	Replace Yukon 138 kV breaker "Y-19(CHARL2)" with an 80 kA breaker		APS (100%)
b2666.5	Replace Yukon 138 kV breaker "Y-4(4B-2BUS)" with an 80 kA breaker		APS (100%)
b2666.6	Replace Yukon 138 kV breaker "Y-5(LAYTON)" with an 80 kA breaker		APS (100%)
b2666.7	Replace Yukon 138 kV breaker "Y-8(HUNTING)" with an 80 kA breaker		APS (100%)
b2666.8	Replace Yukon 138 kV breaker "Y-9(SPRINGD)" with an 80 kA breaker		APS (100%)
b2666.9	Replace Yukon 138 kV breaker "Y-10(CHRL-SP)" with an 80 kA breaker		APS (100%)
b2666.10	Replace Yukon 138 kV breaker "Y-12(1-1BUS)" with an 80 kA breaker		APS (100%)
b2666.11	Replace Yukon 138 kV breaker "Y-14(4-1BUS)" with an 80 kA breaker		APS (100%)

Required Tra	nsmission Enhancements	Annual Revenue Require	ement Responsible Customer(s)
	Replace Yukon 138 kV		
b2666.12	breaker "Y-2(1B-BETHE)"		
	with an 80 kA breaker		APS (100%)
	Replace Yukon 138 kV		<u>`</u>
b2666.13	breaker "Y-21(SHEPJ)"		
	with an 80 kA breaker		APS (100%)
	Replace Yukon 138 kV		<u> </u>
12666.14	breaker		
b2666.14	"Y-22(SHEPHJT)" with an		
	80 kA breaker		APS (100%)
	Change CT Ratio at Seneca		
1.2(72	Caverns from 120/1 to		
b2672	160/1 and adjust relay		
	settings accordingly		APS (100%)
			AEP (12.91%) / APS (19.04%)
	Carroll Substation: Replace		/ ATSI (1.24%) / ComEd
	the Germantown 138 kV		(0.35%) / Dayton (1.45%) /
b2688.3	wave trap, upgrade the bus		DEOK (2.30%) / DL (1.11%) /
	conductor and adjust CT		Dominion (44.85%) / EKPC
	ratios		(0.78%) / PEPCO (15.85%) /
			RECO (0.12%)
b2689.3	Upgrade terminal		
02089.3	equipment at structure 27A		APS (100%)
	Upgrade 138 kV substation		
	equipment at Butler, Shanor		
	Manor and Krendale		
b2696	substations. New rating of		
	line will be 353 MVA		
	summer normal/422 MVA		
	emergency		APS (100%)
b2700	Remove existing Black Oak		
02700	SPS		APS (100%)
			AEP (6.46%) / APS (8.74%) /
	Deconfigure the Dinggold		BGE (19.74%) / ComEd
b2743.6	Reconfigure the Ringgold 230 kV substation to double		(2.16%) / Dayton (0.59%) /
02/43.0	bus double breaker scheme		DEOK (1.02%) / DL (0.01%) /
	bus double bleaker scheme		Dominion (39.95%) / EKPC
			(0.45%) / PEPCO (20.88%)

Required Tra	nsmission Enhancements	Annual Revenue Requirement Responsible Customer(s
b2743.6.1	Replace the two Ringgold 230/138 kV transformers	AEP (6.46%) / APS (8.74%) / BGE (19.74%) / ComEd (2.16%) / Dayton (0.59%) / DEOK (1.02%) / DL (0.01%) / Dominion (39.95%) / EKPC (0.45%) / PEPCO (20.88%)
b2743.7	Rebuild/Reconductor the Ringgold – Catoctin 138 kV circuit and upgrade terminal equipment on both ends	AEP (6.46%) / APS (8.74%) / BGE (19.74%) / ComEd (2.16%) / Dayton (0.59%) / DEOK (1.02%) / DL (0.01%) / Dominion (39.95%) / EKPC (0.45%) / PEPCO (20.88%)
b2747.1	Relocate the FirstEnergy Pratts 138 kV terminal CVTs at Gordonsville substation to allow for the installation of a new motor operated switch being installed by Dominion	APS (100%)
b2763	Replace the breaker risers and wave trap at Bredinville 138 kV substation on the Cabrey Junction 138 kV terminal	APS (100%)
b2764	Upgrade Fairview 138 kV breaker risers and disconnect leads; Replace 500 CU breaker risers and 556 ACSR disconnect leads with 795 ACSR	APS (100%)
b2964.1	Replace terminal equipment at Pruntytown and Glen Falls 138 kV station	APS (100%)
b2964.2	Reconductor approximately 8.3 miles of the McAlpin - White Hall Junction 138 kV circuit	APS (100%)

Required Tra	insmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2965	Reconductor the Charleroi – Allenport 138 kV line with 954 ACSR conductor. Replace breaker risers at Charleroi and Allenport		APS (37.15<u>48.46</u>%) / DL (62.85 <u>51.54</u> %)
b2966	Reconductor the Yukon – Smithton – Shepler Hill Jct 138 kV line with 795 ACSS conductor. Replace Line Disconnect Switch at Yukon		APS (100%)
b2966.1	Reconductor the Yukon - Smithton - Shepler Hill Jct 138 kV line and replace terminal equipment as necessary to achieve required rating		APS (100%)
b2967	Convert the existing 6 wire Butler - Shanor Manor - Krendale 138 kV line into two separate 138 kV lines. New lines will be Butler - Keisters and Butler - Shanor Manor - Krendale 138 kV		APS (100%)
b2970	Ringgold – Catoctin Solution		APS (100%)
b2970.1	Install two new 230 kV positions at Ringgold for 230/138 kV transformers		APS (100%)
b2970.2	Install new 230 kV position for Ringgold – Catoctin 230 kV line		APS (100%)
b2970.3	Install one new 230 kV breaker at Catoctin substation		APS (100%)
b2970.4	Install new 230/138 kV transformer at Catoctin substation. Convert Ringgold – Catoctin 138 kV line to 230 kV operation		APS (100%)

	nission Enhancements Annu	al Revenue Requirement	Responsible Customer(s)
b2970.5	Convert Garfield 138/12.5 kV		
02970.3 si	ubstation to 230/12.5 kV		APS (100%)
1,200C C	Construct new Flint Run		See sub-IDs for cost
b2996 5	00/138 kV substation		allocations
	Construct a new 500/138 kV		
รเ	ubstation as a 4-breaker ring		
br	us with expansion plans for		
de	ouble-breaker-double-bus on		
th	ne 500 kV bus and breaker-and-		
a·	-half on the 138 kV bus to		
p :	rovide EHV source to the		
Ň	farcellus shale load growth		
aı	rea. Projected load growth of		
	dditional 160 MVA to current		
p	lan of 280 MVA, for a total		
-	bad of 440 MVA served from		
b2996.1 W	Valdo Run substation. Construct		
	dditional 3-breaker string at		
	Valdo Run 138 kV bus.		
	elocate the Sherwood #2 line		
	erminal to the new string.		
	Construct two single circuit Flint		
	un - Waldo Run 138 kV lines		
	sing 795 ACSR (approximately		
	miles). After terminal		
	elocation on new 3-breaker		
	tring at Waldo Run, terminate		
	ew Flint Run 138 kV lines onto		
	ne two open terminals		APS (100%)
	oop the Belmont – Harrison		111.5 (10070)
	00 kV line into and out of the		
	ew Flint Run 500 kV substation		
	ess than 1 mile). Replace		
	rimary relaying and carrier sets		
	n Belmont and Harrison 500		
	V remote end substations		APS (100%)
	Upgrade two (2) existing 138 kV		
h	reakers (Rider 50 and $\#1/4$		
n/uun i	ransformer breaker) at Glen		
	alls with 63 kA 3000A units		APS (100%)

Required Tr	ansmission Enhancements A	nnual Revenue Requirement	Responsible Customer(s)
b3005	Reconductor 3.1 mile 556 ACSR portion of Cabot to Butler 138 kV with 556 ACSS and upgrade terminal equipment. 3.1 miles of line		
	will be reconductored for this project. The total length of the line is 7.75 miles		APS (100%)
b3006	Replace four Yukon 500/138 kV transformers with three transformers with higher rating and reconfigure 500 kV bus		APS (63.21<u>56.81</u>%) / DL (36.79<u>43.19</u>%)
b3007.1	Reconductor the Blairsville East to Social Hall 138 kV line and upgrade terminal equipment - AP portion. 4.8 miles total. The new conductor will be 636 ACSS replacing the existing 636 ACSR conductor. At Social Hall, meters, relays, bus conductor, a wave trap, circuit breaker and disconnects will be replaced		APS (100%)
b3010	Replace terminal equipment at Keystone and Cabot 500 kV buses. At Keystone, bus tubing and conductor, a wave trap, and meter will be replaced. At Cabot, a wave trap and bus conductor will be replaced		APS (100%)
b3011.1	Construct new Route 51 substation and connect 10 138 kV lines to new substation		DL (100%)
b3011.2	Upgrade terminal equipment at Yukon to increase rating on Yukon to Charleroi #2 138 kV line (New Yukon to Route 51 #4 138 kV line)		APS (22.829.17 %) / DL (77.18<u>90.83</u>%)

	Upgrade terminal equipment	
b3011.3	at Yukon to increase rating	
05011.5	on Yukon to Route 51 #1 138	
	kV line	DL (100%)
	Upgrade terminal equipment	
b3011.4	at Yukon to increase rating	
03011.4	on Yukon to Route 51 #2 138	
	kV line	DL (100%)
	Upgrade terminal equipment	
b3011.5	at Yukon to increase rating	
03011.3	on Yukon to Route 51 #3 138	APS (22.82<u>9.17</u>%) /
	kV line	DL (77.18<u>90.83</u>%)
	Upgrade remote end relays	
b3011.6	for Yukon – Allenport – Iron	
	Bridge 138 kV line	 DL (100%)
	Construct two new 138 kV	
	ties with the single structure	
	from APS's new substation	
	to Duquesne's new	
b3012.1	substation. The estimated line	
	length is approximately 4.7	
	miles. The line is planned to	
	use multiple ACSS	ATSI (38.21%) / DL
	conductors per phase	(61.79%)
	Construct a new Elrama –	
	Route 51 138 kV No.3 line:	
	reconductor 4.7 miles of the	
1.0010-5	existing line, and construct	
b3012.3	1.5 miles of a new line to the	
	reconductored portion. Install	
	a new line terminal at APS	
	Route 51 substation	DL (100%)
<u>.</u>	<u>н</u> Н	

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Halishission Elinarcements Annual Revenue Requirement Responsible Eusione(s)				
onductor Vasco Tap to				
1				
be 336 ACSS replacing				
existing 336 ACSR				
uctor		APS (100%)		
onductor Elrama to				
hell 138 kV line – AP				
on. 4.2 miles total. 2x				
ACSS/TW 20/7		DL (100%)		
rade terminal equipment				
itchell for Mitchell –				
na 138 kV line		APS (100%)		
rade substation				
onnect leads at William				
kV substation		APS (100%)		
ceverte cap bank and				
inal upgrades		APS (100%)		
ll a 138 kV capacitor				
MVAR effective) at				
t Winchester 138 kV		APS (100%)		
rade line relaying at				
y Fork and Bethel Park				
iney For – Elrama 138				
ine and Bethel Park –				
ma 138 kV		APS (100%)		
	ewater Tap 138 kV line. niles. The new conductor be 336 ACSS replacing xisting 336 ACSR uctor onductor Elrama to hell 138 kV line – AP on. 4.2 miles total. 2x <u>ACSS/TW 20/7</u> rade terminal equipment itchell for Mitchell – na 138 kV line rade substation onnect leads at William <u>kV substation</u> ceverte cap bank and <u>inal upgrades</u> Il a 138 kV capacitor V MVAR effective) at <u>t Winchester 138 kV</u> rade line relaying at y Fork and Bethel Park iney For – Elrama 138 ine and Bethel Park –	ewater Tap 138 kV line. niles. The new conductor be 336 ACSS replacing xisting 336 ACSR uctor onductor Elrama to hell 138 kV line – AP on. 4.2 miles total. 2x ACSS/TW 20/7 rade terminal equipment itchell for Mitchell – na 138 kV line rade substation onnect leads at William kV substation ceverte cap bank and inal upgrades II a 138 kV capacitor 7 MVAR effective) at t Winchester 138 kV rade line relaying at y Fork and Bethel Park ine and Bethel Park –		

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b3075transformer breaker and reconductor 138 kV bus at Cabot substationAPS (100%)B3076Reconductor the Edgewater – Loyalhanna 138 kV line (0.67 mile)APS (100%)b3079Replace the Wylie Ridge 500/345 kV transformer #7ATSI (72.30%) / DL (27.70%)b3083Reconductor the 138 kV bus at Butler and reconductor the 138 kV bus and replace lineImage: Comparison of the second	03074	at Armstrong substation		APS (100%)
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BarbonReconductor the Edgewater – Loyalhanna 138 kV line (0.67 mile)APS (100%)b3079Replace the Wylie Ridge 500/345 kV transformer #7ATSI (72.30%) / DL (27.70%)b3083Reconductor the 138 kV bus at Butler and reconductor the 138 kV bus and replace lineATSI (72.30%) / DL (27.70%)	03073	reconductor 138 kV bus at		
b3076Loyalhanna 138 kV line (0.67 mile)APS (100%)b3079Replace the Wylie Ridge 500/345 kV transformer #7ATSI (72.30%) / DL (27.70%)b3083Reconductor the 138 kV bus at Butler and reconductor the 138 kV bus and replace lineImage: Comparison of the temperature		Cabot substation		APS (100%)
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b3079Replace the Wylie Ridge 500/345 kV transformer #7ATSI (72.30%) / DL (27.70%)b3083Reconductor the 138 kV bus at Butler and reconductor the 138 kV bus and replace line138 kV bus and replace line	b3076	Loyalhanna 138 kV line		
b3079500/345 kV transformer #7(27.70%)b3083Reconductor the 138 kV bus at Butler and reconductor the 138 kV bus and replace line138 kV bus and replace line		(0.67 mile)		APS (100%)
b3079500/345 kV transformer #7(27.70%)b3083Reconductor the 138 kV bus at Butler and reconductor the 138 kV bus and replace line138 kV bus and replace line	1 2070	Replace the Wylie Ridge		ATSI (72.30%) / DL
b3083 at Butler and reconductor the 138 kV bus and replace line	030/9			(27.70%)
b3083 138 kV bus and replace line		Reconductor the 138 kV bus		
138 KV bus and replace line	1,2092	at Butler and reconductor the		
	63083	138 kV bus and replace line		
				APS (100%)

Required fra	nsmission Ennancements Annual Revenue Require	ment Responsible Customer(s)
	Relocate 34.5 kV lines from	
b3128	generating station roof R. Paul	
	Smith 138 kV station	APS (100%)
	Reconductor the Yukon – Smithton	
	– Shepler Hill Jct 138 kV Line.	
b3214.1	Upgrade terminal equipment at	
	Yukon and replace line relaying at	APS (12.21<u>75.27</u>%) / DL
	Mitchell and Charleroi	(87.79<u>24.73</u>%)
b3214.2	Reconductor the Smithton – Shepler	APS (4 .74<u>79.68</u>%) / DL
03214.2	Hill Jct 138 kV Line	(95.26 <u>20.32</u> %)
	At Enon substation install a second	
b3230	138 kV, 28.8 MVAR nameplate,	
03230	capacitor and the associated 138 kV	
	capacitor switcher	APS (100%)
	Upgrade Cherry Run and Morgan	
b3240	terminals to make the transmission	
	line the limiting component	APS (100%)
	Install 138 kV, 36 MVAR capacitor	
	and a 5 uF reactor protected by a	
	138 kV capacitor switcher. Install a	
b3241	breaker on the 138 kV Junction	
	terminal. Install a 138 kV 3.5 uF	
	reactor on the existing Hardy 138	
	kV capacitor	APS (100%)
	Reconfigure Stonewall 138 kV	
	substation from its current	
1 22 42	configuration to a six-breaker,	
b3242	breaker-and-a-half layout and add	
	two (2) 36 MVAR capacitors with	
	capacitor switchers	APS (100%)
	Reconductor the Shanor Manor -	
b3318	Butler 138 kV line with an upgraded	
	circuit breaker at Butler 138 kV	
	station	APS (100%)
	Reconductor the Charleroi - Union	
b3325	138 kV line and upgrade terminal	
	equipment at Charleroi 138 kV	
	station	APS (100%)
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Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required frai		Revenue Requirement	Res	ponsible Customer(s)
	Upgrade the Shingletown			
	#82 230/46 kV Transformer			
	circuit by installing a 230 kV			
	breaker and disconnect			
b3681	switches, removing existing			
05001	230 kV switches, replacing			
	46 kV disconnect switches,			
	replacing limiting substation			
	conductor, and			
	installing/replacing relays			APS (100%)
	Reconductor the existing			
	556.5 ACSR line segments			
	on the Messick Road –			
	Ridgeley 138 kV line with			
	954 45/7 ACSR to achieve			
b3683	308/376 MVA SN/SE and			
	349/445 MVA WN/WE			
	ratings. Replace the remote			
	end equipment for the line.			
	The total length of the line is			
	5.02 miles			APS (100%)
	Replace terminal equipment			
b3701	at French's Mill and Junction			
	138 kV substations			APS (100%)
	Reconductor AA2-161 to			
b3710	Yukon 138 kV Lines #1 and			
	#2 with 954 ACSS conductor			APS (100%)
	Replace limiting terminal			
b3738	equipment on Charleroi –			
	Dry Run 138 kV line			APS (100%)
	Replace limiting terminal			
b3739	equipment on Dry Run –			
	Mitchell 138 kV line			APS (100%)
b3740	Replace limiting terminal			
	equipment on Glen Falls –			
	Bridgeport 138 kV line			APS (100%)
	Replace limiting terminal			
b3741	equipment on Yukon -			
	Charleroi #1 138 kV line			APS (100%)

Required Tra	nsmission Ennancements Annual Rev	chuc Requirement	Responsible Cu	stomer(s)
	Replace limiting terminal			
b3742	equipment on Yukon - Charleroi			
	#2 138 kV line			APS (100%)
	At Bedington substation:			
	Replace substation conductor,			
	wave trap, Current Transformers			
	(CT's) and upgrade relaying			
	At Cherry Run substation:			
	Replace substation conductor,			
b3743	wave trap, CT's, disconnect			
	switches, circuit breaker and			
	upgrade relaying			
	At Marlowe substation: Replace			
	substation conductor, wave trap,			
	CT's and upgrade relaying			APS (100%)
	Replace one span of 1272 ACSR			AI 5 (10070)
	from Krendale substation to			
	structure 35			
	(approximately 630 feet)			
	Replace one span of 1272 ACSR from Shanor Manor to structure			
	21 (approximately 148 feet)			
b3744	Replace 1272 ACSR risers at			
	Krendale and Shanor Manor			
	substations			
	Replace 1272 ACSR substation			
	conductor at Krendale substation			
	Replace relaying at Krendale			
	substation			
	Revise relay settings at Butler			A DG (1000()
	and Shanor Manor substations			APS (100%)
1.0-1-	Install redundant relaying at			
b3745	Carbon Center 230 kV			
	substation			APS (100%)
	Install redundant relaying at			
b3746	Meadow Brook 500 kV			
	substation			APS (100%)
b3747	Install redundant relaying at			
05/7/	Bedington 500 kV substation			APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

required fra		reevenue reequirement	
	Install 138 kV breaker on the		
b3761	Ridgway 138/46 kV #2		
	Transformer		APS (100%)
	Reconductor 27.3 miles of		
	the Messick Road – Morgan		
	138 kV line from 556 ACSR		
	to 954 ACSR. At Messick		
	Road substation, replace 138		
b3772	kV wave trap, circuit		
	breaker, CT's, disconnect		
	switch, and substation		
	conductor and upgrade		
	relaying. At Morgan		
	substation, upgrade relaying		APS (100%)
	Install 33 MVAR switched		
	capacitor, 138 kV breaker,		
b3773	and associated relaying at		
	McConnellsburg 138 kV		
	substation		APS (100%)
b3717.3	Relay work at Springdale		
03/1/.3	138 kV station		APS (100%)
	Transmission line work – a		
	new transmission structure		
b3717.4	and necessary tower work to		
	handle the change in tension		
	at Cheswick 138 kV station		APS (100%)
	Replace line drops to Doubs		
b3781	Transformer 3. New		
	transformer rating: 721		
	MVA SN / 862 MVA SE		APS (100%)
	*		· · · · · · · · · · · · · · · · · · ·

PJM Open Access Transmission Tariff Schedule 12-Appendix ASection 14 – Monongahela Power Co.

Version 30.0.0 Effective January 31, 2024 (Accepted in Docket No. ER24-321-000)

SCHEDULE 12 – APPENDIX A

Required Tran	smission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2117	Reconductor 0.33 miles of the Parkersburg - Belpre	of	
02117	line and upgrade Parkersburg terminal		
	equipment		APS (100%)
10110	Add 44 MVAR Cap at		
b2118	New Martinsville		APS (100%)
b2120	Six-Wire Lake Lynn - Lardin 138 kV circuits		APS (100%)
b2142	Replace Weirton 138 kV breaker "Wylie Ridge 21 with 63 kA breaker		APS (100%)
b2143	Replace Weirton 138 kV breaker "Wylie Ridge 21 with 63 kA breaker		APS (100%)
b2174.8	Replace relays at Mitche substation	11	APS (100%)
b2174.9	Replace primary relay at Piney Fork substation		APS (100%)
b2174.10	Perform relay setting changes at Bethel Park substation		APS (100%)
b2213	Armstrong Substation: Relocate 138 kV controls from the generating static building to new control building		APS (100%)
b2214	Albright Substation: Insta a new control building in the switchyard and reloca controls and SCADA equipment from the generating station buildir the new control center	ate	APS (100%)
b2215	Rivesville Switching Station: Relocate control and SCADA equipment from the generating static building to new control building		APS (100%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Willow Island: Install a new 138 kV cross bus at		
b2216	Belmont Substation and reconnect and reconfigure		
	the 138 kV lines to facilitate removal of the		
	equipment at Willow Islam switching station	d	APS (100%)
b2235	130 MVAR reactor at Monocacy 230 kV		APS (100%)
b2260	Install a 32.4 MVAR capacitor at Bartonville		APS (100%)
b2261	Install a 33 MVAR capacitor at Damascus		APS (100%)
b2267	Replace 1000 Cu substatic conductor and 1200 amp wave trap at Marlowe	n	APS (100%)
b2268	Reconductor 6.8 miles of 138kV 336 ACSR with 33 ACSS from Double Toll	6	
	Gate to Riverton Reconductor from Collins		APS (100%)
b2299	Ferry - West Run 138 kV with 556 ACSS		APS (100%)
b2300	Reconductor from Lake Lynn - West Run 138 kV		APS (100%)
b2341	Install 39.6 MVAR Capacitor at Shaffers Corner 138 kV Substation		APS (100%)
b2342	Construct a new 138 kV switching station (Shuman Hill substation), which is next the Mobley 138 kV substation and install a 31.		
	MVAR capacitor	,	APS (100%)
b2343	Install a 31.7 MVAR capacitor at West Union		
	138 kV substation		APS (100%)

Required Tra	nsmission Enhancements An	nual Revenue Requirement	Responsible Customer(s)
b2362	Install a 250 MVAR SVC		
02302	at Squab Hollow 230 kV		APS (100%)
	Install a 230 kV breaker at		
b2362.1	Squab Hollow 230 kV		
	substation		APS (100%)
	Convert the Shingletown		
b2363	230 kV bus into a 6 breaker		
	ring bus		APS (100%)
	Install a new 230/138 kV		
	transformer at Squab		
	Hollow 230 kV substation.		
1.00.04	Loop the Forest - Elko 230		
b2364	kV line into Squab Hollow.		
	Loop the Brookville - Elko		
	138 kV line into Squab		
	Hollow		APS (100%)
	Install a 44 MVAR 138 kV		
b2412	capacitor at the Hempfield		
	138 kV substation		APS (100%)
	Install breaker and a half		
	138 kV substation (Waldo		
	Run) with 4 breakers to		
1 0 4 0 0 1	accommodate service to		
b2433.1	MarkWest Sherwood		
	Facility including metering		
	which is cut into Glen Falls		
	Lamberton 138 kV line		APS (100%)
	Install a 70 MVAR SVC at		
b2433.2	the new WaldoRun 138 kV		
	substation		APS (100%)
	Install two 31.7 MVAR		<u>_</u>
10400.0	capacitors at the new		
b2433.3	WaldoRun 138 kV		
	substation		APS (100%)
	Replace the Weirton 138		
1.0.40.4	kV breaker 'WYLIE		
b2424	RID210' with 63 kA		
	breakers		APS (100%)
	Replace the Weirton 138		, , , , , , , , , , , , , , , , , , , ,
1-2425	kV breaker 'WYLIE		
b2425	RID216' with 63 kA		
	breakers		APS (100%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Replace the Oak Grove 13	8	
b2426	kV breaker 'OG1' with 63		
	kA breakers		APS (100%)
	Replace the Oak Grove 13	8	
b2427	kV breaker 'OG2' with 63		
	kA breakers		APS (100%)
	Replace the Oak Grove 13	8	
b2428	kV breaker 'OG3' with 63		
	kA breakers		APS (100%)
	Replace the Oak Grove 13	8	
b2429	kV breaker 'OG4' with 63		
	kA breakers		APS (100%)
	Replace the Oak Grove 13	8	
b2430	kV breaker 'OG5' with 63		
	kA breakers		APS (100%)
	Replace the Oak Grove 13	8	
b2431	kV breaker 'OG6' with 63		
	kA breakers		APS (100%)
	Replace the Ridgeley 138		
b2432	kV breaker 'RC1' with a 40)	
	kA rated breaker		APS (100%)
	Replace the Cabot 138kV		
b2440	breaker 'C9-KISKI VLY'		
	with 63kA		APS (100%)
	Replace the Ringgold 138		
b2472	kV breaker 'RCM1' with		
	40kA breakers		APS (100%)
	Replace the Ringgold 138		
b2473	kV breaker '#4 XMFR'		
	with 40kA breakers		APS (100%)
	Construct a new line		
b2475	between Oak Mound 138		
02475	kV substation and Waldo		
	Run 138 kV substation		APS (100%)
	Construct a new 138 kV		
	substation (Shuman Hill		
b2545.1	substation) connected to th	e	
	Fairview – Willow Island		
	(84) 138 kV line		APS (100%)

Required Tr	ansmission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
	Install a ring bus station with five		
b2545.2	active positions and two 52.8		
02343.2	MVAR capacitors with 0.941 mH		
	reactors		APS (100%)
b2545.3	Install a +90/-30 MVAR SVC		
02343.3	protected by a 138 kV breaker		APS (100%)
b2545.4	Remove the 31.7 MVAR capacitor		
02343.4	bank at Mobley 138 kV		APS (100%)
	Install a 51.8 MVAR (rated) 138		
b2546	kV capacitor at Nyswaner 138 kV		
	substation		APS (100%)
b2547.1	Construct a new 138 kV six breaker		
02347.1	ring bus Hillman substation		APS (100%)
b2547.2	Loop Smith- Imperial 138 kV line		
02347.2	into the new Hillman substation		APS (100%)
b2547.3	Install +125/-75 MVAR SVC at		
02547.5	Hillman substation		APS (100%)
b2547.4	Install two 31.7 MVAR 138 kV		
02377.7	capacitors		APS (100%)
	Eliminate clearance de-rate on		
	Wylie Ridge – Smith 138 kV line		
b2548	and upgrade terminals at Smith 138		
	kV, new line ratings 294 MVA		
	(Rate A)/350 MVA (Rate B)		APS (100%)
	Relocate All Dam 6 138 kV line		
b2612.1	and the 138 kV line to AE units		
	1&2		APS (100%)
	Install 138 kV, 3000A bus-tie		
b2612.2	breaker in the open bus-tie position		
02012.2	next to the Shaffers corner 138 kV		
	line		APS (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Install a 6-pole manual		
b2612.3	switch, foundation, control		
02012.5	cable, and all associated		
	facilities		APS (100%)
b2666	Yukon 138 kV Breaker		
02000	Replacement		APS (100%)
	Replace Yukon 138 kV		
b2666.1	breaker "Y-11(CHARL1)"		
	with an 80 kA breaker		APS (100%)
	Replace Yukon 138 kV		
b2666.2	breaker "Y-13(BETHEL)"		
	with an 80 kA breaker		APS (100%)
	Replace Yukon 138 kV		
b2666.3	breaker "Y-18(CHARL2)"		
	with an 80 kA breaker		APS (100%)
	Replace Yukon 138 kV		
b2666.4	breaker "Y-19(CHARL2)"		
	with an 80 kA breaker		APS (100%)
	Replace Yukon 138 kV		
b2666.5	breaker "Y-4(4B-2BUS)"		
	with an 80 kA breaker		APS (100%)
	Replace Yukon 138 kV		
b2666.6	breaker "Y-5(LAYTON)"		
	with an 80 kA breaker		APS (100%)
	Replace Yukon 138 kV		
b2666.7	breaker "Y-8(HUNTING)"		
	with an 80 kA breaker		APS (100%)
	Replace Yukon 138 kV		
b2666.8	breaker "Y-9(SPRINGD)"		
	with an 80 kA breaker		APS (100%)
	Replace Yukon 138 kV		
b2666.9	breaker "Y-10(CHRL-SP)"		
	with an 80 kA breaker		APS (100%)
	Replace Yukon 138 kV		
b2666.10	breaker "Y-12(1-1BUS)"		
	with an 80 kA breaker		APS (100%)
	Replace Yukon 138 kV		
b2666.11	breaker "Y-14(4-1BUS)"		
	with an 80 kA breaker		APS (100%)

Required Tra	nsmission Enhancements	Annual Revenue Require	ement Responsible Customer(s)
	Replace Yukon 138 kV		
b2666.12	breaker "Y-2(1B-BETHE)"		
	with an 80 kA breaker		APS (100%)
	Replace Yukon 138 kV		<u>`</u>
b2666.13	breaker "Y-21(SHEPJ)"		
	with an 80 kA breaker		APS (100%)
	Replace Yukon 138 kV		<u> </u>
12666.14	breaker		
b2666.14	"Y-22(SHEPHJT)" with an		
	80 kA breaker		APS (100%)
	Change CT Ratio at Seneca		
1.2(72	Caverns from 120/1 to		
b2672	160/1 and adjust relay		
	settings accordingly		APS (100%)
			AEP (12.91%) / APS (19.04%)
	Carroll Substation: Replace		/ ATSI (1.24%) / ComEd
	the Germantown 138 kV		(0.35%) / Dayton (1.45%) /
b2688.3	wave trap, upgrade the bus		DEOK (2.30%) / DL (1.11%) /
	conductor and adjust CT		Dominion (44.85%) / EKPC
	ratios		(0.78%) / PEPCO (15.85%) /
			RECO (0.12%)
b2689.3	Upgrade terminal		
02089.3	equipment at structure 27A		APS (100%)
	Upgrade 138 kV substation		
	equipment at Butler, Shanor		
	Manor and Krendale		
b2696	substations. New rating of		
	line will be 353 MVA		
	summer normal/422 MVA		
	emergency		APS (100%)
b2700	Remove existing Black Oak		
02700	SPS		APS (100%)
			AEP (6.46%) / APS (8.74%) /
	Deconfigure the Dinggold		BGE (19.74%) / ComEd
b2743.6	Reconfigure the Ringgold 230 kV substation to double		(2.16%) / Dayton (0.59%) /
02/43.0	bus double breaker scheme		DEOK (1.02%) / DL (0.01%) /
	bus double bleaker scheme		Dominion (39.95%) / EKPC
			(0.45%) / PEPCO (20.88%)

Required Tra	nsmission Enhancements	Annual Revenue Requirement Responsible Customer(s)
b2743.6.1	Replace the two Ringgold 230/138 kV transformers	AEP (6.46%) / APS (8.74%) / BGE (19.74%) / ComEd (2.16%) / Dayton (0.59%) / DEOK (1.02%) / DL (0.01%) / Dominion (39.95%) / EKPC (0.45%) / PEPCO (20.88%)
b2743.7	Rebuild/Reconductor the Ringgold – Catoctin 138 kV circuit and upgrade terminal equipment on both ends	AEP (6.46%) / APS (8.74%) / BGE (19.74%) / ComEd (2.16%) / Dayton (0.59%) / DEOK (1.02%) / DL (0.01%) / Dominion (39.95%) / EKPC (0.45%) / PEPCO (20.88%)
b2747.1	Relocate the FirstEnergy Pratts 138 kV terminal CVTs at Gordonsville substation to allow for the installation of a new motor operated switch being installed by Dominion	APS (100%)
b2763	Replace the breaker risers and wave trap at Bredinville 138 kV substation on the Cabrey Junction 138 kV terminal	APS (100%)
b2764	Upgrade Fairview 138 kV breaker risers and disconnect leads; Replace 500 CU breaker risers and 556 ACSR disconnect leads with 795 ACSR	APS (100%)
b2964.1	Replace terminal equipment at Pruntytown and Glen Falls 138 kV station	APS (100%)
b2964.2	Reconductor approximately 8.3 miles of the McAlpin - White Hall Junction 138 kV circuit	APS (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2965	Reconductor the Charleroi – Allenport 138 kV line with 954 ACSR conductor. Replace breaker risers at Charleroi and Allenport		APS (37.15%) / DL (62.85%)
b2966	Reconductor the Yukon – Smithton – Shepler Hill Jct 138 kV line with 795 ACSS conductor. Replace Line Disconnect Switch at Yukon		APS (100%)
b2966.1	Reconductor the Yukon - Smithton - Shepler Hill Jct 138 kV line and replace terminal equipment as necessary to achieve required rating		APS (100%)
b2967	Convert the existing 6 wire Butler - Shanor Manor - Krendale 138 kV line into two separate 138 kV lines. New lines will be Butler - Keisters and Butler - Shanor Manor - Krendale 138 kV		APS (100%)
b2970	Ringgold – Catoctin Solution		APS (100%)
b2970.1	Install two new 230 kV positions at Ringgold for 230/138 kV transformers		APS (100%)
b2970.2	Install new 230 kV position for Ringgold – Catoctin 230 kV line		APS (100%)
b2970.3	Install one new 230 kV breaker at Catoctin substation		APS (100%)
b2970.4	Install new 230/138 kV transformer at Catoctin substation. Convert Ringgold – Catoctin 138 kV line to 230 kV operation		APS (100%)

Required Tra	nsmission Enhancements Annu	al Revenue Requirement	Responsible Customer(s)
1-2070 5	Convert Garfield 138/12.5 kV		
b2970.5	substation to 230/12.5 kV		APS (100%)
1.2007	Construct new Flint Run		See sub-IDs for cost
b2996	500/138 kV substation		allocations
	Construct a new 500/138 kV substation as a 4-breaker ring		
	bus with expansion plans for		
	double-breaker-double-bus on		
	the 500 kV bus and breaker-and-		
	a-half on the 138 kV bus to		
	provide EHV source to the		
	Marcellus shale load growth		
	area. Projected load growth of		
	additional 160 MVA to current		
	plan of 280 MVA, for a total		
	load of 440 MVA served from		
b2996.1	Waldo Run substation. Construct		
02770.1	additional 3-breaker string at		
	Waldo Run 138 kV bus.		
	Relocate the Sherwood #2 line		
	terminal to the new string.		
	Construct two single circuit Flint		
	Run - Waldo Run 138 kV lines		
	using 795 ACSR (approximately		
	3 miles). After terminal		
	relocation on new 3-breaker		
	string at Waldo Run, terminate		
	new Flint Run 138 kV lines onto		
	the two open terminals		APS (100%)
	Loop the Belmont – Harrison		
	500 kV line into and out of the		
	new Flint Run 500 kV substation		
b2996.2	(less than 1 mile). Replace		
	primary relaying and carrier sets		
	on Belmont and Harrison 500		
	kV remote end substations		APS (100%)
	Upgrade two (2) existing 138 kV		
100060	breakers (Rider 50 and #1/4		
b2996.3	transformer breaker) at Glen		
	Falls with 63 kA 3000A units		APS (100%)

Required Tr	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3005	Reconductor 3.1 mile 556 ACSR portion of Cabot to Butler 138 kV with 556 ACSS and upgrade terminal equipment. 3.1 miles of line will be reconductored for this project. The total length of the line is 7.75 miles		APS (100%)
b3006	Replace four Yukon 500/138 kV transformers with three transformers with higher rating and reconfigure 500 kV bus	;	APS (63.21%) / DL (36.79%)
b3007.1	Reconductor the Blairsville Ea to Social Hall 138 kV line and upgrade terminal equipment - AP portion. 4.8 miles total. The new conductor will be 636 ACSS replacing the existing 636 ACSR conductor. At Socia Hall, meters, relays, bus conductor, a wave trap, circuit breaker and disconnects will be replaced	e 11	APS (100%)
b3010	Replace terminal equipment at Keystone and Cabot 500 kV buses. At Keystone, bus tubing and conductor, a wave trap, and meter will be replaced. At Cabot, a wave trap and bus conductor will be replaced		APS (100%)
b3011.1	Construct new Route 51 substation and connect 10 138 kV lines to new substation		DL (100%)
b3011.2	Upgrade terminal equipment at Yukon to increase rating on Yukon to Charleroi #2 138 kV line (New Yukon to Route 51 #4 138 kV line)		APS (22.82%) / DL (77.18%)

		i i i i i i i i i i i i i i i i i i i	
	Upgrade terminal equipment		
b3011.3	at Yukon to increase rating		
05011.5	on Yukon to Route 51 #1 138		
	kV line		DL (100%)
	Upgrade terminal equipment		
b3011.4	at Yukon to increase rating		
03011.4	on Yukon to Route 51 #2 138		
	kV line		DL (100%)
	Upgrade terminal equipment		
b3011.5	at Yukon to increase rating		
05011.5	on Yukon to Route 51 #3 138		APS (22.82%) / DL
	kV line		(77.18%)
	Upgrade remote end relays		
b3011.6	for Yukon – Allenport – Iron		
	Bridge 138 kV line		DL (100%)
	Construct two new 138 kV		
	ties with the single structure		
	from APS's new substation		
	to Duquesne's new		
b3012.1	substation. The estimated line		
	length is approximately 4.7		
	miles. The line is planned to		
	use multiple ACSS		ATSI (38.21%) / DL
	conductors per phase		(61.79%)
	Construct a new Elrama –		`´
	Route 51 138 kV No.3 line:		
	reconductor 4.7 miles of the		
1.2012.2	existing line, and construct		
b3012.3	1.5 miles of a new line to the		
	reconductored portion. Install		
	a new line terminal at APS		
	Route 51 substation		DL (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

	•	
onductor Vasco Tap to		
1		
be 336 ACSS replacing		
existing 336 ACSR		
ductor		APS (100%)
onductor Elrama to		
chell 138 kV line – AP		
ion. 4.2 miles total. 2x		
ACSS/TW 20/7		DL (100%)
grade terminal equipment		
litchell for Mitchell –		
ma 138 kV line		APS (100%)
grade substation		
onnect leads at William		
kV substation		APS (100%)
ceverte cap bank and		
ninal upgrades		APS (100%)
all a 138 kV capacitor		
7 MVAR effective) at		
st Winchester 138 kV		APS (100%)
grade line relaying at		
ey Fork and Bethel Park		
Piney For – Elrama 138		
line and Bethel Park –		
ma 138 kV		APS (100%)
	onductor Vasco Tap to ewater Tap 138 kV line. miles. The new conductor be 336 ACSS replacing existing 336 ACSR ductor onductor Elrama to chell 138 kV line – AP ion. 4.2 miles total. 2x <u>ACSS/TW 20/7</u> grade terminal equipment fitchell for Mitchell – <u>ma 138 kV line</u> grade substation onnect leads at William kV substation ceverte cap bank and <u>ninal upgrades</u> all a 138 kV capacitor 7 MVAR effective) at st Winchester 138 kV grade line relaying at ey Fork and Bethel Park Piney For – Elrama 138 line and Bethel Park – <u>ma 138 kV</u>	ewater Tap 138 kV line. miles. The new conductor be 336 ACSS replacing existing 336 ACSR ductor onductor Elrama to chell 138 kV line – AP ion. 4.2 miles total. 2x ACSS/TW 20/7 grade terminal equipment litchell for Mitchell – ma 138 kV line grade substation onnect leads at William kV substation ceverte cap bank and minal upgrades all a 138 kV capacitor 7 MVAR effective) at at Winchester 138 kV grade line relaying at ey Fork and Bethel Park Piney For – Elrama 138 line and Bethel Park –

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

BaselineReconductor the Yukon – Westraver 138 kV line (2.8 miles), replace the line drops and relays at Yukon 138 kV and replace switches at Westraver 138 kV busAPS (100%)BaselineReconductor the Westraver – Route 51 138 kV line (5.63 miles) and replace line switches at Westraver 138 kV busAPS (100%)BaselineReconductor the Yukon – Route 51 #1 138 kV line (8 miles), replace the line drops, relays and line disconnect switch at Yukon 138 kV busAPS (100%)BaselineReconductor the Yukon – Route 51 #1 138 kV line (8 miles), replace the line drops, relays and line disconnect switch at Yukon 138 kV busAPS (100%)BaselineReconductor the Yukon – Route 51 #2 138 kV line (8 miles) and replace relays at Yukon 138 kV busAPS (100%)BaselineReconductor the Yukon – Route 51 #3 138 kV line (8 miles) and replace relays at Yukon 138 kV busAPS (100%)BaselineReconductor the Yukon – Route 51 #3 138 kV line (8 miles) and replace relays at Yukon 138 kV busAPS (100%)BaselineReconductor the Yukon – Route 51 #3 188 kV line (8 miles) and replace relays at Yukon 138 kV busAPS (100%)BaselineReconductor the Yukon – Route 51 #3 188 kV busAPS (100%)
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miles) and replace relays at Yukon 138 kV busAPS (100%)b3074Reconductor the 138 kV bus
b3074 Reconductor the 138 kV bus
b30/4
at Armstrong substation APS (100%)
Replace the 500/138 kV
b3075 transformer breaker and
reconductor 138 kV bus at
Cabot substation APS (100%)
Reconductor the Edgewater –
b3076 Loyalhanna 138 kV line
(0.67 mile) APS (100%)
b3079 Replace the Wylie Ridge ATSI (72.30%) / DL
500/345 KV transformer #/ (27.70%)
Reconductor the 138 kV bus
b3083 at Butler and reconductor the
138 kV bus and replace line
trap at Karns City APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Relocate 34.5 kV lines from	
b3128 generating station roof R. Paul	
Smith 138 kV station APS (1	00%)
Reconductor the Yukon – Smithton	
– Shepler Hill Jct 138 kV Line.	
b3214.1 Upgrade terminal equipment at	
Yukon and replace line relaying at APS (12.2)	1%) / DL
Mitchell and Charleroi (87.79	9%)
b3214.2 Reconductor the Smithton – Shepler	
B3214.2 Hill Jct 138 kV Line APS (4.74%) /	DL (95.26%)
At Enon substation install a second	
b3230 138 kV, 28.8 MVAR nameplate,	
capacitor and the associated 138 kV	
capacitor switcher APS (1	00%)
Upgrade Cherry Run and Morgan	
b3240 terminals to make the transmission	
line the limiting component APS (1	00%)
Install 138 kV, 36 MVAR capacitor	
and a 5 uF reactor protected by a	
138 kV capacitor switcher. Install a	
b3241 breaker on the 138 kV Junction	
terminal. Install a 138 kV 3.5 uF	
reactor on the existing Hardy 138	
kV capacitor APS (1	00%)
Reconfigure Stonewall 138 kV	
substation from its current	
b3242 configuration to a six-breaker,	
breaker-and-a-half layout and add	
two (2) 36 MVAR capacitors with	
capacitor switchers APS (1	00%)
Reconductor the Shanor Manor -	
Butler 138 kV line with an upgraded	
b3318 build 150 kV line with an upgraded circuit breaker at Butler 138 kV	
station APS (1	00%)
Reconductor the Charleroi - Union	
b3325 138 kV line and upgrade terminal	
equipment at Charleroi 138 kV	
station APS (1	00%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

230/46 kV Transformer circuit by installing a 230 kV breaker and disconnect switches, removing existing 230 kV switches, replacing d6 kV disconnect switches, replacing limiting substation conductor, and installing/replacing relays APS (100%) Reconductor the existing 556.5 ACSR line segments on the Messick Road – Ridgeley 138 kV line with 954 45/7 ACSR to achieve 308/376 MVA SN/SE and 349/445 MVA WN/WE ratings. Replace the remote end equipment for the line. The total length of the line is 5.02 miles APS (100%) B3683 Replace terminal equipment at French's Mill and Junction 138 kV substations APS (100%) B3710 Reconductor AA2-161 to Yukon 138 kV Lines #1 and #2 with 954 ACSS conductor APS (100%) b3710 Install a series reactor on Cheswick - Springdale 138 kV line APS (100%) b3738 Replace limiting terminal equipment on Charleroi – Dry Run 138 kV line APS (100%) b3739 Replace limiting terminal equipment on Dry Run – Mitchell 138 kV line APS (100%) b3740 Replace limiting terminal equipment on Glen Falls – APS (100%)	Required Trar		venue Requirement	Responsible Customer(s)
by installing a 230 kV breaker and disconnect switches, removing existing 230 kV switches, replacing 230 kV switches, replacing glimiting substation conductor, and installing/replacing relays APS (100%) Reconductor the existing 556.5 ACSR line segments on the Messick Road – Ridgeley 138 kV line with 954 45/7 ACSR to and 349/445 MVA WN/WE ratings. Replace the remote end equipment for the line. The total length of the line is 5.02 miles APS (100%) Replace therminal equipment at b3701 Replace theremote end equipment for the line. The total length of the line station 138 kV substations APS (100%) Barlow Replace therminal equipment at b3701 Replace terminal equipment at french's Mill and Junction 138 kV substations APS (100%) Barlow Reconductor AA2-161 to b3710 Messick - Springdale 138 kV line APS (100%) Barlow Replace limiting terminal equipment on Charleroi – Dry Run 138 kV line APS (100%) Barlow Replace limiting terminal equipment on Dry Run – Mitchell 138 kV line APS (100%) Barlow Replace limiting terminal equipment on Dry Run – Mitchell 138 kV line APS (100%)		Upgrade the Shingletown #82		
and disconnect switches, b3681 removing existing 230 kV switches, replacing 46 kV disconnect switches, replacing limiting substation conductor, and installing/replacing relays APS (100%) Reconductor the existing 556.5 ACSR line segments on the Messick Road – Ridgeley 138 kV line with 954 45/7 ACSR to and 349/445 MVA WN/WE ratings. Replace the remote end equipment for the line. The total length of the line is 5.02 miles APS (100%) Replace terminal equipment at b3701 French's Mill and Junction 138 kV substations APS (100%) Barries reactor on APS (100%) b3710 Nukon 138 kV Lines #1 and #2 with 954 ACSS conductor APS (100%) b3711 Cheswick - Springdale 138 kV b3712 Replace limiting terminal quipment on Charleroi – Dry Quipment on Charleroi – Dry Replace limiting terminal equipment on Charleroi – Dry Replace limiting terminal equipment on Dry Ru – Mitchell 138 kV line APS (100%) <td></td> <td></td> <td></td> <td></td>				
b3681 removing existing 230 kV switches, replacing 46 kV disconnect switches, replacing limiting substation conductor, and installing/replacing relays APS (100%) Reconductor the existing 556.5 ACSR line segments on the Messick Road – Ridgely 138 AVS (100%) b3683 achieve 308/376 MVA SN/SE and 349/445 MVA WN/WE ratings. Replace the remote end equipment for the line. The total length of the line is 5.02 miles APS (100%) Replace terminal equipment at French's Mill and Junction 138 APS (100%) Reconductor AA2-161 to Yukon 138 kV Lines #1 and #2 with 954 ACSS conductor APS (100%) B3710 Replace imiting terminal equipment at French's Mill and #2 with 954 ACSS conductor APS (100%) b3710 Replace limiting terminal equipment on Charleroi – Dry Run 138 kV line APS (100%) b3738 Replace limiting terminal equipment on Dry Run – Mitchell 138 kV line APS (100%) b3739 Replace limiting terminal equipment on Dry Run – Mitchell 138 kV line APS (100%) b3740 Replace limiting terminal equipment on Glen Falls – APS (100%)				
switches, replacing 46 kV disconnect switches, replacing limiting substation conductor, and installing/replacing relays APS (100%) Reconductor the existing 556.5 ACSR line segments on the Messick Road – Ridgeley 138 kV line with 954 45/7 ACSR to and 349/445 MVA WN/WE ratings. Replace the remote end equipment for the line. The total length of the line is 5.02 miles APS (100%) Replace terminal equipment at French's Mill and Junction 138 kV substations APS (100%) Reconductor AA2-161 to b3710 Yukon 138 kV Lines #1 and #2 with 954 ACSS conductor APS (100%) b3717.1 Cheswick - Springdale 138 kV line b3738 equipment on Charleroi – Dry Run 138 kV line APS (100%) Replace limiting terminal equipment on Dry Run – Mitchell 138 kV line APS (100%) Replace limiting terminal equipment on Charleroi – Dry Run 138 kV line APS (100%) Replace limiting terminal equipment on Dry Run – Mitchell 138 kV line APS (100%)				
disconnect switches, replacing limiting substation conductor, and installing/replacing relays APS (100%) Reconductor the existing 556.5 ACSR line segments on the Messick Road – Ridgeley 138 kV line with 954 45/7 ACSR to achieve 308/376 MVA SN/SE and 349/445 MVA WN/WE ratings. Replace the remote end equipment for the line. The total length of the line is 5.02 miles APS (100%) Barrow Replace the remote end equipment for the line. The total length of the line is 5.02 miles APS (100%) Barrow Replace terminal equipment at b3701 French's Mill and Junction 138 kV substations APS (100%) Barrow Reconductor AA2-161 to b37110 Mathematical and #2 with 954 ACSS conductor APS (100%) b3717.1 Cheswick - Springdale 138 kV line APS (100%) Barrow Replace limiting terminal equipment on Charleroi – Dry Run 138 kV line APS (100%) Barrow Replace limiting terminal equipment on Dry Run – Mitchell 138 kV line APS (100%) Barrow Replace limiting terminal equipment on Glen Falls – APS (100%)	b3681	removing existing 230 kV		
Imiting substation conductor, and installing/replacing relaysAPS (100%)Reconductor the existing 556.5 ACSR line segments on the Messick Road – Ridgeley 138 kV line with 954 45/7 ACSR to achieve 308/376 MVA SN/SE and 349/445 MVA WN/WE ratings. Replace the remote end equipment for the line. The total length of the line is 5.02 milesAPS (100%)Replace terminal equipment at b3701French's Mill and Junction 138 kV substationsAPS (100%)Barrow Barrow Barrow Replace terminal equipment at b3710APS (100%)Barrow Barrow Barrow Cheswick - Springdale 138 kV LineAPS (100%)Barrow Barrow Barrow Replace limiting terminal equipment on Charleroi – Dry Run 138 kV lineAPS (100%)Barrow Barrow Barrow Replace limiting terminal equipment on Dry Run – Mitchell 138 kV lineAPS (100%)Barrow Barrow Barrow Replace limiting terminal equipment on Charleroi – Dry Run 138 kV lineAPS (100%)Barrow Barrow Barrow Replace limiting terminal equipment on Dry Run – Mitchell 138 kV lineAPS (100%)Barrow Barrow Barrow Replace limiting terminal equipment on Clen Falls –APS (100%)		switches, replacing 46 kV		
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line(98.07%)Barrier Barrier		Install a series reactor on		
Best Stress Replace limiting terminal equipment on Charleroi – Dry Run 138 kV line APS (100%) Best Replace limiting terminal equipment on Dry Run – Mitchell 138 kV line APS (100%) Best Replace limiting terminal equipment on Dry Run – Mitchell 138 kV line APS (100%) Best Replace limiting terminal equipment on Glen Falls – APS (100%)	<u>b3717.1</u>			
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b3739equipment on Dry Run – Mitchell 138 kV lineAPS (100%)Replace limiting terminal equipment on Glen Falls –APS (100%)				APS (100%)
Mitchell 138 kV lineAPS (100%)Replace limiting terminal equipment on Glen Falls –		1 0		
b3740 Replace limiting terminal equipment on Glen Falls –	b3739			
b3740 equipment on Glen Falls –				APS (100%)
	b3740			
Bridgeport 138 kV line $\Delta PS (100\%)$				
		Bridgeport 138 kV line		APS (100%)
Replace limiting terminal				
b3741 equipment on Yukon -	b3741	1 1		
Charleroi #1 138 kV line APS (100%)		Charleroi #1 138 kV line		APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required IIa	nsmission Ennancements Annual Rev	chuc Requirement	Responsible Customer(s)
	Replace limiting terminal		
b3742	equipment on Yukon - Charleroi		
	#2 138 kV line		APS (100%)
	At Bedington substation:		
	Replace substation conductor,		
	wave trap, Current Transformers		
	(CT's) and upgrade relaying		
	At Cherry Run substation:		
	Replace substation conductor,		
b3743	wave trap, CT's, disconnect		
	switches, circuit breaker and		
	upgrade relaying		
	At Marlowe substation: Replace		
	substation conductor, wave trap,		A DC (1000/)
	CT's and upgrade relaying		APS (100%)
	Replace one span of 1272 ACSR		
	from Krendale substation to		
	structure 35		
	(approximately 630 feet)		
	Replace one span of 1272 ACSR		
	from Shanor Manor to structure		
	21 (approximately 148 feet)		
b3744	Replace 1272 ACSR risers at		
03/44	Krendale and Shanor Manor		
	substations		
	Replace 1272 ACSR substation		
	conductor at Krendale substation		
	Replace relaying at Krendale		
	substation		
	Revise relay settings at Butler		
	and Shanor Manor substations		APS (100%)
	Install redundant relaying at		
b3745	Carbon Center 230 kV		
03743	substation		APS (100%)
	Install redundant relaying at		
b3746	Meadow Brook 500 kV		
05/10	substation		APS (100%)
	Install redundant relaying at		AI 5 (10070)
b3747	Bedington 500 kV substation		ADS(1009/)
	Beamgion 300 KV substation		APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

b3761 Ridg Tran	ll 138 kV breaker on the way 138/46 kV #2 sformer onductor 27.3 miles of Messick Road – Morgan	APS (100%)
Tran	sformer onductor 27.3 miles of	APS (100%)
	onductor 27.3 miles of	APS (100%)
Reco		
	Aessick Road – Morgan	
the N		
1381	kV line from 556 ACSR	
to 95	4 ACSR. At Messick	
Road	l substation, replace 138	
	vave trap, circuit	
	ker, CT's, disconnect	
	ch, and substation	
	uctor and upgrade	
	10	
•	ring. At Morgan	
	tation, upgrade relaying	APS (100%)
	ll 33 MVAR switched	
-	citor, 138 kV breaker,	
b3773 and a	associated relaying at	
McC	connellsburg 138 kV	
subst	tation	APS (100%)
Adju	st relay settings at	`
Rive	rton substation on the	
h 1/8/	rton-Bethel Tap 138 kV	
line		APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

PJM Open Access Transmission Tariff Schedule 12-Appendix ASection 14 – Monongahela Power Co.

Version 32.0.0 Effective April 9, 2024 (Accepted in Docket No. ER24-843-000)

SCHEDULE 12 – APPENDIX A

Required Tran	smission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
10117	Reconductor 0.33 miles of the Parkersburg - Belpre	of	
b2117	line and upgrade		
	Parkersburg terminal equipment		APS (100%)
	Add 44 MVAR Cap at		7 H B (10070)
b2118	New Martinsville		APS (100%)
b2120	Six-Wire Lake Lynn - Lardin 138 kV circuits		APS (100%)
b2142	Replace Weirton 138 kV breaker "Wylie Ridge 21 with 63 kA breaker		APS (100%)
b2143	Replace Weirton 138 kV breaker "Wylie Ridge 21 with 63 kA breaker		APS (100%)
b2174.8	Replace relays at Mitcher substation	11	APS (100%)
b2174.9	Replace primary relay at Piney Fork substation		APS (100%)
b2174.10	Perform relay setting changes at Bethel Park substation		APS (100%)
b2213	Armstrong Substation: Relocate 138 kV controls from the generating static building to new control building		APS (100%)
b2214	Albright Substation: Insta a new control building in the switchyard and reloca controls and SCADA equipment from the generating station building the new control center	ate	APS (100%)
b2215	Rivesville Switching Station: Relocate control and SCADA equipment from the generating static building to new control building		APS (100%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Willow Island: Install a new 138 kV cross bus at Belmont Substation and		
b2216	reconnect and reconfigure the 138 kV lines to		
	facilitate removal of the equipment at Willow Islan switching station	d	APS (100%)
b2235	130 MVAR reactor at Monocacy 230 kV		APS (100%)
b2260	Install a 32.4 MVAR capacitor at Bartonville		APS (100%)
b2261	Install a 33 MVAR capacitor at Damascus		APS (100%)
b2267	Replace 1000 Cu substatic conductor and 1200 amp wave trap at Marlowe	n	APS (100%)
b2268	Reconductor 6.8 miles of 138kV 336 ACSR with 33 ACSS from Double Toll	6	
	Gate to Riverton Reconductor from Collins		APS (100%)
b2299	Ferry - West Run 138 kV with 556 ACSS		APS (100%)
b2300	Reconductor from Lake Lynn - West Run 138 kV		APS (100%)
b2341	Install 39.6 MVAR Capacitor at Shaffers Corner 138 kV Substation		APS (100%)
b2342	Construct a new 138 kV switching station (Shuman Hill substation), which is next the Mobley 138 kV		
	substation and install a 31. MVAR capacitor	/	APS (100%)
b2343	Install a 31.7 MVAR capacitor at West Union		
	138 kV substation		APS (100%)

Required Tra	nsmission Enhancements An	nual Revenue Requirement	Responsible Customer(s)
b2362	Install a 250 MVAR SVC		
02302	at Squab Hollow 230 kV		APS (100%)
	Install a 230 kV breaker at		
b2362.1	Squab Hollow 230 kV		
	substation		APS (100%)
	Convert the Shingletown		
b2363	230 kV bus into a 6 breaker		
	ring bus		APS (100%)
	Install a new 230/138 kV		
	transformer at Squab		
	Hollow 230 kV substation.		
1.00.04	Loop the Forest - Elko 230		
b2364	kV line into Squab Hollow.		
	Loop the Brookville - Elko		
	138 kV line into Squab		
	Hollow		APS (100%)
	Install a 44 MVAR 138 kV		
b2412	capacitor at the Hempfield		
02112	138 kV substation		APS (100%)
	Install breaker and a half		
	138 kV substation (Waldo		
	Run) with 4 breakers to		
1 0 4 0 0 1	accommodate service to		
b2433.1	MarkWest Sherwood		
	Facility including metering		
	which is cut into Glen Falls		
	Lamberton 138 kV line		APS (100%)
	Install a 70 MVAR SVC at		
b2433.2	the new WaldoRun 138 kV		
	substation		APS (100%)
	Install two 31.7 MVAR		<u>_</u>
10400.0	capacitors at the new		
b2433.3	WaldoRun 138 kV		
	substation		APS (100%)
	Replace the Weirton 138		
10404	kV breaker 'WYLIE		
b2424	RID210' with 63 kA		
	breakers		APS (100%)
	Replace the Weirton 138		, , , , , , , , , , , , , , , , , , , ,
1-2425	kV breaker 'WYLIE		
b2425	RID216' with 63 kA		
	breakers		APS (100%)

Required Tra	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Replace the Oak Grove 13	8	
b2426	kV breaker 'OG1' with 63		
	kA breakers		APS (100%)
	Replace the Oak Grove 13	8	
b2427	kV breaker 'OG2' with 63		
	kA breakers		APS (100%)
	Replace the Oak Grove 13	8	
b2428	kV breaker 'OG3' with 63		
	kA breakers		APS (100%)
	Replace the Oak Grove 13	8	
b2429	kV breaker 'OG4' with 63		
	kA breakers		APS (100%)
	Replace the Oak Grove 13	8	
b2430	kV breaker 'OG5' with 63		
	kA breakers		APS (100%)
	Replace the Oak Grove 13	8	
b2431	kV breaker 'OG6' with 63		
	kA breakers		APS (100%)
	Replace the Ridgeley 138		
b2432	kV breaker 'RC1' with a 40)	
	kA rated breaker		APS (100%)
	Replace the Cabot 138kV		
b2440	breaker 'C9-KISKI VLY'		
	with 63kA		APS (100%)
	Replace the Ringgold 138		
b2472	kV breaker 'RCM1' with		
	40kA breakers		APS (100%)
	Replace the Ringgold 138		
b2473	kV breaker '#4 XMFR'		
	with 40kA breakers		APS (100%)
	Construct a new line		
b2475	between Oak Mound 138		
	kV substation and Waldo		
	Run 138 kV substation		APS (100%)
	Construct a new 138 kV		
	substation (Shuman Hill		
b2545.1	substation) connected to th	e	
	Fairview – Willow Island		
	(84) 138 kV line		APS (100%)

Required Tr	ansmission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
	Install a ring bus station with five		
b2545.2	active positions and two 52.8		
02343.2	MVAR capacitors with 0.941 mH		
	reactors		APS (100%)
b2545.3	Install a +90/-30 MVAR SVC		
02343.3	protected by a 138 kV breaker		APS (100%)
b2545.4	Remove the 31.7 MVAR capacitor		
02343.4	bank at Mobley 138 kV		APS (100%)
	Install a 51.8 MVAR (rated) 138		
b2546	kV capacitor at Nyswaner 138 kV		
	substation		APS (100%)
b2547.1	Construct a new 138 kV six breaker		
02347.1	ring bus Hillman substation		APS (100%)
b2547.2	Loop Smith- Imperial 138 kV line		
02347.2	into the new Hillman substation		APS (100%)
b2547.3	Install +125/-75 MVAR SVC at		
02547.5	Hillman substation		APS (100%)
b2547.4	Install two 31.7 MVAR 138 kV		
02377.7	capacitors		APS (100%)
	Eliminate clearance de-rate on		
	Wylie Ridge – Smith 138 kV line		
b2548	and upgrade terminals at Smith 138		
	kV, new line ratings 294 MVA		
	(Rate A)/350 MVA (Rate B)		APS (100%)
	Relocate All Dam 6 138 kV line		
b2612.1	and the 138 kV line to AE units		
	1&2		APS (100%)
	Install 138 kV, 3000A bus-tie		
b2612.2	breaker in the open bus-tie position		
02012.2	next to the Shaffers corner 138 kV		
	line		APS (100%)

Required Tran	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Install a 6-pole manual		
b2612.3	switch, foundation, control		
02012.5	cable, and all associated		
	facilities		APS (100%)
b2666	Yukon 138 kV Breaker		
02000	Replacement		APS (100%)
	Replace Yukon 138 kV		
b2666.1	breaker "Y-11(CHARL1)"		
	with an 80 kA breaker		APS (100%)
	Replace Yukon 138 kV		
b2666.2	breaker "Y-13(BETHEL)"		
	with an 80 kA breaker		APS (100%)
	Replace Yukon 138 kV		
b2666.3	breaker "Y-18(CHARL2)"		
	with an 80 kA breaker		APS (100%)
	Replace Yukon 138 kV		
b2666.4	breaker "Y-19(CHARL2)"		
	with an 80 kA breaker		APS (100%)
	Replace Yukon 138 kV		
b2666.5	breaker "Y-4(4B-2BUS)"		
	with an 80 kA breaker		APS (100%)
	Replace Yukon 138 kV		
b2666.6	breaker "Y-5(LAYTON)"		
	with an 80 kA breaker		APS (100%)
	Replace Yukon 138 kV		
b2666.7	breaker "Y-8(HUNTING)"		
	with an 80 kA breaker		APS (100%)
	Replace Yukon 138 kV		
b2666.8	breaker "Y-9(SPRINGD)"		
	with an 80 kA breaker		APS (100%)
	Replace Yukon 138 kV		
b2666.9	breaker "Y-10(CHRL-SP)"		
	with an 80 kA breaker		APS (100%)
	Replace Yukon 138 kV		
b2666.10	breaker "Y-12(1-1BUS)"		
	with an 80 kA breaker		APS (100%)
	Replace Yukon 138 kV		
b2666.11	breaker "Y-14(4-1BUS)"		
	with an 80 kA breaker		APS (100%)

Required Tra	nsmission Enhancements	Annual Revenue Require	ement Responsible Customer(s)
	Replace Yukon 138 kV		
b2666.12	breaker "Y-2(1B-BETHE)"		
	with an 80 kA breaker		APS (100%)
	Replace Yukon 138 kV		
b2666.13	breaker "Y-21(SHEPJ)"		
	with an 80 kA breaker		APS (100%)
	Replace Yukon 138 kV		
b2666.14	breaker		
02000.11	"Y-22(SHEPHJT)" with an		
	80 kA breaker		APS (100%)
	Change CT Ratio at Seneca		
b2672	Caverns from 120/1 to		
02072	160/1 and adjust relay		
	settings accordingly		APS (100%)
			AEP (12.91%) / APS (19.04%)
	Carroll Substation: Replace		/ ATSI (1.24%) / ComEd
b2688.3	the Germantown 138 kV		(0.35%) / Dayton (1.45%) /
	wave trap, upgrade the bus		DEOK (2.30%) / DL (1.11%) /
	conductor and adjust CT		Dominion (44.85%) / EKPC
	ratios		(0.78%) / PEPCO (15.85%) /
	TT 1 / 1		RECO (0.12%)
b2689.3	Upgrade terminal		A DC (1000()
	equipment at structure 27A		APS (100%)
	Upgrade 138 kV substation		
	equipment at Butler, Shanor		
1.2000	Manor and Krendale		
b2696	substations. New rating of		
	line will be 353 MVA summer normal/422 MVA		
			ADS(1009/)
	emergency Remove existing Black Oak		APS (100%)
b2700	SPS		APS (100%)
			APS (100%) AEP (6.46%) / APS (8.74%) /
			BGE (19.74%) / ComEd
	Reconfigure the Ringgold		(2.16%) / Dayton (0.59%) /
b2743.6	230 kV substation to double		DEOK (1.02%) / DL (0.01%) /
	bus double breaker scheme		Deok (1.02/8) / DE (0.01/8) / Dominion (39.95%) / EKPC
			(0.45%) / PEPCO (20.88%)
			(0.4570) / FEFCO (20.0070)

Required Tra	nsmission Enhancements	Annual Revenue Requirement Responsible Customer(s
b2743.6.1	Replace the two Ringgold 230/138 kV transformers	AEP (6.46%) / APS (8.74%) / BGE (19.74%) / ComEd (2.16%) / Dayton (0.59%) / DEOK (1.02%) / DL (0.01%) / Dominion (39.95%) / EKPC (0.45%) / PEPCO (20.88%)
b2743.7	Rebuild/Reconductor the Ringgold – Catoctin 138 kV circuit and upgrade terminal equipment on both ends	AEP (6.46%) / APS (8.74%) / BGE (19.74%) / ComEd (2.16%) / Dayton (0.59%) / DEOK (1.02%) / DL (0.01%) / Dominion (39.95%) / EKPC (0.45%) / PEPCO (20.88%)
b2747.1	Relocate the FirstEnergy Pratts 138 kV terminal CVTs at Gordonsville substation to allow for the installation of a new motor operated switch being installed by Dominion	APS (100%)
b2763	Replace the breaker risers and wave trap at Bredinville 138 kV substation on the Cabrey Junction 138 kV terminal	APS (100%)
b2764	Upgrade Fairview 138 kV breaker risers and disconnect leads; Replace 500 CU breaker risers and 556 ACSR disconnect leads with 795 ACSR	APS (100%)
b2964.1	Replace terminal equipment at Pruntytown and Glen Falls 138 kV station	APS (100%)
b2964.2	Reconductor approximately 8.3 miles of the McAlpin - White Hall Junction 138 kV circuit	APS (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2965	Reconductor the Charleroi – Allenport 138 kV line with 954 ACSR conductor. Replace breaker risers at Charleroi and Allenport		APS (37.15%) / DL (62.85%)
b2966	Reconductor the Yukon – Smithton – Shepler Hill Jct 138 kV line with 795 ACSS conductor. Replace Line Disconnect Switch at Yukon		APS (100%)
b2966.1	Reconductor the Yukon - Smithton - Shepler Hill Jct 138 kV line and replace terminal equipment as necessary to achieve required rating		APS (100%)
b2967	Convert the existing 6 wire Butler - Shanor Manor - Krendale 138 kV line into two separate 138 kV lines. New lines will be Butler - Keisters and Butler - Shanor Manor - Krendale 138 kV		APS (100%)
b2970	Ringgold – Catoctin Solution		APS (100%)
b2970.1	Install two new 230 kV positions at Ringgold for 230/138 kV transformers		APS (100%)
b2970.2	Install new 230 kV position for Ringgold – Catoctin 230 kV line		APS (100%)
b2970.3	Install one new 230 kV breaker at Catoctin substation		APS (100%)
b2970.4	Install new 230/138 kV transformer at Catoctin substation. Convert Ringgold – Catoctin 138 kV line to 230 kV operation		APS (100%)

Required Tra	nsmission Enhancements Annu	al Revenue Requirement	Responsible Customer(s)
1-2070 5	Convert Garfield 138/12.5 kV		
b2970.5	substation to 230/12.5 kV		APS (100%)
1.2000	Construct new Flint Run		See sub-IDs for cost
b2996	500/138 kV substation		allocations
	Construct a new 500/138 kV substation as a 4-breaker ring		
	bus with expansion plans for		
	double-breaker-double-bus on		
	the 500 kV bus and breaker-and-		
	a-half on the 138 kV bus to		
	provide EHV source to the		
	Marcellus shale load growth		
	area. Projected load growth of		
	additional 160 MVA to current		
	plan of 280 MVA, for a total		
	load of 440 MVA served from		
b2996.1	Waldo Run substation. Construct		
02990.1	additional 3-breaker string at		
	Waldo Run 138 kV bus.		
	Relocate the Sherwood #2 line		
	terminal to the new string.		
	Construct two single circuit Flint		
	Run - Waldo Run 138 kV lines		
	using 795 ACSR (approximately		
	3 miles). After terminal		
	relocation on new 3-breaker		
	string at Waldo Run, terminate		
	new Flint Run 138 kV lines onto		
	the two open terminals		APS (100%)
	Loop the Belmont – Harrison		
	$500 \mathrm{kV}$ line into and out of the		
	new Flint Run 500 kV substation		
b2996.2	(less than 1 mile). Replace		
	primary relaying and carrier sets		
	on Belmont and Harrison 500		
	kV remote end substations		APS (100%)
	Upgrade two (2) existing 138 kV		
1-2007 2	breakers (Rider 50 and #1/4		
b2996.3	transformer breaker) at Glen		
	Falls with 63 kA 3000A units		APS (100%)

Required Tr	ansmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3005	Reconductor 3.1 mile 556 ACSR portion of Cabot to Butler 138 kV with 556 ACSS and upgrade terminal equipment. 3.1 miles of line will be reconductored for this project. The total length of the line is 7.75 miles		APS (100%)
b3006	Replace four Yukon 500/138 kV transformers with three transformers with higher rating and reconfigure 500 kV bus	;	APS (63.21%) / DL (36.79%)
b3007.1	Reconductor the Blairsville Ea to Social Hall 138 kV line and upgrade terminal equipment - AP portion. 4.8 miles total. The new conductor will be 636 ACSS replacing the existing 636 ACSR conductor. At Socia Hall, meters, relays, bus conductor, a wave trap, circuit breaker and disconnects will be replaced	e 11	APS (100%)
b3010	Replace terminal equipment at Keystone and Cabot 500 kV buses. At Keystone, bus tubing and conductor, a wave trap, and meter will be replaced. At Cabot, a wave trap and bus conductor will be replaced		APS (100%)
b3011.1	Construct new Route 51 substation and connect 10 138 kV lines to new substation		DL (100%)
b3011.2	Upgrade terminal equipment at Yukon to increase rating on Yukon to Charleroi #2 138 kV line (New Yukon to Route 51 #4 138 kV line)		APS (22.82%) / DL (77.18%)

		e venue reequiterneri	
	Upgrade terminal equipment		
b3011.3	at Yukon to increase rating		
05011.5	on Yukon to Route 51 #1 138		
	kV line		DL (100%)
	Upgrade terminal equipment		
b3011.4	at Yukon to increase rating		
03011.4	on Yukon to Route 51 #2 138		
	kV line		DL (100%)
	Upgrade terminal equipment		
b3011.5	at Yukon to increase rating		
03011.3	on Yukon to Route 51 #3 138		APS (22.82%) / DL
	kV line		(77.18%)
	Upgrade remote end relays		
b3011.6	for Yukon – Allenport – Iron		
	Bridge 138 kV line		DL (100%)
	Construct two new 138 kV		
	ties with the single structure		
	from APS's new substation		
	to Duquesne's new		
b3012.1	substation. The estimated line		
	length is approximately 4.7		
	miles. The line is planned to		
	use multiple ACSS		ATSI (38.21%) / DL
	conductors per phase		(61.79%)
	Construct a new Elrama –		
	Route 51 138 kV No.3 line:		
	reconductor 4.7 miles of the		
1 2012 2	existing line, and construct		
b3012.3	1.5 miles of a new line to the		
	reconductored portion. Install		
	a new line terminal at APS		
	Route 51 substation		DL (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

	te venue i tequirentente	
Reconductor Vasco Tap to		
0 1		
will be 336 ACSS replacing		
the existing 336 ACSR		
conductor		APS (100%)
Reconductor Elrama to		
Mitchell 138 kV line – AP		
portion. 4.2 miles total. 2x		
795 ACSS/TW 20/7		DL (100%)
Upgrade terminal equipment		
at Mitchell for Mitchell –		
Elrama 138 kV line		APS (100%)
Upgrade substation		
disconnect leads at William		
138 kV substation		APS (100%)
Ronceverte cap bank and		
terminal upgrades		APS (100%)
Install a 138 kV capacitor		
(29.7 MVAR effective) at		
West Winchester 138 kV		APS (100%)
Upgrade line relaying at		
Piney Fork and Bethel Park		
for Piney For – Elrama 138		
kV line and Bethel Park –		
Elrama 138 kV		APS (100%)
	Reconductor Vasco Tap to Edgewater Tap 138 kV line. 4.4 miles. The new conductor will be 336 ACSS replacing the existing 336 ACSR conductor Reconductor Elrama to Mitchell 138 kV line – AP portion. 4.2 miles total. 2x 795 ACSS/TW 20/7 Upgrade terminal equipment at Mitchell for Mitchell – Elrama 138 kV line Upgrade substation disconnect leads at William 138 kV substation Ronceverte cap bank and terminal upgrades Install a 138 kV capacitor (29.7 MVAR effective) at West Winchester 138 kV Upgrade line relaying at Piney Fork and Bethel Park for Piney For – Elrama 138 kV line and Bethel Park –	Edgewater Tap 138 kV line. 4.4 miles. The new conductor will be 336 ACSS replacing the existing 336 ACSR conductor Reconductor Elrama to Mitchell 138 kV line – AP portion. 4.2 miles total. 2x 795 ACSS/TW 20/7 Upgrade terminal equipment at Mitchell for Mitchell – Elrama 138 kV line Upgrade substation disconnect leads at William 138 kV substation Ronceverte cap bank and terminal upgrades Install a 138 kV capacitor (29.7 MVAR effective) at West Winchester 138 kV Upgrade line relaying at Piney Fork and Bethel Park for Piney For – Elrama 138 kV line and Bethel Park –

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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b3079Replace the Wylie Ridge 500/345 kV transformer #7ATSI (72.30%) / DL (27.70%)b3083Reconductor the 138 kV bus at Butler and reconductor the 138 kV bus and replace lineImage: Comparison of the second s	b3076	Loyalhanna 138 kV line		
b3079500/345 kV transformer #7(27.70%)b3083Reconductor the 138 kV bus at Butler and reconductor the 138 kV bus and replace line(27.70%)				APS (100%)
b3083 Butler and reconductor the 138 kV bus and replace line (27.70%)	h3070	Replace the Wylie Ridge		ATSI (72.30%) / DL
b3083 at Butler and reconductor the 138 kV bus and replace line	03079			(27.70%)
138 kV bus and replace line		Reconductor the 138 kV bus		
138 KV bus and replace line	h2082	at Butler and reconductor the		
trap at Karns City APS (100%)	03003			
		trap at Karns City		APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Relocate 34.5 kV lines from	
b3128 generating station roof R. Paul	
Smith 138 kV station APS (1	00%)
Reconductor the Yukon – Smithton	
– Shepler Hill Jct 138 kV Line.	
b3214.1 Upgrade terminal equipment at	
Yukon and replace line relaying at APS (12.2)	1%) / DL
Mitchell and Charleroi (87.79	9%)
b3214.2 Reconductor the Smithton – Shepler	
B3214.2 Hill Jct 138 kV Line APS (4.74%) /	DL (95.26%)
At Enon substation install a second	
b3230 138 kV, 28.8 MVAR nameplate,	
capacitor and the associated 138 kV	
capacitor switcher APS (1	00%)
Upgrade Cherry Run and Morgan	
b3240 terminals to make the transmission	
line the limiting component APS (1	00%)
Install 138 kV, 36 MVAR capacitor	
and a 5 uF reactor protected by a	
138 kV capacitor switcher. Install a	
b3241 breaker on the 138 kV Junction	
terminal. Install a 138 kV 3.5 uF	
reactor on the existing Hardy 138	
kV capacitor APS (1	00%)
Reconfigure Stonewall 138 kV	
substation from its current	
b3242 configuration to a six-breaker,	
breaker-and-a-half layout and add	
two (2) 36 MVAR capacitors with	
capacitor switchers APS (1	00%)
Reconductor the Shanor Manor -	
Butler 138 kV line with an upgraded	
b3318 build 150 kV line with an upgraded circuit breaker at Butler 138 kV	
station APS (1	00%)
Reconductor the Charleroi - Union	
b3325 138 kV line and upgrade terminal	
equipment at Charleroi 138 kV	
station APS (1	00%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Trail		Revenue Requirement	Res	ponsible Customer(s)
	Upgrade the Shingletown			
	#82 230/46 kV Transformer			
	circuit by installing a 230 kV			
	breaker and disconnect			
b3681	switches, removing existing			
05001	230 kV switches, replacing			
	46 kV disconnect switches,			
	replacing limiting substation			
	conductor, and			
	installing/replacing relays			APS (100%)
	Reconductor the existing			
	556.5 ACSR line segments			
	on the Messick Road –			
	Ridgeley 138 kV line with			
	954 45/7 ACSR to achieve			
b3683	308/376 MVA SN/SE and			
	349/445 MVA WN/WE			
	ratings. Replace the remote			
	end equipment for the line.			
	The total length of the line is			
	5.02 miles			APS (100%)
	Replace terminal equipment			
b3701	at French's Mill and Junction			
	138 kV substations			APS (100%)
	Reconductor AA2-161 to			
b3710	Yukon 138 kV Lines #1 and			
	#2 with 954 ACSS conductor			APS (100%)
	Replace limiting terminal			
b3738	equipment on Charleroi –			
	Dry Run 138 kV line			APS (100%)
	Replace limiting terminal			
b3739	equipment on Dry Run –			
	Mitchell 138 kV line			APS (100%)
	Replace limiting terminal			
b3740	equipment on Glen Falls –			
	Bridgeport 138 kV line			APS (100%)
	Replace limiting terminal			
b3741	equipment on Yukon -			
	Charleroi #1 138 kV line			APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tra	nsmission Ennancements Annual Rev	chuc Requirement	Responsible Cu	stomer(s)
	Replace limiting terminal			
b3742	equipment on Yukon - Charleroi			
	#2 138 kV line			APS (100%)
	At Bedington substation:			
	Replace substation conductor,			
	wave trap, Current Transformers			
	(CT's) and upgrade relaying			
	At Cherry Run substation:			
	Replace substation conductor,			
b3743	wave trap, CT's, disconnect			
	switches, circuit breaker and			
	upgrade relaying			
	At Marlowe substation: Replace			
	substation conductor, wave trap,			
	CT's and upgrade relaying			APS (100%)
	Replace one span of 1272 ACSR			AI 5 (10070)
	from Krendale substation to			
	structure 35			
	(approximately 630 feet)			
	Replace one span of 1272 ACSR from Shanor Manor to structure			
	21 (approximately 148 feet)			
b3744	Replace 1272 ACSR risers at			
	Krendale and Shanor Manor			
	substations			
	Replace 1272 ACSR substation			
	conductor at Krendale substation			
	Replace relaying at Krendale			
	substation			
	Revise relay settings at Butler			A DG (1000()
	and Shanor Manor substations			APS (100%)
1.0-1-	Install redundant relaying at			
b3745	Carbon Center 230 kV			
	substation			APS (100%)
	Install redundant relaying at			
b3746	Meadow Brook 500 kV			
	substation			APS (100%)
b3747	Install redundant relaying at			
03/4/	Bedington 500 kV substation			APS (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

	Install 138 kV breaker on the	I	
1 27(1			
b3761	Ridgway 138/46 kV #2		
	Transformer		APS (100%)
	Reconductor 27.3 miles of		
	the Messick Road – Morgan		
	138 kV line from 556 ACSR		
	to 954 ACSR. At Messick		
	Road substation, replace 138		
b3772	kV wave trap, circuit		
	breaker, CT's, disconnect		
	switch, and substation		
	conductor and upgrade		
	relaying. At Morgan		
	substation, upgrade relaying		APS (100%)
	Install 33 MVAR switched		
	capacitor, 138 kV breaker,		
b3773	and associated relaying at		
	McConnellsburg 138 kV		
	substation		APS (100%)
1.2717.2	Relay work at Springdale		
b3717.3	138 kV station		APS (100%)
	Transmission line work – a		
	new transmission structure		
b3717.4	and necessary tower work to		
	handle the change in tension		
	at Cheswick 138 kV station		APS (100%)
	Replace line drops to Doubs		
1 2 7 0 1	Transformer 3. New		
b3781	transformer rating: 721		
	MVA SN / 862 MVA SE		APS (100%)
l			

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

		Load-Ratio Share
		Allocation:
		<u>AEC (1.65%) / AEP</u>
		(13.68%) / APS (5.76%)
		<u>ATSI (8.04%) / BGE</u>
		<u>(4.11%) / ComEd</u>
		(13.39%) / Dayton
		(2.12%) / DEOK (3.25%)
		/ DL (1.71%) / Dominior
		(13.32%) / DPL (2.60%)
		<u>EKPC (1.89%) / JCPL</u>
	Reconfigure Doubs 500 kV	(3.86%) / ME (1.90%) /
<u>b3800.8</u>	station and upgrade terminal	<u>NEPTUNE* (0.42%) /</u>
	equipment to new line	<u>OVEC (0.08%) / PECO</u>
		(5.40%) / PENELEC
		(1.78%) / PEPCO (3.67%)
		<u>/ PPL (4.72%) / PSEG</u>
		<u>(6.39%) / RE (0.26%)</u>
		DFAX Allocation:
		<u>APS (13.16%) / BGE</u>
		<u>(0.79%) / Dominion</u>
		(74.28%) / DPL (0.41%)
		<u>PECO (0.77%) / PEPCO</u>
		<u>(10.59%)</u>
	Rebuild the existing	
	Hunterstown - Carroll	
	115/138 kV Corridor as	
b3800.9	double circuit using 230 kV	This upgrade ID is only
000000	construction standards. New	for tracking purpose. Cos
	circuit will be operated at	allocation details are
	230 kV. Existing circuit to	available from b3800.10
	remain at 115/138 kV	b3800.18

*Neptune Regional Transmission System, LLC

Required Trail	ismission Ennancements Ann	uai Kevenue Kequitement	<u>Responsible Customer(s)</u>
	Rebuild the Germantown -		
	Carroll 138 kV line to 230		
<u>b3800.13</u>	kV double circuit		
	construction (APS - PE		<u>APS (82.49%) / ME</u>
	Section)		<u>(17.51%)</u>
	Construct new 230 kV		
<u>b3800.15</u>	Hunterstown - Carroll line		APS (99.86%) / ME
	(APS - PE Section)		(0.14%)
h2000 16	Expand Carroll 230 kV		<u>APS (99.86%) / ME</u>
<u>b3800.16</u>	substation to ring bus		<u>(0.14%)</u>
h2900 17	Network upgrade at Carroll		<u>APS (99.86%) / ME</u>
<u>b3800.17</u>	230 kV substation		<u>(0.14%)</u>
	Fayetteville - Grand Point		
<u>b3800.20</u>	138 kV - Replace line trap	<u>at</u>	
	Grand Point 138 kV station		<u>APS (100%)</u>
	Reid - Ringgold 138 kV lin	e	
	- Replace line trap,		
b3800.21	substation conductor,		
	breaker, relaying and CTs a	ıt	
	Ringgold station	-	APS (100%)
1-2900 25	Taneytown 138 kV		
<u>b3800.25</u>	substation terminal upgrade		<u>APS (100%)</u>

Required Tran	smission Enhancements	<u>Annual l</u>	Revenue Requirement	Responsible Customer(s)
				Load-Ratio Share
				Allocation:
				<u>AEC (1.65%) / AEP</u>
				<u>(13.68%) / APS</u>
				<u>(5.76%) / ATSI</u>
				<u>(8.04%) / BGE (4.11%)</u>
				<u>/ ComEd (13.39%) /</u>
				<u>Dayton (2.12%) /</u>
				<u>DEOK (3.25%) / DL</u>
				<u>(1.71%) / Dominion</u>
				<u>(13.32%) / DPL</u>
				<u>(2.60%) / EKPC</u>
	502 Junction substation	two		<u>(1.89%) / JCPL</u>
<u>b3800.101</u>	500 kV circuit breaker			(3.86%) / ME (1.90%) /
	<u>expansion</u>			<u>NEPTUNE* (0.42%) /</u>
				<u>OVEC (0.08%) / PECO</u>
				(5.40%) / PENELEC
				(1.78%) / PEPCO
				(3.67%) / PPL (4.72%)
				<u>/ PSEG (6.39%) / RE</u>
				<u>(0.26%)</u>
				DFAX Allocation:
				<u>APS (25.59%) / BGE</u>
				(9.79%) / Dominion
				<u>(51.94%) / PEPCO</u>
	aional Transmission Sur		~	<u>(12.68%)</u>

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Trar	nsmission Enhancements	Annual Revenue Requiren	nent Responsible Customer(s)
<u>b3800.103</u>	Rebuild approximately miles of the Gore - Sto 138 kV line with 500 overbuild (502 Junctio Woodside 500 kV line section)	onewall <u>kV</u> on to	Load-Ratio Share <u>Allocation:</u> <u>AEC (1.65%) / AEP</u> (13.68%) / APS (5.76% / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25% / DL (1.71%) / Dominio (13.32%) / DPL (2.60% / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (25.59%) / BGE (9.79%) / Dominion (51.94%) / PEPCO (12.68%)

Required Tran	smission Enhancements	Annual	Revenue Requirement	Responsible Customer(s)
<u>Required Tran</u>	smission Enhancements	<u>Annual</u>	<u>Revenue Requirement</u>	Antion Construction Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion
<u>b3800.104</u>	Rebuild approximately miles of the Stonewall Millville 138 kV line w 500 kV overbuild (502 Junction to Woodside 5 kV line section)	<u>-</u> <u>rith</u>		(13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE
*Nontuna Pa	gional Transmission Sys	tom I I	<u>C</u>	(0.26%) DFAX Allocation: <u>APS (9.18%) / BGE</u> (7.21%) / Dominion (72.52%) / PEPCO (11.09%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tran	smission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
<u>b3800.105</u>	Rebuild approximately 6 miles of the Millville - Doubs 138 kV line with 500 kV overbuild (502 Junction to Woodside 500 kV line section)		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (9.18%) / BGE (7.21%) / Dominion (72.52%) / PEPCO (11.09%)
<u>b3800.111</u>	<u>Construct the Woodside -</u> <u>Stonewall 138 kV No. 1 line</u>		<u>APS (100%)</u>
<u>b3800.112</u>	Construct the Woodside - Stonewall 138 kV No. 2 line		APS (100%)
<u>b3800.114</u>	Stonewall 138 kV substation two 138 kV breaker expansion egional Transmission System, Ll		<u>APS (100%)</u>

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Trai	nsmission Enhancements An	nual Revenue Requirement	Responsible Customer(s)
			Load-Ratio Share
			Allocation:
			<u>AEC (1.65%) / AEP</u>
			<u>(13.68%) / APS</u>
			<u>(5.76%) / ATSI</u>
			(8.04%) / BGE (4.11%)
			<u>/ ComEd (13.39%) /</u>
			$\frac{\text{Dayton}(2.12\%)}{\text{DEOU}(2.25\%)}$
			<u>DEOK (3.25%) / DL</u>
			$\frac{(1.71\%) / \text{Dominion}}{(12.22\%) / \text{DPI}}$
	Line work for tomainstin	_	$\frac{(13.32\%) / DPL}{(2.60\%) / EKPC}$
	Line work for terminating Doubs to Bismark line for		<u>(2.60%) / EKPC</u> (1.89%) / JCPL
<u>b3800.116</u>	Doubs to Dismark line to Doubs side at Woodside 3		(3.86%) / ME (1.90%) /
03800.110	kV substation	<u></u>	NEPTUNE* (0.42%) /
	(FE Portion)		OVEC (0.08%) / PECO
			(5.40%) / PENELEC
			(1.78%) / PEPCO
			(3.67%) / PPL (4.72%)
			/ PSEG (6.39%) / RE
			(0.26%)
			DFAX Allocation:
			APS (27.49%) / BGE
			(9.83%) / Dominion
			<u>(53.78%) / PEPCO</u>
			<u>(8.90%)</u>

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tran	smission Enhancements Annu	al Revenue Requirement	Responsible Customer(s)
			Load-Ratio Share
			Allocation:
			<u>AEC (1.65%) / AEP</u>
			<u>(13.68%) / APS</u>
			<u>(5.76%) / ATSI</u>
			<u>(8.04%) / BGE (4.11%)</u>
			<u>/ ComEd (13.39%) /</u>
			<u>Dayton (2.12%) /</u>
			<u>DEOK (3.25%) / DL</u>
	Rebuild 500 kV line No. 51	4	(1.71%) / Dominion
	from Doubs - Goose Creek		(13.32%) / DPL
	500 kV line. The Doubs -		(2.60%) / EKPC
1 2000 122	Goose Creek 500 kV line		(1.89%) / JCPL
<u>b3800.122</u>	will be rebuilt and the Doub	S	(3.86%) / ME (1.90%) /
	- Dickerson 230 kV will be	-	NEPTUNE* (0.42%) /
	relocated and underbuilt on		OVEC (0.08%) / PECO
	the same structure		(5.40%) / PENELEC
			(1.78%) / PEPCO
			(3.67%) / PPL (4.72%)
			/ PSEG (6.39%) / RE
			<u>(0.26%)</u>
			(0.2070)
			DEAV Allocation:
			DFAX Allocation:
			$\frac{\text{APS}(0.08\%)}{(0.000\%)}$
			<u>Dominion (99.90%) /</u>
	cional Transmission System		<u>PEPCO (0.02%)</u>

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Trar	nsmission Enhancements An	nual Revenue Requirement	Responsible Customer(s)
<u>b3800.123</u>	Doubs substation work - R terminate the rebuilt Doub Goose Creek 500 kV line its existing bay, terminate new Doubs - Aspen 500 k line in the open bay at Doubs, Replace three 500 breakers, Replace 500 kV terminal equipment includ disconnect switches, CTs substation conductor & Replace relaying (APS Portion)	$\frac{le_{-}}{ln}$ $\frac{le_{-}}{ln}$ $\frac{le_{-}}{ln}$ $\frac{kV}{ln}$ $\frac{lng}{and}$	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (0.08%) / Dominion (99.90%) / PEPCO (0.02%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

b3800.124 New Doubs to Aspen 500 kV [13.68%] / AES (5.76%) / ATS] (8.04%) / BGE (4.11%) / ComEd (13.39%)/ Dayton (2.12%)/ DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / ICPL (3.86%) / ME (1.90%)/ NEPTUNE* (0.42%)/ OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PPECO (3.67%) / PPL (4.72%)/ OVEC (0.08%) / PEELEC (1.78%) / PPECO (3.67%) / PPL (4.72%)/ / PSEG (6.39%) / RE (0.26%) b3800.125 Rebuild the Doubs - Dickerson 230 kV line. This will be underbuilt on the new Doubs - Goose Creek 500 kV line (APS Portion) PEPCO (100%) b3800.126 Rebuild the Doubs - Aqueduet 230 kV line. This will be underbuilt on the new Doubs - Aspen 500 kV line (APS Portion) PEPCO (100%)	Required Tran	smission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
Rebuild the Doubs - Dickerson 230 kV line. This will be underbuilt on the new Doubs - Goose Creek 500 kV line (APS Portion) PEPCO (100%) Baseline PEPCO (100%) Baseline Aqueduct 230 kV line. This will be underbuilt on the new Doubs - Aspen 500 kV line	<u>b3800.124</u>	*		Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (0.08%) / Dominion (99.90%) /
Besting Rebuild the Doubs - Aqueduct 230 kV line. This will be underbuilt on the new Doubs - Aspen 500 kV line	<u>b3800.125</u>	Dickerson 230 kV line. This will be underbuilt on the new Doubs - Goose Creek 500 kV line		<u>PEPCO (100%)</u>
*Neptune Regional Transmission System, LLC		<u>Rebuild the Doubs -</u> <u>Aqueduct 230 kV line. This</u> will be underbuilt on the new <u>Doubs - Aspen 500 kV line</u> (APS Portion)		<u>PEPCO (100%)</u>

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<u>b3800.127</u>	Rebuild the Dickerson - Aqueduct 230 kV line. This will be underbuilt on the new	
	Doubs - Aspen 500 kV line (APS Portion)	<u>PEPCO (100%)</u>
<u>b3800.413</u>	Replace Double Toll Gate138 kV breaker MDT 138OCB with a breaker rated 40kA	APS (100%)
<u>b3800.414</u>	Replace Doubs 500 kV breaker DL-55 522LIN with a breaker rated 60 kA	<u>APS (100%)</u>

PJM Open Access Transmission Tariff Schedule 12-Appendix A Section 17 – American Electric Power Service Corp.

Version 43.0.0 Effective January 1, 2024 (Accepted in Docket No. ER24-786-000)

SCHEDULE 12 – APPENDIX A

(17) American Electric Power Service Corporation on behalf of its affiliate companies: AEP Appalachian Transmission Company, Inc.; AEP Indiana Michigan Transmission Company, Inc.; AEP Ohio Transmission Company, Inc.; AEP West Virginia Transmission Company, Inc.; Appalachian Power Company; Indiana Michigan Power Company; Kingsport Power Company; Ohio Power Company and Wheeling Power Company

Required Tra	IISTIISSION LAINAICONCIIS AIIIUA	ii Revenue Requirement	
	Add a 345 kV breaker at Marysville station and a 0.1 mile 345 kV line extension		
b1570.4	from Marysville to the new		
	345/69 kV Dayton		
	transformer		AEP (100%)
			Load-Ratio Share Allocation:
			AEC (1.65%) / AEP
			(13.68<u>14.29</u>%) / APS
			(5.76<u>5.82</u>%) / ATSI
			(8.04<u>7.49</u>%) / BGE (4.11<u>4.01</u>%)
			/ ComEd (13.39<u>14.06</u>%) /
	Cloverdale: install 6-765 kV breakers, incremental work for 2 additional breakers, reconfigure and		Dayton (2.122.03%) / DEOK
			(3.25<u>3.21</u>%) / DL (1.71<u>1.59</u>%) /
			DPL (<u>2.60</u> 2.55%) / Dominion
			(13.32<u>13.89</u>%) / EKPC
			(1.89<u>2.35</u>%) / JCPL
			(3.86<u>3.59</u>%) / ME (<u>1.90<u>1.81</u>%) /</u>
b1660.1	relocate miscellaneous		NEPTUNE* (0.42%) / OVEC
	facilities, establish 500 kV		(<u>0.080.06</u> %) / PECO
	station and 500 kV tie with		(5.405.11 %) / PENELEC
	765 kV station		(<u>1.781.73</u> %) / PEPCO
			(3.67<u>3.68</u>%) / PPL (<u>4.72<u>4.43</u>%)</u>
			/ PSEG (6.39<u>5</u>.99 %) / RE
			(<u>0.26</u> <u>0.24</u> %)
			DFAX Allocation:
			AEP (0.1037.66 %) / BGE
			(4 <u>3.2626.21</u> %)/Dayton
			(0.01%) / DEOK (0.100.02%) /
			EKPC (0.060.01%) / PEPCO
			(<u>56.4836.09</u> %)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tran	smission Enhancements Annua	al Revenue Requirement	Responsible Customer(s)
			Load-Ratio Share Allocation:
			AEC (1.65%) / AEP
			(13.6814.29 %) / APS
			(5.76 5.82%) / ATSI
			(8.047.49 %)/BGE (4.114.01%)
			/ ComEd (13.39 14.06%) /
			Dayton (2.122.03%) / DEOK
			(<u>3.253.21</u> %) / DL (<u>1.711.59</u> %) /
			DPL (2.602.55%) / Dominion
			(13.32<u>13.89</u>%) / EKPC
			(<u>1.89</u> 2.35%) / JCPL
	Reconductor the AEP		(3.86<u>3.59</u>%) / ME (<u>1.90<u>1.81</u>%) /</u>
b1797.1	portion of the Cloverdale -		NEPTUNE* (0.42%) / OVEC
01/9/.1	Lexington 500 kV line with		(0.08<u>0.06</u>%) / PECO
	2-1780 ACSS		(5.40<u>5.11</u>%) / PENELEC
			(<u>1.781.73</u> %) / PEPCO
			(3.67<u>3.68</u>%) / PPL (4.72<u>4.43</u>%)
			/ PSEG (6.39<u>5.99</u>%) / RE
			(0.26<u>0.24</u>%)
			DFAX Allocation:
			AEP (−0.28<u>0.06</u>%) / ATSI
			(0.18%) /BGE (4 <u>3.01</u> <u>19.46</u> %)/
			Dayton (0.070.02%) / DEOK
			(0.17<u>0.04</u>%) / <u>Dominion</u>
			<u>(53.61%) /</u> EKPC (0.10 0.02%) /
			PEPCO (56.19<u>26.79</u>%)
b2055	Upgrade relay at Brues		
	station		AEP (100%)
	Upgrade terminal		
1.0100.0	equipment at Howard on		
b2122.3	the Howard - Brookside		
	138 kV line to achieve		
	ratings of 252/291 (SN/SE)		AEP (100%)
1 0 1 0 0 4	Perform a sag study on the		
b2122.4	Howard - Brookside 138		
	kV line		AEP (100%)
b2229	Install a 300 MVAR		
	reactor at Dequine 345 kV		AEP (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Transmission Enhancements Annual Revenue Requirement I	Responsible Customer(s)
	Load-Ratio Share Allocation:
	AEC (1.65%) / AEP
	(13.68<u>14.29</u>%) / APS
	(5.76<u>5.82</u>%) / ATSI
	(8.04<u>7.49</u>%) / BGE (4.11<u>4.01</u>%)
	/ ComEd (13.39<u>14.06</u>%) /
	Dayton (2.122.03%) / DEOK
	(3.25<u>3.21</u>%) / DL (<u>1.711.59</u>%) /
Replace existing 150	DPL (2.602.55%) / Dominion
MVAR reactor at Amos 765	(13.32<u>13.89</u>%) / EKPC
b2230 kV substation on Amos - N.	(<u>1.892.35</u> %) / JCPL
Proctorville - Hanging Rock	(3.86<u>3.59</u>%) / ME (<u>1.901.81</u>%) /
with 300 MVAR reactor	NEPTUNE* (0.42%) / OVEC
	(0.08<u>0.06</u>%) / PECO
	(<u>5.405.11</u> %) / PENELEC
	(1.781.73 %) / PEPCO
	(3.673.68%) / PPL $(4.724.43%)$
	/ PSEG (<u>6.395.99</u> %) / RE
	(<u>0.260.24</u> %)
	DFAX Allocation: AEP (100%)
Install 765 kV reactor	ALF (10078)
breaker at Dumont 765 kV	
b2231 substation on the Dumont -	
Wilton Center line	AEP (100%)
Install 765 kV reactor	
breaker at Marysville 765	
b2232 kV substation on the	
Marysville - Maliszewski	
line	AEP (100%)
Change transformer tap	
b2233 settings for the Baker	
765/345 kV transformer	AEP (100%)
Loop the North Muskingum	
- Crooksville 138 kV line	
b2252 into AEP's Philo 138 kV	
station which lies	
approximately 0.4 miles	
from the line	AEP (100%)

		a ree, ende reequirement	
	Install an 86.4 MVAR		
b2253	capacitor bank at Gorsuch		
	138 kV station in Ohio		AEP (100%)
	Rebuild approximately 4.9		
b2254	miles of Corner - Degussa		
	138 kV line in Ohio		AEP (100%)
	Rebuild approximately 2.8		
b2255	miles of Maliszewski -		
	Polaris 138 kV line in Ohio		AEP (100%)
	Upgrade approximately 36		
	miles of 138 kV through		
b2256	path facilities between		
	Harrison 138 kV station and		
	Ross 138 kV station in Ohio		AEP (100%)
	Rebuild the Pokagon -		
	Corey 69 kV line as a		
	double circuit 138 kV line		
b2257	with one side at 69 kV and		
	the other side as an express		
	circuit between Pokagon		
	and Corey stations		AEP (100%)
	Rebuild 1.41 miles of #2		
	CU 46 kV line between		
b2258	Tams Mountain - Slab Fork		
02238	to 138 kV standards. The		
	line will be strung with		
	1033 ACSR		AEP (100%)
	Install a new 138/69 kV		
	transformer at George		
12250	Washington 138/69 kV		
b2259	substation to provide		
	support to the 69 kV system		
	in the area		AEP (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

K	equired I rai	nsmission Ennancements Annua	a Revenue Requirement	Responsible Customer(s)
		Rebuild 4.7 miles of		
		Muskingum River - Wolf		
	b2286	Creek 138 kV line and		
02280	remove the 138/138 kV			
	transformer at Wolf Creek			
		Station		AEP (100%)
		Loop in the Meadow Lake -		
b2287	Olive 345 kV circuit into			
	Reynolds 765/345 kV			
		station		AEP (100%)

Required Tra		il Revenue Requirement	Responsible Customer(s)
	Establish a new 138/12 kV		
	station, transfer and		
b2344.1	consolidate load from its		
	Nicholsville and Marcellus		
	34.5 kV stations at this new		
	station		AEP (100%)
	Tap the Hydramatic –		
	Valley 138 kV circuit (~		
b2344.2	structure 415), build a new		
	138 kV line (~3.75 miles) to		
	this new station		AEP (100%)
	From this station, construct		
b2344.3	a new 138 kV line (~1.95		
02344.3	miles) to REA's Marcellus		
	station		AEP (100%)
	From REA's Marcellus		
b2344.4	station construct new 138		
	kV line (~2.35 miles) to a		
	tap point on Valley –		
	Hydramatic 138 kV ckt		
	(~structure 434)		AEP (100%)
	Retire sections of the 138		
b2344.5	kV line in between structure		
	415 and 434 (~ 2.65 miles)		AEP (100%)
	Retire AEP's Marcellus		
	34.5/12 kV and Nicholsville		
b2344.6	34.5/12 kV stations and also		
	the Marcellus – Valley 34.5		
	kV line		AEP (100%)
	Construct a new 69 kV line		
b2345.1	from Hartford to Keeler (~8		
	miles)		AEP (100%)
	Rebuild the 34.5 kV lines		
b2345.2	between Keeler - Sister		
02343.2	Lakes and Glenwood tap		
	switch to 69 kV (~12 miles)		AEP (100%)

	Implement in - out at Keeler	
b2345.3	and Sister Lakes 34.5 kV	
	stations	AEP (100%)
	Retire Glenwood tap switch	
	and construct a new	
b2345.4	Rothadew station. These	
	new lines will continue to	
	operate at 34.5 kV	AEP (100%)
	Perform a sag study for	
	Howard - North Bellville -	
b2346	Millwood 138 kV line	
	including terminal	
	equipment upgrades	AEP (100%)
	Replace the North Delphos	
	600A switch. Rebuild	
	approximately 18.7 miles of	
b2347	138 kV line North Delphos	
	- S073. Reconductor the	
	line and replace the existing	
	tower structures	AEP (100%)
	Construct a new 138 kV	
	line from Richlands Station	
b2348	to intersect with the Hales	
	Branch - Grassy Creek 138	
	kV circuit	AEP (100%)
	Change the existing CT	
	ratios of the existing	
b2374	equipment along Bearskin -	
	Smith Mountain 138kV	
	circuit	AEP (100%)
	Change the existing CT	
	ratios of the existing	
b2375	equipment along East	
	Danville-Banister 138kV	
	circuit	AEP (100%)

b2376	Replace the Turner 138 kV breaker 'D'	AEP (100%)
b2377	Replace the North Newark 138 kV breaker 'P'	AEP (100%)
b2378	Replace the Sporn 345 kV breaker 'DD'	AEP (100%)
b2379	Replace the Sporn 345 kV breaker 'DD2'	AEP (100%)
b2380	Replace the Muskingum 345 kV breaker 'SE'	AEP (100%)
b2381	Replace the East Lima 138 kV breaker 'E1'	AEP (100%)
b2382	Replace the Delco 138 kV breaker 'R'	AEP (100%)
b2383	Replace the Sporn 345 kV breaker 'AA2'	AEP (100%)
b2384	Replace the Sporn 345 kV breaker 'CC'	AEP (100%)
b2385	Replace the Sporn 345 kV breaker 'CC2'	AEP (100%)
b2386	Replace the Astor 138 kV breaker '102'	AEP (100%)
b2387	Replace the Muskingum 345 kV breaker 'SH'	AEP (100%)
b2388	Replace the Muskingum 345 kV breaker 'SI'	AEP (100%)
b2389	Replace the Hyatt 138 kV breaker '105N'	AEP (100%)
b2390	Replace the Muskingum 345 kV breaker 'SG'	AEP (100%)
b2391	Replace the Hyatt 138 kV breaker '101C'	AEP (100%)
b2392	Replace the Hyatt 138 kV breaker '104N'	AEP (100%)
b2393	Replace the Hyatt 138 kV breaker '104S'	AEP (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

b2394	Replace the Sporn 345 kV breaker 'CC1'	AEP (100%)
b2409	Install two 56.4 MVAR capacitor banks at the Melmore 138 kV station in Ohio	AEP (100%)
b2410	Convert Hogan Mullin 34.5 kV line to 138 kV, establish 138 kV line between Jones Creek and Strawton, rebuild existing Mullin Elwood 34.5 kV and terminate line into Strawton station, retire Mullin station	AEP (100%)
b2411	Rebuild the 3/0 ACSR portion of the Hadley - Kroemer Tap 69 kV line utilizing 795 ACSR conductor	AEP (100%)
b2423	Install a 300 MVAR shunt reactor at AEP's Wyoming 765 kV station	Load-Ratio Share Allocation: AEC (1.65%) / AEP $(13.6814.29\%)$ / APS $(5.765.82\%)$ / ATSI $(8.047.49\%)$ / BGE $(4.114.01\%)$ / ComEd $(13.3914.06\%)$ / Dayton $(2.122.03\%)$ / DEOK $(3.253.21\%)$ / DL $(1.711.59\%)$ / DPL $(2.602.55\%)$ / Dominion $(13.3213.89\%)$ / EKPC $(1.892.35\%)$ / JCPL $(3.863.59\%)$ / ME $(1.901.81\%)$ / NEPTUNE* (0.42%) / OVEC $(0.080.06\%)$ / PECO $(5.405.11\%)$ / PENELEC $(1.781.73\%)$ / PEPCO $(3.673.68\%)$ / PPL $(4.724.43\%)$ / PSEG $(6.395.99\%)$ / RE $(0.260.24\%)$ DFAX Allocation: AEP (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Willow - Eureka 138 kV line: Reconductor 0.26 mile of 4/0 CU with 336 ACSSAEP (100%)Complete a sag study of b2445Complete a sag study of Tidd - Mahans Lake 138 kV lineAEP (100%)b2449Rebuild the 7-mile 345 kV line between Meadow Lake and Reynolds 345 kV stationsAEP (100%)b2462Add two 138 kV circuit breakers at Fremont station to fix tower contingency '408_2'AEP (100%)	
of 4/0 CU with 336 ACSSAEP (100%)Complete a sag study of Tidd - Mahans Lake 138 kV lineAEP (100%)b2445Tidd - Mahans Lake 138 kV lineAEP (100%)b2449Rebuild the 7-mile 345 kV line between Meadow Lake and Reynolds 345 kV stationsAEP (100%)b2462Add two 138 kV circuit breakers at Fremont station to fix tower contingency '408_2'AEP (100%)	
b2445Complete a sag study of Tidd - Mahans Lake 138 kV lineAEP (100%)b2445Rebuild the 7-mile 345 kV line between Meadow Lake and Reynolds 345 kV stationsAEP (100%)b2462Add two 138 kV circuit breakers at Fremont station to fix tower contingency '408_2'AEP (100%)	
b2445Tidd - Mahans Lake 138 kV lineAEP (100%)b2449Rebuild the 7-mile 345 kV line between Meadow Lake and Reynolds 345 kV stationsAEP (100%)b2462Add two 138 kV circuit breakers at Fremont station to fix tower contingency '408_2'AEP (100%)	
lineAEP (100%)b2449Rebuild the 7-mile 345 kV line between Meadow Lake and Reynolds 345 kV stationsAEP (100%)b2462Add two 138 kV circuit breakers at Fremont station to fix tower contingency '408_2'AEP (100%)	
b2449Rebuild the 7-mile 345 kV line between Meadow Lake and Reynolds 345 kV stationsAEP (100%)b2462Add two 138 kV circuit breakers at Fremont station to fix tower contingency '408_2'AEP (100%)	
b2449line between Meadow Lake and Reynolds 345 kV stationsAEP (100%)b2462Add two 138 kV circuit breakers at Fremont station to fix tower contingency '408_2'AEP (100%)	
b2449 and Reynolds 345 kV AEP (100%) stations Add two 138 kV circuit b2462 breakers at Fremont station to fix tower contingency '408_2'	
and Reynolds 345 kV stations AEP (100%) b2462 Add two 138 kV circuit breakers at Fremont station b2462 fix tower contingency AEP (100%)	
b2462Add two 138 kV circuit breakers at Fremont station to fix tower contingency '408_2'AEP (100%)	
b2462 breakers at Fremont station to fix tower contingency '408_2' AEP (100%)	
b2462 to fix tower contingency '408_2' AEP (100%)	
to fix tower contingency '408_2' AEP (100%)	
Construct a new 138/69 kV	
Yager station by tapping 2-	
b2501 138 kV FE circuits	
(Nottingham-Cloverdale,	
Nottingham-Harmon) AEP (100%)	
Build a new 138 kV line	
b2501.2 from new Yager station to	
Azalea station AEP (100%)	
Close the 138 kV loop back	
b2501.3 into Yager 138 kV by	
b2501.3 converting part of local 69	
kV facilities to 138 kV AEP (100%)	
Build 2 new 69 kV exits to	
reinforce 69 kV facilities	
b2501.4 and upgrade conductor	
b2501.4 between Irish Run 69 kV	
Switch and Bowerstown 69	
kV Switch AEP (100%)	

Required That	nsmission Enhancements Annua	Il Revenue Requirement	Responsible Customer(s)
	Construct new 138 kV		
	switching station		
	Nottingham tapping 6-138		
	kV FE circuits (Holloway-		
	Brookside, Holloway-		
b2502.1	Harmon #1 and #2,		
	Holloway-Reeds,		
	Holloway-New Stacy,		
	Holloway-Cloverdale). Exit		
	a 138 kV circuit from new		
	station to Freebyrd station		AEP (100%)
b2502.2	Convert Freebyrd 69 kV to		
02302.2	138 kV		AEP (100%)
	Rebuild/convert Freebyrd-		
b2502.3	South Cadiz 69 kV circuit		
	to 138 kV		AEP (100%)
b2502.4	Upgrade South Cadiz to 138		
02302.4	kV breaker and a half		AEP (100%)
	Replace the Sporn 138 kV		
b2530	breaker 'G1' with 80 kA		
	breaker		AEP (100%)
	Replace the Sporn 138 kV		
b2531	breaker 'D' with 80 kA		
	breaker		AEP (100%)
	Replace the Sporn 138 kV		
b2532	breaker 'O1' with 80 kA		
	breaker		AEP (100%)
	Replace the Sporn 138 kV		
b2533	breaker 'P2' with 80 kA		
	breaker		AEP (100%)
	Replace the Sporn 138 kV		
b2534	breaker 'U' with 80 kA		
	breaker		AEP (100%)
	Replace the Sporn 138 kV		
b2535	breaker 'O' with 80 kA		
	breaker		AEP (100%)

		1	
	Replace the Sporn 138 kV		
b2536	breaker 'O2' with 80 kA		
	breaker		AEP (100%)
	Replace the Robinson Park		
	138 kV breakers A1, A2,		
b2537	B1, B2, C1, C2, D1, D2,		
	E1, E2, and F1 with 63 kA		
	breakers		AEP (100%)
	Reconductor 0.5 miles		()
	Tiltonsville – Windsor 138		
	kV and string the vacant		
b2555	side of the 4.5 mile section		
	using 556 ACSR in a six		
	wire configuration		AEP (100%)
	Install two 138 kV prop		(10070)
	structures to increase the		
b2556	maximum operating		
1	temperature of the Clinch		
1	River- Clinch Field 138 kV		
	line		AEP (100%)
	Temporary operating		
	procedure for delay of		
	upgrade b1464. Open the		
	Corner 138 kV circuit		
	breaker 86 for an overload		
b2581	of the Corner – Washington		
02381	MP 138 kV line. The tower		
	contingency loss of		
	Belmont – Trissler 138 kV		
	and Belmont – Edgelawn		
	138 kV should be added to		
	Operational contingency		AEP (100%)
L			(*****)

Required 11a	Ismission Enhancements Annual R	evenue Requirement	Responsible Customer(s)
	Construct a new 69 kV line		
	approximately 2.5 miles from		
b2591	Colfax to Drewry's. Construct		
02071	a new Drewry's station and		
	install a new circuit breaker at		
	Colfax station.		AEP (100%)
	Rebuild existing East		
	Coshocton – North Coshocton		
	double circuit line which		
b2592	contains Newcomerstown – N.		
	Coshocton 34.5 kV Circuit		
	and Coshocton – North		
	Coshocton 69 kV circuit		AEP (100%)
	Rebuild existing West Bellaire		
	– Glencoe 69 kV line with 138		
b2593	kV & 69 kV circuits and		
	install 138/69 kV transformer		
	at Glencoe Switch		AEP (100%)
	Rebuild 1.0 mile of Brantley –		``````````````````````````````````````
1.2504	Bridge Street 69 kV Line with		
b2594	1033 ACSR overhead		
	conductor		AEP (100%)
	Rebuild 7.82 mile Elkhorn		
1 2505 1	City – Haysi S.S 69 kV line		
b2595.1	utilizing 1033 ACSR built to		
	138 kV standards		AEP (100%)
	Rebuild 5.18 mile Moss –		
1 2 5 2 5 2	Haysi SS 69 kV line utilizing		
b2595.2	1033 ACSR built to 138 kV		
	standards		AEP (100%)
	Move load from the 34.5 kV		
	bus to the 138 kV bus by		
b2596	installing a new 138/12 kV XF		
	at New Carlisle station in		
	Indiana		AEP (100%)
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Required 11a		i Revenue Requirement	Responsible Customer(s)
	Rebuild approximately 1		
	mi. section of Dragoon-		
	Virgil Street 34.5 kV line		
	between Dragoon and		
b2597	Dodge Tap switch and		
	replace Dodge switch		
	MOAB to increase thermal		
	capability of Dragoon-		
	Dodge Tap branch		AEP (100%)
	Rebuild approximately 1		
	mile section of the Kline-		
	Virgil Street 34.5 kV line		
b2598	between Kline and Virgil		
02398	Street tap. Replace MOAB		
	switches at Beiger, risers at		
	Kline, switches and bus at		
	Virgil Street		AEP (100%)
	Rebuild approximately 0.1		
b2599	miles of 69 kV line between		
	Albion and Albion tap		AEP (100%)
b2600	Rebuild Fremont – Pound		
02000	line as 138 kV		AEP (100%)
1.2(0.1	Fremont Station		
b2601	Improvements		AEP (100%)
b2601.1	Replace MOAB towards		
	Beaver Creek with 138 kV		
	breaker		AEP (100%)
b2601.2	Replace MOAB towards		
	Clinch River with 138 kV		
	breaker		AEP (100%)
b2601.3	Replace 138 kV Breaker A		
	with new bus-tie breaker		AEP (100%)
	Re-use Breaker A as high		
b2601.4	side protection on		
02001.7	transformer #1		AEP (100%)
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	Institusion Enhancements Annual Re	
	Install two (2) circuit switchers	
b2601.5	on high side of transformers # 2	
	and 3 at Fremont Station	AEP (100%)
1.0.000.1	Install 138 kV breaker E2 at	· · · ·
b2602.1	North Proctorville	AEP (100%)
	Construct 2.5 Miles of 138 kV	
	1033 ACSR from East	
b2602.2	Huntington to Darrah 138 kV	
	substations	AEP (100%)
	Install breaker on new line exit	
b2602.3	at Darrah towards East	
02002.5		A E D (1000/)
	Huntington	AEP (100%)
1.2002.4	Install 138 kV breaker on new	
b2602.4	line at East Huntington towards	
	Darrah	AEP (100%)
1.0.00.	Install 138 kV breaker at East	
b2602.5	Huntington towards North	
	Proctorville	AEP (100%)
b2603	Boone Area Improvements	
02005	-	AEP (100%)
	Purchase approximately a	
b2603.1	200X300 station site near	
02003.1	Slaughter Creek 46 kV station	
	(Wilbur Station)	AEP (100%)
	Install 3 138 kV circuit	
b2603.2	breakers, Cabin Creek to	
	Hernshaw 138 kV circuit	AEP (100%)
	Construct 1 mi. of double	
1 2 (0 2 2	circuit 138 kV line on Wilbur –	
	Boone 46 kV line with 1590	
	ACSS 54/19 conductor @ 482	
b2603.3	Degree design temp. and 1-159	
	12/7 ACSR and one 86	
	Sq.MM. 0.646" OPGW Static	
	wires	AEP (100%)
	Bellefonte Transformer	
b2604	Addition	AED (1000/)
	Addition	AEP (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

AEP Service Corporation on behalf of its Affiliate Companies: AEP Indiana Michigan Transmission Company, AEP Ohio Transmission Company, AEP West Virginia Transmission Company, Appalachian Power Company, Indiana Michigan Power Company, Kingsport Power Company, Ohio Power Company and Wheeling Power Company (cont.)

	Remove approximately 11.32	•	
b2604.1	miles of the 69 kV line		
	between Millbrook Park and		
	Franklin Furnace		AEP (100%)
	At Millbrook Park station,		
	add a new 138/69 kV		
	Transformer #2 (90 MVA)		
	with 3000 A 40 kA breakers		
b2604.2	on the high and low side.		
	Replace the 600 A MOAB		
	switch and add a 3000 A		
	circuit switcher on the high		
	side of Transformer #1		AEP (100%)
	Replace Sciotoville 69 kV		
	station with a new 138/12 kV		
1-2604-2	in-out station (Cottrell) with		
b2604.3	2000 A line MOABs facing		
	Millbrook Park and East		
	Wheelersburg 138 kV station		AEP (100%)
	Tie Cottrell switch into the		
	Millbrook Park – East		
b2604.4	Wheelersburg 138 kV circuit		
02004.4	by constructing 0.50 mile of		
	line using 795 ACSR 26/7		
	Drake (SE 359 MVA)		AEP (100%)
	Install a new 2000 A 3-way		
b2604.5	PoP switch outside of Texas		
	Eastern 138 kV substation		
	(Sadiq switch)		AEP (100%)
b2604.6	Replace the Wheelersburg 69		
	kV station with a new 138/12		
	kV in-out station (Sweetgum)		
	with a 3000 A 40 kA breaker		
	facing Sadiq switch and a		
	2000 A 138 kV MOAB		
	facing Althea		AEP (100%)

Itequirea Ita		Responsible Customer(s)
	Build approximately 1.4 miles of new 138 kV line	
	using 795 ACSR 26/7	
b2604.7	Drake (SE 359 MVA)	
	between the new Sadiq	
	switch and the new	
	Sweetgum 138 kV station	AEP (100%)
b2604.8	Remove the existing 69 kV	
02004.8	Hayport Road switch	 AEP (100%)
	Rebuild approximately 2.3	
	miles along existing Right-	
	Of-Way from Sweetgum to	
	the Hayport Road switch 69	
	kV location as 138 kV	
	single circuit and rebuild	
	approximately 2.0 miles	
b2604.9	from the Hayport Road	
02001.9	switch to Althea 69 kV with	
	double circuit 138 kV	
	construction, one side	
	operated at 69 kV to	
	continue service to K.O.	
	Wheelersburg, using 795	
	ACSR 26/7 Drake (SE 359	
	MVA)	AEP (100%)
	Build a new station (Althea)	
b2604.10	with a 138/69 kV, 90 MVA	
	transformer. The 138 kV	
	side will have a single 2000	
	A 40 kA circuit breaker and	
	the 69 kV side will be a	
	2000 A 40 kA three breaker	
	ring bus	AEP (100%)
b2604.11	Remote end work at	
	Hanging Rock, East	
	Wheelersburg and North Haverhill 138 kV	AED (100%)
	Πανειίιιι 130 Κν	AEP (100%)

Required Tra	nsmission Enhancements Annual F	conde Requirement	Responsible Customer(s)
	Rebuild and reconductor		
	Kammer – George		
	Washington 69 kV circuit and		
b2605	George Washington –		
02003	Moundsville ckt #1, designed		
	for 138 kV. Upgrade limiting		
	equipment at remote ends and		
	at tap stations		AEP (100%)
	Convert Bane –		
b2606	Hammondsville from 23 kV to		
	69 kV operation		AEP (100%)
b2607	Dina Can Dalay Limit Increase		
02007	Pine Gap Relay Limit Increase		AEP (100%)
b2608	Richlands Relay Upgrade		
02008	Kiemanus Kelay Opgrade		AEP (100%)
	Thorofare – Goff Run –		
b2609	Powell Mountain 138 kV		
	Build		AEP (100%)
b2610	Rebuild Pax Branch –		
02010	Scaraboro as 138 kV		AEP (100%)
b2611	Skin Fork Area Improvements		
	-		AEP (100%)
	New 138/46 kV station near		
b2611.1	Skin Fork and other		
	components		AEP (100%)
	Construct 3.2 miles of 1033		
10(110	ACSR double circuit from		
b2611.2	new Station to cut into		
	Sundial-Baileysville 138 kV		
			AEP (100%)
	Replace metering BCT on		
	Tanners Creek CB T2 with a		
b2634.1	slip over CT with higher		
	thermal rating in order to		
	remove 1193 MVA limit on		
	facility (Miami Fort-Tanners		
	Creek 345 kV line)		AEP (100%)

Required 11a	institussion Enhancements Annua	ii Kevenue Requirement	Responsible Customer(s)
b2643	Replace the Darrah 138 kV breaker 'L' with 40 kA rated breaker		AEP (100%)
b2645	Ohio Central 138 kV Loop		AEP (100%)
b2667	Replace the Muskingum 138 kV bus # 1 and 2		AEP (100%)
b2668	Reconductor Dequine to Meadow Lake 345 kV circuit #1 utilizing dual 954 ACSR 54/7 cardinal conductor		AEP (99.89<u>98.19</u>%) / OVEC (<u>0.111.81</u>%)
b2668.1	Replace the bus/risers at Dequine 345 kV station		AEP (100%)
b2669	Install a second 345/138 kV transformer at Desoto		AEP (100%)
b2670	Replace switch at Elk Garden 138 kV substation (on the Elk Garden – Lebanon 138 kV circuit)		AEP (100%)
b2671	Replace/upgrade/add terminal equipment at Bradley, Mullensville, Pinnacle Creek, Itmann, and Tams Mountain 138 kV substations. Sag study on Mullens – Wyoming and Mullens – Tams Mt. 138 kV circuits		AEP (100%)

Required Trai	nsmission Enhancements Annua	al Revenue Requirement	Responsible Customer(s)
			Load-Ratio Share Allocation:
			AEC (1.65%) / AEP
			(13.68<u>14.29</u>%) / APS
			(5.76<u>5.82</u>%) / ATSI
			(8.04<u>7.49</u>%) / BGE (4.11<u>4.01</u>%)
			/ ComEd (13.39<u>14.06</u>%) /
			Dayton (2.122.03%) / DEOK
			(3.25<u>3.21</u>%) / DL (<u>1.71<u>1.59</u>%) /</u>
			DPL (2.602.55%) / Dominion
	Install a +/- 450 MVAR		(13.32<u>13.89</u>%) / EKPC
b2687.1	SVC at Jacksons Ferry 765		(1.89<u>2.35</u>%) / JCPL
	kV substation		(3.86<u>3.59</u>%) / ME (<u>1.901.81</u>%) /
			NEPTUNE* (0.42%) / OVEC
			(0.08<u>0.06</u>%) / PECO
			(5.40<u>5.11</u>%) / PENELEC
			(1.78<u>1.73</u>%) / PEPCO
			(3.67<u>3.68</u>%) / PPL (4.72<u>4.43</u>%)
			/ PSEG (6.39<u>5.99</u>%) / RE
			(0.26 <u>0.24</u> %)
			DFAX Allocation:
			AEP (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.6814.29%) / APS (5.765.82%) / ATSI (8.047.49%) / BGE (4.114.01%) / ComEd (13.3914.06%) / Dayton (2.122.03%) / BDEK (3.253.21%) / DL (1.741.59%) / DPL (2.602.55%) / Dominion (13.3213.89%) / EKPC (1.4892.35%) / JCPL Broadford – Jacksons Ferry 765 kV lineDPL (2.602.55%) / Dominion (13.3213.89%) / EKPC (1.4892.35%) / JCPL (1.4892.35%) / JCPL (1.489	Required Trai	nsmission Enhancements Annua	al Revenue Requirement	Responsible Customer(s)
$b2687.2 \begin{array}{ c c c c c } & \text{Mitigate violations} \\ b2697.1 \\ \hline $				Load-Ratio Share Allocation:
$b2687.2 \begin{array}{ c c c c c } \mbox{Mitigate violations} \\ b2697.1 \\ \mbox{because} \\ b2697.1 \\ \mbox{Mitigate violations} \\ \mbox{because} \\ \mbox{Mitigate violations} \\ \mbox{identified by sag study to} \\ \mbox{operating temperature. 6} \\ \mbox{operating temperature. 6} \\ \mbox{potential line crossings to} \\ \mbox{Replace terminal equipment} \\ \mbox{Mitigate violations} \\ \mbox{Mitigate terminal equipment} \\ M$				AEC (1.65%) / AEP
$b2687.2 \begin{bmatrix} \text{Mitigate violations} \\ \text{identified by sag study to} \\ \text{operature Fieldale-Thornton-Franklin 138 kV overhead} \\ \end{bmatrix} \\ b2687.1 \begin{bmatrix} \text{Mitigate violations} \\ \text{identified by sag study to} \\ \text{operature fieldale-Thornton-Franklin 138 kV overhead} \\ \text{inc conductor at its max.} \\ \text{operature fieldale-Thornton-Franklin 138 kV overhead} \\ \text{inc conductor at its max.} \\ \text{operature fieldale-Thornton-Franklin 138 kV overhead} \\ \text{Inc addressed} \\ \text{Replace terminal equipment} \end{bmatrix} \\ \begin{bmatrix} \text{Mitigate terminal equipment} \end{bmatrix} \\ \end{bmatrix} \\ \begin{bmatrix} \text{Mitigate terminal equipment} \end{bmatrix} \\ \begin{bmatrix} \text{Mitigate terminal equipment} \end{bmatrix} \\ \end{bmatrix} \\ \begin{bmatrix} \text{Mitigate terminal equipment} \end{bmatrix} \\ \end{bmatrix} \\ \begin{bmatrix} \text{Mitigate terminal equipment} \end{bmatrix} \\ \begin{bmatrix} \text{Mitigate terminal equipment} \end{bmatrix} \\ \end{bmatrix} \\ \end{bmatrix} \\ \begin{bmatrix} \text{Mitigate terminal equipment} \end{bmatrix} \\ \begin{bmatrix} \text{Mitigate terminal equipment} \end{bmatrix} \\ \end{bmatrix} \\ \begin{bmatrix} \text{Mitigate terminal equipment} \end{bmatrix} \\ \end{bmatrix} \\ \begin{bmatrix} \text{Mitigate terminal equipment} \end{bmatrix} \\ \begin{bmatrix} \text{Mitigate terminal equipment} \end{bmatrix} \\ \end{bmatrix} \\ \begin{bmatrix} \text{Mitigate terminal equipment} \end{bmatrix} \\ \begin{bmatrix} \text{Mitigate terminal equipment} \end{bmatrix} \\ \begin{bmatrix} \text{Mitigate terminal equipment} \end{bmatrix} \\ \end{bmatrix} \\ \begin{bmatrix} \text{Mitigate terminal equipment} \end{bmatrix} \\ \end{bmatrix} \\ \begin{bmatrix} \text{Mitigate terminal equipment} $				(13.68<u>14.29</u>%) / APS
b2687.2Install a 300 MVAR shunt line reactor on the Broadford end of the Broadford - Jacksons Ferry 765 kV lineDPL (2.602.55%) / Dominion (13.2213.89%) / EKPC (1.892.35%) / JCPL (3.863.59%) / ME (1.901.81%) / NEPTUNE* (0.42%) / OVEC (0.080.06%) / PECO (5.405.11%) / PENELEC (1.781.73%) / PEPCO (3.673.68%) / PPL (4.724.43%) / PSEG (6.395.99%) / RE (0.260.24%)b2697.1Mitigate violations identified by sag study to operate Fieldale-Thornton- Franklin 138 kV overhead line conductor at its max. operating temperature. 6 potential line crossings to be addressedAEP (100%)kReplace terminal equipmentAEP (100%)				(5.76<u>5.82</u>%) / ATSI
b2687.2Install a 300 MVAR shunt line reactor on the Broadford end of the Broadford - Jacksons Ferry 765 kV lineDayton (2.122.03%) / DEOK (3.253.21%) / DL (4.741.59%) / DPL (2.602.55%) / Dominion (13.3213.89%) / EKPC (1.4892.35%) / JCPL (3.863.59%) / ME (4.901.81%) / NEPTUNE* (0.42%) / OVEC (0.080.06%) / PECO (5.405.11%) / PENELEC (1.781.73%) / PENCO (3.673.68%) / PPL (4.724.43%) / PSEG (6.395.99%) / RE (0.260.24%)b2697.1Mitigate violations identified by sag study to operate Fieldale-Thornton- Franklin 138 kV overhead line conductor at its max. operating temperature. 6 potential line crossings to be addressedAEP (100%)kReplace terminal equipmentAEP (100%)				(8.04<u>7.49</u>%) / BGE (4.11<u>4.01</u>%)
b2687.2Install a 300 MVAR shunt line reactor on the Broadford end of the Broadford – Jacksons Ferry 765 kV line(3.253.21%) / DL (4.741.59%) / DPL (2.602.55%) / Dominion (13.3213.89%) / EKPC (1.892.35%) / JCPL (3.863.59%) / ME (1-901.81%) / NEPTUNE* (0.42%) / OVEC (0.080.06%) / PECO (5.4405.11%) / PENELEC (1.4781.73%) / PEPCO (3.673.68%) / PL (4.724.43%) / PSEG (6.395.99%) / RE (0.260.24%)b2697.1Mitigate violations identified by sag study to operate Fieldale-Thornton- Franklin 138 kV overhead line conductor at its max. operating temperature. 6 potential line crossings to be addressedAEP (100%)Replace terminal equipmentAEP (100%)				/ ComEd (13.39<u>14.06</u>%) /
b2687.2Install a 300 MVAR shunt line reactor on the Broadford end of the Broadford – Jacksons Ferry 765 kV lineDPL (2.602.55%) / Dominion (13.3213.89%) / EKPC (1.892.35%) / JCPL (3.863.59%) / ME (1-901.81%) / NEPTUNE* (0.42%) / OVEC (0.080.06%) / PECO (5.405.11%) / PENELEC (1.781.73%) / PEPCO (3.673.68%) / PPL (4.724.43%) / PSEG (6.395.99%) / RE (0.260.24%)b2697.1Mitigate violations identified by sag study to operate Fieldale-Thornton- Franklin 138 kV overhead line conductor at its max. operating temperature. 6 potential line crossings to be addressedAEP (100%)Replace terminal equipmentAEP (100%)				Dayton (2.122.03%) / DEOK
b2687.2line reactor on the Broadford end of the Broadford – Jacksons Ferry 765 kV line(13.3213.89%) / EKPC (1.892.35%) / JCPL (3.863.59%) / ME (1.901.81%) / NEPTUNE* (0.42%) / OVEC (0.080.06%) / PECO (5.405.11%) / PENELEC (1.781.73%) / PEPCO (3.673.68%) / PPL (4.724.43%) / PSEG (6.395.99%) / RE (0.260.24%)b2697.1Mitigate violations identified by sag study to operate Fieldale-Thornton- Franklin 138 kV overhead line conductor at its max. operating temperature. 6 potential line crossings to be addressedAEP (100%)kReplace terminal equipmentAEP (100%)				(3.25<u>3.21</u>%) / DL (<u>1.71<u>1.59</u>%) /</u>
b2687.2 Broadford end of the Broadford – Jacksons Ferry 765 kV line (1-892.35%) / JCPL (3.863.59%) / ME (1-901.81%) / NEPTUNE* (0.42%) / OVEC (0.080.06%) / PECO (5.405.11%) / PENELEC (1.781.73%) / PEPCO (3.673.68%) / PPL (4.724.43%) / PSEG (6.395.99%) / RE (0.260.24%) b2697.1 Mitigate violations identified by sag study to operate Fieldale-Thornton- Franklin 138 kV overhead line conductor at its max. operating temperature. 6 potential line crossings to be addressed AEP (100%) Replace terminal equipment AEP (100%)		Install a 300 MVAR shunt		DPL (2.60 2.55%) / Dominion
Broadford – Jacksons Ferry 765 kV line(3.863.59%) / ME (1.901.81%) / NEPTUNE* (0.42%) / OVEC (0.080.06%) / PECO (5.405.11%) / PENELEC (1.781.73%) / PEPCO (3.673.68%) / PPL (4.724.43%) / PSEG (6.395.99%) / RE (0.260.24%)b2697.1Mitigate violations identified by sag study to operate Fieldale-Thornton- Franklin 138 kV overhead line conductor at its max. operating temperature. 6 potential line crossings to be addressedAEP (100%)Replace terminal equipmentAEP (100%)		line reactor on the		
765 kV line NEPTUNE* (0.42%) / OVEC (0.080.06%) / PECO (5.405.11%) / PENELEC (1.73%) / PEPCO (3.673.68%) / PPL (4.724.43%) (0.260.24%) / PSEG (6.395.99%) / RE (0.260.24%) DFAX Allocation: AEP (100%) AEP (100%) b2697.1 Mitigate violations identified by sag study to operate Fieldale-Thornton- Franklin 138 kV overhead AEP (100%) Ine conductor at its max. operating temperature. 6 potential line crossings to be addressed AEP (100%) AEP (100%)	b2687.2	Broadford end of the		
b2697.1 Mitigate violations identified by sag study to operate Fieldale-Thornton- Franklin 138 kV overhead line conductor at its max. operating temperature. 6 potential line crossings to 				
b2697.1 Mitigate violations identified by sag study to operate Fieldale-Thornton- Franklin 138 kV overhead line conductor at its max. operating temperature. 6 potential line crossings to be addressed Mitigate violations (6.395.99%) / PEPCO (3.673.68%) / PPL (4.724.43%) / PSEG (6.395.99%) / RE (0.260.24%) DFAX Allocation: AEP (100%)		765 kV line		× ,
b2697.1 Mitigate violations identified by sag study to operate Fieldale-Thornton- Franklin 138 kV overhead line conductor at its max. operating temperature. 6 potential line crossings to be addressed Mitigate violations (1.781.73%) / PEPCO (3.673.68%) / PL (4.724.43%) / PSEG (6.395.99%) / RE (0.260.24%) b2697.1 Mitigate violations identified by sag study to operate Fieldale-Thornton- Franklin 138 kV overhead line conductor at its max. operating temperature. 6 potential line crossings to be addressed AEP (100%)				· · · · · · · · · · · · · · · · · · ·
b2697.1 Mitigate violations identified by sag study to operate Fieldale-Thornton- Franklin 138 kV overhead line conductor at its max. operating temperature. 6 potential line crossings to be addressed Mitigate violations (3.673.68%) / PPL (4.724.43%) / PSEG (6.395.99%) / RE (0.260.24%) b2697.1 Mitigate violations identified by sag study to operate Fieldale-Thornton- Franklin 138 kV overhead line conductor at its max. operating temperature. 6 potential line crossings to be addressed AEP (100%)				· /
b2697.1 Mitigate violations identified by sag study to operate Fieldale-Thornton- Franklin 138 kV overhead line conductor at its max. operating temperature. 6 potential line crossings to be addressed AEP (100%) Replace terminal equipment AEP (100%)				· · · · · · · · · · · · · · · · · · ·
b2697.1 Mitigate violations identified by sag study to operate Fieldale-Thornton- Franklin 138 kV overhead line conductor at its max. operating temperature. 6 potential line crossings to be addressed AEP (100%) AEP (100%) AEP (100%)				
b2697.1 Mitigate violations identified by sag study to operate Fieldale-Thornton- Franklin 138 kV overhead line conductor at its max. operating temperature. 6 potential line crossings to be addressed DFAX Allocation: AEP (100%) Back Allocation: AEP (100%) AEP (100%)				· /
Mitigate violations identified by sag study to operate Fieldale-Thornton- Franklin 138 kV overhead line conductor at its max. operating temperature. 6 potential line crossings to be addressedAEP (100%)Replace terminal equipmentAEP (100%)				
b2697.1 Mitigate violations identified by sag study to operate Fieldale-Thornton- Franklin 138 kV overhead line conductor at its max. operating temperature. 6 potential line crossings to be addressed AEP (100%) Replace terminal equipment AEP (100%)				
b2697.1identified by sag study to operate Fieldale-Thornton- Franklin 138 kV overhead line conductor at its max. operating temperature. 6 potential line crossings to be addressedAEP (100%)Replace terminal equipmentAEP (100%)				AEP (100%)
b2697.1operate Fieldale-Thornton- Franklin 138 kV overhead line conductor at its max. operating temperature. 6 potential line crossings to be addressedAEP (100%)Replace terminal equipmentAEP (100%)		0		
b2697.1 Franklin 138 kV overhead line conductor at its max. operating temperature. 6 potential line crossings to be addressed AEP (100%) Replace terminal equipment AEP (100%)				
b2697.1 line conductor at its max. operating temperature. 6 potential line crossings to be addressed AEP (100%) Replace terminal equipment AEP (100%)				
Ine conductor at its max. operating temperature. 6 potential line crossings to be addressed AEP (100%) Replace terminal equipment	b2697.1			
potential line crossings to be addressed AEP (100%) Replace terminal equipment AEP (100%)				
be addressed AEP (100%) Replace terminal equipment Image: Comparison of the second se				
Replace terminal equipment		1 C		
				AEP (100%)
Lat AFP's Danville and Fast				
	b2697.2			
b2697.2 Danville substations to				
improve thermal capacity of				
Danville – East Danville				
138 kV circuit AEP (100%) *Nentune Regional Transmission System, LLC				AEP (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

ISTIISSION ETIMATECHTCHTS ATTITUAT	i i i inde i tequinement	
Replace relays at AEP's		
• 1		
1 1		
		AEP (100%)
breaker and a half		
configuration with 9-138 kV		
CB's on 4 strings and with 2-		
28.8 MVAR capacitor banks		AEP (100%)
Construct new 138 kV line		
from Herlan station to Blue		
Racer station. Estimated		
approx. 3.2 miles of 1234		
ACSS/TW Yukon and		
OPGW		AEP (100%)
Install 1-138 kV CB at Blue		
Racer to terminate new		
Herlan circuit		AEP (100%)
Rebuild/upgrade line		
between Glencoe and		
Willow Grove Switch 69 kV		AEP (100%)
Build approximately 11.5		
556.5 ACSR 26/7 Dove		
conductor on wood poles		
from Flushing station to		
Smyrna station		AEP (100%)
Replace the South Canton		
138 kV breakers 'K', 'J',		
'J1', and 'J2' with 80 kA		
breakers		AEP (100%)
	Replace relays at AEP's Cloverdale and Jackson's Ferry substations to improve the thermal capacity of Cloverdale – Jackson's Ferry 765 kV line Construct Herlan station as breaker and a half configuration with 9-138 kV CB's on 4 strings and with 2- 28.8 MVAR capacitor banks Construct new 138 kV line from Herlan station to Blue Racer station. Estimated approx. 3.2 miles of 1234 ACSS/TW Yukon and OPGW Install 1-138 kV CB at Blue Racer to terminate new Herlan circuit Rebuild/upgrade line between Glencoe and Willow Grove Switch 69 kV Build approximately 11.5 miles of 34.5 kV line with 556.5 ACSR 26/7 Dove conductor on wood poles from Flushing station to Smyrna station Replace the South Canton 138 kV breakers 'K', 'J', 'J1', and 'J2' with 80 kA	Replace relays at AEP'sCloverdale and Jackson'sFerry substations to improvethe thermal capacity ofCloverdale – Jackson's Ferry765 kV lineConstruct Herlan station asbreaker and a halfconfiguration with 9-138 kVCB's on 4 strings and with 2-28.8 MVAR capacitor banksConstruct new 138 kV linefrom Herlan station to BlueRacer station. Estimatedapprox. 3.2 miles of 1234ACSS/TW Yukon andOPGWInstall 1-138 kV CB at BlueRacer to terminate newHerlan circuitRebuild/upgrade linebetween Glencoe andWillow Grove Switch 69 kVBuild approximately 11.5miles of 34.5 kV line with556.5 ACSR 26/7 Doveconductor on wood polesfrom Flushing station toSmyrna stationReplace the South Canton138 kV breakers 'K', 'J','J1', and 'J2' with 80 kA

Required 11a	Institussion Enhancements Annual	Revenue Requirement	Responsible Customer(s)
	Convert the Sunnyside –		
	East Sparta – Malvern 23 kV		
b2731	sub-transmission network to		
	69 kV. The lines are already		
	built to 69 kV standards		AEP (100%)
	Replace South Canton 138		
b2733	kV breakers 'L' and 'L2'		
	with 80 kA rated breakers		AEP (100%)
	Retire Betsy Layne		
	138/69/43 kV station and		
b2750.1	replace it with the greenfield		
02750.1	Stanville station about a half		
	mile north of the existing		
	Betsy Layne station		AEP (100%)
	Relocate the Betsy Layne		
	capacitor bank to the		
b2750.2	Stanville 69 kV bus and		
	increase the size to 14.4		
	MVAR		AEP (100%)
	Replace existing George		
	Washington station 138 kV		
	yard with GIS 138 kV		
1.0752 1	breaker and a half yard in		
b2753.1	existing station footprint.		
	Install 138 kV revenue		
	metering for new IPP		
	connection		AEP (100%)
	Replace Dilles Bottom 69/4		, , , , , , , , , , , , , , , , , , ,
	kV Distribution station as		
b2753.2	breaker and a half 138 kV		
	yard design including AEP		
	Distribution facilities but		
	initial configuration will		
	constitute a 3 breaker ring		
	bus		AEP (100%)
L		L	

b2753.3 Connect two 138 kV 6-wired circuits from "Point A" (currently de-energized and owned by FirstEnergy) in circuit positions previously designated Burger #1 & Burger #2 138 kV. Install interconnection settlement metering on both circuits exiting Holloway AEP (100%) Build double circuit 138 kV line from Dilles Bottom to "Point A". Tie each new AEP circuit in with a 6-wired line at Point A. This will create a Dilles Bottom – Holloway 138 kV circuit and a George Washington – Holloway 138 kV circuit AEP (100%) Retire line sections (Dilles Bottom – Bellaire and Moundsville – Dilles Bottom 69 kV lines) south of FirstEnergy 138 kV line corridor, near "Point A". Tie George Washington – Moundsville 69 kV circuit to George Washington – Moundsville 69 kV circuit to George Washington – Moundsville 69 kV circuit to George Washington – Moundsville 69 kV line as double circuit from George Washington – Moundsville 69 kV line as double circuit from George Washington – Dilles Bottom 138 kV. One circuit will cut into Dilles Bottom 138 kV initially and the other will cut into Dilles Bottom		Institussion Enhancements Annual	Revenue Requirement	Responsible Customer(s)
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		will go past with future plans		
to cut in AEP (100%)		to cut in		AEP (100%)

requirea ira	Institusion Lindicentents Annual	te venue requirement	
b2760	Perform a Sag Study of the Saltville – Tazewell 138 kV line to increase the thermal		
	rating of the line		AEP (100%)
b2761.2	Perform a Sag Study of the Hazard – Wooten 161 kV line to increase the thermal rating of the line		AEP (100%)
b2761.3	Rebuild the Hazard – Wooton 161 kV line utilizing 795 26/7 ACSR conductor (300 MVA rating)		AEP (100%)
b2762	Perform a Sag Study of Nagel – West Kingsport 138 kV line to increase the thermal rating of the line		AEP (100%)
b2776	Reconductor the entire Dequine – Meadow Lake 345 kV circuit #2		AEP (99.89 98.19%) / OVEC (0.11 1.81%)
b2777	Reconductor the entire Dequine – Eugene 345 kV circuit #1		AEP (5.96<u>100</u>%) / EKPC (89.89%) / OVEC (4.15%)
b2779.1	Construct a new 138 kV station, Campbell Road, tapping into the Grabill – South Hicksville138 kV line		AEP (100%)
b2779.2	Reconstruct sections of the Butler-N.Hicksville and Auburn-Butler 69 kV circuits as 138 kV double circuit and extend 138 kV from Campbell Road station		AEP (100%)

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b2779.3	Construct a new 345/138 kV SDI Wilmington Station which will be sourced from Collingwood 345 kV and serve the SDI load at 345 kV	
	and 138 kV, respectively Loop 138 kV circuits in-out	AEP (100%)
	of the new SDI Wilmington	
	138 kV station resulting in a	
	direct circuit to Auburn 138 kV and an indirect circuit to	
b2779.4	Auburn and Rob Park via	
02779.4	Dunton Lake, and a circuit to	
	Campbell Road; Reconductor	
	138 kV line section between	
	Dunton Lake – SDI	
	Wilmington	AEP (100%)
b2779.5	Expand Auburn 138 kV bus	AEP (100%)
	Construct a 345 kV ring bus	
b2779.6	at Dunton Lake to serve Steel	
	Dynamics, Inc. (SDI) load at 345 kV via two (2) circuits	AEP (100%)
1.000	Retire Collingwood 345 kV	
b2779.7	station	AEP (100%)
b2787	Reconductor 0.53 miles (14	
	spans) of the Kaiser Jct Air Force Jct. Sw section of the	
	Kaiser - Heath 69 kV	
	circuit/line with 336 ACSR to	
	match the rest of the circuit	
	(73 MVA rating, 78%	
	loading)	AEP (100%)

Required Tra	Institussion Enhancements Annual	Revenue Requirement	Responsible Customer(s)
	Install a new 3-way 69 kV		
	line switch to provide service		
	to AEP's Barnesville		
b2788	distribution station. Remove a		
	portion of the #1 copper T-		
	Line from the 69 kV through-		
	path		AEP (100%)
	Rebuild the Brues - Glendale		
b2789	Heights 69 kV line section (5		
	miles) with 795 ACSR (128		
	MVA rating, 43% loading)		AEP (100%)

Required I rai	nsmission Enhancements A	Annual Revenue Requirem	nent Responsible Customer(s)
	Install a 3 MVAR, 34.5 kV		
b2790	cap bank at Caldwell		
	substation		AEP (100%)
b2791	Rebuild Tiffin – Howard, new		
02/91	transformer at Chatfield		AEP (100%)
	Rebuild portions of the East		
	Tiffin - Howard 69 kV line		
	from East Tiffin to West		
b2791.1	Rockaway Switch (0.8 miles)		
	using 795 ACSR Drake		
	conductor (129 MVA rating,		
	50% loading)		AEP (100%)
	Rebuild Tiffin - Howard 69		
	kV line from St. Stephen's		
	Switch to Hinesville (14.7		
b2791.2	miles) using 795 ACSR		
	Drake conductor (90 MVA		
	rating, non-conductor limited,		
	38% loading)		AEP (100%)
	New 138/69 kV transformer		
b2791.3	with 138/69 kV protection at		
	Chatfield		AEP (100%)
b2791.4	New 138/69 kV protection at		
02/91.4	existing Chatfield transformer		AEP (100%)
	Replace the Elliott		
	transformer with a 130 MVA		
	unit, reconductor 0.42 miles		
b2792	of the Elliott – Ohio		
	University 69 kV line with		
	556 ACSR to match the rest		
	of the line conductor (102		
	MVA rating, 73% loading)		
	and rebuild 4 miles of the		
	Clark Street – Strouds R		AEP (100%)

Required Tra	nsmission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
b2793	Energize the spare Fremont Center 138/69 kV 130 MVA transformer #3. Reduces overloaded facilities to 46% loading		AEP (100%)
b2794	Construct new 138/69/34 kV station and 1-34 kV circuit (designed for 69 kV) from new station to Decliff station, approximately 4 miles, with 556 ACSR conductor (51 MVA rating)		AEP (100%)
b2795	Install a 34.5 kV 4.8 MVAR capacitor bank at Killbuck 34.5 kV station		AEP (100%)
b2796	Rebuild the Malvern - Oneida Switch 69 kV line section with 795 ACSR (1.8 miles, 125 MVA rating, 55% loading)		AEP (100%)
b2797	Rebuild the Ohio Central - Conesville 69 kV line section (11.8 miles) with 795 ACSR conductor (128 MVA rating, 57% loading). Replace the 50 MVA Ohio Central 138/69 kV XFMR with a 90 MVA unit		AEP (100%)
b2798	Install a 14.4 MVAR capacitor bank at West Hicksville station. Replace ground switch/MOAB at West Hicksville with a circuit switcher		AEP (100%)
b2799	Rebuild Valley - Almena, Almena - Hartford, Riverside - South Haven 69 kV lines. New line exit at Valley Station. New transformers at Almena and Hartford		AEP (100%)

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Required Tran	nsmission Enhancements	Annual Revenue Requirem	nent Responsible Customer(s)
b2799.1	Rebuild 12 miles of Valley – Almena 69 kV line as a double circuit 138/69 kV line using 795 ACSR conductor (360 MVA rating) to introduce a new 138 kV source into the 69 kV load pocket around Almena station		AEP (100%)
b2799.2	Rebuild 3.2 miles of Almena to Hartford 69 kV line using 795 ACSR conductor (90 MVA rating)		AEP (100%)
b2799.3	Rebuild 3.8 miles of Riverside – South Haven 69 kV line using 795 ACSR conductor (90 MVA rating)		AEP (100%)
b2799.4	At Valley station, add new 138 kV line exit with a 3000 A 40 kA breaker for the new 138 kV line to Almena and replace CB D with a 3000 A 40 kA breaker		AEP (100%)
b2799.5	At Almena station, install a 90 MVA 138/69 kV transformer with low side 3000 A 40 kA breaker and establish a new 138 kV line exit towards Valley		AEP (100%)
b2799.6	At Hartford station, install a second 90 MVA 138/69 kV transformer with a circuit switcher and 3000 A 40 kA low side breaker		AEP (100%)

Required Tra	Insmission Enhancements	Annual Revenue Requirement Responsible Customer(s)
b2817	Replace Delaware 138 kV breaker 'P' with a 40 kA	
	breaker	AEP (100%)
	Replace West Huntington 138	
b2818	kV breaker 'F' with a 40 kA	
	breaker	AEP (100%)
	Replace Madison 138 kV	
b2819	breaker 'V' with a 63 kA	
	breaker	AEP (100%)
	Replace Sterling 138 kV	
b2820	breaker 'G' with a 40 kA	
	breaker	AEP (100%)
	Replace Morse 138 kV	
b2821	breakers '103', '104', '105',	
02021	and '106' with 63 kA	
	breakers	AEP (100%)
	Replace Clinton 138 kV	
b2822	breakers '105' and '107' with	
	63 kA breakers	AEP (100%)
b2826.1	Install 300 MVAR reactor at	
	Ohio Central 345 kV	
	substation	AEP (100%)

b2826.2	Install 300 MVAR reactor at West Bellaire 345 kV	
	substation	AEP (100%)
b2831.1	Upgrade the Tanner Creek – Miami Fort 345 kV circuit (AEP portion)	DFAX Allocation: AEP (27.0924.63 %) / Dayton (38.6438.63 %) / DEOK (34.2736.74 %)
b2832	Six wire the Kyger Creek – Sporn 345 kV circuits #1 and #2 and convert them to one circuit	AEP (100%)
b2833	Reconductor the Maddox Creek – East Lima 345 kV circuit with 2-954 ACSS Cardinal conductor	DFAX Allocation: AEP (76.06<u>75.78</u>%) / Dayton (23.94<u>2</u>4.22%)
b2834	Reconductor and string open position and sixwire 6.2 miles of the Chemical – Capitol Hill 138 kV circuit	AEP (100%)
b2872	Replace the South Canton 138 kV breaker 'K2' with a 80 kA breaker	AEP (100%)
b2873	Replace the South Canton 138 kV breaker "M" with a 80 kA breaker	AEP (100%)
b2874	Replace the South Canton 138 kV breaker "M2" with a 80 kA breaker	AEP (100%)
b2878	Upgrade the Clifty Creek 345 kV risers	AEP (100%)
b2880	Rebuild approximately 4.77 miles of the Cannonsburg – South Neal 69 kV line section utilizing 795 ACSR conductor (90 MVA rating)	AEP (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2881	Rebuild ~1.7 miles of the Dunn Hollow – London 46 kV line section utilizing 795 26/7 ACSR conductor (58 MVA rating, non-conductor limited)		AEP (100%)
b2882	Rebuild Reusens - Peakland Switch 69 kV line. Replace Peakland Switch		AEP (100%)
b2882.1	Rebuild the Reusens - Peakland Switch 69 kV line (approximately 0.8 miles) utilizing 795 ACSR conductor (86 MVA rating, non-conductor limited)		AEP (100%)
b2882.2	Replace existing Peakland S.S. with new 3 way switch phase over phase structure		AEP (100%)
b2883	Rebuild the Craneco – Pardee – Three Forks – Skin Fork 46 kV line section (approximately 7.2 miles) utilizing 795 26/7 ACSR conductor (108 MVA rating)		AEP (100%)
b2884	Install a second transformer at Nagel station, comprised of 3 single phase 250 MVA 500/138 kV transformers. Presently, TVA operates their end of the Boone Dam – Holston 138 kV interconnection as normally open preemptively for the loss of the existing Nagel		AEP (100%)
b2885	New delivery point for City of Jackson		AEP (100%)

Required Tra	nsmission Enhancements A	Annual Revenue Requireme	ent Responsible Customer(s)
	Install a new Ironman Switch		
	to serve a new delivery point		
b2885.1	requested by the City of		
	Jackson for a load increase		
	request		AEP (100%)
	Install a new 138/69 kV		
	station (Rhodes) to serve as a		
b2885.2	third source to the area to help		
	relieve overloads caused by		
	the customer load increase		AEP (100%)
	Replace Coalton Switch with		
b2885.3	a new three breaker ring bus		
	(Heppner)		AEP (100%)
	Install 90 MVA 138/69 kV		
	transformer, new transformer		
b2886	high and low side 3000 A 40		
02000	kA CBs, and a 138 kV 40 kA		
	bus tie breaker at West End		
	Fostoria		AEP (100%)
	Add 2-138 kV CB's and		
	relocate 2-138 kV circuit exits		
b2887	to different bays at Morse		
	Road. Eliminate 3 terminal		
	line by terminating Genoa -		
	Morse circuit at Morse Road		AEP (100%)
1 0 0 0 0	Retire Poston substation.		
b2888	Install new Lemaster		
	substation		AEP (100%)
b2888.1	Remove and retire the Poston		
	138 kV station		AEP (100%)
1.0000	Install a new greenfield		
b2888.2	station, Lemaster 138 kV		
	Station, in the clear		AEP (100%)

Required Tra	nsmission Enhancements Ar	nual Revenue Requirement	Responsible Customer(s)
b2888.3	Relocate the Trimble 69 kV AEP Ohio radial delivery point to 138 kV, to be served off of the Poston – Strouds Run – Crooksville 138 kV circuit via a new three-way switch. Retire the Poston - Trimble 69 kV line		AEP (100%)
b2889	Expand Cliffview station		AEP (100%)
b2889.1	Cliffview Station: Establish 138 kV bus. Install two 138/69 kV XFRs (130 MVA), six 138 kV CBs (40 kA 3000 A) and four 69 kV CBs (40 kA 3000 A)		AEP (100%)
b2889.2	Byllesby – Wythe 69 kV: Retire all 13.77 miles (1/0 CU) of this circuit (~4 miles currently in national forest)		AEP (100%)
b2889.3	Galax – Wythe 69 kV: Retire 13.53 miles (1/0 CU section) of line from Lee Highway down to Byllesby. This section is currently double circuited with Byllesby – Wythe 69 kV. Terminate the southern 3/0 ACSR section into the newly opened position at Byllesby		AEP (100%)
b2889.4	Cliffview Line: Tap the existing Pipers Gap – Jubal Early 138 kV line section. Construct double circuit in/out (~2 miles) to newly established 138 kV bus, utilizing 795 26/7 ACSR conductor		AEP (100%)

Required Tra	ansmission Enhancements A	Annual Revenue Requireme	ent Responsible Customer(s)
	Rebuild 23.55 miles of the East		
	Cambridge – Smyrna 34.5 kV		
b2890.1	circuit with 795 ACSR		
	conductor (128 MVA rating)		
	and convert to 69 kV		AEP (100%)
	East Cambridge: Install a 2000		
b2890.2	A 69 kV 40 kA circuit breaker		
02890.2	for the East Cambridge –		
	Smyrna 69 kV circuit		AEP (100%)
	Old Washington: Install 69 kV		
b2890.3	2000 A two way phase over		
	phase switch		AEP (100%)
b2890.4	Install 69 kV 2000 A two way		
02890.4	phase over phase switch		AEP (100%)
	Rebuild the Midland Switch to		
	East Findlay 34.5 kV line (3.31		
b2891	miles) with 795 ACSR (63		
	MVA rating) to match other		
	conductor in the area		AEP (100%)
	Install new 138/12 kV		
	transformer with high side		
	circuit switcher at Leon and a		
	new 138 kV line exit towards		
b2892	Ripley. Establish 138 kV at the		
	Ripley station with a new 138/69		
	kV 130 MVA transformer and		
	move the distribution load to		
	138 kV service		AEP (100%)
	Rebuild approximately 6.7 miles		
	of 69 kV line between Mottville		
	and Pigeon River using 795		
b2936.1	ACSR conductor (129 MVA		
	rating). New construction will be		
	designed to 138 kV standards		
	but operated at 69 kV		AEP (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requirement	t Responsible Customer(s)
b2936.2	Pigeon River Station: Replace existing MOAB Sw. 'W' with a new 69 kV 3000 A 40 kA breaker, and upgrade existing relays towards HMD station. Replace CB H with a 3000 A 40 kA breaker		AEP (100%)
b2937	Replace the existing 636 ACSR 138 kV bus at Fletchers Ridge with a larger 954 ACSR conductor		AEP (100%)
b2938	Perform a sag mitigations on the Broadford – Wolf Hills 138 kV circuit to allow the line to operate to a higher maximum temperature		AEP (100%)
b2958.1	Cut George Washington – Tidd 138 kV circuit into Sand Hill and reconfigure Brues & Warton Hill line entrances		AEP (100%)
b2958.2	Add 2 138 kV 3000 A 40 kA breakers, disconnect switches, and update relaying at Sand Hill station		AEP (100%)
b2968	Upgrade existing 345 kV terminal equipment at Tanner Creek station		AEP (100%)
b2969	Replace terminal equipment on Maddox Creek - East Lima 345 kV circuit		AEP (100%)
b2976	Upgrade terminal equipment at Tanners Creek 345 kV station. Upgrade 345 kV bus and risers at Tanners Creek for the Dearborn circuit		AEP (100%)

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Required Trai		Annual Revenue Requiremen	t Responsible Customer(s)
	Replace the Twin Branch 345 kV breaker "JM" with 63 kA		
1 2000	breaker and associated		
b2988	substation works including		
	switches, bus leads, control		
	cable and new DICM		AEP (100%)
	Rebuild the Torrey – South		
	Gambrinus Switch –		
1 0000	Gambrinus Road 69 kV line		
b2993	section (1.3 miles) with 1033		
	ACSR 'Curlew' conductor		
	and steel poles		AEP (100%)
	Replace South Canton 138 kV		
b3000	breaker 'N' with an 80 kA		
	breaker		AEP (100%)
	Replace South Canton 138 kV		
b3001	breaker 'N1' with an 80 kA		
	breaker		AEP (100%)
	Replace South Canton 138 kV		
b3002	breaker 'N2' with an 80 kA		
	breaker		AEP (100%)
	Rebuild 15.6 miles of		
b3036	Haviland - North Delphos 138		
	kV line		AEP (100%)
b3037	Upgrades at the Natrium		
03037	substation		AEP (100%)
b3038	Reconductor the Capitol Hill		
03030	– Coco 138 kV line section		AEP (100%)
b3039	Line swaps at Muskingum		
03039	138 kV station		AEP (100%)
	Rebuild Ravenswood –		
	Racine tap 69 kV line section		
b3040.1	(~15 miles) to 69 kV		
	standards, utilizing 795 26/7		
	ACSR conductor		AEP (100%)

Required Tra	nsmission Enhancements A	nnual Revenue Requirement	Responsible Customer(s)
b3040.2	Rebuild existing Ripley – Ravenswood 69 kV circuit (~9 miles) to 69 kV standards, utilizing 795 26/7 ACSR conductor		AEP (100%)
b3040.3	Install new 3-way phase over phase switch at Sarah Lane station to replace the retired switch at Cottageville		AEP (100%)
b3040.4	Install new 138/12 kV 20 MVA transformer at Polymer station to transfer load from Mill Run station to help address overload on the 69 kV network		AEP (100%)
b3040.5	Retire Mill Run station		AEP (100%)
b3040.6	Install 28.8 MVAR cap bank at South Buffalo station		AEP (100%)
b3051.2	Adjust CT tap ratio at Ronceverte 138 kV		AEP (100%)
b3085	Reconductor Kammer – George Washington 138 kV line (approx. 0.08 mile). Replace the wave trap at Kammer 138 kV		AEP (100%)
b3086.1	Rebuild New Liberty – Findlay 34 kV line Str's 1–37 (1.5 miles), utilizing 795 26/7 ACSR conductor		AEP (100%)
b3086.2	Rebuild New Liberty – North Baltimore 34 kV line Str's 1- 11 (0.5 mile), utilizing 795 26/7 ACSR conductor		AEP (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requireme	ent Responsible Customer(s)
	Rebuild West Melrose –		
b3086.3	Whirlpool 34 kV line Str's		
03080.3	55–80 (1 mile), utilizing 795		
	26/7 ACSR conductor		AEP (100%)
	North Findlay station: Install		
	a 138 kV 3000A 63kA line		
b3086.4	breaker and low side 34.5 kV		
03080.4	2000A 40 kA breaker, high		
	side 138 kV circuit switcher		
	on T1		AEP (100%)
	Ebersole station: Install		
	second 90 MVA 138/69/34		
b3086.5	kV transformer. Install two		
	low side (69 kV) 2000A 40		
	kA breakers for T1 and T2		AEP (100%)

Required Tran	nsmission Enhancements	Annual Revenue Requiremen	t Responsible Customer(s)
	Rebuild Lakin – Racine Tap		
b3095	69 kV line section (9.2 miles)		
03093	to 69 kV standards, utilizing		
	795 26/7 ACSR conductor		AEP (100%)
	Install a 138 kV 3000A 40 kA		
	circuit switcher on the high		
b3099	side of the existing 138/34.5		
	kV transformer No.5 at		
	Holston station		AEP (100%)
	Replace the 138 kV MOAB		
	switcher "YY" with a new		
b3100	138 kV circuit switcher on the		
	high side of Chemical		
	transformer No.6		AEP (100%)
	Rebuild the 1/0 Cu. conductor		
	sections (approx. 1.5 miles) of		
	the Fort Robinson – Moccasin		
	Gap 69 kV line section		
b3101	(approx. 5 miles) utilizing		
05101	556 ACSR conductor and		
	upgrade existing relay trip		
	limit (WN/WE: 63 MVA, line		
	limited by remaining		
	conductor sections)		AEP (100%)
	Replace existing 50 MVA		
	138/69 kV transformers #1		
b3102	and #2 (both 1957 vintage) at		
	Fremont station with new 130		
	MVA 138/69 kV transformers		AEP (100%)

Required Tra	ansmission Enhancements	Annual Revenue Requir	rement Responsible Customer(s)
	Install a 138/69 kV	-	•
	transformer at Royerton		
	station. Install a 69 kV bus		
	with one 69 kV breaker		
121021	toward Bosman station.		
b3103.1	Rebuild the 138 kV portion		
	into a ring bus configuration		
	built for future breaker and a		
	half with four 138 kV		
	breakers		AEP (100%)
	Rebuild the		
	Bosman/Strawboard station in		
b3103.2	the clear across the road to		
05105.2	move it out of the flood plain		
	and bring it up to 69 kV		
	standards		AEP (100%)
	Retire 138 kV breaker L at		
b3103.3	Delaware station and re-		
05105.5	purpose 138 kV breaker M		
	for the Jay line		AEP (100%)
	Retire all 34.5 kV equipment		
b3103.4	at Hartford City station. Re-		
05105.4	purpose breaker M for the		
	Bosman line 69 kV exit		AEP (100%)
	Rebuild the 138 kV portion of		
	Jay station as a 6 breaker,		
	breaker and a half station re-		
	using the existing breakers		
b3103.5	"A", "B", and "G." Rebuild		
05105.5	the 69 kV portion of this		
	station as a 6 breaker ring bus		
	re-using the 2 existing 69 kV		
	breakers. Install a new 138/69		
	kV transformer		AEP (100%)

Rebuild the 69 kV Hartford City – Armstrong Cork line ut instead of terminating it nto Armstrong Cork, erminate it into Jay station Build a new 69 kV line from Armstrong Cork – Jay station Rebuild the 34.5 kV Delaware – Bosman line as ne 69 kV Royerton – Etrawboard line. Retire the ine section from Royerton to	AEP (100%) AEP (100%)
ut instead of terminating it nto Armstrong Cork, erminate it into Jay station Build a new 69 kV line from Armstrong Cork – Jay station Rebuild the 34.5 kV Delaware – Bosman line as ne 69 kV Royerton – Etrawboard line. Retire the	
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Build a new 69 kV line from Armstrong Cork – Jay station Rebuild the 34.5 kV Delaware – Bosman line as the 69 kV Royerton – Arawboard line. Retire the	
Armstrong Cork – Jay station Rebuild the 34.5 kV Delaware – Bosman line as ne 69 kV Royerton – Atrawboard line. Retire the	AEP (100%)
Rebuild the 34.5 kV Delaware – Bosman line as ne 69 kV Royerton – trawboard line. Retire the	AEP (100%)
Delaware – Bosman line as ne 69 kV Royerton – trawboard line. Retire the	
ne 69 kV Royerton – trawboard line. Retire the	
trawboard line. Retire the	
ne section from Roverton to	
me section nom Royerton to	
Delaware stations	AEP (100%)
erform a sag study on the	
olaris – Westerville 138 kV	
ine (approx. 3.6 miles) to	
ncrease the summer	
mergency rating to 310	
AVA UVA	AEP (100%)
Rebuild the Delaware – Hyatt	
•	
< I I	
2	AEP (100%)
,	
e	
-	AEP (100%)
-	
	AEP (100%)
	ebuild the Delaware – Hyatt as kV line (approx. 4.3 hiles) along with replacing onductors at both Hyatt and belaware substations erform a sag study (6.8 hiles of line) to increase the E rating to 310 MVA. Note hat results from the sag study build cover a wide range of utcomes, from no work equired to a complete rebuild ebuild 5.2 miles Bethel – awmill 138 kV line heluding ADSS

Required Tran	nsmission Enhancements	Annual Revenue Requirer	ment Responsible Customer(s)
b3112	Construct a single circuit 138 kV line (approx. 3.5 miles) from Amlin to Dublin using 1033 ACSR Curlew (296 MVA SN), convert Dublin station into a ring configuration, and re- terminating the Britton UG cable to Dublin station		AEP (100%)
b3116	Replace existing Mullens 138/46 kV 30 MVA transformer No.4 and associated protective equipment with a new 138/46 kV 90 MVA transformer and associated protective equipment		AEP (100%)
b3119.1	Rebuild the Jay – Pennville 138 kV line as double circuit 138/69 kV. Build a new 9.8 mile single circuit 69 kV line from near Pennville station to North Portland station		AEP (100%)

Required Tr	ansmission Enhancements	Annual Revenue Requirement Responsible Custome	er(s)
b3119.2	Install three (3) 69 kV breakers to create the "U" string and add a low side breaker on the Jay transformer 2	AEP (100%)	
b3119.3	Install two (2) 69 kV breakers at North Portland station to complete the ring and allow for the new line	AEP (100%)	
b3129	At Conesville 138 kV station: Remove line leads to generating units, transfer plant AC service to existing station service feeds in Conesville 345/138 kV yard, and separate and reconfigure protection schemes	AEP (100%)	
b3131	At East Lima and Haviland 138 kV stations, replace line relays and wavetrap on the East Lima – Haviland 138 kV facility	AEP (100%)	
b3131.1	Rebuild approximately 12.3 miles of remaining Lark conductor on the double circuit line between Haviland and East Lima with 1033 54/7 ACSR conductor	AEP (100%)	
b3132	Rebuild 3.11 miles of the LaPorte Junction – New Buffalo 69 kV line with 795 ACSR	AEP (100%)	
b3139	Rebuild the Garden Creek – Whetstone 69 kV line (approx. 4 miles)	AEP (100%)	
b3140	Rebuild the Whetstone – Knox Creek 69 kV line (approx. 3.1 miles)	AEP (100%)	

anirad Transmission Enhancements Annual Pavanua Paguiromant Pagnangihla Custamar(a) n

Required Tra		ual Revenue Requirement Respo	onsible Customer(s)
	Rebuild the Knox Creek – Coal		
b3141	Creek 69 kV line (approx. 2.9		
	miles)		AEP (100%)
	Rebuild the 46 kV Bradley –		
	Scarbro line to 96 kV standards		
	using 795 ACSR to achieve a		
1.01.40.1	minimum rate of 120 MVA.		
b3148.1	Rebuild the new line adjacent to		
	the existing one leaving the old		
	line in service until the work is		
	completed		AEP (100%)
	Bradley remote end station		
b3148.2	work, replace 46 kV bus, install		
	new 12 MVAR capacitor bank		AEP (100%)
	Replace the existing switch at		
1 2 1 4 0 2	Sun substation with a 2-way		
b3148.3	SCADA-controlled motor-		
	operated air-breaker switch		AEP (100%)
	Remote end work and		
b3148.4	associated equipment at Scarbro		
	station		AEP (100%)
	Retire Mt. Hope station and		· · ·
b3148.5	transfer load to existing Sun		
	station		AEP (100%)
	Rebuild the 2.3 mile Decatur –		
b3149	South Decatur 69 kV line using		
	556 ACSR		AEP (100%)
	Rebuild Ferguson 69/12 kV		· · ·
	station in the clear as the 138/12		
	kV Bear station and connect it		
b3150	to an approx. 1 mile double		
03130	circuit 138 kV extension from		
	the Aviation – Ellison Road 138		
	kV line to remove the load from		
	the 69 kV line		AEP (100%)

Required Tran		Annual Revenue Requirement Respon	sible Customer(s)
	Rebuild the 30 mile Gateway -	-	
b3151.1	Wallen 34.5 kV circuit as the		
03131.1	27 mile Gateway – Wallen 69		
	kV line	A	AEP (100%)
	Retire approx. 3 miles of the		
b3151.2	Columbia – Whitley 34.5 kV		
	line		AEP (100%)
	At Gateway station, remove al	1	
	34.5 kV equipment and install		
b3151.3	one (1) 69 kV circuit breaker		
	for the new Whitley line		
	entrance	A	AEP (100%)
	Rebuild Whitley as a 69 kV		
b3151.4	station with two (2) lines and		
	one (1) bus tie circuit breaker	A	AEP (100%)
	Replace the Union 34.5 kV		
b3151.5	switch with a 69 kV switch		
	structure		AEP (100%)
	Replace the Eel River 34.5 kV		
b3151.6	switch with a 69 kV switch		
	structure		AEP (100%)
b3151.7	Install a 69 kV Bobay switch a	ıt	
03131.7	Woodland station	A	AEP (100%)
	Replace the Carroll and		
	Churubusco 34.5 kV stations		
	with the 69 kV Snapper station	1.	
b3151.8	Snapper station will have two		
	(2) line circuit breakers, one (1		
	bus tie circuit breaker and a		
	14.4 MVAR cap bank	<i> </i>	AEP (100%)
b3151.9	Remove 34.5 kV circuit		
03131.3	breaker "AD" at Wallen station	n A	AEP (100%)
	Rebuild the 2.5 miles of the		
b3151.10	Columbia – Gateway 69 kV		
	line		AEP (100%)

Required Tran	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Rebuild Columbia station in the clear as a 138/69 kV station with two (2) 138/69 kV transformers and 4-		
b3151.11	breaker ring buses on the high and low side. Station will reuse 69 kV breakers "J" & "K" and 138 kV breaker "D"		AEP (100%)
1.2151.12	Rebuild the 13 miles of the		AEF (10076)
b3151.12	Columbia – Richland 69 kV line		AEP (100%)
b3151.13	Rebuild the 0.5 mile Whitley – Columbia City No.1 line as 69 kV		AEP (100%)
b3151.14	Rebuild the 0.5 mile Whitley – Columbia City No.2 line as 69 kV		AEP (100%)
b3151.15	Rebuild the 0.6 mile double circuit section of the Rob Park – South Hicksville / Rob Park – Diebold Road as 69 kV		AEP (100%)
b3160.1	Construct an approx. 2.4 miles double circuit 138 kV extension using 1033 ACSR (Aluminum Conductor Steel Reinforced) to connect Lake Head to the 138 kV network		AEP (100%)
b3160.2	Retire the approx.2.5 miles 34.5 kV Niles – Simplicity Tap line		AEP (100%)
b3160.3	Retire the approx.4.6 miles Lakehead 69 kV Tap		AEP (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requirer	ment Responsible Customer(s)
	Build new 138/69 kV drop down station to feed		
	Lakehead with a 138 kV		
b3160.4	breaker, 138 kV switcher,		
	138/69 kV transformer and a		
	138 kV Motor-Operated Air		
	Break		AEP (100%)
	Rebuild the approx. 1.2 miles		
	Buchanan South 69 kV		
b3160.5	Radial Tap using 795 ACSR		
	(Aluminum Conductor Steel		
	Reinforced)		AEP (100%)
	Rebuild the approx.8.4 miles		
	69 kV Pletcher – Buchanan		
1.01.00.0	Hydro line as the approx. 9		
b3160.6	miles Pletcher – Buchanan		
	South 69 kV line using 795		
	ACSR (Aluminum Conductor		
	Steel Reinforced)		AEP (100%)
	Install a PoP (Point-of-		
121(0.7	Presence) switch at Buchanan		
b3160.7	South station with 2 line		
	MOABs (Motor-Operated Air		
	Break)		AEP (100%)

Required '	Transmission Enhancements	Annual Revenue Requ	uirement	Responsible Customer(s)
b3208	Transmission EnhancementsRetire approximately 38miles of the 44 mile Clifford– Scottsville 46 kV circuit.Build new 138 kV "in andout" to two new distributionstations to serve the loadformerly served by Phoenix,Shipman, Schuyler (AEP),and Rockfish stations.Construct new 138 kV linesfrom Joshua Falls – Riverville(approx. 10 miles) andRiverville – Gladstone(approx. 5 miles). Installrequired station upgrades atJoshua Falls, Riverville andGladstone stations toaccommodate the new 138kV circuits. Rebuild Reusen –	Annual Revenue Req	urement	Responsible Customer(s)
	Monroe 69 kV (approx. 4 miles)			AEP (100%)
b3209	Rebuild the 10.5 mile Berne – South Decatur 69 kV line using 556 ACSR			AEP (100%)
b3210	Replace approx. 0.7 mile Beatty – Galloway 69 kV line with 4000 kcmil XLPE cable			AEP (100%)
b3220	Install 14.4 MVAR capacitor bank at Whitewood 138 kV			AEP (100%)

Required Transmission Enhancements		Annual Revenue Requiremen	nt Responsible Customer(s)
b3243	Replace risers at the Bass		
03243	34.5 kV station		AEP (100%)
	Rebuild approximately 9		
b3244	miles of the Robinson Park –		
	Harlan 69 kV line		AEP (100%)
	Install a low side 69 kV		
b3248	circuit breaker at the Albion		
	138/69 kV transformer #1		AEP (100%)
	Rebuild the Chatfield –		
b3249	Melmore 138 kV line		
03249	(approximately 10 miles) to		
	1033 ACSR conductor		AEP (100%)

Required 7	Transmission Enhancements	Annual Revenue Requir	ement Responsible Customer(s)
	Install a 3000A 40 kA 138 kV breaker on the high side of		
	138/69 kV transformer #5 at		
b3253	the Millbrook Park station. The		
	transformer and associated bus protection will be upgraded		
	accordingly		AEP (100%)
	Upgrade 795 AAC risers at the		
1 2255	Sand Hill 138 kV station		
b3255	towards Cricket Switch with		
	1272 AAC		AEP (100%)
	Upgrade 500 MCM Cu risers at		
b3256	Tidd 138 kV station towards		
	Wheeling Steel; replace with		AED (1009/)
	1272 AAC conductorReplace two spans of 336.4		AEP (100%)
	26/7 ACSR on the Twin		
b3257	Branch – AM General #2 34.5		
	kV circuit		AEP (100%)
	Install a 3000A 63 kA 138 kV		<u> </u>
	breaker on the high side of		
	138/69 kV transformer #2 at		
b3258	Wagenhals station. The		
	transformer and associated bus		
	protection will be upgraded		A = D (100%)
	accordinglyAt West Millersburg station,		AEP (100%)
	replace the 138 kV MOAB on		
b3259	the West Millersburg –		
	Wooster 138 kV line with a		
	3000A 40 kA breaker		AEP (100%)
	Upgrade circuit breaker "R1"		
	at Tanners Creek 345 kV.		
b3261	Install Transient Recovery		
	Voltage capacitor to increase		
	the rating from 50 kA to 63 kA		AEP (100%)

Required 7	Fransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	At West New Philadelphia		
	station, add a high side 138 kV breaker on the 138/69 kV		
b3269			
	Transformer #2 along with a		
	138 kV breaker on the line towards Newcomerstown		A = D(1009/)
	Install 1.7 miles of 795 ACSR		AEP (100%)
	138 kV conductor along the		
	other side of Dragoon Tap		
	138 kV line, which is		
	currently double circuit tower		
	with one position open.		
	Additionally, install a second 138/34.5 kV transformer at		
b3270			
	Dragoon, install a high side circuit switcher on the current		
	transformer at the Dragoon Station, and install two (2)		
	138 kV line breakers on the		
	Dragoon – Jackson 138 kV		
	and Dragoon – Twin Branch		
	138 kV lines		AEP (100%)
	Replace Dragoon 34.5 kV		ALF (10076)
b3270.1	breakers "B", "C", and "D"		
03270.1	with 40 kA breakers		AEP (100%)
	Install a 138 kV circuit		AEI (10076)
	breaker at Fremont station on		
	the line towards Fremont		
b3271	Center and install a 9.6		
	MVAR 69 kV capacitor bank		
	at Bloom Road station		AEP (100%)
<u> </u>	Install two 138 kV circuit		
	switchers on the high side of		
b3272	138/34.5 kV Transformers #1		
	and #2 at Rockhill station		AEP (100%)
			(****)

Required Tra	nsmission Enhancements	Annual Revenue Requ	uirement Responsible Customer(s)
	Rebuild and convert the		
	existing 17.6 miles East		
b3273.1	Leipsic – New Liberty 34.5		
	kV circuit to 138 kV using		
	795 ACSR		AEP (100%)
	Convert the existing 34.5		
	kV equipment to 138 kV		
	and expand the existing		
	McComb station to the		
	north and east to allow for		
b3273.2	new equipment to be		
	installed. Install two (2)		
	new 138 kV box bays to		
	allow for line positions and		
	two (2) new 138/12 kV		
	transformers		AEP (100%)
	Expand the existing East		
	Leipsic 138 kV station to		
	the north to allow for		
	another 138 kV line exit to		
	be installed. The new line		
	exit will involve installing		
b3273.3	a new 138 kV circuit		
	breaker, disconnect		
	switches and the addition		
	of a new dead end structure		
	along with the extension of		
	the existing 138 kV bus		
	work		AEP (100%)
	Add one (1) 138 kV circuit		
	breaker and disconnect		
	switches in order to add an		
b3273.4	additional line position at		
05275.4	New Liberty 138 kV		
	station. Install line relaying		
	potential devices and retire		
	the 34.5 kV breaker 'F'		AEP (100%)

Required Tran	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Rebuild approximately 8.9 miles of 69 kV line between		
b3274	Newcomerstown and Salt		
	Fork Switch with 556 ACSR		
	conductor		AEP (100%)
	Rebuild the Kammer Station		, /
b3275.1	– Cresaps Switch 69 kV line,		
	approximately 0.5 mile		AEP (100%)
	Rebuild the Cresaps Switch -		
b3275.2	McElroy Station 69 kV,		
	approximately 0.67 mile		AEP (100%)
	Replace a single span of 4/0		
	ACSR from Moundsville -		
	Natrium structure 93L to		
b3275.3	Carbon Tap switch 69 kV		
05275.5	located between the		
	Colombia Carbon and Conner		
	Run stations. Remainder of		
	the line is 336 ACSR		AEP (100%)
	Rebuild from Colombia		
	Carbon to Columbia Carbon		
	Tap structure 93N 69 kV,		
	approximately 0.72 mile. The		
b3275.4	remainder of the line between		
	Colombia Carbon Tap		
	structure 93N and Natrium		
	station is 336 ACSR and will		
	remain		AEP (100%)
	Replace the Cresaps 69 kV 3-		
	Way Phase-Over-Phase		
b3275.5	switch and structure with a		
	new 1200A 3-Way switch		//
	and steel pole		AEP (100%)
	Replace 477 MCM Alum bus		
b3275.6	and risers at McElroy 69 kV		
	station		AEP (100%)

Required Tran	nsmission Enhancements	Annual Revenue Requiremer	nt Responsible Customer(s)
b3275.7	Replace Natrium 138 kV bus existing between CB-BT1 and along the 138 kV Main Bus #1 dropping to CBH1 from the 500 MCM conductors to a 1272 KCM AAC conductor. Replace the dead end clamp and strain insulators		AEP (100%)
b3276.1	Rebuild the 2/0 Copper section of the Lancaster – South Lancaster 69 kV line, approximately 2.9 miles of the 3.2 miles total length with 556 ACSR conductor. The remaining section has a 336 ACSR conductor		AEP (100%)
b3276.2	Rebuild the 1/0 Copper section of the line between Lancaster Junction and Ralston station 69 kV, approximately 2.3 miles of the 3.1 miles total length		AEP (100%)
b3276.3	Rebuild the 2/0 Copper portion of the line between East Lancaster Tap and Lancaster 69 kV, approximately 0.81 mile		AEP (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3278.1	Replace H.S. MOAB switches on the high side of the 138/69/34.5 kV transformer T1 with a H.S. circuit switcher at Saltville station		AEP (100%)
b3278.2	Replace existing 138/69/34.5 kV transformer T2 with a new 130 MVA 138/69/13 kV transformer at Meadowview station		AEP (100%)
b3279	Install a new 138 kV, 21.6 MVAR cap bank and circuit switcher at Apple Grove station		AEP (100%)
b3280	Rebuild the existing Cabin Creek – Kelly Creek 46 kV line (to Structure 366-44), approximately 4.4 miles. This section is double circuit with the existing Cabin Creek – London 46 kV line so a double circuit rebuild would be required		AEP (100%)

Required Tran	nsmission Enhancements	Annual Revenue Requirem	nent Responsible Customer(s)
	Install a second 138 kV		
	circuit utilizing 795 ACSR		
	conductor on the open		
	position of the existing		
	double circuit towers from		
	East Huntington – North		
	Proctorville. Remove the		
b3282.1	existing 34.5 kV line from		
	East Huntington – North		
	Chesapeake and rebuild this		
	section to 138 kV served		
	from a new PoP switch off		
	the new East Huntington –		
	North Proctorville 138 kV #2		
	line		AEP (100%)
	Install a 138 kV 40 kA circuit		
b3282.2	breaker at North Proctorville		
	station		AEP (100%)
	Install a 138 kV 40 kA circuit		
b3282.3	breaker at East Huntington		
	station		AEP (100%)
	Convert the existing 34/12 kV		
b3282.4	North Chesapeake to a 138/12		
	kV station		AEP (100%)

Required Tran	nsmission Enhancements	Annual Revenue Requireme	ent Responsible Customer(s)
	Rebuild approximately 5.44		
b3284	miles of 69 kV line from		
	Lock Lane to Point Pleasant		AEP (100%)
	Replace the Meigs 69 kV 4/0		
	Cu station riser towards		
	Gavin and rebuild the section		
	of the Meigs – Hemlock 69		
b3285	kV circuit from Meigs to		
03283	approximately Structure #40		
	(about 4 miles) replacing the		
	line conductor 4/0 ACSR		
	with the line conductor size		
	556.5 ACSR		AEP (100%)
	Reconductor the first 3 spans		
	from Merrimac station to		
	Structure 464-3 of 3/0 ACSR		
b3286	conductor utilizing 336		
	ACSR on the existing		
	Merrimac – Midway 69 kV		
	circuit		AEP (100%)
	Upgrade 69 kV risers at		
b3287	Moundsville station towards		
	George Washington		AEP (100%)
	Install high-side circuit		
b3289.1	switcher on 138/69/12 kV T5		
	at Roanoke station		AEP (100%)
	Install high-side circuit		
b3289.2	switcher on 138/69/34.5 kV		
03209.2	T1 at Huntington Court		
	station		AEP (100%)

Required Tran	nsmission Enhancements	Annual Revenue Requirement Responsible Customer(s)
	Build 9.4 miles of single	
b3290.1	circuit 69 kV line from	
03290.1	Roselms to near East	
	Ottoville 69 kV switch	AEP (100%)
	Rebuild 7.5 miles of double	
	circuit 69 kV line between	
1,2200.2	East Ottoville switch and	
b3290.2	Kalida station (combining	
	with the new Roselms to	
	Kalida 69 kV circuit)	AEP (100%)
	At Roselms switch, install a	
1,2200,2	new three way 69 kV, 1200 A	
b3290.3	phase-over-phase switch,	
	with sectionalizing capability	AEP (100%)
	At Kalida 69 kV station,	
	terminate the new line from	
1 2200 4	Roselms switch. Move the CS	
b3290.4	XT2 from high side of T2 to	
	the high side of T1. Remove	
	existing T2 transformer	AEP (100%)
1.2201	Replace the Russ St. 34.5 kV	
b3291	switch	AEP (100%)
	Replace existing 69 kV	
1 2202	capacitor bank at Stuart	
b3292	station with a 17.2 MVAR	
	capacitor bank	AEP (100%)
	Replace 2/0 Cu entrance span	
	conductor on the South Upper	
1 2 2 0 2	Sandusky 69 kV line and 4/0	
b3293	Cu Risers/Bus conductors on	
	the Forest line at Upper	
	Sandusky 69 kV station	AEP (100%)
	Replace existing 69 kV	
1.220.4	disconnect switches for	
b3294	circuit breaker "C" at Walnut	
	Avenue station	AEP (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requirement Responsible Customer(s)	
b3295	Grundy 34.5 kV: Install a 34.5 kV 9.6 MVAR cap bank	AEP (100%)	
b3296	Rebuild the overloaded portion of the Concord – Whitaker 34.5 kV line (1.13 miles). Rebuild is double circuit and will utilize 795 ACSR conductor	AEP (100%)	
b3297.1	Rebuild 4.23 miles of 69 kV line between Sawmill and Lazelle station, using 795 ACSR 26/7 conductor	AEP (100%)	
b3297.2	Rebuild 1.94 miles of 69 kV line between Westerville and Genoa stations, using 795 ACSR 26/7 conductor	AEP (100%)	
b3297.3	Replace risers and switchers at Lazelle, Westerville, and Genoa 69 kV stations. Upgrade associated relaying accordingly	AEP (100%)	
b3298	Rebuild 0.8 mile of double circuit 69 kV line between South Toronto and West Toronto. Replace 219 ACSR with 556 ACSR	AEP (100%)	
b3298.1	Replace the 69 kV breaker D at South Toronto station with 40 kA breaker	AEP (100%)	
b3299	Rebuild 0.2 mile of the West End Fostoria - Lumberjack Switch 69 kV line with 556 ACSR (Dove) conductors. Replace jumpers on West End Fostoria line at Lumberjack Switch		

Required Tran	nsmission Enhancements	Annual Revenue Requirem	nent Responsible Customer(s)
b3308	Reconductor and rebuild 1 span of T-line on the Fort Steuben – Sunset Blvd 69 kV branch with 556 ACSR		AEP (100%)
b3309	Rebuild 1.75 miles of the Greenlawn – East Tiffin line section of the Carothers – Greenlawn 69 kV circuit containing 133 ACSR conductor with 556 ACSR conductor. Upgrade relaying as required		AEP (100%)
b3310.1	Rebuild 10.5 miles of the Howard – Willard 69 kV line utilizing 556 ACSR conductor		AEP (100%)
b3310.2	Upgrade relaying at Howard 69 kV station		AEP (100%)
b3310.3	Upgrade relaying at Willard 69 kV station		AEP (100%)

Required Trar	nsmission Enhancements	Annual Revenue Requirement	nt Responsible Customer(s)
b3312	Rebuild approximately 4 miles of existing 69 kV line between West Mount Vernon and Mount Vernon stations. Replace the existing 138/69 kV transformer at West Mount Vernon with a larger 90 MVA unit along with existing 69 kV breaker 'C'		AEP (100%)
b3313	Add 40 kA circuit breakers on the low and high side of the East Lima 138/69 kV transformer		AEP (100%)
b3314.1	Install a new 138/69 kV 130 MVA transformer and associated protection at Elliot station		AEP (100%)
b3314.2	Perform work at Strouds Run station to retire 138/69/13 kV 33.6 MVA Transformer #1 and install a dedicated 138/13 KV distribution transformer		AEP (100%)
b3315	Upgrade relaying on Mark Center – South Hicksville 69 kV line and replace Mark Center cap bank with a 7.7 MVAR unit		AEP (100%)
b3320	Replace the CT at Don Marquis 345 kV station		AEP (100%)
b3336	Rebuild 6 miles Benton Harbor - Riverside 138 kV double circuit extension		AEP (100%)
b3337	Replace the one (1) Hyatt 138 kV breaker "AB1" (101N) with 3000 A, 63 kA interrupting breaker		AEP (100%)

Required Tran		Annual Revenue Requiren	nent Responsible Customer(s)
b3338	Replace the two (2) Kenny 138 kV breakers, "102" (SC- 3) and "106" (SC-4), each with a 3000 A, 63 kA		
	interrupting breaker		AEP (100%)
b3339	Replace the one (1) Canal 138 kV breaker "3" with		
	3000 A, 63 kA breaker		AEP (100%)
b3342	Replace the 2156 ACSR and 2874 ACSR bus and risers with 2-bundled 2156 ACSR at Muskingum River 345 kV station to address loading		
	issues on Muskingum - Waterford 345 kV line		AEP (100%)
b3343	Rebuild approximately 0.3 miles of the overloaded 69 kV line between Albion - Philips Switch and Philips Switch - Brimfield Switch with 556 ACSR conductor		AEP (100%)
b3344.1	Install two (2) 138 kV circuit breakers in the M and N strings in the breaker-and-a half configuration in West Kingsport station 138 kV yard to allow the Clinch River - Moreland Dr. 138 kV to cut in the West Kingsport station		AEP (100%)
b3344.2	Upgrade remote end relaying at Riverport 138 kV station due to the line cut in at West Kingsport station		AEP (100%)
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Required Tran	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Rebuild approximately 4.2		
	miles of overloaded sections		
b3345.1	of the 69 kV line between Salt		
	Fork switch and Leatherwood		
	switch with 556 ACSR		AEP (100%)
b3345.2	Update relay settings at		
03343.2	Broom Road station		AEP (100%)
	Rebuild approximately 3.5		
	miles of overloaded 69 kV		
	line between North Delphos –		
	East Delphos – Elida Road		
	switch station. This includes		
	approximately 1.1 miles of		
	double circuit line that makes		
	up a portion of the North		
b3346.1	Delphos – South Delphos 69		
	kV line and the North Delphos		
	– East Delphos 69 kV line.		
	Approximately 2.4 miles of		
	single circuit line will also be		
	rebuilt between the double		
	circuit portion to East Delphos		
	station and from East Delphos		
	to Elida Road switch station		AEP (100%)
	Replace the line entrance		
	spans at South Delphos station		
b3346.2	to eliminate the overloaded		
	4/0 Copper and 4/0 ACSR		
	conductor		AEP (100%)
	Rebuild approximately 20		
b3347.1	miles of 69 kV line between		
05547.1	Bancroft and Milton stations		
	with 556 ACSR conductor		AEP (100%)
	Replace the jumpers around		
b3347.2	Hurrican switch with 556		
	ACSR		AEP (100%)

b3347.3	Replace the jumpers around Teays switch with 556 ACSR	AEP (100%)
b3347.4	Update relay settings at Winfield station to coordinate with remote ends on line rebuild	AEP (100%)
b3347.5	Update relay settings at Bancroft station to coordinate with remote ends on line rebuild	AEP (100%)
b3347.6	Update relay settings at Milton station to coordinate with remote ends on line rebuild	AEP (100%)
b3347.7	Update relay settings at Putnam Village station to coordinate with remote ends on line rebuild	AEP (100%)
b3348.1	Construct a 138 kV single bus station (Tin Branch) consisting of a 138 kV box bay with a distribution transformer and 12 kV distribution bay. Two 138 kV lines will feed this station (from Logan and Sprigg stations), and distribution will have one 12 kV feed. Install two 138 kV circuit breakers on the line exits. Install 138 kV circuit switcher for the new transformer	AEP (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

b3348.2	Construct a new 138/46/12 kV Argyle station to replace Dehue 46 kV station. Install a 138 kV ring bus using a breaker-and-a-half configuration, with an autotransformer with a 46 kV feed and a distribution transformer with a 12 kV distribution bay. Two 138 kV lines will feed this station (from Logan and Wyoming stations). There will also be a 46 kV feed from this station to Becco station. Distribution will have two 12 kV feeds. Retire Dehue 46 kV station in its entirety		AEP (100%)
b3348.3	Bring the Logan – Sprigg #2 138 kV circuit in and out of Tin Branch station by constructing approximately 1.75 miles of new overhead double circuit 138 kV line. Double circuit T3 series lattice towers will be used along with 795,000 cm ACSR 26/7 conductor. One shield wire will be conventional 7 #8 ALUMOWELD, and one shield wire will be optical ground wire (OPGW)		AEP (100%)
b3348.4	Logan-Wyoming No. 1 circuit in and out of the proposed Argyle 46 kV station. Double circuit T3 series lattice towers will be used along with 795,000 cm ACSR 26/7 conductor. One shield wire will be conventional 7 #8 ALUMOWELD, and one shield wire will be OPGW		AEP (100%)
b3348.5	Rebuild approximately 10 miles of 46 kV line between Becco and the new Argyle 46 kV substation. Retire approximately 16 miles of 46 kV line between the new Argyle substation and Chauncey station		AEP (100%)
b3348.6	Adjust relay settings due to new line terminations and retirements at Logan, Wyoming, Sprigg, Becco and Chauncey stations		AEP (100%)

Itequilea IIa		enue Requirement Responsible Customer(s)
	Replace Bellefonte 69 kV	
b3350.1	breakers C, G, I, Z, AB and JJ in	
05550.1	place. The new 69 kV breakers to	AEP (100%)
	be rated at 3000 A 40 kA	
	Upgrade remote end relaying at	
b3350.2	Point Pleasant, Coalton and	
	South Point 69 kV substations	AEP (100%)
	Replace the 69 kV in-line	
b3351	switches at Monterey 69 kV	
	substation	AEP (100%)
	Replace circuit breakers '42' and	
	'43' at Bexley station with 3000	
b3354	A, 40 kA 69 kV breakers	
	(operated at 40 kV), slab, control	AEP (100%)
	cables and jumpers	
	Replace circuit breakers 'A' and	
	'B' at South Side Lima station	
b3355	with 1200 A, 25 kA 34.5 kV	
	breakers, slab, control cables and	AEP (100%)
	jumpers	
	Replace circuit breaker 'H' at	
b3356	West End Fostoria station with	
05550	3000 A, 40 kA 69 kV breaker,	AED (1009/)
	slab, control cables and jumpers	AEP (100%)
	Replace circuit breakers 'C', 'E,'	
1-2257	and 'L' at Natrium station with	
b3357	3000 A, 40 kA 69 kV breakers,	AED (1000/)
	slab, control cables and jumpers	AEP (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

		1	
b3358	Install a 69 kV 11.5 MVAR capacitor at Biers Run 69 kV station		AEP (100%)
b3359	Rebuild approximately 2.3 miles of the existing North Van Wert Sw. – Van Wert 69 kV line utilizing 556 ACSR conductor		AEP (100%)
b3362	Rebuild approximately 3.1 miles of the overloaded conductor on the existing Oertels Corner – North Portsmouth 69 kV line utilizing 556 ACSR		AEP (100%)
b3731	Replace 40 kV breaker J at McComb 138 kV station with a new 3000A 40 kA breaker		AEP (100%)
b3732	Install a 6 MVAR, 34.5 kV cap bank at Morgan Run station		AEP (100%)
b3733	Rebuild the 1.8 mile 69 kV line between Summerhill and Willow Grove Switch. Replace 4/0 ACSR conductor with 556 ACSR		AEP (100%)
b3734	Install a 7.7 MVAR, 69 kV cap bank at both Otway station and Rosemount station		AEP (100%)
b3735	Terminate the existing Broadford – Wolf Hills #1 138 kV line into Abingdon 138 kV Station. This line currently bypasses the existing Abingdon 138 kV station; Install two new 138 kV circuit breakers on each new line exit towards Broadford and towards Wolf Hills #1 station; Install one new 138 kV circuit breaker on line exit towards South Abingdon station for standard bus sectionalizing		AEP (100%)

		(-)
b3736.1	Establish 69 kV bus and new 69 kV line Circuit Breaker at Dorton	AEP (100%)
	substation	
b3736.2	At Breaks substation, reuse 72 kV breaker A as the new 69 kV line breaker	AEP (100%)
b3736.3	Rebuild approximately 16.7 miles Dorton – Breaks 46 kV line to 69 kV line	AEP (100%)
b3736.4	Retire approximately 17.2 miles Cedar Creek – Elwood 46 kV line	AEP (100%)
b3736.5	Retire approximately 6.2 miles Henry Clay – Elwood 46 kV line section	AEP (100%)
b3736.6	Retire Henry Clay 46 kV substation and replace with Poor Bottom 69 kV station. Install a new 0.7 mile double circuit extension to Poor Bottom 69 kV station	AEP (100%)
b3736.7	Retire Draffin substation and replace with a new substation. Install a new 0.25 mile double circuit extension to New Draffin substation	AEP (100%)
b3736.8	Remote end work at Jenkins substation	AEP (100%)
b3736.9	Provide transition fiber to Dorton, Breaks, Poor Bottom, Jenkins and New Draffin 69 kV substations	AEP (100%)
b3736.10	Henry Clay switch station retirement	AEP (100%)
b3736.11	Cedar Creek substation work	AEP (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

b3736.12	Breaks substation 46 kV equipment retirement	AEP (100%)
b3736.13	Retire Pike 29 switch station and Rob Fork switch station	AEP (100%)
b3736.14	Serve Pike 29 and Rob Fork substation customers from nearby 34 kV distribution sources	AEP (100%)
b3736.15	Poor Bottom 69 kV substation install	AEP (100%)
b3736.16	Henry Clay 46 kV substation retirement	AEP (100%)
b3736.17	New Draffin 69 kV substation install	AEP (100%)
b3736.18	Draffin 46 kV substation retirement	AEP (100%)
b3763	Replace the Jug Street 138 kV breakers M, N, BC, BD, BE, BF, D, H, J, L, BG, BH, BJ, BK with 80 KA breakers	AEP (100%)
b3764	Replace the Hyatt 138 kV breakers AB1 and AD1 with 63 kA breakers	AEP (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

1	Hayes – New Westville 138 kV	1	
	line: Build approximately 0.19		
	miles of 138 kV line to the		
	Indiana/ Ohio State line to		
	connect to AES's line portion of		
b3766.1	the Hayes – New Westville 138		
	kV line with the conductor size		AEP (100%)
	795 ACSR26/7 Drake. This sub-		
	ID includes the cost of line		
	construction and Right of Way		
	(ROW)		
	Hayes – Hodgin 138 kV line:		
	Build approximately 0.05 mile of		
b3766.2	138 kV line with the conductor		
	size 795 ACSR26/7 Drake. This		
	sub-ID includes the line		AEP (100%)
	construction, ROW, and fiber		
	Hayes 138 kV: Build a new 4-		
	138 kV circuit breaker ring bus.		
	This sub-ID includes the cost of		
b3766.3	new station construction,		
	property purchase, metering,		A = D (1009/)
	station fiber and the College		AEP (100%)
	Corner – Randolph 138 kV line connection		
	connection		

reequirea m		Requirement	
			Reliability Driver:
			AEP (12.38%) / ComEd
			(87.62%)
			Market Efficiency
			Driver:
			AEC (0.87%) / AEP
			(24.07%) / APS (3.95%) /
	Porform and study mitigation work on		ATSI (11.04%) / BGE
	Perform sag study mitigation work on the Dumont – Stillwell		(4.30%) / Dayton (3.52%)
			/ DEOK (5.35%) /
1 2775 (345 kV line (remove a center-pivot		Dominion (20.09%) / DPL
b3775.6	irrigation system from under the line,		(1.73%)/DL (2.11%)/
	allowing for the normal and		ECP** (0.17%)/ EKPC
	emergency ratings of the line to		(1.73%) / HTP***
	increase)		(0.07%) / JCPL (1.98%) /
			ME (1.63%) /
			NEPTUNE* (0.43%) /
			OVEC (0.07%) / PECO
			(3.59%) / PENELEC
			(1.68%) / PEPCO (3.91%)
			/ PPL (3.64%) / PSEG
			(3.93%) / RE (0.14%)
			(3.7570) (0.1470)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

*Neptune Regional Transmission System, LLC **East Coast Power, L.L.C.

***Hudson Transmission Partners, LLC

		Reliability Driver: AEP (12.38%) / Dayton (87.62%)
b3775.7	Upgrade the limiting element at Stillwell or Dumont substation to increase the rating of the Stillwell – Dumont 345 kV line to match conductor rating	Market Efficiency Driver: AEC (0.87%) / AEP (24.07%) / APS (3.95%) / ATSI (11.04%) / BGE (4.30%) / Dayton (3.52%) / DEOK (5.35%) / Dominion (20.09%) / DPL (1.73%) / DL (2.11%) / ECP** (0.17%) / EKPC (1.73%) / DL (2.11%) / ECP** (0.17%) / EKPC (1.73%) / JCPL (1.98%) / ME (1.63%) / NEPTUNE* (0.43%) / OVEC (0.07%) / PECO (3.59%) / PENELEC (1.68%) / PEPCO (3.91%) / PPL (3.64%) / PSEG (3.93%) / RE (0.14%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

*Neptune Regional Transmission System, LLC **East Coast Power, L.L.C.

***Hudson Transmission Partners, LLC

		tal Revenue Requirement Responsible Customer(s)
		Reliability Driver:
		AEP (100%)
		Market Efficiency Driver:
		AEC (0.87%) / AEP (24.07%) / APS
	Perform a sag study on the	(3.95%) / ATSI (11.04%) / BGE
	Olive – University Park 345	(4.30%) / Dayton (3.52%) / DEOK
	kV line to increase the	(5.35%) / Dominion (20.09%) / DPL
b3775.10	operating temperature to	(1.73%) / DL (2.11%) / ECP**
	225 F. Remediation work	(0.17%)/ EKPC (1.73%) / HTP***
	includes two tower	(0.07%) / JCPL (1.98%) / ME
	replacements on the line.	(1.63%) / NEPTUNE* (0.43%) /
		OVEC (0.07%) / PECO (3.59%) /
		PENELEC (1.68%) / PEPCO
		(3.91%) / PPL (3.64%) / PSEG
		(3.93%) / RE (0.14%)
		Reliability Driver:
		Reliability Driver: AEP (12,38%) / ComEd (87,62%)
		AEP (12.38%) / ComEd (87.62%)
		AEP (12.38%) / ComEd (87.62%) Market Efficiency Driver:
		AEP (12.38%) / ComEd (87.62%) Market Efficiency Driver: AEC (0.87%) / AEP (24.07%) / APS
	Upgrade the limiting	AEP (12.38%) / ComEd (87.62%) Market Efficiency Driver: AEC (0.87%) / AEP (24.07%) / APS (3.95%) / ATSI (11.04%) / BGE
	element at Stillwell	AEP (12.38%) / ComEd (87.62%) Market Efficiency Driver: AEC (0.87%) / AEP (24.07%) / APS (3.95%) / ATSI (11.04%) / BGE (4.30%) / Dayton (3.52%) / DEOK
b3775.11	element at Stillwell substation to increase the	AEP (12.38%) / ComEd (87.62%) Market Efficiency Driver: AEC (0.87%) / AEP (24.07%) / APS (3.95%) / ATSI (11.04%) / BGE (4.30%) / Dayton (3.52%) / DEOK (5.35%) / Dominion (20.09%) / DPL
b3775.11	element at Stillwell substation to increase the rating of the Stillwell –	AEP (12.38%) / ComEd (87.62%) Market Efficiency Driver: AEC (0.87%) / AEP (24.07%) / APS (3.95%) / ATSI (11.04%) / BGE (4.30%) / Dayton (3.52%) / DEOK (5.35%) / Dominion (20.09%) / DPL (1.73%) / DL (2.11%) / ECP**
b3775.11	element at Stillwell substation to increase the rating of the Stillwell – Dumont 345 kV line to	AEP (12.38%) / ComEd (87.62%) Market Efficiency Driver: AEC (0.87%) / AEP (24.07%) / APS (3.95%) / ATSI (11.04%) / BGE (4.30%) / Dayton (3.52%) / DEOK (5.35%) / Dominion (20.09%) / DPL (1.73%) / DL (2.11%) / ECP** (0.17%)/ EKPC (1.73%) / HTP***
b3775.11	element at Stillwell substation to increase the rating of the Stillwell –	AEP (12.38%) / ComEd (87.62%) Market Efficiency Driver: AEC (0.87%) / AEP (24.07%) / APS (3.95%) / ATSI (11.04%) / BGE (4.30%) / Dayton (3.52%) / DEOK (5.35%) / Dominion (20.09%) / DPL (1.73%) / DL (2.11%) / ECP** (0.17%) / EKPC (1.73%) / HTP*** (0.07%) / JCPL (1.98%) / ME
b3775.11	element at Stillwell substation to increase the rating of the Stillwell – Dumont 345 kV line to	AEP (12.38%) / ComEd (87.62%) Market Efficiency Driver: AEC (0.87%) / AEP (24.07%) / APS (3.95%) / ATSI (11.04%) / BGE (4.30%) / Dayton (3.52%) / DEOK (5.35%) / Dominion (20.09%) / DPL (1.73%) / DL (2.11%) / ECP** (0.17%) / EKPC (1.73%) / HTP*** (0.07%) / JCPL (1.98%) / ME (1.63%) / NEPTUNE* (0.43%) /
b3775.11	element at Stillwell substation to increase the rating of the Stillwell – Dumont 345 kV line to	AEP (12.38%) / ComEd (87.62%) Market Efficiency Driver: AEC (0.87%) / AEP (24.07%) / APS (3.95%) / ATSI (11.04%) / BGE (4.30%) / Dayton (3.52%) / DEOK (5.35%) / Dominion (20.09%) / DPL (1.73%) / DL (2.11%) / ECP** (0.17%) / EKPC (1.73%) / HTP*** (0.07%) / JCPL (1.98%) / ME (1.63%) / NEPTUNE* (0.43%) / OVEC (0.07%) / PECO (3.59%) /
b3775.11	element at Stillwell substation to increase the rating of the Stillwell – Dumont 345 kV line to	AEP (12.38%) / ComEd (87.62%) Market Efficiency Driver: AEC (0.87%) / AEP (24.07%) / APS (3.95%) / ATSI (11.04%) / BGE (4.30%) / Dayton (3.52%) / DEOK (5.35%) / Dominion (20.09%) / DPL (1.73%) / DL (2.11%) / ECP** (0.17%) / EKPC (1.73%) / HTP*** (0.07%) / JCPL (1.98%) / ME (1.63%) / NEPTUNE* (0.43%) / OVEC (0.07%) / PECO (3.59%) / PENELEC (1.68%) / PEPCO
b3775.11	element at Stillwell substation to increase the rating of the Stillwell – Dumont 345 kV line to	AEP (12.38%) / ComEd (87.62%) Market Efficiency Driver: AEC (0.87%) / AEP (24.07%) / APS (3.95%) / ATSI (11.04%) / BGE (4.30%) / Dayton (3.52%) / DEOK (5.35%) / Dominion (20.09%) / DPL (1.73%) / DL (2.11%) / ECP** (0.17%) / EKPC (1.73%) / HTP*** (0.07%) / JCPL (1.98%) / ME (1.63%) / NEPTUNE* (0.43%) / OVEC (0.07%) / PECO (3.59%) /

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

*Neptune Regional Transmission System, LLC **East Coast Power, L.L.C.

***Hudson Transmission Partners, LLC

PJM Open Access Transmission Tariff Schedule 12-Appendix A Section 17 – American Electric Power Service Corp.

Version 44.0.0 Effective April 9, 2024 (Accepted in Docket No. ER24-843-000)

SCHEDULE 12 – APPENDIX A

(17) American Electric Power Service Corporation on behalf of its affiliate companies: AEP Appalachian Transmission Company, Inc.; AEP Indiana Michigan Transmission Company, Inc.; AEP Ohio Transmission Company, Inc.; AEP West Virginia Transmission Company, Inc.; Appalachian Power Company; Indiana Michigan Power Company; Kingsport Power Company; Ohio Power Company and Wheeling Power Company

i <u>aquita 11a</u>	IISTIIISSIOII ETIITAIICETICIUS ATIITUA	a Revenue Requirement	
b1570.4	Add a 345 kV breaker at Marysville station and a 0.1 mile 345 kV line extension from Marysville to the new 345/69 kV Dayton transformer		AEP (100%)
b1660.1	Cloverdale: install 6-765 kV breakers, incremental work for 2 additional breakers, reconfigure and relocate miscellaneous facilities, establish 500 kV station and 500 kV tie with 765 kV station		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / DDL (1.71%) / DPL (2.60%) / DDL (1.71%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: AEP (0.10%) / BGE (43.26%) / DEOK (0.10%) / EKPC (0.06%) / PEPCO (56.48%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Load-Ratio Share Allocati AEC (1.65%) / AEP (13.68 APS (5.76%) / ATSI (8.04% BGE (4.11%) / ComEd	%)/
APS (5.76%) / ATSI (8.049	
	6)/
BGE (4.11%) / ComEd	
(13.39%) / Dayton (2.12%)) /
DEOK (3.25%) / DL (1.719	6)/
DPL (2.60%) / Dominion	
(13.32%) / EKPC (1.89%)	
Reconductor the AEPJCPL (3.86%) / ME (1.90%)	
b1797.1 portion of the Cloverdale - NEPTUNE* (0.42%) / OV	
$\begin{bmatrix} \text{Lexington 500 kV line with} \\ (0.08\%) / \text{PECO } (5.40\%) \end{bmatrix}$	
2-1780 ACSS PENELEC (1.78%) / PEPO	
(3.67%) / PPL (4.72%) / PS	EG
(6.39%) / RE (0.26%)	
DFAX Allocation:	
AEP (0.28%) / ATSI (0.18	/
BGE (43.01%) / Dayton	
(0.07%) / DEOK (0.17%)	
EKPC (0.10%) / PEPCC	
(56.19%)	
b2055 Upgrade relay at Brues	
station AEP (100%)	
Upgrade terminal	
equipment at Howard on	
b2122.3 the Howard - Brookside	
138 kV line to achieve	
ratings of 252/291 (SN/SE) AEP (100%)	
Perform a sag study on the	
b2122.4 Howard - Brookside 138	
kV line AEP (100%)	
b2229 Install a 300 MVAR	
Image: object of the sector at Dequine 345 kV AEP (100%)	

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Trai	nsmission Enhancements Annua	al Revenue Requirement	Responsible Customer(s)
			Load-Ratio Share Allocation:
			AEC (1.65%) / AEP (13.68%) /
			APS (5.76%) / ATSI (8.04%) /
			BGE (4.11%) / ComEd
			(13.39%) / Dayton (2.12%) /
	Parlage existing 150		DEOK (3.25%) / DL (1.71%) /
	Replace existing 150 MVAR reactor at Amos 765		DPL (2.60%) / Dominion
b2230	kV substation on Amos - N.		(13.32%) / EKPC (1.89%) /
02230	Proctorville - Hanging Rock		JCPL (3.86%) / ME (1.90%) /
	with 300 MVAR reactor		NEPTUNE* (0.42%) / OVEC
	with 500 Wiv AR reactor		(0.08%) / PECO (5.40%) /
			PENELEC (1.78%) / PEPCO
			(3.67%) / PPL (4.72%) / PSEG
			(6.39%) / RE (0.26%)
			DFAX Allocation:
			AEP (100%)
	Install 765 kV reactor		
b2231	breaker at Dumont 765 kV		
02251	substation on the Dumont -		
	Wilton Center line		AEP (100%)
	Install 765 kV reactor		
	breaker at Marysville 765		
b2232	kV substation on the		
	Marysville - Maliszewski		
	line		AEP (100%)
	Change transformer tap		
b2233	settings for the Baker		
	765/345 kV transformer		AEP (100%)
	Loop the North Muskingum		
	- Crooksville 138 kV line		
b2252	into AEP's Philo 138 kV		
02202	station which lies		
	approximately 0.4 miles		
	from the line		AEP (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

		a ree, ende reequirement	
	Install an 86.4 MVAR		
b2253	capacitor bank at Gorsuch		
	138 kV station in Ohio		AEP (100%)
	Rebuild approximately 4.9		
b2254	miles of Corner - Degussa		
	138 kV line in Ohio		AEP (100%)
	Rebuild approximately 2.8		
b2255	miles of Maliszewski -		
	Polaris 138 kV line in Ohio		AEP (100%)
	Upgrade approximately 36		
	miles of 138 kV through		
b2256	path facilities between		
	Harrison 138 kV station and		
	Ross 138 kV station in Ohio		AEP (100%)
	Rebuild the Pokagon -		
	Corey 69 kV line as a		
	double circuit 138 kV line		
b2257	with one side at 69 kV and		
	the other side as an express		
	circuit between Pokagon		
	and Corey stations		AEP (100%)
	Rebuild 1.41 miles of #2		
	CU 46 kV line between		
b2258	Tams Mountain - Slab Fork		
02238	to 138 kV standards. The		
	line will be strung with		
	1033 ACSR		AEP (100%)
	Install a new 138/69 kV		
	transformer at George		
12250	Washington 138/69 kV		
b2259	substation to provide		
	support to the 69 kV system		
	in the area		AEP (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required In	ansmission Enhancements Annua	a Revenue Requirement	Responsible Customer(s)
	Rebuild 4.7 miles of		
	Muskingum River - Wolf		
b2286	Creek 138 kV line and		
02280	remove the 138/138 kV		
	transformer at Wolf Creek		
	Station		AEP (100%)
	Loop in the Meadow Lake -		
b2287	Olive 345 kV circuit into		
02287	Reynolds 765/345 kV		
	station		AEP (100%)

$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	Required Tra		il Revenue Requirement	Responsible Customer(s)
b2344.1				
b2344.1 Nicholsville and Marcellus 34.5 kV stations at this new station AEP (100%) Tap the Hydramatic - Valley 138 kV circuit (~ b2344.2 Tap the Hydramatic - Valley 138 kV circuit (~ structure 415), build a new 138 kV line (~3.75 miles) to this new station AEP (100%) From this station, construct a new 138 kV line (~1.95 miles) to REA's Marcellus station construct new 138 kV line (~2.35 miles) to a tap point on Valley - Hydramatic 138 kV ckt (-structure 434) AEP (100%) Retire sections of the 138 b2344.5 Retire sections of the 138 kV line in between structure 415 and 434 (~ 2.65 miles) AEP (100%) Retire AEP's Marcellus 34.5/12 kV and Nicholsville 34.5/12 kV and Nicholsville b2344.6 AEP (100%) AEP (100%) Retire AEP's Marcellus 34.5/12 kV and Nicholsville b2345.1 AEP (100%) AEP (100%) Retire AEP's Marcellus 34.5/12 kV and Nicholsville b2345.1 AEP (100%) AEP (100%) Retire AEP's Marcellus 34.5/12 kV and Nicholsville b2345.1 AEP (100%) AEP (100%) Rebuild the 34.5 kV line b2345.2 AEP (100%) AEP (100%)				
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	b2344.1			
stationAEP (100%)Tap the Hydramatic - Valley 138 kV circuit (~ structure 415), build a new 138 kV line (~3.75 miles) to this new stationAEP (100%)b2344.2From this station, construct a new 138 kV line (~1.95 miles) to REA's Marcellus stationAEP (100%)b2344.3From REA's Marcellus stationAEP (100%)b2344.4From REA's Marcellus stationAEP (100%)b2344.4From REA's Marcellus station construct new 138 kV line (~2.35 miles) to a tap point on Valley - Hydramatic 138 kV ckt (~structure 434)AEP (100%)b2344.5Retire sections of the 138 kV line in between structure 415 and 434 (~ 2.65 miles)AEP (100%)B2344.634.5/12 kV and Nicholsville b2345.1AEP (100%)b2345.1Construct a new 69 kV line from Hartford to Keeler (~8 miles)AEP (100%)b2345.2Rebuild the 34.5 kV lines between Keeler - Sister Lakes and Glenwood tapAEP (100%)	_			
Tap the Hydramatic – Valley 138 kV circuit (~ structure 415), build a new 138 kV line (~3.75 miles) to this new stationAEP (100%)b2344.3From this station, construct a new 138 kV line (~1.95 miles) to REA's Marcellus station construct new 138 kV line (~2.35 miles) to a tap point on Valley – Hydramatic 138 kV ckt (~structure 434)AEP (100%)b2344.4Retire sections of the 138 kV line (~2.35 miles) to a tap point on Valley – Hydramatic 138 kV ckt (-structure 434)AEP (100%)b2344.5kV line in between structure 415 and 434 (~ 2.65 miles)AEP (100%)b2344.634.5/12 kV and Nicholsville 34.5/12 kV and Nicholsville b2345.1AEP (100%)b2345.1Construct a new 69 kV line from Hattford to Keeler (~8 miles)AEP (100%)b2345.2Rebuild the 34.5 kV lines between Keeler - Sister 				
b2344.2Valley 138 kV circuit (~ structure 415), build a new 138 kV line (~3.75 miles) to this new stationAEP (100%)b2344.3From this station, construct a new 138 kV line (~1.95 miles) to REA's Marcellus stationAEP (100%)b2344.4From REA's Marcellus station construct new 138 kV line (~2.35 miles) to a tap point on Valley – Hydramatic 138 kV ckt (~structure 434)AEP (100%)b2344.5Retire sections of the 138 kV line in between structure 415 and 434 (~ 2.65 miles)AEP (100%)b2344.634.5/12 kV and Nicholsville 34.5/12 kV and Nicholsville b2345.1AEP (100%)b2345.1Construct a new 69 kV line from Hartford to Keeler (~8 miles)AEP (100%)b2345.2Rebuild the 34.5 kV lines between Keeler - Sister Lakes and Glenwood tapAEP (100%)				AEP (100%)
b2344.2structure 415), build a new 138 kV line (~3.75 miles) to this new stationAEP (100%) $B2344.3$ From this station, construct a new 138 kV line (~1.95 miles) to REA's Marcellus stationAEP (100%) $b2344.4$ From REA's Marcellus stationAEP (100%) $b2344.4$ From REA's Marcellus station construct new 138 kV line (~2.35 miles) to a tap point on Valley – Hydramatic 138 kV ckt (~structure 434)AEP (100%) $b2344.5$ Retire sections of the 138 kV line in between structure 415 and 434 (~2.65 miles)AEP (100%) $b2344.6$ $34.5/12$ kV and Nicholsville 34.5/12 kV stations and also the Marcellus – Valley 34.5 kV lineAEP (100%) $b2345.1$ Construct a new 69 kV line miles)AEP (100%) $b2345.2$ Rebuild the 34.5 kV lines between Keeler - Sister Lakes and Glenwood tapAEP (100%)		1 2		
$\begin{array}{ c c c c c c } & 138 \ kV \ line (~3.75 \ miles) \ to \\ this new station & AEP (100\%) \\ \hline \\ & From this station, construct \\ a new 138 \ kV \ line (~1.95 \ miles) \ to REA's \ Marcellus \\ station & AEP (100\%) \\ \hline \\ & From REA's \ Marcellus \\ station \ construct new 138 \\ kV \ line (~2.35 \ miles) \ to a \\ tap point \ on \ Valley - \\ Hydramatic \ 138 \ kV \ ckt \\ (~structure \ 434) & AEP (100\%) \\ \hline \\ & Retire \ sections \ of \ the \ 138 \\ kV \ line \ in \ between \ structure \\ \ & 415 \ and \ 434 \ (~2.65 \ miles) & AEP (100\%) \\ \hline \\ & Retire \ AEP's \ Marcellus \\ \ & 34.5/12 \ kV \ and \ Nicholsville \\ \ & b2344.6 \ \ & 34.5/12 \ kV \ stations \ and \ also \\ \ the \ Marcellus - \ Valley \ 34.5 \\ \ & kV \ line & AEP (100\%) \\ \hline \\ & Construct \ a new \ 69 \ kV \ line \\ \ & from \ Hartford \ to \ Keeler \ (~8 \ miles) & AEP (100\%) \\ \hline \\ & B2345.2 \ \ & Rebuild \ the \ 34.5 \ kV \ lines \\ \hline \\ & b2345.2 \ \ & between \ Keeler \ - \ Sister \\ \ Lakes \ and \ Glenwood \ tap \\ \hline \end{array}$				
	b2344.2			
b2344.3From this station, construct a new 138 kV line (~1.95 miles) to REA's Marcellus stationAEP (100%) $b2344.4$ From REA's Marcellus station construct new 138 kV line (~2.35 miles) to a tap point on Valley – Hydramatic 138 kV ckt (~structure 434)AEP (100%) $b2344.5$ Retire sections of the 138 kV line in between structure 415 and 434 (~ 2.65 miles)AEP (100%) $b2344.6$ Retire AEP's Marcellus 34.5/12 kV and Nicholsville 34.5/12 kV stations and also the Marcellus – Valley 34.5 kV lineAEP (100%) $b2345.1$ Construct a new 69 kV line from Hartford to Keeler (~8 miles)AEP (100%) $b2345.2$ Rebuild the 34.5 kV lines between Keeler - Sister Lakes and Glenwood tapAEP (100%)				
b2344.3a new 138 kV line (~1.95 miles) to REA's Marcellus stationAEP (100%)From REA's Marcellus station construct new 138 kV line (~2.35 miles) to a tap point on Valley – Hydramatic 138 kV ckt (~structure 434)AEP (100%)b2344.4Retire sections of the 138 kV line in between structure 415 and 434 (~ 2.65 miles)AEP (100%)b2344.6Retire AEP's Marcellus 34.5/12 kV and Nicholsville b2344.6AEP (100%)b2344.6St.5/12 kV stations and also the Marcellus – Valley 34.5 kV lineAEP (100%)b2345.1Construct a new 69 kV line from Hartford to Keeler (~8 miles)AEP (100%)b2345.2Rebuild the 34.5 kV lines between Keeler - Sister Lakes and Glenwood tapAEP (100%)				AEP (100%)
b2344.3miles) to REA's Marcellus stationAEP (100%)From REA's Marcellus station construct new 138 kV line (~2.35 miles) to a tap point on Valley – Hydramatic 138 kV ckt (~structure 434)AEP (100%)b2344.4Retire sections of the 138 kV line in between structure 415 and 434 (~ 2.65 miles)AEP (100%)Retire AEP's Marcellus 34.5/12 kV and Nicholsville b2344.6AEP (100%)b2344.634.5/12 kV stations and also the Marcellus – Valley 34.5 kV lineAEP (100%)b2345.1Construct a new 69 kV line from Hartford to Keeler (~8 miles)AEP (100%)b2345.2Rebuild the 34.5 kV lines between Keeler - Sister Lakes and Glenwood tapAEP (100%)		-		
$\begin{array}{ c c c c c c } \hline mles) to REA's Marcellus \\ station & AEP (100\%) \\ \hline \\ From REA's Marcellus \\ station construct new 138 \\ kV line (~2.35 miles) to a \\ tap point on Valley - \\ Hydramatic 138 kV ckt \\ (\sim structure 434) & AEP (100\%) \\ \hline \\ Retire sections of the 138 \\ kV line in between structure \\ 415 and 434 (~ 2.65 miles) & AEP (100\%) \\ \hline \\ \\ Retire AEP's Marcellus \\ 34.5/12 kV and Nicholsville \\ b2344.6 & 34.5/12 kV stations and also \\ the Marcellus - Valley 34.5 \\ kV line & AEP (100\%) \\ \hline \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ $	h23/1/3			
From REA's Marcellus station construct new 138 kV line (~2.35 miles) to a tap point on Valley – Hydramatic 138 kV ckt (~structure 434)AEP (100%) $b2344.4$ Retire sections of the 138 kV line in between structure 415 and 434 (~ 2.65 miles)AEP (100%) $b2344.5$ Retire AEP's Marcellus 34.5/12 kV and Nicholsville b2344.6AEP (100%) $b2344.6$ $34.5/12$ kV stations and also the Marcellus – Valley 34.5 kV lineAEP (100%) $b2345.1$ Construct a new 69 kV line from Hartford to Keeler (~8 miles)AEP (100%) $b2345.2$ Rebuild the 34.5 kV lines between Keeler - Sister Lakes and Glenwood tapAEP (100%)	02344.3	miles) to REA's Marcellus		
b2344.4station construct new 138 kV line (~ 2.35 miles) to a tap point on Valley – Hydramatic 138 kV ckt (\sim structure 434)AEP (100%)b2344.5Retire sections of the 138 kV line in between structure 415 and 434 (~ 2.65 miles)AEP (100%)b2344.6Retire AEP's Marcellus 34.5/12 kV and Nicholsville b2344.6AEP (100%)b2344.6St.5/12 kV and Nicholsville structure and also the Marcellus – Valley 34.5 kV lineAEP (100%)b2345.1Construct a new 69 kV line from Hartford to Keeler (~ 8 miles)AEP (100%)b2345.2Rebuild the 34.5 kV lines between Keeler - Sister Lakes and Glenwood tapAEP (100%)				AEP (100%)
b2344.4kV line (~2.35 miles) to a tap point on Valley – Hydramatic 138 kV ckt (~structure 434)AEP (100%)Retire sections of the 138 kV line in between structure 415 and 434 (~ 2.65 miles)AEP (100%)Retire AEP's Marcellus 34.5/12 kV and Nicholsville b2344.6AEP (100%)b2344.634.5/12 kV stations and also the Marcellus – Valley 34.5 kV lineAEP (100%)b2345.1Construct a new 69 kV line from Hartford to Keeler (~8 miles)AEP (100%)b2345.2Rebuild the 34.5 kV lines between Keeler - Sister Lakes and Glenwood tapAEP (100%)		From REA's Marcellus		
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b2345.1Construct a new 69 kV line from Hartford to Keeler (~8 miles)AEP (100%)b2345.2Rebuild the 34.5 kV lines between Keeler - Sister Lakes and Glenwood tapAEP (100%)		the Marcellus – Valley 34.5		
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miles)AEP (100%)b2345.2Rebuild the 34.5 kV lines between Keeler - Sister Lakes and Glenwood tap		Construct a new 69 kV line		
b2345.2 Rebuild the 34.5 kV lines between Keeler - Sister Lakes and Glenwood tap	b2345.1	from Hartford to Keeler (~8		
b2345.2 between Keeler - Sister Lakes and Glenwood tap				AEP (100%)
b2345.2 Lakes and Glenwood tap		Rebuild the 34.5 kV lines		
Lakes and Glenwood tap	h2245 2	between Keeler - Sister		
switch to 69 kV (~12 miles) AEP (100%)	02343.2	1		
		switch to 69 kV (~12 miles)		AEP (100%)

	Implement in - out at Keeler	
b2345.3	and Sister Lakes 34.5 kV	
	stations	AEP (100%)
	Retire Glenwood tap switch	
	and construct a new	
b2345.4	Rothadew station. These	
	new lines will continue to	
	operate at 34.5 kV	AEP (100%)
	Perform a sag study for	
	Howard - North Bellville -	
b2346	Millwood 138 kV line	
	including terminal	
	equipment upgrades	AEP (100%)
	Replace the North Delphos	
	600A switch. Rebuild	
	approximately 18.7 miles of	
b2347	138 kV line North Delphos	
	- S073. Reconductor the	
	line and replace the existing	
	tower structures	AEP (100%)
	Construct a new 138 kV	
	line from Richlands Station	
b2348	to intersect with the Hales	
	Branch - Grassy Creek 138	
	kV circuit	AEP (100%)
	Change the existing CT	
	ratios of the existing	
b2374	equipment along Bearskin -	
	Smith Mountain 138kV	
	circuit	AEP (100%)
	Change the existing CT	
	ratios of the existing	
b2375	equipment along East	
	Danville-Banister 138kV	
	circuit	AEP (100%)

b2376	Replace the Turner 138 kV breaker 'D'	AEP (100%)
b2377	Replace the North Newark 138 kV breaker 'P'	AEP (100%)
b2378	Replace the Sporn 345 kV breaker 'DD'	AEP (100%)
b2379	Replace the Sporn 345 kV breaker 'DD2'	AEP (100%)
b2380	Replace the Muskingum 345 kV breaker 'SE'	AEP (100%)
b2381	Replace the East Lima 138 kV breaker 'E1'	AEP (100%)
b2382	Replace the Delco 138 kV breaker 'R'	AEP (100%)
b2383	Replace the Sporn 345 kV breaker 'AA2'	AEP (100%)
b2384	Replace the Sporn 345 kV breaker 'CC'	AEP (100%)
b2385	Replace the Sporn 345 kV breaker 'CC2'	AEP (100%)
b2386	Replace the Astor 138 kV breaker '102'	AEP (100%)
b2387	Replace the Muskingum 345 kV breaker 'SH'	AEP (100%)
b2388	Replace the Muskingum 345 kV breaker 'SI'	AEP (100%)
b2389	Replace the Hyatt 138 kV breaker '105N'	AEP (100%)
b2390	Replace the Muskingum 345 kV breaker 'SG'	AEP (100%)
b2391	Replace the Hyatt 138 kV breaker '101C'	AEP (100%)
b2392	Replace the Hyatt 138 kV breaker '104N'	AEP (100%)
b2393	Replace the Hyatt 138 kV breaker '104S'	AEP (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

b2394	Replace the Sporn 345 kV breaker 'CC1'	AEP (100%)
b2409	Install two 56.4 MVAR capacitor banks at the Melmore 138 kV station in Ohio	AEP (100%)
b2410	Convert Hogan Mullin 34.5 kV line to 138 kV, establish 138 kV line between Jones Creek and Strawton, rebuild existing Mullin Elwood 34.5 kV and terminate line into Strawton station, retire Mullin station	AEP (100%)
b2411	Rebuild the 3/0 ACSR portion of the Hadley - Kroemer Tap 69 kV line utilizing 795 ACSR conductor	AEP (100%)
b2423	Install a 300 MVAR shunt reactor at AEP's Wyoming 765 kV station	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: AEP (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Willow - Eureka 138 kVb2444line: Reconductor 0.26 mile of 4/0 CU with 336 ACSSComplete a sag study of b2445AEP (100%)b2445Tidd - Mahans Lake 138 kV linelineAEP (100%)Bebuild the 7-mile 345 kV line between Meadow Lake and Reynolds 345 kV stationsAEP (100%)Add two 138 kV circuit breakers at Fremont stationAEP (100%)	
of 4/0 CU with 336 ACSSAEP (100%)Complete a sag study of Tidd - Mahans Lake 138 kV lineAEP (100%)b2445Rebuild the 7-mile 345 kV line between Meadow Lake and Reynolds 345 kV stationsAEP (100%)Add two 138 kV circuitAEP (100%)	
b2445 Complete a sag study of Tidd - Mahans Lake 138 kV line AEP (100%) b2449 Rebuild the 7-mile 345 kV line between Meadow Lake and Reynolds 345 kV stations AEP (100%) AEP (100%) AEP (100%)	
b2445 Tidd - Mahans Lake 138 kV AEP (100%) b2449 Rebuild the 7-mile 345 kV AEP (100%) b2449 Iine between Meadow Lake and Reynolds 345 kV AEP (100%) stations AEP (100%)	
lineAEP (100%)b2449Rebuild the 7-mile 345 kVline between Meadow Lake and Reynolds 345 kV stationsAEP (100%)Add two 138 kV circuitAEP (100%)	
b2449 Rebuild the 7-mile 345 kV line between Meadow Lake and Reynolds 345 kV stations Add two 138 kV circuit	
b2449line between Meadow Lake and Reynolds 345 kV stationsAEP (100%)Add two 138 kV circuitAEP (100%)	
b2449 and Reynolds 345 kV stations AEP (100%) Add two 138 kV circuit	
and Reynolds 345 kV stations Add two 138 kV circuit AEP (100%)	
Add two 138 kV circuit	
breakers at Framont station	
1.24(2) Dicakers at Fremont station	
b2462 b2462 to fix tower contingency	
'408 2' AEP (100%)	
Construct a new 138/69 kV	
Yager station by tapping 2-	
b2501 138 kV FE circuits	
(Nottingham-Cloverdale,	
Nottingham-Harmon) AEP (100%)	
Build a new 138 kV line	
b2501.2 from new Yager station to	
Azalea station AEP (100%)	
Close the 138 kV loop back	
b2501.3 into Yager 138 kV by	
b2501.5 converting part of local 69	
kV facilities to 138 kV AEP (100%)	
Build 2 new 69 kV exits to	
reinforce 69 kV facilities	
b2501.4 and upgrade conductor	
b2501.4 between Irish Run 69 kV	
Switch and Bowerstown 69	
kV Switch AEP (100%)	

Tequiled IIu	nsmission Enhancements Annua	Il Revenue Requirement	Responsible Customer(s)
	Construct new 138 kV		
	switching station		
	Nottingham tapping 6-138		
	kV FE circuits (Holloway-		
	Brookside, Holloway-		
b2502.1	Harmon #1 and #2,		
	Holloway-Reeds,		
	Holloway-New Stacy,		
	Holloway-Cloverdale). Exit		
	a 138 kV circuit from new		
	station to Freebyrd station		AEP (100%)
b2502.2	Convert Freebyrd 69 kV to		
02302.2	138 kV		AEP (100%)
	Rebuild/convert Freebyrd-		
b2502.3	South Cadiz 69 kV circuit		
	to 138 kV		AEP (100%)
1-2502.4	Upgrade South Cadiz to 138		
b2502.4	kV breaker and a half		AEP (100%)
	Replace the Sporn 138 kV		
b2530	breaker 'G1' with 80 kA		
	breaker		AEP (100%)
	Replace the Sporn 138 kV		
b2531	breaker 'D' with 80 kA		
	breaker		AEP (100%)
	Replace the Sporn 138 kV		
b2532	breaker 'O1' with 80 kA		
	breaker		AEP (100%)
	Replace the Sporn 138 kV		
b2533	breaker 'P2' with 80 kA		
	breaker		AEP (100%)
	Replace the Sporn 138 kV		
b2534	breaker 'U' with 80 kA		
	breaker		AEP (100%)
	Replace the Sporn 138 kV		
b2535	breaker 'O' with 80 kA		
	breaker		AEP (100%)

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	Replace the Sporn 138 kV		
b2536	breaker 'O2' with 80 kA		
	breaker		AEP (100%)
	Replace the Robinson Park		
	138 kV breakers A1, A2,		
b2537	B1, B2, C1, C2, D1, D2,		
	E1, E2, and F1 with 63 kA		
	breakers		AEP (100%)
	Reconductor 0.5 miles		()
	Tiltonsville – Windsor 138		
	kV and string the vacant		
b2555	side of the 4.5 mile section		
	using 556 ACSR in a six		
	wire configuration		AEP (100%)
	Install two 138 kV prop		ALI (10070)
	structures to increase the		
b2556	maximum operating		
	temperature of the Clinch		
	River- Clinch Field 138 kV		
	line		AEP (100%)
	Temporary operating		
b2581	procedure for delay of		
	upgrade b1464. Open the		
	Corner 138 kV circuit		
	breaker 86 for an overload		
	of the Corner – Washington		
	MP 138 kV line. The tower		
	contingency loss of		
	Belmont – Trissler 138 kV		
	and Belmont – Edgelawn		
	138 kV should be added to		
	Operational contingency		AEP (100%)
ــــــ			

b2591Construct a new 69 kV line approximately 2.5 miles from Colfax to Drewry's. Construct a new Drewry's station and install a new circuit breaker at Colfax station.AEP (100%)Rebuild existing East Coshocton – North Coshocton double circuit line which contains Newcomerstown – N. Coshocton – North Coshocton – North Parite	required fra		evenue Requirement	Responsible Customer(s)
b2591 Colfax to Drewry's. Construct a new Drewry's station and install a new circuit breaker at Colfax station. AEP (100%) Rebuild existing East Coshocton – North Coshocton double circuit line which contains Newcomerstown – N. Coshocton 34.5 kV Circuit and Coshocton – North Coshocton 69 kV circuit AEP (100%) Rebuild existing West Bellaire – Glencoe 69 kV line with 138 kV & 69 kV circuits and install 138/69 kV transformer at Glencoe Switch AEP (100%) b2594 Rebuild 1.0 mile of Brantley – Bridge Street 69 kV Line with 1033 ACSR overhead conductor AEP (100%) Rebuild 7.82 mile Elkhorn City. Have; S S 60 kV line AEP (100%)				
b2391 a new Drewry's station and install a new circuit breaker at Colfax station. AEP (100%) Rebuild existing East Coshocton – North Coshocton double circuit line which contains Newcomerstown – N. Coshocton 34.5 kV Circuit and Coshocton – North Coshocton 69 kV circuit AEP (100%) Rebuild existing West Bellaire – Glencoe 69 kV line with 138 b2593 AEP (100%) Rebuild existing West Bellaire – Glencoe 69 kV circuits and install 138/69 kV transformer at Glencoe Switch AEP (100%) Bridge Street 69 kV Line with 1033 ACSR overhead conductor AEP (100%) Rebuild 7.82 mile Elkhorn City, Hayai S S 60 kV line AEP (100%)	b2501			
a new Drewry's station and install a new circuit breaker at Colfax station. AEP (100%) Rebuild existing East Coshocton – North Coshocton double circuit line which contains Newcomerstown – N. Coshocton 34.5 kV Circuit and Coshocton – North Coshocton 69 kV circuit AEP (100%) Rebuild existing West Bellaire – Glencoe 69 kV line with 138 kV & 69 kV circuits and install 138/69 kV transformer at Glencoe Switch AEP (100%) Rebuild 1.0 mile of Brantley – Bridge Street 69 kV Line with 1033 ACSR overhead conductor AEP (100%) Rebuild 7.82 mile Elkhorn City. Havei S S 60 kV line AEP (100%)				
Colfax station.AEP (100%)Rebuild existing East Coshocton – North Coshocton double circuit line which contains Newcomerstown – N. Coshocton 34.5 kV Circuit and Coshocton – North Coshocton 69 kV circuitAEP (100%)Rebuild existing West Bellaire – Glencoe 69 kV line with 138 kV & 69 kV circuits and install 138/69 kV transformer at Glencoe SwitchAEP (100%)Rebuild 1.0 mile of Brantley – Bridge Street 69 kV Line with 1033 ACSR overhead conductorAEP (100%)Rebuild 7.82 mile Elkhorn City. Havei S S 60 kV lineAEP (100%)	02371			
Rebuild existing East Coshocton – North Coshocton double circuit line which contains Newcomerstown – N. Coshocton 34.5 kV Circuit and Coshocton – North Coshocton 69 kV circuit AEP (100%) Rebuild existing West Bellaire – Glencoe 69 kV line with 138 b2593 kV & 69 kV circuits and install 138/69 kV transformer AEP (100%) Rebuild 1.0 mile of Brantley – Bridge Street 69 kV Line with b2594 Bridge Street 69 kV Line with Rebuild 7.82 mile Elkhorn AEP (100%)		install a new circuit breaker at		
Coshocton – North Coshocton double circuit line which contains Newcomerstown – N. Coshocton 34.5 kV Circuit and Coshocton – North Coshocton 69 kV circuitAEP (100%)Rebuild existing West Bellaire – Glencoe 69 kV line with 138 kV & 69 kV circuits and install 138/69 kV transformer at Glencoe SwitchAEP (100%)b2594Rebuild 1.0 mile of Brantley – Bridge Street 69 kV Line with 1033 ACSR overhead conductorAEP (100%)Rebuild 7.82 mile Elkhorn CityAEP (100%)				AEP (100%)
b2592double circuit line which contains Newcomerstown – N. Coshocton 34.5 kV Circuit and Coshocton – North Coshocton 69 kV circuitAEP (100%)b2593Rebuild existing West Bellaire – Glencoe 69 kV line with 138 kV & 69 kV circuits and install 138/69 kV transformer at Glencoe SwitchAEP (100%)b2594Rebuild 1.0 mile of Brantley – Bridge Street 69 kV Line with 1033 ACSR overhead conductorAEP (100%)Rebuild 7.82 mile Elkhorn CityAEP (100%)				
b2592 contains Newcomerstown – N. Coshocton 34.5 kV Circuit and Coshocton – North Coshocton 69 kV circuit AEP (100%) Rebuild existing West Bellaire – Glencoe 69 kV line with 138 b2593 Rebuild existing West Bellaire – Glencoe 69 kV line with 138 kV & 69 kV circuits and install 138/69 kV transformer at Glencoe Switch AEP (100%) Rebuild 1.0 mile of Brantley – Bridge Street 69 kV Line with 1033 ACSR overhead conductor AEP (100%) Rebuild 7.82 mile Elkhorn City AEP (100%)				
Coshocton 34.5 kV Circuit and Coshocton – North Coshocton 69 kV circuitAEP (100%)Rebuild existing West Bellaire – Glencoe 69 kV line with 138 kV & 69 kV circuits and install 138/69 kV transformer at Glencoe SwitchAEP (100%)b2594Rebuild 1.0 mile of Brantley – Bridge Street 69 kV Line with 1033 ACSR overhead conductorAEP (100%)Rebuild 7.82 mile Elkhorn CityAEP (100%)		double circuit line which		
and Coshocton – North Coshocton 69 kV circuitAEP (100%)Rebuild existing West Bellaire – Glencoe 69 kV line with 138 kV & 69 kV circuits and install 138/69 kV transformer at Glencoe SwitchAEP (100%)b2594Rebuild 1.0 mile of Brantley – Bridge Street 69 kV Line with 1033 ACSR overhead conductorAEP (100%)Rebuild 7.82 mile Elkhorn CityAEP (100%)	b2592			
Coshocton 69 kV circuitAEP (100%)Rebuild existing West Bellaire - Glencoe 69 kV line with 138-b2593kV & 69 kV circuits and install 138/69 kV transformer at Glencoe SwitchAEP (100%)Bridge Street 69 kV Line with 1033 ACSR overhead conductorAEP (100%)Rebuild 7.82 mile Elkhorn CityAEP (100%)		Coshocton 34.5 kV Circuit		
Rebuild existing West Bellaire - Glencoe 69 kV line with 138 b2593 kV & 69 kV circuits and install 138/69 kV transformer at Glencoe Switch Rebuild 1.0 mile of Brantley – Bridge Street 69 kV Line with 1033 ACSR overhead conductor Rebuild 7.82 mile Elkhorn City Havei S S 69 kV line				
- Glencoe 69 kV line with 138 b2593 kV & 69 kV circuits and install 138/69 kV transformer at Glencoe Switch AEP (100%) Bridge Street 69 kV Line with 1033 ACSR overhead conductor AEP (100%) Rebuild 7.82 mile Elkhorn City Havei S S 69 kV line		Coshocton 69 kV circuit		AEP (100%)
b2593kV & 69 kV circuits and install 138/69 kV transformer at Glencoe SwitchAEP (100%)b2594Rebuild 1.0 mile of Brantley – Bridge Street 69 kV Line with 1033 ACSR overhead conductorAEP (100%)Rebuild 7.82 mile Elkhorn CityRebuild 7.82 mile Elkhorn CityAEP (100%)				
install 138/69 kV transformer at Glencoe SwitchAEP (100%)b2594Rebuild 1.0 mile of Brantley – Bridge Street 69 kV Line with 1033 ACSR overhead conductorAEP (100%)Rebuild 7.82 mile Elkhorn CityRebuild 7.82 mile Elkhorn CityAEP (100%)		– Glencoe 69 kV line with 138		
at Glencoe SwitchAEP (100%)Bridge Street 69 kV Line with 1033 ACSR overhead conductorAEP (100%)Rebuild 7.82 mile Elkhorn CityAEP (100%)	b2593	kV & 69 kV circuits and		
b2594 Rebuild 1.0 mile of Brantley – Bridge Street 69 kV Line with 1033 ACSR overhead conductor AEP (100%) Rebuild 7.82 mile Elkhorn City Rebuild 7.82 mile Elkhorn		install 138/69 kV transformer		
b2594 Bridge Street 69 kV Line with 1033 ACSR overhead conductor AEP (100%) Rebuild 7.82 mile Elkhorn City Hawi S S 69 kV line				AEP (100%)
b2394 1033 ACSR overhead conductor AEP (100%) Rebuild 7.82 mile Elkhorn City Hawsi S S 69 kV line				
1033 ACSR overhead AEP (100%) conductor AEP (100%) Rebuild 7.82 mile Elkhorn City City Havei S S 69 kV line	h2504			
Rebuild 7.82 mile Elkhorn	02374	1033 ACSR overhead		
City Havei S S 60 kV line				AEP (100%)
L2505 1 City – Haysi S.S 69 kV line				
	b2595.1			
utilizing 1033 ACSR built to	02373.1	e		
138 kV standardsAEP (100%)				AEP (100%)
Rebuild 5.18 mile Moss –				
b2595.2 Haysi SS 69 kV line utilizing	h2505 2	3		
1033 ACSR built to 138 kV	02393.2			
standards AEP (100%)				AEP (100%)
Move load from the 34.5 kV		Move load from the 34.5 kV		
bus to the 138 kV bus by		bus to the 138 kV bus by		
b2596 installing a new 138/12 kV XF	b2596	e		
at New Carlisle station in		at New Carlisle station in		
Indiana AEP (100%)		Indiana		AEP (100%)

Required 11a		i Revenue Requirement	Responsible Customer(s)
	Rebuild approximately 1		
	mi. section of Dragoon-		
	Virgil Street 34.5 kV line		
	between Dragoon and		
b2597	Dodge Tap switch and		
	replace Dodge switch		
	MOAB to increase thermal		
	capability of Dragoon-		
	Dodge Tap branch		AEP (100%)
	Rebuild approximately 1		
	mile section of the Kline-		
	Virgil Street 34.5 kV line		
b2598	between Kline and Virgil		
02398	Street tap. Replace MOAB		
	switches at Beiger, risers at		
	Kline, switches and bus at		
	Virgil Street		AEP (100%)
	Rebuild approximately 0.1		
b2599	miles of 69 kV line between		
	Albion and Albion tap		AEP (100%)
b2600	Rebuild Fremont – Pound		
02000	line as 138 kV		AEP (100%)
1 2 (0 1	Fremont Station		
b2601	Improvements		AEP (100%)
	Replace MOAB towards		
b2601.1	Beaver Creek with 138 kV		
	breaker		AEP (100%)
b2601.2	Replace MOAB towards		
	Clinch River with 138 kV		
	breaker		AEP (100%)
1.0.0.1.5	Replace 138 kV Breaker A		
b2601.3	with new bus-tie breaker		AEP (100%)
	Re-use Breaker A as high		
b2601.4	side protection on		
02001.1	transformer #1		AEP (100%)
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	Institusion Enhancements Annual Re	
	Install two (2) circuit switchers	
b2601.5	on high side of transformers # 2	
	and 3 at Fremont Station	AEP (100%)
1.0.000.1	Install 138 kV breaker E2 at	· · · ·
b2602.1	North Proctorville	AEP (100%)
	Construct 2.5 Miles of 138 kV	
	1033 ACSR from East	
b2602.2	Huntington to Darrah 138 kV	
	substations	AEP (100%)
	Install breaker on new line exit	
b2602.3	at Darrah towards East	
02002.5		A E D (1000/)
	Huntington	AEP (100%)
1.2002.4	Install 138 kV breaker on new	
b2602.4	line at East Huntington towards	
	Darrah	AEP (100%)
1.0.00.	Install 138 kV breaker at East	
b2602.5	Huntington towards North	
	Proctorville	AEP (100%)
b2603	Boone Area Improvements	
02005	-	AEP (100%)
	Purchase approximately a	
b2603.1	200X300 station site near	
02003.1	Slaughter Creek 46 kV station	
	(Wilbur Station)	AEP (100%)
	Install 3 138 kV circuit	
b2603.2	breakers, Cabin Creek to	
	Hernshaw 138 kV circuit	AEP (100%)
	Construct 1 mi. of double	
	circuit 138 kV line on Wilbur –	
	Boone 46 kV line with 1590	
	ACSS 54/19 conductor @ 482	
b2603.3	Degree design temp. and 1-159	
	12/7 ACSR and one 86	
	Sq.MM. 0.646" OPGW Static	
	wires	AEP (100%)
	Bellefonte Transformer	
b2604	Addition	AED (1000/)
	Addition	AEP (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

	Remove approximately 11.32	•	
b2604.1	miles of the 69 kV line		
	between Millbrook Park and		
	Franklin Furnace		AEP (100%)
	At Millbrook Park station,		
	add a new 138/69 kV		
	Transformer #2 (90 MVA)		
	with 3000 A 40 kA breakers		
b2604.2	on the high and low side.		
	Replace the 600 A MOAB		
	switch and add a 3000 A		
	circuit switcher on the high		
	side of Transformer #1		AEP (100%)
	Replace Sciotoville 69 kV		
	station with a new 138/12 kV		
1-2604-2	in-out station (Cottrell) with		
b2604.3	2000 A line MOABs facing		
	Millbrook Park and East		
	Wheelersburg 138 kV station		AEP (100%)
	Tie Cottrell switch into the		
	Millbrook Park – East		
b2604.4	Wheelersburg 138 kV circuit		
02004.4	by constructing 0.50 mile of		
	line using 795 ACSR 26/7		
	Drake (SE 359 MVA)		AEP (100%)
	Install a new 2000 A 3-way		
b2604.5	PoP switch outside of Texas		
	Eastern 138 kV substation		
	(Sadiq switch)		AEP (100%)
	Replace the Wheelersburg 69		
	kV station with a new 138/12		
	kV in-out station (Sweetgum)		
b2604.6	with a 3000 A 40 kA breaker		
	facing Sadiq switch and a		
	2000 A 138 kV MOAB		
	facing Althea		AEP (100%)

Itequirea Ita		Responsible Customer(s)
	Build approximately 1.4 miles of new 138 kV line	
	using 795 ACSR 26/7	
b2604.7	Drake (SE 359 MVA)	
	between the new Sadiq	
	switch and the new	
	Sweetgum 138 kV station	AEP (100%)
b2604.8	Remove the existing 69 kV	
02004.8	Hayport Road switch	 AEP (100%)
	Rebuild approximately 2.3	
	miles along existing Right-	
	Of-Way from Sweetgum to	
	the Hayport Road switch 69	
	kV location as 138 kV	
	single circuit and rebuild	
	approximately 2.0 miles	
b2604.9	from the Hayport Road	
	switch to Althea 69 kV with	
	double circuit 138 kV	
	construction, one side	
	operated at 69 kV to	
	continue service to K.O.	
	Wheelersburg, using 795	
	ACSR 26/7 Drake (SE 359	
	MVA)	AEP (100%)
	Build a new station (Althea)	
b2604.10	with a 138/69 kV, 90 MVA	
	transformer. The 138 kV	
	side will have a single 2000	
	A 40 kA circuit breaker and	
	the 69 kV side will be a	
	2000 A 40 kA three breaker	
	ring bus	AEP (100%)
	Remote end work at	
b2604.11	Hanging Rock, East	
	Wheelersburg and North Haverhill 138 kV	AED (100%)
	Πανειίιιι 130 Κν	AEP (100%)

Required Tra		Revenue Requirement	Responsible Customer(s)
	Rebuild and reconductor		
	Kammer – George		
	Washington 69 kV circuit and		
b2605	George Washington –		
02003	Moundsville ckt #1, designed		
	for 138 kV. Upgrade limiting		
	equipment at remote ends and		
	at tap stations		AEP (100%)
	Convert Bane –		
b2606	Hammondsville from 23 kV to		
	69 kV operation		AEP (100%)
b2607	Pine Gap Relay Limit Increase		
02007	The Gap Keray Linit merease		AEP (100%)
b2608	Richlands Relay Upgrade		
02000			AEP (100%)
	Thorofare – Goff Run –		
b2609	Powell Mountain 138 kV		
	Build		AEP (100%)
b2610	Rebuild Pax Branch –		
02010	Scaraboro as 138 kV		AEP (100%)
b2611	Skin Fork Area Improvements		
02011	-		AEP (100%)
	New 138/46 kV station near		
b2611.1	Skin Fork and other		
	components		AEP (100%)
	Construct 3.2 miles of 1033		
	ACSR double circuit from		
b2611.2	new Station to cut into		
	Sundial-Baileysville 138 kV		
	line		AEP (100%)
	Replace metering BCT on		
	Tanners Creek CB T2 with a		
10(2)11	slip over CT with higher		
b2634.1	thermal rating in order to		
	remove 1193 MVA limit on		
	facility (Miami Fort-Tanners		
	Creek 345 kV line)		AEP (100%)

	institussion Enhancements Annua	ii Revenue Requirement	Responsible Customer(s)
b2643	Replace the Darrah 138 kV breaker 'L' with 40 kA rated breaker		AED (100%)
	rated breaker		AEP (100%)
b2645	Ohio Central 138 kV Loop		AEP (100%)
b2667	Replace the Muskingum 138 kV bus # 1 and 2		AEP (100%)
b2668	Reconductor Dequine to Meadow Lake 345 kV circuit #1 utilizing dual 954 ACSR 54/7 cardinal conductor		AEP (99.89%) / OVEC (0.11%)
b2668.1	Replace the bus/risers at Dequine 345 kV station		AEP (100%)
b2669	Install a second 345/138 kV transformer at Desoto		AEP (100%)
b2670	Replace switch at Elk Garden 138 kV substation (on the Elk Garden – Lebanon 138 kV circuit)		AEP (100%)
b2671	Replace/upgrade/add terminal equipment at Bradley, Mullensville, Pinnacle Creek, Itmann, and Tams Mountain 138 kV substations. Sag study on Mullens – Wyoming and Mullens – Tams Mt. 138 kV circuits		AEP (100%)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
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		Load-Ratio Share Allocation:
		AEC (1.65%) / AEP (13.68%) /
		APS (5.76%) / ATSI (8.04%) /
		BGE (4.11%) / ComEd
		(13.39%) / Dayton (2.12%) /
		DEOK (3.25%) / DL (1.71%) /
	Install a +/- 450 MVAR	DPL (2.60%) / Dominion
b2687.1	SVC at Jacksons Ferry 765	(13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) /
02007.1	kV substation	
	K V Substation	NEPTUNE* (0.42%) / OVEC
		(0.08%) / PECO (5.40%) /
		PENELEC (1.78%) / PEPCO
		(3.67%) / PPL (4.72%) / PSEG
		(6.39%) / RE (0.26%)
		DFAX Allocation:
		AEP (100%)

*Neptune Regional Transmission System, LLC

Required Trai	nsmission Enhancements Annua	Il Revenue Requirement	Responsible Customer(s)
			Load-Ratio Share Allocation:
			AEC (1.65%) / AEP (13.68%) /
			APS (5.76%) / ATSI (8.04%) /
			BGE (4.11%) / ComEd
			(13.39%) / Dayton (2.12%) /
	Install a 300 MVAR shunt		DEOK (3.25%) / DL (1.71%) /
	line reactor on the		DPL (2.60%) / Dominion
b2687.2	Broadford end of the		(13.32%) / EKPC (1.89%) /
02087.2	Broadford – Jacksons Ferry		JCPL (3.86%) / ME (1.90%) /
	765 kV line		NEPTUNE* (0.42%) / OVEC
			(0.08%) / PECO (5.40%) /
			PENELEC (1.78%) / PEPCO
			(3.67%) / PPL (4.72%) / PSEG
			(6.39%) / RE (0.26%)
			DFAX Allocation:
			AEP (100%)
	Mitigate violations		
	identified by sag study to		
	operate Fieldale-Thornton-		
b2697.1	Franklin 138 kV overhead		
02077.1	line conductor at its max.		
	operating temperature. 6		
	potential line crossings to		
	be addressed		AEP (100%)
	Replace terminal equipment		
	at AEP's Danville and East		
b2697.2	Danville substations to		
02077.2	improve thermal capacity of		
	Danville – East Danville		
	138 kV circuit		AEP (100%)
*Nontuna D.	agional Transmission System I	IC	

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

*Neptune Regional Transmission System, LLC

	ree i entre i tequin entrent	
Replace relays at AEP's		
•		
1 0		
		AEP (100%)
breaker and a half		
configuration with 9-138 kV		
CB's on 4 strings and with 2-		
28.8 MVAR capacitor banks		AEP (100%)
Construct new 138 kV line		
from Herlan station to Blue		
Racer station. Estimated		
approx. 3.2 miles of 1234		
ACSS/TW Yukon and		
OPGW		AEP (100%)
Install 1-138 kV CB at Blue		
Racer to terminate new		
Herlan circuit		AEP (100%)
Rebuild/upgrade line		
Willow Grove Switch 69 kV		AEP (100%)
Build approximately 11.5		
556.5 ACSR 26/7 Dove		
conductor on wood poles		
from Flushing station to		
Smyrna station		AEP (100%)
Replace the South Canton		
138 kV breakers 'K', 'J',		
'J1', and 'J2' with 80 kA		
breakers		AEP (100%)
	Replace relays at AEP's Cloverdale and Jackson's Ferry substations to improve the thermal capacity of Cloverdale – Jackson's Ferry 765 kV line Construct Herlan station as breaker and a half configuration with 9-138 kV CB's on 4 strings and with 2- 28.8 MVAR capacitor banks Construct new 138 kV line from Herlan station to Blue Racer station. Estimated approx. 3.2 miles of 1234 ACSS/TW Yukon and OPGW Install 1-138 kV CB at Blue Racer to terminate new Herlan circuit Rebuild/upgrade line between Glencoe and Willow Grove Switch 69 kV Build approximately 11.5 miles of 34.5 kV line with 556.5 ACSR 26/7 Dove conductor on wood poles from Flushing station to Smyrna station Replace the South Canton 138 kV breakers 'K', 'J',	Cloverdale and Jackson's Ferry substations to improve the thermal capacity of Cloverdale – Jackson's Ferry 765 kV line Construct Herlan station as breaker and a half configuration with 9-138 kV CB's on 4 strings and with 2- 28.8 MVAR capacitor banks Construct new 138 kV line from Herlan station to Blue Racer station. Estimated approx. 3.2 miles of 1234 ACSS/TW Yukon and OPGW Install 1-138 kV CB at Blue Racer to terminate new Herlan circuit Rebuild/upgrade line between Glencoe and Willow Grove Switch 69 kV Build approximately 11.5 miles of 34.5 kV line with 556.5 ACSR 26/7 Dove conductor on wood poles from Flushing station to Smyrna station Replace the South Canton 138 kV breakers 'K', 'J', 'J1', and 'J2' with 80 kA

Required Tra	nsmission Ennancements Annual	Revenue Requirement	Responsible Customer(s)
b2731	Convert the Sunnyside –		
	East Sparta – Malvern 23 kV		
	sub-transmission network to		
	69 kV. The lines are already		
	built to 69 kV standards		AEP (100%)
	Replace South Canton 138		
b2733	kV breakers 'L' and 'L2'		
	with 80 kA rated breakers		AEP (100%)
	Retire Betsy Layne		
	138/69/43 kV station and		
b2750.1	replace it with the greenfield		
02750.1	Stanville station about a half		
	mile north of the existing		
	Betsy Layne station		AEP (100%)
	Relocate the Betsy Layne		
	capacitor bank to the		
b2750.2	Stanville 69 kV bus and		
	increase the size to 14.4		
	MVAR		AEP (100%)
	Replace existing George		
	Washington station 138 kV		
	yard with GIS 138 kV		
b2753.1	breaker and a half yard in		
	existing station footprint.		
	Install 138 kV revenue		
	metering for new IPP		AED (1009/)
	connection		AEP (100%)
	Replace Dilles Bottom 69/4 kV Distribution station as		
	breaker and a half 138 kV		
b2753.2	yard design including AEP Distribution facilities but		
	initial configuration will		
	constitute a 3 breaker ring		
	bus		AED (100%)
	Jus		AEP (100%)

Required 11a	IISTIISSION Ennancements Annual	Revenue Requirement	Responsible Customer(3)
	Connect two 138 kV 6-wired		
	circuits from "Point A"		
	(currently de-energized and		
	owned by FirstEnergy) in		
b2753.3	circuit positions previously		
02755.5	designated Burger #1 &		
	Burger #2 138 kV. Install		
	interconnection settlement		
	metering on both circuits		
	exiting Holloway		AEP (100%)
	Build double circuit 138 kV		
	line from Dilles Bottom to		
	"Point A". Tie each new		
	AEP circuit in with a 6-wired		
b2753.6	line at Point A. This will		
	create a Dilles Bottom –		
	Holloway 138 kV circuit and		
	a George Washington –		
	Holloway 138 kV circuit		AEP (100%)
	Retire line sections (Dilles		
	Bottom – Bellaire and		
	Moundsville – Dilles Bottom		
	69 kV lines) south of		
b2753.7	FirstEnergy 138 kV line		
02755.7	corridor, near "Point A". Tie		
	George Washington –		
	Moundsville 69 kV circuit to		
	George Washington – West		
	Bellaire 69 kV circuit		AEP (100%)
	Rebuild existing 69 kV line		
	as double circuit from		
	George Washington – Dilles		
b2753.8	Bottom 138 kV. One circuit		
02755.0	will cut into Dilles Bottom		
	138 kV initially and the other		
	will go past with future plans		
	to cut in		AEP (100%)

required file	IISIIIISSIOII LAIIIdaleententis Aliitudi N	te venue reequirement	
b2760	Perform a Sag Study of the Saltville – Tazewell 138 kV line to increase the thermal		
	rating of the line		AEP (100%)
	Perform a Sag Study of the		
b2761.2	Hazard – Wooten 161 kV line		
02701.2	to increase the thermal rating		
	of the line		AEP (100%)
	Rebuild the Hazard – Wooton		
b2761.3	161 kV line utilizing 795 26/7		
02701.5	ACSR conductor (300 MVA		
	rating)		AEP (100%)
	Perform a Sag Study of Nagel		
b2762	– West Kingsport 138 kV line		
02702	to increase the thermal rating		
	of the line		AEP (100%)
10776	Reconductor the entire		
b2776	Dequine – Meadow Lake 345		
	kV circuit #2		AEP (99.89%) / OVEC (0.11%)
10777	Reconductor the entire		
b2777	Dequine – Eugene 345 kV		AEP (5.96%) / EKPC (89.89%) /
	circuit #1		OVEC (4.15%)
	Construct a new 138 kV		
b2779.1	station, Campbell Road,		
	tapping into the Grabill –		AED (1000/)
	South Hicksville138 kV line		AEP (100%)
	Reconstruct sections of the		
	Butler-N.Hicksville and		
b2779.2	Auburn-Butler 69 kV circuits		
	as 138 kV double circuit and extend 138 kV from		
			AED (100%)
	Campbell Road station		AEP (100%)

	Institusion Entitationnettis Attituar	
b2779.3	Construct a new 345/138 kV	
	SDI Wilmington Station	
	which will be sourced from	
02779.5	Collingwood 345 kV and	
	serve the SDI load at 345 kV	
	and 138 kV, respectively	AEP (100%)
	Loop 138 kV circuits in-out	
	of the new SDI Wilmington	
	138 kV station resulting in a	
	direct circuit to Auburn 138	
	kV and an indirect circuit to	
b2779.4	Auburn and Rob Park via	
	Dunton Lake, and a circuit to	
	Campbell Road; Reconductor	
	138 kV line section between	
	Dunton Lake – SDI	
	Wilmington	AEP (100%)
h2770 5	Even and Asshum 129 IV has	
02779.3	Expand Auburn 138 kV bus	AEP (100%)
	Construct a 345 kV ring bus	
h2770.6	at Dunton Lake to serve Steel	
02779.0	Dynamics, Inc. (SDI) load at	
b2779.5 b2779.6 b2779.7	345 kV via two (2) circuits	AEP (100%)
h2770 7	Retire Collingwood 345 kV	
02779.7	station	AEP (100%)
	Reconductor 0.53 miles (14	
	spans) of the Kaiser Jct Air	
	Force Jct. Sw section of the	
b2787	Kaiser - Heath 69 kV	
02/0/	circuit/line with 336 ACSR to	
	match the rest of the circuit	
	(73 MVA rating, 78%	
	loading)	AEP (100%)

Required Tra	Institussion Enhancements Annual	Revenue Requirement	Responsible Customer(s)
	Install a new 3-way 69 kV		
	line switch to provide service		
	to AEP's Barnesville		
b2788	distribution station. Remove a		
	portion of the #1 copper T-		
	Line from the 69 kV through-		
	path		AEP (100%)
	Rebuild the Brues - Glendale		
b2789	Heights 69 kV line section (5		
02/89	miles) with 795 ACSR (128		
	MVA rating, 43% loading)		AEP (100%)

Required Trai	nsmission Enhancements A	Annual Revenue Requirem	ent Responsible Customer(s)
	Install a 3 MVAR, 34.5 kV		
b2790	cap bank at Caldwell		
	substation		AEP (100%)
b2791	Rebuild Tiffin – Howard, new		
02/91	transformer at Chatfield		AEP (100%)
	Rebuild portions of the East		, , , , , , , , , , , , , , , , , , ,
	Tiffin - Howard 69 kV line		
	from East Tiffin to West		
b2791.1	Rockaway Switch (0.8 miles)		
	using 795 ACSR Drake		
	conductor (129 MVA rating,		
	50% loading)		AEP (100%)
	Rebuild Tiffin - Howard 69		
	kV line from St. Stephen's		
	Switch to Hinesville (14.7		
b2791.2	miles) using 795 ACSR		
	Drake conductor (90 MVA		
	rating, non-conductor limited,		
	38% loading)		AEP (100%)
	New 138/69 kV transformer		
b2791.3	with 138/69 kV protection at		
b2791.1 I b2791.2 I b2791.2 I b2791.3 I b2791.3 I b2791.4 I b2791.4 I c b2791.4 I c b2791.4 I c b2791.4 I c c c c c c c c c c c c c c c c c c c	Chatfield		AEP (100%)
h2701 4	New 138/69 kV protection at		
02/91.4	existing Chatfield transformer		AEP (100%)
	Replace the Elliott		
	transformer with a 130 MVA		
	unit, reconductor 0.42 miles		
	of the Elliott – Ohio		
h2702	University 69 kV line with		
02192	556 ACSR to match the rest		
	of the line conductor (102		
	MVA rating, 73% loading)		
	and rebuild 4 miles of the		
	Clark Street – Strouds R		AEP (100%)

Required Tra	nsmission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
b2793	Energize the spare Fremont Center 138/69 kV 130 MVA transformer #3. Reduces overloaded facilities to 46% loading		AEP (100%)
b2794	Construct new 138/69/34 kV station and 1-34 kV circuit (designed for 69 kV) from new station to Decliff station, approximately 4 miles, with 556 ACSR conductor (51 MVA rating)		AEP (100%)
b2795	Install a 34.5 kV 4.8 MVAR capacitor bank at Killbuck 34.5 kV station		AEP (100%)
b2796	Rebuild the Malvern - Oneida Switch 69 kV line section with 795 ACSR (1.8 miles, 125 MVA rating, 55% loading)		AEP (100%)
b2797	Rebuild the Ohio Central - Conesville 69 kV line section (11.8 miles) with 795 ACSR conductor (128 MVA rating, 57% loading). Replace the 50 MVA Ohio Central 138/69 kV XFMR with a 90 MVA unit		AEP (100%)
b2798	Install a 14.4 MVAR capacitor bank at West Hicksville station. Replace ground switch/MOAB at West Hicksville with a circuit switcher		AEP (100%)
b2799	Rebuild Valley - Almena, Almena - Hartford, Riverside - South Haven 69 kV lines. New line exit at Valley Station. New transformers at Almena and Hartford		AEP (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requireme	ent Responsible Customer(s)
b2799.1	Rebuild 12 miles of Valley – Almena 69 kV line as a double circuit 138/69 kV line using 795 ACSR conductor (360 MVA rating) to introduce a new 138 kV source into the 69 kV load pocket around Almena station		AEP (100%)
b2799.2	Rebuild 3.2 miles of Almena to Hartford 69 kV line using 795 ACSR conductor (90 MVA rating)		AEP (100%)
b2799.3	Rebuild 3.8 miles of Riverside – South Haven 69 kV line using 795 ACSR conductor (90 MVA rating)		AEP (100%)
b2799.4	At Valley station, add new 138 kV line exit with a 3000 A 40 kA breaker for the new 138 kV line to Almena and replace CB D with a 3000 A 40 kA breaker		AEP (100%)
b2799.5	At Almena station, install a 90 MVA 138/69 kV transformer with low side 3000 A 40 kA breaker and establish a new 138 kV line exit towards Valley		AEP (100%)
b2799.6	At Hartford station, install a second 90 MVA 138/69 kV transformer with a circuit switcher and 3000 A 40 kA low side breaker		AEP (100%)

Required Tra	Insmission Enhancements	Annual Revenue Requirement Responsible Customer(s)
b2817	Replace Delaware 138 kV breaker 'P' with a 40 kA	
	breaker	AEP (100%)
	Replace West Huntington 138	
b2818	kV breaker 'F' with a 40 kA	
	breaker	AEP (100%)
	Replace Madison 138 kV	
b2819	breaker 'V' with a 63 kA	
	breaker	AEP (100%)
	Replace Sterling 138 kV	
b2820	breaker 'G' with a 40 kA	
	breaker	AEP (100%)
	Replace Morse 138 kV	
b2821	breakers '103', '104', '105',	
02021	and '106' with 63 kA	
	breakers	AEP (100%)
	Replace Clinton 138 kV	
b2822	breakers '105' and '107' with	
	63 kA breakers	AEP (100%)
	Install 300 MVAR reactor at	
b2826.1	Ohio Central 345 kV	
	substation	AEP (100%)

	Install 300 MVAR reactor at	
b2826.2	West Bellaire 345 kV	
	substation	AEP (100%)
	Upgrade the Tanner Creek –	DFAX Allocation:
b2831.1	Miami Fort 345 kV circuit	AEP (27.09%) / Dayton (38.64%)
	(AEP portion)	/ DEOK (34.27%)
	Six wire the Kyger Creek –	
b2832	Sporn 345 kV circuits #1 and	
02832	#2 and convert them to one	
	circuit	AEP (100%)
	Reconductor the Maddox	
b2833	Creek – East Lima 345 kV	
02855	circuit with 2-954 ACSS	DFAX Allocation:
	Cardinal conductor	AEP (76.06%) / Dayton (23.94%)
	Reconductor and string open	
b2834	position and sixwire 6.2 miles	
02834	of the Chemical – Capitol Hill	
	138 kV circuit	AEP (100%)
	Replace the South Canton 138	
b2872	kV breaker 'K2' with a 80 kA	
	breaker	AEP (100%)
	Replace the South Canton 138	
b2873	kV breaker "M" with a 80 kA	
	breaker	AEP (100%)
	Replace the South Canton 138	
b2874	kV breaker "M2" with a 80	
	kA breaker	AEP (100%)
b2878	Upgrade the Clifty Creek	
02878	345 kV risers	AEP (100%)
	Rebuild approximately 4.77	
	miles of the Cannonsburg –	
b2880	South Neal 69 kV line section	
	utilizing 795 ACSR	
	conductor (90 MVA rating)	AEP (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2881	Rebuild ~1.7 miles of the Dunn Hollow – London 46 kV line section utilizing 795 26/7 ACSR conductor (58 MVA rating, non-conductor limited)		AEP (100%)
b2882	Rebuild Reusens - Peakland Switch 69 kV line. Replace Peakland Switch		AEP (100%)
b2882.1	Rebuild the Reusens - Peakland Switch 69 kV line (approximately 0.8 miles) utilizing 795 ACSR conductor (86 MVA rating, non-conductor limited)		AEP (100%)
b2882.2	Replace existing Peakland S.S. with new 3 way switch phase over phase structure		AEP (100%)
b2883	Rebuild the Craneco – Pardee – Three Forks – Skin Fork 46 kV line section (approximately 7.2 miles) utilizing 795 26/7 ACSR conductor (108 MVA rating)		AEP (100%)
b2884	Install a second transformer at Nagel station, comprised of 3 single phase 250 MVA 500/138 kV transformers. Presently, TVA operates their end of the Boone Dam – Holston 138 kV interconnection as normally open preemptively for the loss of the existing Nagel		AEP (100%)
b2885	New delivery point for City of Jackson		AEP (100%)

Required Tra	nsmission Enhancements A	Annual Revenue Requirement Responsible Customer(s)	
	Install a new Ironman Switch		
	to serve a new delivery point		
b2885.1	requested by the City of		
	Jackson for a load increase		
	request	AEP (100%)	
	Install a new 138/69 kV		
	station (Rhodes) to serve as a		
b2885.2	third source to the area to help		
	relieve overloads caused by		
	the customer load increase	AEP (100%)	
	Replace Coalton Switch with		
b2885.3	a new three breaker ring bus		
	(Heppner)	AEP (100%)	
	Install 90 MVA 138/69 kV		
	transformer, new transformer		
b2886	high and low side 3000 A 40		
02000	kA CBs, and a 138 kV 40 kA		
	bus tie breaker at West End		
	Fostoria	AEP (100%)	
	Add 2-138 kV CB's and		
	relocate 2-138 kV circuit exits		
b2887	to different bays at Morse		
02007	Road. Eliminate 3 terminal		
	line by terminating Genoa -		
	Morse circuit at Morse Road	AEP (100%)	
1.0000	Retire Poston substation.		
b2888	Install new Lemaster		
	substation	AEP (100%)	
b2888.1	Remove and retire the Poston		
	138 kV station	AEP (100%)	
	Install a new greenfield		
b2888.2	station, Lemaster 138 kV		
	Station, in the clear	AEP (100%)	

Required Tra	nsmission Enhancements Ar	nual Revenue Requirement	Responsible Customer(s)
b2888.3	Relocate the Trimble 69 kV AEP Ohio radial delivery point to 138 kV, to be served off of the Poston – Strouds Run – Crooksville 138 kV circuit via a new three-way switch. Retire the Poston - Trimble 69 kV line		AEP (100%)
b2889	Expand Cliffview station		AEP (100%)
b2889.1	Cliffview Station: Establish 138 kV bus. Install two 138/69 kV XFRs (130 MVA), six 138 kV CBs (40 kA 3000 A) and four 69 kV CBs (40 kA 3000 A)		AEP (100%)
b2889.2	Byllesby – Wythe 69 kV: Retire all 13.77 miles (1/0 CU) of this circuit (~4 miles currently in national forest)		AEP (100%)
b2889.3	Galax – Wythe 69 kV: Retire 13.53 miles (1/0 CU section) of line from Lee Highway down to Byllesby. This section is currently double circuited with Byllesby – Wythe 69 kV. Terminate the southern 3/0 ACSR section into the newly opened position at Byllesby		AEP (100%)
b2889.4	Cliffview Line: Tap the existing Pipers Gap – Jubal Early 138 kV line section. Construct double circuit in/out (~2 miles) to newly established 138 kV bus, utilizing 795 26/7 ACSR conductor		AEP (100%)

Required Tra	ansmission Enhancements A	Annual Revenue Requireme	ent Responsible Customer(s)
	Rebuild 23.55 miles of the East		
	Cambridge – Smyrna 34.5 kV		
b2890.1	circuit with 795 ACSR		
	conductor (128 MVA rating)		
	and convert to 69 kV		AEP (100%)
	East Cambridge: Install a 2000		
b2890.2	A 69 kV 40 kA circuit breaker		
02890.2	for the East Cambridge –		
	Smyrna 69 kV circuit		AEP (100%)
	Old Washington: Install 69 kV		
b2890.3	2000 A two way phase over		
	phase switch		AEP (100%)
b2890.4	Install 69 kV 2000 A two way		
02890.4	phase over phase switch		AEP (100%)
	Rebuild the Midland Switch to		
	East Findlay 34.5 kV line (3.31		
b2891	miles) with 795 ACSR (63		
	MVA rating) to match other		
	conductor in the area		AEP (100%)
	Install new 138/12 kV		
	transformer with high side		
	circuit switcher at Leon and a		
	new 138 kV line exit towards		
b2892	Ripley. Establish 138 kV at the		
	Ripley station with a new 138/69		
	kV 130 MVA transformer and		
	move the distribution load to		
	138 kV service		AEP (100%)
	Rebuild approximately 6.7 miles		
	of 69 kV line between Mottville		
	and Pigeon River using 795		
b2936.1	ACSR conductor (129 MVA		
	rating). New construction will be		
	designed to 138 kV standards		
	but operated at 69 kV		AEP (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requirement Responsible Cus	stomer(s)
b2936.2	Pigeon River Station: Replace existing MOAB Sw. 'W' with a new 69 kV 3000 A 40 kA breaker, and upgrade existing relays towards HMD station. Replace CB H with a 3000 A 40 kA breaker	AEP (100	0%)
b2937	Replace the existing 636 ACSR 138 kV bus at Fletchers Ridge with a larger 954 ACSR conductor	AEP (100)%)
b2938	Perform a sag mitigations on the Broadford – Wolf Hills 138 kV circuit to allow the line to operate to a higher maximum temperature	AEP (100)%)
b2958.1	Cut George Washington – Tidd 138 kV circuit into Sand Hill and reconfigure Brues & Warton Hill line entrances	AEP (100)%)
b2958.2	Add 2 138 kV 3000 A 40 kA breakers, disconnect switches, and update relaying at Sand Hill station	AEP (100)%)
b2968	Upgrade existing 345 kV terminal equipment at Tanner Creek station	AEP (100	0%)
b2969	Replace terminal equipment on Maddox Creek - East Lima 345 kV circuit	AEP (100)%)
b2976	Upgrade terminal equipment at Tanners Creek 345 kV station. Upgrade 345 kV bus and risers at Tanners Creek for the Dearborn circuit	AEP (100)%)

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Required Tra		Annual Revenue Requirement	t Responsible Customer(s)
	Replace the Twin Branch 345 kV breaker "JM" with 63 kA breaker and associated		
b2988	substation works including switches, bus leads, control		
	cable and new DICM		AEP (100%)
	Rebuild the Torrey – South Gambrinus Switch –		
b2993	Gambrinus Road 69 kV line section (1.3 miles) with 1033		
	ACSR 'Curlew' conductor and steel poles		AEP (100%)
b3000	Replace South Canton 138 kV breaker 'N' with an 80 kA breaker		AEP (100%)
b3001	Replace South Canton 138 kV breaker 'N1' with an 80 kA breaker		AEP (100%)
b3002	Replace South Canton 138 kV breaker 'N2' with an 80 kA breaker		AEP (100%)
b3036	Rebuild 15.6 miles of Haviland - North Delphos 138 kV line		AEP (100%)
b3037	Upgrades at the Natrium substation		AEP (100%)
b3038	Reconductor the Capitol Hill – Coco 138 kV line section		AEP (100%)
b3039	Line swaps at Muskingum 138 kV station		AEP (100%)
b3040.1	Rebuild Ravenswood – Racine tap 69 kV line section (~15 miles) to 69 kV standards, utilizing 795 26/7 ACSR conductor		AEP (100%)

Required Tra	nsmission Enhancements A	nnual Revenue Requirement	Responsible Customer(s)
b3040.2	Rebuild existing Ripley – Ravenswood 69 kV circuit (~9 miles) to 69 kV standards, utilizing 795 26/7 ACSR conductor		AEP (100%)
b3040.3	Install new 3-way phase over phase switch at Sarah Lane station to replace the retired switch at Cottageville		AEP (100%)
b3040.4	Install new 138/12 kV 20 MVA transformer at Polymer station to transfer load from Mill Run station to help address overload on the 69 kV network		AEP (100%)
b3040.5	Retire Mill Run station		AEP (100%)
b3040.6	Install 28.8 MVAR cap bank at South Buffalo station		AEP (100%)
b3051.2	Adjust CT tap ratio at Ronceverte 138 kV		AEP (100%)
b3085	Reconductor Kammer – George Washington 138 kV line (approx. 0.08 mile). Replace the wave trap at Kammer 138 kV		AEP (100%)
b3086.1	Rebuild New Liberty – Findlay 34 kV line Str's 1–37 (1.5 miles), utilizing 795 26/7 ACSR conductor		AEP (100%)
b3086.2	Rebuild New Liberty – North Baltimore 34 kV line Str's 1- 11 (0.5 mile), utilizing 795 26/7 ACSR conductor		AEP (100%)

517

Required Tra	nsmission Enhancements	Annual Revenue Requireme	ent Responsible Customer(s)
	Rebuild West Melrose –		
b3086.3	Whirlpool 34 kV line Str's		
03080.3	55–80 (1 mile), utilizing 795		
	26/7 ACSR conductor		AEP (100%)
	North Findlay station: Install		
	a 138 kV 3000A 63kA line		
b3086.4	breaker and low side 34.5 kV		
03080.4	2000A 40 kA breaker, high		
	side 138 kV circuit switcher		
	on T1		AEP (100%)
	Ebersole station: Install		
	second 90 MVA 138/69/34		
b3086.5	kV transformer. Install two		
	low side (69 kV) 2000A 40		
	kA breakers for T1 and T2		AEP (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requirem	nent Responsible Customer(s)
	Rebuild Lakin – Racine Tap		
b3095	69 kV line section (9.2 miles)		
03093	to 69 kV standards, utilizing		
	795 26/7 ACSR conductor		AEP (100%)
	Install a 138 kV 3000A 40 kA		
	circuit switcher on the high		
b3099	side of the existing 138/34.5		
	kV transformer No.5 at		
	Holston station		AEP (100%)
	Replace the 138 kV MOAB		
	switcher "YY" with a new		
b3100	138 kV circuit switcher on the		
	high side of Chemical		
	transformer No.6		AEP (100%)
	Rebuild the 1/0 Cu. conductor		
	sections (approx. 1.5 miles) of		
	the Fort Robinson – Moccasin		
	Gap 69 kV line section		
b3101	(approx. 5 miles) utilizing		
00101	556 ACSR conductor and		
	upgrade existing relay trip		
	limit (WN/WE: 63 MVA, line		
	limited by remaining		
	conductor sections)		AEP (100%)
	Replace existing 50 MVA		
	138/69 kV transformers #1		
b3102	and #2 (both 1957 vintage) at		
	Fremont station with new 130		
	MVA 138/69 kV transformers		AEP (100%)

Required Tra	ansmission Enhancements	Annual Revenue Requir	rement Responsible Customer(s)
	Install a 138/69 kV	-	•
	transformer at Royerton		
	station. Install a 69 kV bus		
	with one 69 kV breaker		
121021	toward Bosman station.		
b3103.1	Rebuild the 138 kV portion		
	into a ring bus configuration		
	built for future breaker and a		
	half with four 138 kV		
	breakers		AEP (100%)
	Rebuild the		
	Bosman/Strawboard station in		
b3103.2	the clear across the road to		
05105.2	move it out of the flood plain		
	and bring it up to 69 kV		
	standards		AEP (100%)
	Retire 138 kV breaker L at		
b3103.3	Delaware station and re-		
05105.5	purpose 138 kV breaker M		
	for the Jay line		AEP (100%)
	Retire all 34.5 kV equipment		
b3103.4	at Hartford City station. Re-		
05105.4	purpose breaker M for the		
	Bosman line 69 kV exit		AEP (100%)
	Rebuild the 138 kV portion of		
	Jay station as a 6 breaker,		
	breaker and a half station re-		
	using the existing breakers		
b3103.5	"A", "B", and "G." Rebuild		
03103.3	the 69 kV portion of this		
	station as a 6 breaker ring bus		
	re-using the 2 existing 69 kV		
	breakers. Install a new 138/69		
	kV transformer		AEP (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requirement Responsible Customer(s)
	Rebuild the 69 kV Hartford	
	City – Armstrong Cork line	
b3103.6	but instead of terminating it	
	into Armstrong Cork,	
	terminate it into Jay station	AEP (100%)
1 2 1 0 2 7	Build a new 69 kV line from	
b3103.7	Armstrong Cork – Jay station	AEP (100%)
	Rebuild the 34.5 kV	
	Delaware – Bosman line as	
1 2 1 0 2 0	the 69 kV Royerton –	
b3103.8	Strawboard line. Retire the	
	line section from Royerton to	
	Delaware stations	AEP (100%)
	Perform a sag study on the	
	Polaris – Westerville 138 kV	
1.2104	line (approx. 3.6 miles) to	
b3104	increase the summer	
	emergency rating to 310	
	MVA	AEP (100%)
	Rebuild the Delaware – Hyatt	
	138 kV line (approx. 4.3	
b3105	miles) along with replacing	
	conductors at both Hyatt and	
	Delaware substations	AEP (100%)
	Perform a sag study (6.8	
	miles of line) to increase the	
	SE rating to 310 MVA. Note	
b3106	that results from the sag study	,
	could cover a wide range of	
	outcomes, from no work	
	required to a complete rebuild	AEP (100%)
	Rebuild 5.2 miles Bethel –	
b3109	Sawmill 138 kV line	
	including ADSS	AEP (100%)

Required Tran	smission Enhancements	Annual Revenue Requirem	nent Responsible Customer(s)
b3112	Construct a single circuit 138 kV line (approx. 3.5 miles) from Amlin to Dublin using 1033 ACSR Curlew (296 MVA SN), convert Dublin station into a ring configuration, and re- terminating the Britton UG		
b3116	cable to Dublin station Replace existing Mullens 138/46 kV 30 MVA transformer No.4 and associated protective equipment with a new 138/46 kV 90 MVA transformer and associated protective equipment		AEP (100%) AEP (100%)
b3119.1	Rebuild the Jay – Pennville 138 kV line as double circuit 138/69 kV. Build a new 9.8 mile single circuit 69 kV line from near Pennville station to North Portland station		AEP (100%)

Required Tr		Annual Revenue Requirement	Responsible Customer(s)
	Install three (3) 69 kV breakers		
b3119.2	to create the "U" string and add		
03119.2	a low side breaker on the Jay		
	transformer 2		AEP (100%)
	Install two (2) 69 kV breakers at		
b3119.3	North Portland station to		
03119.3	complete the ring and allow for		
	the new line		AEP (100%)
	At Conesville 138 kV station:		
	Remove line leads to generating		
	units, transfer plant AC service		
b3129	to existing station service feeds		
	in Conesville 345/138 kV yard,		
	and separate and reconfigure		
	protection schemes		AEP (100%)
	At East Lima and Haviland 138		
b3131	kV stations, replace line relays		
03131	and wavetrap on the East Lima -	-	
	Haviland 138 kV facility		AEP (100%)
	Rebuild approximately 12.3		
	miles of remaining Lark		
b3131.1	conductor on the double circuit		
03131.1	line between Haviland and East		
	Lima with 1033 54/7 ACSR		
	conductor		AEP (100%)
	Rebuild 3.11 miles of the		
b3132	LaPorte Junction – New Buffalo		
	69 kV line with 795 ACSR		AEP (100%)
	Rebuild the Garden Creek –		
b3139	Whetstone 69 kV line (approx. 4		
	miles)		AEP (100%)
	Rebuild the Whetstone – Knox		
b3140	Creek 69 kV line (approx. 3.1		
	miles)		AEP (100%)

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Required Tra		ual Revenue Requirement Respo	onsible Customer(s)
	Rebuild the Knox Creek – Coal		
b3141	Creek 69 kV line (approx. 2.9		
	miles)		AEP (100%)
	Rebuild the 46 kV Bradley –		
	Scarbro line to 96 kV standards		
	using 795 ACSR to achieve a		
1.01.40.1	minimum rate of 120 MVA.		
b3148.1	Rebuild the new line adjacent to		
	the existing one leaving the old		
	line in service until the work is		
	completed		AEP (100%)
	Bradley remote end station		
b3148.2	work, replace 46 kV bus, install		
	new 12 MVAR capacitor bank		AEP (100%)
	Replace the existing switch at		
1 2 1 4 0 2	Sun substation with a 2-way		
b3148.3	SCADA-controlled motor-		
	operated air-breaker switch		AEP (100%)
	Remote end work and		
b3148.4	associated equipment at Scarbro		
	station		AEP (100%)
	Retire Mt. Hope station and		· · ·
b3148.5	transfer load to existing Sun		
	station		AEP (100%)
	Rebuild the 2.3 mile Decatur –		
b3149	South Decatur 69 kV line using		
	556 ACSR		AEP (100%)
	Rebuild Ferguson 69/12 kV		· · ·
	station in the clear as the 138/12		
	kV Bear station and connect it		
b3150	to an approx. 1 mile double		
03130	circuit 138 kV extension from		
	the Aviation – Ellison Road 138		
	kV line to remove the load from		
	the 69 kV line		AEP (100%)

Required Tran		Annual Revenue Requirement	Responsible Customer(s)
	Rebuild the 30 mile Gateway -	-	
b3151.1	Wallen 34.5 kV circuit as the		
03131.1	27 mile Gateway – Wallen 69		
	kV line		AEP (100%)
	Retire approx. 3 miles of the		
b3151.2	Columbia – Whitley 34.5 kV		
	line		AEP (100%)
	At Gateway station, remove al	1	
	34.5 kV equipment and install		
b3151.3	one (1) 69 kV circuit breaker		
	for the new Whitley line		
	entrance		AEP (100%)
	Rebuild Whitley as a 69 kV		
b3151.4	station with two (2) lines and		
	one (1) bus tie circuit breaker		AEP (100%)
	Replace the Union 34.5 kV		
b3151.5	switch with a 69 kV switch		
	structure		AEP (100%)
	Replace the Eel River 34.5 kV		
b3151.6	switch with a 69 kV switch		
	structure		AEP (100%)
b3151.7	Install a 69 kV Bobay switch a	ıt	
03131.7	Woodland station		AEP (100%)
	Replace the Carroll and		
	Churubusco 34.5 kV stations		
	with the 69 kV Snapper statior	1.	
b3151.8	Snapper station will have two		
	(2) line circuit breakers, one (1		
	bus tie circuit breaker and a		
	14.4 MVAR cap bank		AEP (100%)
b3151.9	Remove 34.5 kV circuit		
03131.9	breaker "AD" at Wallen station	n	AEP (100%)
	Rebuild the 2.5 miles of the		
b3151.10	Columbia – Gateway 69 kV		
	line		AEP (100%)

Required Tran	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3151.11	Rebuild Columbia station in the clear as a 138/69 kV station with two (2) 138/69 kV transformers and 4- breaker ring buses on the high and low side. Station will reuse 69 kV breakers "J" & "K" and 138 kV breaker "D"		AEP (100%)
b3151.12	Rebuild the 13 miles of the Columbia – Richland 69 kV line		AEP (100%)
b3151.13	Rebuild the 0.5 mile Whitley – Columbia City No.1 line as 69 kV		AEP (100%)
b3151.14	Rebuild the 0.5 mile Whitley – Columbia City No.2 line as 69 kV		AEP (100%)
b3151.15	Rebuild the 0.6 mile double circuit section of the Rob Park – South Hicksville / Rob Park – Diebold Road as 69 kV		AEP (100%)
b3160.1	Construct an approx. 2.4 miles double circuit 138 kV extension using 1033 ACSR (Aluminum Conductor Steel Reinforced) to connect Lake Head to the 138 kV network		AEP (100%)
b3160.2	Retire the approx.2.5 miles 34.5 kV Niles – Simplicity Tap line		AEP (100%)
b3160.3	Retire the approx.4.6 miles Lakehead 69 kV Tap		AEP (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requirer	ment Responsible Customer(s)
	Build new 138/69 kV drop down station to feed		
	Lakehead with a 138 kV		
b3160.4	breaker, 138 kV switcher,		
	138/69 kV transformer and a		
	138 kV Motor-Operated Air		
	Break		AEP (100%)
	Rebuild the approx. 1.2 miles		
	Buchanan South 69 kV		
b3160.5	Radial Tap using 795 ACSR		
	(Aluminum Conductor Steel		
	Reinforced)		AEP (100%)
	Rebuild the approx.8.4 miles		
	69 kV Pletcher – Buchanan		
1.01.00.0	Hydro line as the approx. 9		
b3160.6	miles Pletcher – Buchanan		
	South 69 kV line using 795		
	ACSR (Aluminum Conductor		
	Steel Reinforced)		AEP (100%)
	Install a PoP (Point-of-		
121(0.7	Presence) switch at Buchanan		
b3160.7	South station with 2 line		
	MOABs (Motor-Operated Air		
	Break)		AEP (100%)

Required '	Transmission Enhancements	Annual Revenue Req	uirement	Responsible Customer(s)
b3208	Retire approximately 38 miles of the 44 mile Clifford – Scottsville 46 kV circuit. Build new 138 kV "in and out" to two new distribution stations to serve the load formerly served by Phoenix, Shipman, Schuyler (AEP), and Rockfish stations. Construct new 138 kV lines from Joshua Falls – Riverville (approx. 10 miles) and Riverville – Gladstone (approx. 5 miles). Install required station upgrades at Joshua Falls, Riverville and Gladstone stations to accommodate the new 138 kV circuits. Rebuild Reusen – Monroe 69 kV (approx. 4			
	miles) Rebuild the 10.5 mile Berne –			AEP (100%)
b3209	South Decatur 69 kV line using 556 ACSR			AEP (100%)
b3210	Replace approx. 0.7 mile Beatty – Galloway 69 kV line with 4000 kcmil XLPE cable			AEP (100%)
b3220	Install 14.4 MVAR capacitor bank at Whitewood 138 kV			AEP (100%)

Required Transmission Enhancements		Annual Revenue Requiremen	nt Responsible Customer(s)
b3243	Replace risers at the Bass		
03243	34.5 kV station		AEP (100%)
	Rebuild approximately 9		
b3244	miles of the Robinson Park –		
	Harlan 69 kV line		AEP (100%)
	Install a low side 69 kV		
b3248	circuit breaker at the Albion		
	138/69 kV transformer #1		AEP (100%)
	Rebuild the Chatfield –		
b3249	Melmore 138 kV line		
03249	(approximately 10 miles) to		
	1033 ACSR conductor		AEP (100%)

Required 7	Transmission Enhancements	Annual Revenue Requir	ement Responsible Customer(s)
	Install a 3000A 40 kA 138 kV breaker on the high side of		
	138/69 kV transformer #5 at		
b3253	the Millbrook Park station. The		
	transformer and associated bus protection will be upgraded		
	accordingly		AEP (100%)
	Upgrade 795 AAC risers at the		
1 2255	Sand Hill 138 kV station		
b3255	towards Cricket Switch with		
	1272 AAC		AEP (100%)
	Upgrade 500 MCM Cu risers at		
b3256	Tidd 138 kV station towards		
	Wheeling Steel; replace with		AED (1009/)
	1272 AAC conductorReplace two spans of 336.4		AEP (100%)
	26/7 ACSR on the Twin		
b3257	Branch – AM General #2 34.5		
	kV circuit		AEP (100%)
	Install a 3000A 63 kA 138 kV		<u> </u>
	breaker on the high side of		
	138/69 kV transformer #2 at		
b3258	Wagenhals station. The		
	transformer and associated bus		
	protection will be upgraded		A = D (100%)
	accordinglyAt West Millersburg station,		AEP (100%)
	replace the 138 kV MOAB on		
b3259	the West Millersburg –		
00203	Wooster 138 kV line with a		
	3000A 40 kA breaker		AEP (100%)
	Upgrade circuit breaker "R1"		
	at Tanners Creek 345 kV.		
b3261	Install Transient Recovery		
	Voltage capacitor to increase		
	the rating from 50 kA to 63 kA		AEP (100%)

Required 7	Fransmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	At West New Philadelphia		
	station, add a high side 138 kV breaker on the 138/69 kV		
b3269			
	Transformer #2 along with a		
	138 kV breaker on the line towards Newcomerstown		A = D(1009/)
	Install 1.7 miles of 795 ACSR		AEP (100%)
	138 kV conductor along the		
	other side of Dragoon Tap		
	138 kV line, which is		
	currently double circuit tower		
	with one position open.		
	Additionally, install a second 138/34.5 kV transformer at		
b3270			
	Dragoon, install a high side circuit switcher on the current		
	transformer at the Dragoon Station, and install two (2)		
	138 kV line breakers on the		
	Dragoon – Jackson 138 kV		
	and Dragoon – Twin Branch		
	138 kV lines		AEP (100%)
	Replace Dragoon 34.5 kV		ALF (10076)
b3270.1	breakers "B", "C", and "D"		
03270.1	with 40 kA breakers		AEP (100%)
	Install a 138 kV circuit		AEI (10076)
	breaker at Fremont station on		
	the line towards Fremont		
b3271	Center and install a 9.6		
	MVAR 69 kV capacitor bank		
	at Bloom Road station		AEP (100%)
<u> </u>	Install two 138 kV circuit		
	switchers on the high side of		
b3272	138/34.5 kV Transformers #1		
	and #2 at Rockhill station		AEP (100%)
			(****)

Required Transmission Enhancements		Annual Revenue Requirement Responsible Customer(s)	
b3273.1	Rebuild and convert the		
	existing 17.6 miles East		
	Leipsic – New Liberty 34.5		
	kV circuit to 138 kV using		
	795 ACSR		AEP (100%)
b3273.2	Convert the existing 34.5		
	kV equipment to 138 kV		
	and expand the existing		
	McComb station to the		
	north and east to allow for		
	new equipment to be		
	installed. Install two (2)		
	new 138 kV box bays to		
	allow for line positions and		
	two (2) new 138/12 kV		
	transformers		AEP (100%)
b3273.3	Expand the existing East		
	Leipsic 138 kV station to		
	the north to allow for		
	another 138 kV line exit to		
	be installed. The new line		
	exit will involve installing		
	a new 138 kV circuit		
	breaker, disconnect		
	switches and the addition		
	of a new dead end structure		
	along with the extension of		
	the existing 138 kV bus		
	work		AEP (100%)
b3273.4	Add one (1) 138 kV circuit		
	breaker and disconnect		
	switches in order to add an		
	additional line position at		
	New Liberty 138 kV		
	station. Install line relaying		
	potential devices and retire		
	the 34.5 kV breaker 'F'		AEP (100%)

Required Tran	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Rebuild approximately 8.9 miles of 69 kV line between		
b3274	Newcomerstown and Salt		
	Fork Switch with 556 ACSR		
	conductor		AEP (100%)
	Rebuild the Kammer Station		` //
b3275.1	– Cresaps Switch 69 kV line,		
	approximately 0.5 mile		AEP (100%)
	Rebuild the Cresaps Switch -		
b3275.2	McElroy Station 69 kV,		
	approximately 0.67 mile		AEP (100%)
	Replace a single span of 4/0		
	ACSR from Moundsville -		
	Natrium structure 93L to		
b3275.3	Carbon Tap switch 69 kV		
05275.5	located between the		
	Colombia Carbon and Conner		
	Run stations. Remainder of		
	the line is 336 ACSR		AEP (100%)
	Rebuild from Colombia		
	Carbon to Columbia Carbon		
	Tap structure 93N 69 kV,		
	approximately 0.72 mile. The		
b3275.4	remainder of the line between		
	Colombia Carbon Tap		
	structure 93N and Natrium		
	station is 336 ACSR and will		
	remain		AEP (100%)
	Replace the Cresaps 69 kV 3-		
b3275.5	Way Phase-Over-Phase		
	switch and structure with a		
	new 1200A 3-Way switch		//
	and steel pole		AEP (100%)
	Replace 477 MCM Alum bus		
b3275.6	and risers at McElroy 69 kV		
	station		AEP (100%)

Required Tran	nsmission Enhancements	Annual Revenue Requiremen	t Responsible Customer(s)
b3275.7	Replace Natrium 138 kV bus existing between CB-BT1 and along the 138 kV Main Bus #1 dropping to CBH1 from the 500 MCM conductors to a 1272 KCM AAC conductor. Replace the dead end clamp and strain insulators		AEP (100%)
b3276.1	Rebuild the 2/0 Copper section of the Lancaster – South Lancaster 69 kV line, approximately 2.9 miles of the 3.2 miles total length with 556 ACSR conductor. The remaining section has a 336 ACSR conductor		AEP (100%)
b3276.2	Rebuild the 1/0 Copper section of the line between Lancaster Junction and Ralston station 69 kV, approximately 2.3 miles of the 3.1 miles total length		AEP (100%)
b3276.3	Rebuild the 2/0 Copper portion of the line between East Lancaster Tap and Lancaster 69 kV, approximately 0.81 mile		AEP (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3278.1	Replace H.S. MOAB switches on the high side of the 138/69/34.5 kV transformer T1 with a H.S. circuit switcher at Saltville station		AEP (100%)
b3278.2	Replace existing 138/69/34.5 kV transformer T2 with a new 130 MVA 138/69/13 kV transformer at Meadowview station		AEP (100%)
b3279	Install a new 138 kV, 21.6 MVAR cap bank and circuit switcher at Apple Grove station		AEP (100%)
b3280	Rebuild the existing Cabin Creek – Kelly Creek 46 kV line (to Structure 366-44), approximately 4.4 miles. This section is double circuit with the existing Cabin Creek – London 46 kV line so a double circuit rebuild would be required		AEP (100%)

Required Tran	nsmission Enhancements	Annual Revenue Requirem	nent Responsible Customer(s)
	Install a second 138 kV		
	circuit utilizing 795 ACSR		
	conductor on the open		
	position of the existing		
	double circuit towers from		
	East Huntington – North		
	Proctorville. Remove the		
b3282.1	existing 34.5 kV line from		
	East Huntington – North		
	Chesapeake and rebuild this		
	section to 138 kV served		
	from a new PoP switch off		
	the new East Huntington –		
	North Proctorville 138 kV #2		
	line		AEP (100%)
	Install a 138 kV 40 kA circuit		
b3282.2	breaker at North Proctorville		
	station		AEP (100%)
	Install a 138 kV 40 kA circuit		
b3282.3	breaker at East Huntington		
	station		AEP (100%)
	Convert the existing 34/12 kV		
b3282.4	North Chesapeake to a 138/12		
	kV station		AEP (100%)

Required Tran	nsmission Enhancements	Annual Revenue Requireme	ent Responsible Customer(s)
	Rebuild approximately 5.44		
b3284	miles of 69 kV line from		
	Lock Lane to Point Pleasant		AEP (100%)
	Replace the Meigs 69 kV 4/0		
	Cu station riser towards		
	Gavin and rebuild the section		
	of the Meigs – Hemlock 69		
b3285	kV circuit from Meigs to		
03283	approximately Structure #40		
	(about 4 miles) replacing the		
	line conductor 4/0 ACSR		
	with the line conductor size		
	556.5 ACSR		AEP (100%)
	Reconductor the first 3 spans		
	from Merrimac station to		
	Structure 464-3 of 3/0 ACSR		
b3286	conductor utilizing 336		
	ACSR on the existing		
	Merrimac – Midway 69 kV		
	circuit		AEP (100%)
	Upgrade 69 kV risers at		
b3287	Moundsville station towards		
	George Washington		AEP (100%)
	Install high-side circuit		
b3289.1	switcher on 138/69/12 kV T5		
	at Roanoke station		AEP (100%)
	Install high-side circuit		
b3289.2	switcher on 138/69/34.5 kV		
03209.2	T1 at Huntington Court		
	station		AEP (100%)

Required Tran	nsmission Enhancements	Annual Revenue Requirement Responsible Customer(s)
	Build 9.4 miles of single	
b3290.1	circuit 69 kV line from	
03290.1	Roselms to near East	
	Ottoville 69 kV switch	AEP (100%)
	Rebuild 7.5 miles of double	
	circuit 69 kV line between	
1,2200,2	East Ottoville switch and	
b3290.2	Kalida station (combining	
	with the new Roselms to	
	Kalida 69 kV circuit)	AEP (100%)
	At Roselms switch, install a	
1,2200,2	new three way 69 kV, 1200 A	
b3290.3	phase-over-phase switch,	
	with sectionalizing capability	AEP (100%)
	At Kalida 69 kV station,	
	terminate the new line from	
1 2200 4	Roselms switch. Move the CS	
b3290.4	XT2 from high side of T2 to	
	the high side of T1. Remove	
	existing T2 transformer	AEP (100%)
1.2201	Replace the Russ St. 34.5 kV	
b3291	switch	AEP (100%)
	Replace existing 69 kV	
1 2202	capacitor bank at Stuart	
b3292	station with a 17.2 MVAR	
	capacitor bank	AEP (100%)
	Replace 2/0 Cu entrance span	
	conductor on the South Upper	
1 2 2 0 2	Sandusky 69 kV line and 4/0	
b3293	Cu Risers/Bus conductors on	
	the Forest line at Upper	
	Sandusky 69 kV station	AEP (100%)
	Replace existing 69 kV	
1.220.4	disconnect switches for	
b3294	circuit breaker "C" at Walnut	
	Avenue station	AEP (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requirement Responsible Customer(s)	
b3295	Grundy 34.5 kV: Install a 34.5 kV 9.6 MVAR cap bank	AEP (100%)	
b3296	Rebuild the overloaded portion of the Concord – Whitaker 34.5 kV line (1.13 miles). Rebuild is double circuit and will utilize 795 ACSR conductor	AEP (100%)	
b3297.1	Rebuild 4.23 miles of 69 kV line between Sawmill and Lazelle station, using 795 ACSR 26/7 conductor	AEP (100%)	
b3297.2	Rebuild 1.94 miles of 69 kV line between Westerville and Genoa stations, using 795 ACSR 26/7 conductor	AEP (100%)	
b3297.3	Replace risers and switchers at Lazelle, Westerville, and Genoa 69 kV stations. Upgrade associated relaying accordingly	AEP (100%)	
b3298	Rebuild 0.8 mile of double circuit 69 kV line between South Toronto and West Toronto. Replace 219 ACSR with 556 ACSR	AEP (100%)	
b3298.1	Replace the 69 kV breaker D at South Toronto station with 40 kA breaker	AEP (100%)	
b3299	Rebuild 0.2 mile of the West End Fostoria - Lumberjack Switch 69 kV line with 556 ACSR (Dove) conductors. Replace jumpers on West End Fostoria line at Lumberjack Switch		

Required Tra	nsmission Enhancements	Annual Revenue Requireme	ent Responsible Customer(s)
b3308	Reconductor and rebuild 1 span of T-line on the Fort Steuben – Sunset Blvd 69 kV branch with 556 ACSR		AEP (100%)
b3309	Rebuild 1.75 miles of the Greenlawn – East Tiffin line section of the Carothers – Greenlawn 69 kV circuit containing 133 ACSR conductor with 556 ACSR conductor. Upgrade relaying as required		AEP (100%)
b3310.1	Rebuild 10.5 miles of the Howard – Willard 69 kV line utilizing 556 ACSR conductor		AEP (100%)
b3310.2	Upgrade relaying at Howard 69 kV station		AEP (100%)
b3310.3	Upgrade relaying at Willard 69 kV station		AEP (100%)

Required Trar	nsmission Enhancements	Annual Revenue Requirement	nt Responsible Customer(s)
b3312	Rebuild approximately 4 miles of existing 69 kV line between West Mount Vernon and Mount Vernon stations. Replace the existing 138/69 kV transformer at West Mount Vernon with a larger 90 MVA unit along with existing 69 kV breaker 'C'		AEP (100%)
b3313	Add 40 kA circuit breakers on the low and high side of the East Lima 138/69 kV transformer		AEP (100%)
b3314.1	Install a new 138/69 kV 130 MVA transformer and associated protection at Elliot station		AEP (100%)
b3314.2	Perform work at Strouds Run station to retire 138/69/13 kV 33.6 MVA Transformer #1 and install a dedicated 138/13 KV distribution transformer		AEP (100%)
b3315	Upgrade relaying on Mark Center – South Hicksville 69 kV line and replace Mark Center cap bank with a 7.7 MVAR unit		AEP (100%)
b3320	Replace the CT at Don Marquis 345 kV station		AEP (100%)
b3336	Rebuild 6 miles Benton Harbor - Riverside 138 kV double circuit extension		AEP (100%)
b3337	Replace the one (1) Hyatt 138 kV breaker "AB1" (101N) with 3000 A, 63 kA interrupting breaker		AEP (100%)

Required Tra	nsmission Enhancements	Annual Revenue Requiremen	t Responsible Customer(s)
b3338	Replace the two (2) Kenny 138 kV breakers, "102" (SC- 3) and "106" (SC-4), each		
	with a 3000 A, 63 kA interrupting breaker		AEP (100%)
b3339	Replace the one (1) Canal 138 kV breaker "3" with		
b3342	3000 A, 63 kA breaker Replace the 2156 ACSR and 2874 ACSR bus and risers with 2-bundled 2156 ACSR at Muskingum River 345 kV station to address loading issues on Muskingum - Waterford 345 kV line		AEP (100%)
b3343	Rebuild approximately 0.3 miles of the overloaded 69 kV line between Albion - Philips Switch and Philips Switch - Brimfield Switch with 556 ACSR conductor		AEP (100%)
b3344.1	Install two (2) 138 kV circuit breakers in the M and N strings in the breaker-and-a half configuration in West Kingsport station 138 kV yard to allow the Clinch River - Moreland Dr. 138 kV to cut in the West Kingsport station		AEP (100%)
b3344.2	Upgrade remote end relaying at Riverport 138 kV station due to the line cut in at West Kingsport station		AEP (100%)

Required Tran	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
	Rebuild approximately 4.2 miles of overloaded sections		
b3345.1	of the 69 kV line between Salt		
	Fork switch and Leatherwood		
	switch with 556 ACSR		AEP (100%)
b3345.2	Update relay settings at		
03343.2	Broom Road station		AEP (100%)
	Rebuild approximately 3.5		
	miles of overloaded 69 kV		
	line between North Delphos –		
	East Delphos – Elida Road		
	switch station. This includes		
	approximately 1.1 miles of		
	double circuit line that makes		
	up a portion of the North		
b3346.1	Delphos – South Delphos 69		
	kV line and the North Delphos		
	– East Delphos 69 kV line.		
	Approximately 2.4 miles of		
	single circuit line will also be		
	rebuilt between the double		
	circuit portion to East Delphos		
	station and from East Delphos		
	to Elida Road switch station		AEP (100%)
	Replace the line entrance		
	spans at South Delphos station		
b3346.2	to eliminate the overloaded		
	4/0 Copper and 4/0 ACSR		
	conductor		AEP (100%)
	Rebuild approximately 20		
b3347.1	miles of 69 kV line between		
03577.1	Bancroft and Milton stations		
	with 556 ACSR conductor		AEP (100%)
	Replace the jumpers around		
b3347.2	Hurrican switch with 556		
	ACSR		AEP (100%)

b3347.3	Replace the jumpers around Teays switch with 556 ACSR	AEP (100%)
b3347.4	Update relay settings at Winfield station to coordinate with remote ends on line rebuild	AEP (100%)
b3347.5	Update relay settings at Bancroft station to coordinate with remote ends on line rebuild	AEP (100%)
b3347.6	Update relay settings at Milton station to coordinate with remote ends on line rebuild	AEP (100%)
b3347.7	Update relay settings at Putnam Village station to coordinate with remote ends on line rebuild	AEP (100%)
b3348.1	Construct a 138 kV single bus station (Tin Branch) consisting of a 138 kV box bay with a distribution transformer and 12 kV distribution bay. Two 138 kV lines will feed this station (from Logan and Sprigg stations), and distribution will have one 12 kV feed. Install two 138 kV circuit breakers on the line exits. Install 138 kV circuit switcher for the new transformer	AEP (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

		1	
b3348.2	Construct a new 138/46/12 kV Argyle station to replace Dehue 46 kV station. Install a 138 kV ring bus using a breaker-and-a-half configuration, with an autotransformer with a 46 kV feed and a distribution transformer with a 12 kV distribution bay. Two 138 kV lines will feed this station (from Logan and Wyoming stations). There will also be a 46 kV feed from this station to Becco station. Distribution will have two 12 kV feeds. Retire Dehue 46 kV station in its entirety		AEP (100%)
b3348.3	Bring the Logan – Sprigg #2 138 kV circuit in and out of Tin Branch station by constructing approximately 1.75 miles of new overhead double circuit 138 kV line. Double circuit T3 series lattice towers will be used along with 795,000 cm ACSR 26/7 conductor. One shield wire will be conventional 7 #8 ALUMOWELD, and one shield wire will be optical ground wire (OPGW)		AEP (100%)
b3348.4	Logan-Wyoming No. 1 circuit in and out of the proposed Argyle 46 kV station. Double circuit T3 series lattice towers will be used along with 795,000 cm ACSR 26/7 conductor. One shield wire will be conventional 7 #8 ALUMOWELD, and one shield wire will be OPGW		AEP (100%)
b3348.5	Rebuild approximately 10 miles of 46 kV line between Becco and the new Argyle 46 kV substation. Retire approximately 16 miles of 46 kV line between the new Argyle substation and Chauncey station		AEP (100%)
b3348.6	Adjust relay settings due to new line terminations and retirements at Logan, Wyoming, Sprigg, Becco and Chauncey stations		AEP (100%)

Itequilea IIa		enue Requirement Responsible Customer(s)
	Replace Bellefonte 69 kV	
b3350.1	breakers C, G, I, Z, AB and JJ in	
05550.1	place. The new 69 kV breakers to	AEP (100%)
	be rated at 3000 A 40 kA	
	Upgrade remote end relaying at	
b3350.2	Point Pleasant, Coalton and	
	South Point 69 kV substations	AEP (100%)
	Replace the 69 kV in-line	
b3351	switches at Monterey 69 kV	
	substation	AEP (100%)
	Replace circuit breakers '42' and	
	'43' at Bexley station with 3000	
b3354	A, 40 kA 69 kV breakers	
	(operated at 40 kV), slab, control	AEP (100%)
	cables and jumpers	
	Replace circuit breakers 'A' and	
	'B' at South Side Lima station	
b3355	with 1200 A, 25 kA 34.5 kV	
	breakers, slab, control cables and	AEP (100%)
	jumpers	
	Replace circuit breaker 'H' at	
b3356	West End Fostoria station with	
05550	3000 A, 40 kA 69 kV breaker,	AED (1009/)
	slab, control cables and jumpers	AEP (100%)
	Replace circuit breakers 'C', 'E,'	
12257	and 'L' at Natrium station with	
b3357	3000 A, 40 kA 69 kV breakers,	AED (1000/)
	slab, control cables and jumpers	AEP (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

		1	{
b3358	Install a 69 kV 11.5 MVAR capacitor at Biers Run 69 kV station		AEP (100%)
b3359	Rebuild approximately 2.3 miles of the existing North Van Wert Sw. – Van Wert 69 kV line utilizing 556 ACSR conductor		AEP (100%)
b3362	Rebuild approximately 3.1 miles of the overloaded conductor on the existing Oertels Corner – North Portsmouth 69 kV line utilizing 556 ACSR		AEP (100%)
b3731	Replace 40 kV breaker J at McComb 138 kV station with a new 3000A 40 kA breaker		AEP (100%)
b3732	Install a 6 MVAR, 34.5 kV cap bank at Morgan Run station		AEP (100%)
b3733	Rebuild the 1.8 mile 69 kV line between Summerhill and Willow Grove Switch. Replace 4/0 ACSR conductor with 556 ACSR		AEP (100%)
b3734	Install a 7.7 MVAR, 69 kV cap bank at both Otway station and Rosemount station		AEP (100%)
b3735	Terminate the existing Broadford – Wolf Hills #1 138 kV line into Abingdon 138 kV Station. This line currently bypasses the existing Abingdon 138 kV station; Install two new 138 kV circuit breakers on each new line exit towards Broadford and towards Wolf Hills #1 station; Install one new 138 kV circuit breaker on line exit towards South Abingdon station for standard bus sectionalizing		AEP (100%)

	and the second	
b3736.1	Establish 69 kV bus and new 69 kV line Circuit Breaker at Dorton	AED (1009/)
	substation	AEP (100%)
b3736.2	At Breaks substation, reuse 72 kV breaker A as the new 69 kV line breaker	AEP (100%)
b3736.3	Rebuild approximately 16.7 miles Dorton – Breaks 46 kV line to 69 kV line	AEP (100%)
b3736.4	Retire approximately 17.2 miles Cedar Creek – Elwood 46 kV line	AEP (100%)
b3736.5	Retire approximately 6.2 miles Henry Clay – Elwood 46 kV line section	AEP (100%)
b3736.6	Retire Henry Clay 46 kV substation and replace with Poor Bottom 69 kV station. Install a new 0.7 mile double circuit extension to Poor Bottom 69 kV station	AEP (100%)
b3736.7	Retire Draffin substation and replace with a new substation. Install a new 0.25 mile double circuit extension to New Draffin substation	AEP (100%)
b3736.8	Remote end work at Jenkins substation	AEP (100%)
b3736.9	Provide transition fiber to Dorton, Breaks, Poor Bottom, Jenkins and New Draffin 69 kV substations	AEP (100%)
b3736.10	Henry Clay switch station retirement	AEP (100%)
b3736.11	Cedar Creek substation work	AEP (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

b3736.12	Breaks substation 46 kV equipment retirement	AEP (100%)
b3736.13	Retire Pike 29 switch station and Rob Fork switch station	AEP (100%)
b3736.14	Serve Pike 29 and Rob Fork substation customers from nearby 34 kV distribution sources	AEP (100%)
b3736.15	Poor Bottom 69 kV substation install	AEP (100%)
b3736.16	Henry Clay 46 kV substation retirement	AEP (100%)
b3736.17	New Draffin 69 kV substation install	AEP (100%)
b3736.18	Draffin 46 kV substation retirement	AEP (100%)
b3763	Replace the Jug Street 138 kV breakers M, N, BC, BD, BE, BF, D, H, J, L, BG, BH, BJ, BK with 80 KA breakers	AEP (100%)
b3764	Replace the Hyatt 138 kV breakers AB1 and AD1 with 63 kA breakers	AEP (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

	Hayes – New Westville 138 kV	•	
	line: Build approximately 0.19		
	miles of 138 kV line to the		
	Indiana/ Ohio State line to		
	connect to AES's line portion of		
b3766.1	the Hayes – New Westville 138		
	kV line with the conductor size		AEP (100%)
	795 ACSR26/7 Drake. This sub-		ALF (10076)
	ID includes the cost of line		
	construction and Right of Way		
	(ROW)		
	Hayes – Hodgin 138 kV line:		
	Build approximately 0.05 mile of		
b3766.2	138 kV line with the conductor		
05700.2	size 795 ACSR26/7 Drake. This		
	sub-ID includes the line		AEP (100%)
	construction, ROW, and fiber		
	Hayes 138 kV: Build a new 4-		
	138 kV circuit breaker ring bus.		
	This sub-ID includes the cost of		
b3766.3	new station construction,		
0270012	property purchase, metering,		
	station fiber and the College		AEP (100%)
	Corner – Randolph 138 kV line		
	connection		

1001000 110		riequirentente	Responsible Customer(s)
			Reliability Driver:
			AEP (12.38%) / ComEd
			(87.62%)
			Market Efficiency
			Driver:
			AEC (0.87%) / AEP
			(24.07%) / APS (3.95%) /
	Perform sag study mitigation work on		ATSI (11.04%) / BGE
	the Dumont – Stillwell		(4.30%) / Dayton (3.52%)
	345 kV line (remove a center-pivot		/ DEOK (5.35%) /
b3775.6	irrigation system from under the line,		Dominion (20.09%) / DPL
03775.0	allowing for the normal and		(1.73%) / DL (2.11%) /
	emergency ratings of the line to		ECP** (0.17%)/ EKPC
	increase)		(1.73%) / HTP***
	increase)		(0.07%) / JCPL (1.98%) /
			ME (1.63%) /
			NEPTUNE* (0.43%) /
			OVEC (0.07%) / PECO
			(3.59%) / PENELEC
			(1.68%) / PEPCO (3.91%)
			/ PPL (3.64%) / PSEG
			(3.93%) / RE (0.14%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

*Neptune Regional Transmission System, LLC **East Coast Power, L.L.C.

***Hudson Transmission Partners, LLC

		Reliability Driver: AEP (12.38%) / Dayton (87.62%)
b3775.7	Upgrade the limiting element at Stillwell or Dumont substation to increase the rating of the Stillwell – Dumont 345 kV line to match conductor rating	Market Efficiency Driver: AEC (0.87%) / AEP (24.07%) / APS (3.95%) / ATSI (11.04%) / BGE (4.30%) / Dayton (3.52%) / DEOK (5.35%) / Dominion (20.09%) / DPL (1.73%) / DL (2.11%) / ECP** (0.17%) / EKPC (1.73%) / DL (2.11%) / ME (1.63%) / NEPTUNE* (0.17%) / EKPC (1.73%) / JCPL (1.98%) / ME (1.63%) / OVEC (0.07%) / PECO (3.59%) / PENELEC (1.68%) / PEPCO (3.91%) / PPL (3.64%) / PSEG (3.93%) / RE (0.14%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

*Neptune Regional Transmission System, LLC **East Coast Power, L.L.C.

***Hudson Transmission Partners, LLC

requirea in	ansmission Enhancements Annu	ai Revenue Requirement Responsible Customer(s)
		Reliability Driver:
		AEP (100%)
		Market Efficiency Driver:
		AEC (0.87%) / AEP (24.07%) / APS
	Perform a sag study on the	(3.95%) / ATSI (11.04%) / BGE
	Olive – University Park 345	(4.30%) / Dayton (3.52%) / DEOK
	kV line to increase the	(5.35%) / Dominion (20.09%) / DPL
b3775.10	operating temperature to	(1.73%) / DL (2.11%) / ECP**
	225 F. Remediation work	(0.17%)/ EKPC (1.73%) / HTP***
	includes two tower	(0.07%) / JCPL (1.98%) / ME
	replacements on the line.	(1.63%) / NEPTUNE* (0.43%) /
		OVEC (0.07%) / PECO (3.59%) /
		PENELEC (1.68%) / PEPCO
		(3.91%) / PPL (3.64%) / PSEG
		(3.93%) / RE (0.14%)
		Reliability Driver:
		Reliability Driver: AEP (12.38%) / ComEd (87.62%)
		Reliability Driver:
	Upgrade the limiting	Reliability Driver:AEP (12.38%) / ComEd (87.62%)Market Efficiency Driver:
	Upgrade the limiting element at Stillwell	Reliability Driver: AEP (12.38%) / ComEd (87.62%) Market Efficiency Driver: AEC (0.87%) / AEP (24.07%) / APS
b3775 11	10 0	Reliability Driver: AEP (12.38%) / ComEd (87.62%) Market Efficiency Driver: AEC (0.87%) / AEP (24.07%) / APS (3.95%) / ATSI (11.04%) / BGE
b3775.11	element at Stillwell	Market Efficiency Driver: AEP (12.38%) / ComEd (87.62%) Market Efficiency Driver: AEC (0.87%) / AEP (24.07%) / APS (3.95%) / ATSI (11.04%) / BGE (4.30%) / Dayton (3.52%) / DEOK
b3775.11	element at Stillwell substation to increase the	Reliability Driver: AEP (12.38%) / ComEd (87.62%) Market Efficiency Driver: AEC (0.87%) / AEP (24.07%) / APS (3.95%) / ATSI (11.04%) / BGE (4.30%) / Dayton (3.52%) / DEOK (5.35%) / Dominion (20.09%) / DPL
b3775.11	element at Stillwell substation to increase the rating of the Stillwell –	Reliability Driver: AEP (12.38%) / ComEd (87.62%) Market Efficiency Driver: AEC (0.87%) / AEP (24.07%) / APS (3.95%) / ATSI (11.04%) / BGE (4.30%) / Dayton (3.52%) / DEOK (5.35%) / Dominion (20.09%) / DPL (1.73%) / DL (2.11%) / ECP**
b3775.11	element at Stillwell substation to increase the rating of the Stillwell – Dumont 345 kV line to	Reliability Driver: AEP (12.38%) / ComEd (87.62%) Market Efficiency Driver: AEC (0.87%) / AEP (24.07%) / APS (3.95%) / ATSI (11.04%) / BGE (4.30%) / Dayton (3.52%) / DEOK (5.35%) / Dominion (20.09%) / DPL (1.73%) / DL (2.11%) / ECP** (0.17%) / EKPC (1.73%) / HTP*** (0.07%) / JCPL (1.98%) / ME (1.63%) / NEPTUNE* (0.43%) /
b3775.11	element at Stillwell substation to increase the rating of the Stillwell – Dumont 345 kV line to	Reliability Driver: AEP (12.38%) / ComEd (87.62%) Market Efficiency Driver: AEC (0.87%) / AEP (24.07%) / APS (3.95%) / ATSI (11.04%) / BGE (4.30%) / Dayton (3.52%) / DEOK (5.35%) / Dominion (20.09%) / DPL (1.73%) / DL (2.11%) / ECP** (0.17%) / EKPC (1.73%) / HTP*** (0.07%) / JCPL (1.98%) / ME (1.63%) / NEPTUNE* (0.43%) / OVEC (0.07%) / PECO (3.59%) /
b3775.11	element at Stillwell substation to increase the rating of the Stillwell – Dumont 345 kV line to	Reliability Driver: AEP (12.38%) / ComEd (87.62%) Market Efficiency Driver: AEC (0.87%) / AEP (24.07%) / APS (3.95%) / ATSI (11.04%) / BGE (4.30%) / Dayton (3.52%) / DEOK (5.35%) / Dominion (20.09%) / DPL (1.73%) / DL (2.11%) / ECP** (0.17%) / EKPC (1.73%) / HTP*** (0.07%) / JCPL (1.98%) / ME (1.63%) / NEPTUNE* (0.43%) / OVEC (0.07%) / PECO (3.59%) / PENELEC (1.68%) / PEPCO
b3775.11	element at Stillwell substation to increase the rating of the Stillwell – Dumont 345 kV line to	Reliability Driver: AEP (12.38%) / ComEd (87.62%) Market Efficiency Driver: AEC (0.87%) / AEP (24.07%) / APS (3.95%) / ATSI (11.04%) / BGE (4.30%) / Dayton (3.52%) / DEOK (5.35%) / Dominion (20.09%) / DPL (1.73%) / DL (2.11%) / ECP** (0.17%) / EKPC (1.73%) / HTP*** (0.07%) / JCPL (1.98%) / ME (1.63%) / NEPTUNE* (0.43%) / OVEC (0.07%) / PECO (3.59%) /

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

*Neptune Regional Transmission System, LLC **East Coast Power, L.L.C.

***Hudson Transmission Partners, LLC

ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (17.1%) / Dominion Station. The new position will be between two new 500 kV circuit breakers located in a new breaker string, electrically converting the 500 kV yard to "double-bus double-breaker"ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (13.32%) / DEU (2.60%) EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC	Required Tran	ismission Enhancements Annual Re	venue Requirement	Responsible Customer(s)
		Establish a new 500 kV breaker position for the low-side of the existing 765/500 kV transformer at Cloverdale Station. The new position will be between two new 500 kV circuit breakers located in a new breaker string, electrically converting the 500 kV yard to "double-bus double-breaker"	venue Requirement	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG
DFAX Allocation:		converting the 500 kV yard to "double-bus double-breaker"		(5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

*Neptune Regional Transmission System, LLC

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

		Load-Ratio Share
		Allocation:
		<u>AEC (1.65%) / AEP</u>
		(13.68%) / APS (5.76%) /
		<u>ATSI (8.04%) / BGE</u>
		<u>(4.11%) / ComEd</u>
		(13.39%) / Dayton (2.12%)
		<u>/ DEOK (3.25%) / DL</u>
		<u>(1.71%) / Dominion</u>
		(13.32%) / DPL (2.60%) /
	Kammer to 502 Junction 500	<u>EKPC (1.89%) / JCPL</u>
	kV line: Conduct LIDAR Sag	<u>(3.86%) / ME (1.90%) /</u>
<u>b3800.121</u>	Study to assess SE rating and	<u>NEPTUNE* (0.42%) /</u>
	needed upgrades	<u>OVEC (0.08%) / PECO</u>
	<u>needed upgrades</u>	<u>(5.40%) / PENELEC</u>
		<u>(1.78%) / PEPCO (3.67%)</u>
		<u>/ PPL (4.72%) / PSEG</u>
		<u>(6.39%) / RE (0.26%)</u>
		DFAX Allocation:
		<u>AEP (21.66%) / APS</u>
		<u>(0.01%) / BGE (7.14%) /</u>
		<u>DEOK (0.01%) /</u>
		Dominion (62.25%) /
		<u>PEPCO (8.93%)</u>

*Neptune Regional Transmission System, LLC

PJM Open Access Transmission Tariff Schedule 12-Appendix A Section 20 – Virginia Elec. and Power Co.

Version 39.0.0 Effective January 1, 2024 (Accepted in Docket No. ER24-786-000)

SCHEDULE 12 – APPENDIX A

(20) Virginia Electric and Power Company

<u>required in</u>	ansinission ennancements Annual	Revenue Requirement	Responsible Customer(s)
b1698.7	Replace Loudoun 230 kV breaker '203052' with 63 kA rating		Dominion (100%)
b1696.1	Replace the Idylwood 230 kV '25112' breaker with 50 kA breaker		Dominion (100%)
b1696.2	Replace the Idylwood 230 kV '209712' breaker with 50 kA breaker		Dominion (100%)
b1793.1	Remove the Carolina 22 SPS to include relay logic changes, minor control wiring, relay resets and SCADA programming upon completion of project		Dominion (100%)
b2281	Additional Temporary SPS at Bath County		Dominion (100%)
b2350	Reconductor 211 feet of 545.5 ACAR conductor on 59 Line Elmont - Greenwood DP 115 kV to achieve a summer emergency rating of 906 amps or greater		Dominion (100%)
b2358	Install a 230 kV 54 MVAR capacitor bank on the 2016 line at Harmony Village Substation		Dominion (100%)
b2359	Wreck and rebuild approximately 1.3 miles of existing 230 kV line between Cochran Mill - X4-039 Switching Station		Dominion (100%)
b2360	Build a new 39 mile 230 kV transmission line from Dooms - Lexington on existing right- of-way		Dominion (100%)
b2361	Construct 230 kV OH line along existing Line #2035 corridor, approx. 2.4 miles from Idylwood - Dulles Toll Road (DTR) and 2.1 miles on new right-of-way along DTR to new Scott's Run Substation		Dominion (100%)

Required Ir	ansmission Enhancements		Levenue Requirement	Responsible Customer(s)
b2368	Replace the Brambleton 2 breaker '209502' with 63 breaker	kA		Dominion (100%)
b2369	Replace the Brambleton 2 breaker '213702' with 63 breaker	kA		Dominion (100%)
b2370	Replace the Brambleton 2 breaker 'H302' with 63 k/ breaker			Dominion (100%)
b2373	Build a 2nd Loudoun - Brambleton 500 kV line the existing ROW. The Loudoun - Brambleton 23 line will be relocated as a underbuild on the new 50 line	30 kV m 00 kV		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.6814.29%) / APS (5.765.82%) / ATSI (8.047.49%) / BGE (4.114.01%) / ComEd (13.3914.06%) / Dayton (2.122.03%) / DEOK (3.253.21%) / DL (1.711.59%) / DPL (2.602.55%) / Dominion (13.3213.89%) / EKPC (1.892.35%) / JCPL (3.863.59%) / ME (1.901.81%) / NEPTUNE* (0.42%) / OVEC (0.080.06%) / PECO (5.405.11%) / PENELEC (1.781.73%) / PEPCO (3.673.68%) / PPL (4.724.43%) / PSEG (6.395.99%) / RE (0.260.24%) DFAX Allocation: APS (83.9852.14%) / Dominion (16.0220.63%) / PEPCO (27.23%)
b2397	Replace the Beaumeade 2 breaker '2079T2116' with kA	n 63		Dominion (100%)
b2398	Replace the Beaumeade 2 breaker '2079T2130' with kA			Dominion (100%)
b2399	Replace the Beaumeade 2 breaker '208192' with 63	230 kV kA		Dominion (100%)
b2400	Replace the Beaumeade 2 breaker '209592' with 63	230 kV kA		Dominion (100%)
b2401	Replace the Beaumeade 2 breaker '211692' with 63	230 kV kA		Dominion (100%)
b2402	Replace the Beaumeade 2 breaker '227T2130' with	230 kV 63 kA		Dominion (100%)

The Annual Revenue Requirement for all Virginia Electric and Power Company projects in this Section 20 shall be as specified in Attachment 7 to Appendix A of Attachment H-16A and under the procedures detailed in Attachment H-16B. *Neptune Regional Transmission System, LLC

Required Ir		nnual Revenue Requirement	Responsible Customer(s)
b2403	Replace the Beaumeade 230 kV breaker '274T2130' with 63 kA		Dominion (100%)
b2404	Replace the Beaumeade 230 kV breaker '227T2095' with 63 kA		Dominion (100%)
b2405	Replace the Pleasant view 230 kV breaker '203T274' with 63 kA		Dominion (100%)
b2443	Construct new underground 230 kV line from Glebe to Station C, rebuild Glebe Substation, construct 230 kV high side bus at Station C with option to install 800 MVA PAR		Dominion (97.11%) / ME (0.18%) / PEPCO (2.71%)
b2443.1	Replace the Idylwood 230 kV breaker '203512' with 50 kA		Dominion (100%)
b2443.2	Replace the Ox 230 kV breaker '206342' with 63 kA breaker		Dominion (100%)
b2443.3	Glebe – Station C PAR		DFAX Allocation: Dominion (22.57%) / PEPCO (77.43%)
b2443.6	Install a second 500/230 kV transformer at Possum Point substation and replace bus work and associated equipment as needed		Dominion (100%)
b2443.7	Replace 19 63 kA 230 kV breakers with 19 80 kA 230 kV breakers		Dominion (100%)
b2457	Replace 24 115 kV wood h-frames with 230 kV Dominion pole H-frame structures on the Clubhouse – Purdy 115 kV line		Dominion (100%)
b2458.1	Replace 12 wood H-frame structures with steel H- frame structures and install shunts on all conductor splices on Carolina – Woodland 115 kV		Dominion (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tra	ansmission Enhancements An	nual Revenue Requirement	Responsible Customer(s)
1 2 4 5 9 2	Upgrade all line switches and substation components at Carolina		
b2458.2	115 kV to meet or exceed new conductor rating of 174 MVA		Dominion (100%)
b2458.3	Replace 14 wood H-frame structures on Carolina – Woodland 115 kV		Dominion (100%)
b2458.4	Replace 2.5 miles of static wire on Carolina – Woodland 115 kV		Dominion (100%)
b2458.5	Replace 4.5 miles of conductor between Carolina 115 kV and Jackson DP 115 kV with min. 300 MVA summer STE rating; Replace 8 wood H-frame structures located between Carolina and Jackson DP with steel H-frames		Dominion (100%)
b2460.1	Replace Hanover 230 kV substation line switches with 3000A switches		Dominion (100%)
b2460.2	Replace wave traps at Four River 230 kV and Elmont 230 kV substations with 3000A wave traps		Dominion (100%)
b2461	Wreck and rebuild existing Remington CT – Warrenton 230 kV (approx. 12 miles) as a double-circuit 230 kV line		Dominion (100%)
b2461.1	Construct a new 230 kV line approximately 6 miles from NOVEC's Wheeler Substation a new 230 kV switching station in Vint Hill area		Dominion (100%)
b2461.2	Convert NOVEC's Gainesville – Wheeler line (approximately 6 miles) to 230 kV		Dominion (100%)
b2461.3	Complete a Vint Hill – Wheeler – Loudoun 230 kV networked line		Dominion (100%)

Required Tr	ansmission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
		•	Load-Ratio Share Allocation:
			AEC (1.65%) / AEP
			(13.68 14.29%) / APS
			(5.765.82 %) / ATSI
			(8.04 7.49%) / BGE
			×
			(4.114.01%) / ComEd
			(13.39<u>14.06</u>%) / Dayton
	Replace Midlothian 500 kV		(2.12<u>2.03</u>%) / DEOK
	breaker 563T576 and motor		(3.25<u>3.21</u>%) / DL (<u>1.71<u>1.59</u>%)</u>
	operated switches with 3		/ DPL (<u>2.602.55</u> %) / Dominion
b2471	breaker 500 kV ring bus.		(13.32<u>13.89</u>%) / EKPC
024/1	Terminate Lines # 563 Carson		(1.89<u>2.35</u>%) / JCPL
	– Midlothian, #576		(3.863.59 %) / ME (1.901.81 %)
	Midlothian –North Anna,		/ NEPTUNE* (0.42%) / OVEC
	Transformer #2 in new ring		(0.08<u>0.06</u>%) / PÉCO
			(5.40 5.11%) / PENELEC
			(1.78 1.73%) / PEPCO
			(3.673.68%) / PPL
			(4.724.43%) / PSEG
			· /
			(6.39 <u>5.99</u> %) / RE (0.26 <u>0.24</u> %)
			DFAX Allocation:
	Dahaild 115 laV Line #22		Dominion (100%)
	Rebuild 115 kV Line #32 from Halifax-South Boston (6		
	miles) for min. of 240 MVA		
b2504	and transfer Welco tap to Line		
	#32. Moving Welco to Line		
	#32 requires disabling auto-		
	sectionalizing scheme		Dominion (100%)
	Install structures in river to		
b2505	remove the 115 kV #65 line (Whitestone-Harmony Village		
02303	115 kV) from bridge and		
	improve reliability of the line		Dominion (100%)
	Replace the Loudoun 500 kV		
b2542	'H2T502' breaker with a 50		
	kA breaker		Dominion (100%)
1.0.5.1.5	Replace the Loudoun 500 kV		
b2543	'H2T584' breaker with a 50		$\mathbf{D}_{\text{substantian}}$ (1000/)
	kA breaker Reconductor wave trap at		Dominion (100%)
b2565	Carver Substation with a		
02303	2000A wave trap		Dominion (100%)
	Reconductor 1.14 miles of		
1.0500	existing line between ACCA		
b2566	and Hermitage and upgrade		
	associated terminal equipment		Dominion (100%)

*Neptune Regional Transmission System, LLC

Required Tr	ansmission Enhancements An	nual Revenue Requirement	Responsible Customer(s)
Required Tr	ansmission Enhancements An Rebuild the Elmont – Cunningham 500 kV line	nual Revenue Requirement	Responsible Customer(s)Load-Ratio Share Allocation:AEC (1.65%) / AEP($\frac{13.6814.29\%}{13.6814.29\%}$) / APS($\frac{5.765.82\%}{14.09\%}$) / APS($\frac{5.765.82\%}{14.09\%}$) / BGE($\frac{4.114.01\%}{1.3914.06\%}$) / Dayton($\frac{2.122.03\%}{13.3914.06\%}$) / Dayton($\frac{2.122.03\%}{1.3914.06\%}$) / DeOK($\frac{3.253.21\%}{1.22.03\%}$) / DEOK($\frac{3.253.21\%}{1.22.03\%}$) / DEOK($\frac{3.253.21\%}{1.20.35\%}$) / Dominion($\frac{1.33213.89\%}{1.389\%}$) / EKPC($\frac{1.892.35\%}{1.395\%}$) / JCPL($\frac{3.863.59\%}{1.395\%}$) / JCPL($\frac{3.863.59\%}{1.395\%}$) / ME ($\frac{1.901.81\%}{1.901.81\%}$)/ NEPTUNE* (0.42\%) / OVEC($\frac{0.080.06\%}{1.439.106\%}$) / PENELEC($\frac{1.781.73\%}{1.73\%}$) / PENELEC($\frac{1.781.73\%}{1.73\%}$) / PEPCO($\frac{3.673.68\%}{3.68\%}$) / PPL($\frac{4.724.43\%}{1.36\%}$) / PSEG($\frac{6.395.99\%}{1.99\%}$) / RE ($\frac{0.260.24\%}{1.80\%}$)DFAX Allocation:APS (6.21%) / BGE($\frac{5.714.78}{0.3\%}$) / Dominion
b2583	Install 500 kV breaker at Ox Substation to remove Ox Tx#1 from H1T561 breaker failure outage		(84.43<u>81.73</u>%) / PEPCO (<u>9.867.28</u>%) Dominion (100%)
b2584	Relocate the Bremo load (transformer #5) to #2028 (Bremo-Charlottesville 230 kV) line and Cartersville distribution station to #2027 (Bremo- Midlothian 230 kV) line		Dominion (100%)
b2585	Reconductor 7.63 miles of existing line between Cranes and Stafford, upgrade associated line switches at Stafford		PEPCO (100%)

b2620	Wreck and rebuild the Chesapeake – Deep Creek – Bowers Hill – Hodges Ferry 115 kV line; minimum rating 239 MVA normal/emergency, 275 MVA load dump rating		Dominion (100%)
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*Neptune Regional Transmission System, LLC

Required Tra		nual Revenue Requirement	Responsible Customer(s)
b2622	Rebuild Line #47 between Kings Dominion 115 kV and Fredericksburg 115 kV to current standards with summer emergency rating of 353 MVA at 115 kV		Dominion (100%)
b2623	Rebuild Line #4 between Bremo and Structure 8474 (4.5 miles) to current standards with a summer emergency rating of 261 MVA at 115 kV		Dominion (100%)
b2624	Rebuild 115 kV Lines #18 and #145 between Possum Point Generating Station and NOVEC's Smoketown DP (approx. 8.35 miles) to current 230 kV standards with a normal continuous summer rating of 524 MVA at 115 kV		Dominion (100%)
b2625	Rebuild 115 kV Line #48 between Thole Street and Structure 48/71 to current standard. The remaining line to Sewells Point is 2007 vintage. Rebuild 115 kV Line #107 line, Sewells Point to Oakwood, between structure 107/17 and 107/56 to current standard		Dominion (100%)
b2626	Rebuild 115 kV Line #34 between Skiffes Creek and Yorktown and the double circuit portion of 115 kV Line #61 to current standards with a summer emergency rating of 353 MVA at 115 kV		Dominion (100%)
b2627	Rebuild 115 kV Line #1 between Crewe 115 kV and Fort Pickett DP 115 kV (12.2 miles) to current standards with summer emergency rating of 261 MVA at 115 kV		Dominion (100%)

Required Tra		al Revenue Requirement	Responsible Customer(s)
b2628	Rebuild 115 kV Line #82 Everetts – Voice of America (20.8 miles) to current standards with a summer emergency rating of 261		
b2629	MVA at 115 kV Rebuild the 115 kV Lines #27 and #67 lines from Greenwich 115 kV to Burton 115 kV Structure 27/280 to current standard with a		Dominion (100%)
	summer emergency rating of 262 MVA at 115 kV		Dominion (100%)
b2630	Install circuit switchers on Gravel Neck Power Station GSU units #4 and #5. Install two 230 kV CCVT's on Lines #2407 and #2408 for loss of source sensing		Dominion (100%)
b2636	Install three 230 kV bus breakers and 230 kV, 100 MVAR Variable Shunt Reactor at Dahlgren to provide line protection during maintenance, remove the operational hazard and provide voltage reduction during light load conditions		Dominion (100%)
b2647	Rebuild Boydton Plank Rd – Kerr Dam 115 kV Line #38 (8.3 miles) to current standards with summer emergency rating of 353 MVA at 115 kV		Dominion (100%)
b2648	Rebuild Carolina – Kerr Dam 115 kV Line #90 (38.7 miles) to current standards with summer emergency rating of 353 MVA 115 kV		Dominion (100%)
b2649	Rebuild Clubhouse – Carolina 115 kV Line #130 (17.8 miles) to current standards with summer emergency rating of 353 MVA at 115 kV		Dominion (100%)

Required In	ansmission Enhancements Annua	Il Revenue Requirement	Responsible Customer(s)
	Rebuild of 1.7 mile tap to Metcalf and Belfield DP		
	(MEC) due to poor		
	condition. The existing		
	summer rating of the tap is		
b2649.1	48 MVA and existing		
	conductor is 4/0 ACSR on		
	wood H-frames. The		
	proposed new rating is 176		
	MVA using 636 ACSR		$\mathbf{D}_{\text{substantian}}$ (1009/)
	conductor		Dominion (100%)
	Rebuild of 4.1 mile tap to Brinks DP (MEC) due to		
	wood poles built in 1962.		
	The existing summer rating		
	of the tap is 48 MVA and		
b2649.2	existing conductor is 4/0		
	ACSR and 393.6 ACSR on		
	wood H-frames. The		
	proposed new rating is 176		
	MVA using 636 ACSR		$D_{ominion}$ (100%)
	conductor Robuild Twittys Crook		Dominion (100%)
	Rebuild Twittys Creek – Pamplin 115 kV Line #154		
	(17.8 miles) to current		
b2650	standards with summer		
	emergency rating of 353		
	MVA at 115 kV		Dominion (100%)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
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Required Trai		al Revenue Requirement	Responsible Customer(s)
b2651	Rebuild Buggs Island – Plywood 115 kV Line #127 (25.8 miles) to current standards with summer emergency rating of 353 MVA at 115 kV. The line should be rebuilt for 230 kV and operated at 115 kV		Dominion (100%)
b2652	Rebuild Greatbridge – Hickory 115 kV Line #16 and Greatbridge – Chesapeake E.C. to current standard with summer emergency rating of 353 MVA at 115 kV		Dominion (100%)
b2653.1	Build 20 mile 115 kV line from Pantego to Trowbridge with summer emergency rating of 353 MVA		Dominion (100%)
b2653.2	Install 115 kV four-breaker ring bus at Pantego		Dominion (100%)
b2653.3	Install 115 kV breaker at Trowbridge		Dominion (100%)
b2654.1	Build 15 mile 115 kV line from Scotland Neck to S Justice Branch with summer emergency rating of 353 MVA. New line will be routed to allow HEMC to convert Dawson's Crossroads RP from 34.5 kV to 115 kV		Dominion (100%)
b2654.2	Install 115 kV three-breaker ring bus at S Justice Branch		Dominion (100%)
b2654.3	Install 115 kV breaker at Scotland Neck		Dominion (100%)
b2654.3	Install a 2nd 224 MVA 230/115 kV transformer at Hathaway		Dominion (100%)

Required Tra	nsmission Enhancements Annual Reven	ue Requirement	Responsible Customer(s)
Required Tra b2665	nsmission Enhancements Annual Reven	ue Requirement	Responsible Customer(s) Load-Ratio Share Allocation AEC (1.65%) / AEP $(13.6814.29\%)$ / APS $(5.765.82\%)$ / ATSI $(8.047.49\%)$ / BGE $(4.114.01\%)$ / ComEd $(13.3914.06\%)$ / Dayton $(2.122.03\%)$ / DEOK $(3.253.21\%)$ / DL $(1.711.59\%)$ / DPL $(2.602.55\%)$ / Dominion $(13.3213.89\%)$ / EKPC $(1.892.35\%)$ / JCPL $(3.863.59\%)$ / ME $(1.901.81\%)$ / NEPTUNE* (0.42%) / OVEO $(0.080.06\%)$ / PECO $(5.405.11\%)$ / PENELEC $(1.781.73\%)$ / PEPCO $(3.673.68\%)$ / PPL $(4.724.43\%)$ / PSEG $(6.395.99\%)$ / RE $(0.260.24\%)$ DFAX Allocation: APS (10.07%) / BGE $(9.356.58\%)$ / Dominion
b2686	Pratts Area Improvement		(73.04<u>72.51</u>%) / PEPCO (<u>17.6110.84</u>%)
b2686.1	Build a 230 kV line from Remington Substation to Gordonsville Substation utilizing existing ROW Install a 3rd 230/115 kV		Dominion (100%) Dominion (100%)
b2686.2	transformer at Gordonsville Substation		Dominion (100%)
b2686.3	Upgrade Line 2088 between Gordonsville Substation and Louisa CT Station		Dominion (100%)
b2686.4	Replace the Remington CT 230 kV breaker "2114T2155" with a 63 kA breaker		Dominion (100%)
b2686.11	Upgrading sections of the Gordonsville – Somerset 115 kV circuit		Dominion (100%)
b2686.12	Upgrading sections of the Somerset – Doubleday 115 kV circuit		Dominion (100%)

b2686.13	Upgrading sections of the Orange – Somerset 115 kV circuit	Dominion (100%)
b2686.14	Upgrading sections of the Mitchell – Mt. Run 115 kV circuit	Dominion (100%)

Required Tra		Annual Revenue Requirement Responsible Customer(s)
b2717.1	De-energize Davis – Rosslyn #179 and #180 69 kV lines	Dominion (100%)
b2717.2	Remove splicing and stop joints in manholes	Dominion (100%)
b2717.3	Evacuate and dispose of insulating fluid from various reservoirs and cables	Dominion (100%)
b2717.4	Remove all cable along the approx. 2.5 mile route, swab and cap-off conduits for future use, leave existing communication fiber in place	Dominion (100%)
b2719.1	Expand Perth substation and add a 115 kV four breaker ring	Dominion (100%)
b2719.2	Extend the Hickory Grove DP tap 0.28 miles to Perth and terminate it at Perth	Dominion (100%)
b2719.3	Split Line #31 at Perth and terminate it into the new ring bus with 2 breakers separating each of the line terminals to prevent a breaker failure from taking out both 115 kV lines	Dominion (100%)
b2720	Replace the Loudoun 500 kV 'H1T569' breakers with 50 kA breaker	Dominion (100%)
b2729	Optimal Capacitors Configuration: New 175 MVAR capacitor at Brambleton, new 175 MVAR capacitor at Ashburn, new 300 MVAR capacitor at Shelhorm, new 150 MVAR capacitor at Liberty	AEC (1.96%) / BGE (14.37%) / Dominion (35.11%) / DPL (3.76%) / ECP** (0.29%) / HTP*** (0.34%) / JCPL (3.31%) / ME (2.51%) / NEPTUNE* (0.63%) / PECO (6.26%) / PEPCO (20.23%) / PPL (3.94%) / PSEG (7.29%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

* Neptune Regional Transmission System, LLC

** East Coast Power, L.L.C.

***Hudson Transmission Partners, LLC

Required Tra	nsmission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
		•	Load-Ratio Share Allocation:
			AEC (1.65%) / AEP
			(13.68 <u>14.29</u> %) / APS
			(15.00<u>14.2</u>) /0)/ ATSI
			$(\frac{8.047.49}{8.00})$ / BGE
			(4.114.01%) / ComEd
			(13.39<u>14.06</u>%) / Dayton
			(2.12<u>2.03</u>%) / DEOK
			(3.25<u>3.21</u>%) / DL (<u>1.711.59</u>%)
			/ DPL (<u>2.60</u> 2.55%) / Dominion
			(13.3213.89 %) / EKPC
	Rebuild the Carson – Rogers		(<u>1.892.35</u> %) / JCPL
b2744	Rd 500 kV circuit		(3.863.59%) / ME (1.901.81%)
			/ NEPTUNE* (0.42%) / OVEC
			(0.080.06%) / PECO
			(5.40 <u>5.11</u> %) / PENELEC
			$(\frac{1.78}{1.73}\%)$ / PEPCO
			(3.67<u>3.68</u>%) / PPL
			(4 .72<u>4.43</u>%) / PSEG
			(6.39<u>5.99</u>%) / RE (<u>0.260.24</u>%)
			DFAX Allocation:
			BGE (4.27%) / Dominion
			(90.13<u>100.00</u>%) / PEPCO
			(5.60%)
	Rebuild 21.32 miles of		
12745	existing line between		
02/43	Chesterfield – Lakeside		
			Dominion (100%)
	Rebuild Line #137 Ridge Rd		
b2746.1			
			Dominion (100%)
	Rebuild Line #1009 Ridge Rd		
	- Chase City 115 kV 95		
b2746.2	existing line between Chesterfield – Lakeside 230 kV Rebuild Line #137 Ridge Rd – Kerr Dam 115 kV, 8.0 miles, for 346 MVA summer emergency rating Rebuild Line #1009 Ridge Rd – Chase City 115 kV, 9.5 miles, for 346 MVA summer emergency rating Install a second 4.8 MVAR capacitor bank on the 13.8 kV bus of each transformer at		
			Dominion (100%)
h2746 2	capacitor bank on the 13.8 kV		
02/40.3	bus of each transformer at		
			Dominion (100%)
1.07.47			
b2/4/			
	b2744 Rd 500 kV circuit b2745 Rebuild 21.32 miles of existing line between Chesterfield – Lakeside 230 kV b2746.1 Rebuild Line #137 Ridge Rd – Kerr Dam 115 kV, 8.0 miles, for 346 MVA summer emergency rating b2746.2 Rebuild Line #1009 Ridge Rd – Chase City 115 kV, 9.5 miles, for 346 MVA summer emergency rating b2746.3 Install a second 4.8 MVAR capacitor bank on the 13.8 kV bus of each transformer at Ridge Rd b2746.3 Install a Motor Operated Switch and SCADA control between Dominion's Gordonsville 115 kV bus and FirstEnergy's 115 kV line		Dominion (100%)
*NI (D	gional Transmission System 11		

required fra	Institusion Entitateenteitis Annual	Revenue Requirement	Responsible Customer(s)
b2757	Install a +/-125 MVAr Statcom at Colington 230 kV		Dominion (100%)
b2758	Rebuild Line #549 Dooms – Valley 500 kV		Load-Ratio Share Allocation: AEC (1.65%) / AEP $(\frac{13.6814.29\%}{})$ / APS $(\frac{5.765.82\%}{})$ / ATSI $(\frac{8.047.49\%}{})$ / BGE $(\frac{4.114.01\%}{})$ / ComEd $(\frac{13.3914.06\%}{})$ / Dayton $(\frac{2.122.03\%}{})$ / DEOK $(\frac{3.253.21\%}{})$ / DL $(\frac{1.711.59\%}{})$ / DPL $(\frac{2.602.55\%}{})$ / Dominion $(\frac{13.3213.89\%}{})$ / EKPC $(\frac{1.892.35\%}{})$ / JCPL $(\frac{3.863.59\%}{})$ / ME $(\frac{1.901.81\%}{})$ / NEPTUNE* (0.42%) / OVEC $(\frac{0.080.06\%}{})$ / PECO $(\frac{5.405.11\%}{})$ / PENELEC $(\frac{1.781.73\%}{})$ / PEPCO $(\frac{3.673.68\%}{})$ / PPL (4.724.43%) / PSEG $(\frac{6.395.99\%}{})$ / RE $(\frac{0.260.24\%}{})$ DFAX Allocation: Dominion (100%)

		Load-Ratio Share Allocation:
		AEC (1.65%) / AEP
		(13.68<u>14.29</u>%) / APS
		(5.76<u>5.82</u>%) / ATSI
		(8.04<u>7.49</u>%) / BGE
		(<u>4.11<u>4.01</u>%) / ComEd</u>
		(13.39<u>14.06</u>%) / Dayton
		(<u>2.122.03</u> %) / DEOK
		(3.25<u>3.21</u>%) / DL (<u>1.71<u>1.59</u>%)</u>
		/ DPL (2.60<u>2.55</u>%) / Dominion
		(13.32<u>13.89</u>%) / EKPC
		(1.89<u>2.35</u>%) / JCPL
b2759	Rebuild Line #550 Mt. Storm	(3.86<u>3.59</u>%) / ME (<u>1.901.81</u>%)
02755	– Valley 500 kV	/ NEPTUNE* (0.42%) / OVEC
		(0.08 0.06%) / PECO
		(5.405.11 %) / PENELEC
		(1.78<u>1.73</u>%) / PEPCO
		(3.673.68 %) / PPL
		(4.72 <u>4.43</u> %) / PSEG
		(6.395.99 %) / RE (0.260.24 %)
		DFAX Allocation:
		APS (47.8740.03%) / DL
		$(\frac{1.023.91}{0.000}\%)$ / Dominion
		(9.20<u>4</u>9.41 %) / EKPC
		(13.57<u>6.65</u>%)/PEPCO
		(28.34%)

Required Tra	Insmission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
b2800	The 7 mile section from Dozier to Thompsons Corner of line #120 will be rebuilt to current standards using 768.2 ACSS conductor with a summer emergency rating of 346 MVA at 115 kV. Line is proposed to be rebuilt on single circuit steel monopole structure		Dominion (100%)
b2801	Lines #76 and #79 will be rebuilt to current standard using 768.2 ACSS conductor with a summer emergency rating of 346 MVA at 115 kV. Proposed structure for rebuild is double circuit steel monopole structure		Dominion (100%)
b2802	Rebuild Line #171 from Chase City – Boydton Plank Road tap by removing end- of-life facilities and installing 9.4 miles of new conductor. The conductor used will be at current standards with a summer emergency rating of 393 MVA at 115 kV		Dominion (100%)
b2815	Build a new Pinewood 115 kV switching station at the tap serving North Doswell DP with a 115 kV four breaker ring bus		Dominion (100%)
b2842	Update the nameplate for Mount Storm 500 kV "57272" to be 50 kA breaker		Dominion (100%)
b2843	Replace the Mount Storm 500 kV "G2TY" with 50 kA breaker		Dominion (100%)
b2844	Replace the Mount Storm 500 kV "G2TZ" with 50 kA breaker		Dominion (100%)

Required Ira	nsmission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
b2845	Update the nameplate for Mount Storm 500 kV "G3TSX1" to be 50 kA breaker		Dominion (100%)
b2846	Update the nameplate for Mount Storm 500 kV "SX172" to be 50 kA breaker		Dominion (100%)
b2847	Update the nameplate for Mount Storm 500 kV "Y72" to be 50 kA breaker		Dominion (100%)
b2848	Replace the Mount Storm 500 kV "Z72" with 50 kA breaker		Dominion (100%)
b2871	Rebuild 230 kV line #247 from Swamp to Suffolk (31 miles) to current standards with a summer emergency rating of 1047 MVA at 230 kV		Dominion (100%)
b2876	Rebuild line #101 from Mackeys – Creswell 115 kV, 14 miles, with double circuit structures. Install one circuit with provisions for a second circuit. The conductor used will be at current standards with a summer emergency rating of 262 MVA at 115 kV		Dominion (100%)
b2877	Rebuild line #112 from Fudge Hollow – Lowmoor 138 kV (5.16 miles) to current standards with a summer emergency rating of 314 MVA at 138 kV		Dominion (100%)
b2899	Rebuild 230 kV line #231 to current standard with a summer emergency rating of 1046 MVA. Proposed conductor is 2-636 ACSR		Dominion (100%)
b2900	Build a new 230/115 kV switching station connecting to 230 kV network line #2014 (Earleys – Everetts). Provide a 115 kV source from the new station to serve Windsor DP		Dominion (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Trai	nsmission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
b2922	Rebuild 8 of 11 miles of 230 kV lines #211 and #228 to current standard with a summer emergency rating of 1046 MVA for rebuilt section. Proposed conductor is 2-636 ACSR		Dominion (100%)
b2928	Rebuild four structures of 500 kV line #567 from Chickahominy to Surry using galvanized steel and replace the river crossing conductor with 3-1534 ACSR. This will increase the line #567 line rating from 1954 MVA to 2600 MVA		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.6814.29%) / APS (5.765.82%) / ATSI (8.047.49%) / BGE (4.114.01%) / ComEd (13.3914.06%) / Dayton (2.122.03%) / DEOK (3.253.21%) / DL (1.711.59%) / DPL (2.602.55%) / Dominion (13.3213.89%) / EKPC (1.892.35%) / JCPL (3.863.59%) / ME (1.901.81%) / NEPTUNE* (0.42%) / OVEC (0.080.06%) / PECO (5.405.11%) / PENELEC (1.781.73%) / PEPCO (3.673.68%) / PPL (4.724.43%) / PSEG (6.395.99%) / RE (0.260.24%) DFAX Allocation: Dominion (100%)
b2929	Rebuild 230 kV line #2144 from Winfall to Swamp (4.3 miles) to current standards with a standard conductor (bundled 636 ACSR) having a summer emergency rating of 1047 MVA at 230 kV		Dominion (100%)
b2960	Replace fixed series capacitors on 500 kV Line #547 at Lexington and on 500 kV Line #548 at Valley		See sub-IDs for cost allocations

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tran	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2960.1	Replace fixed series capacitors on 500 kV 1 #547 at Lexington	Line	Load-Ratio Share Allocation AEC (1.65%) / AEP $(\frac{13.6814.29\%})$ / APS $(\frac{5.765.82\%})$ / ATSI $(\frac{8.047.49\%})$ / BGE (4.114.01%) / ComEd $(\frac{13.3914.06\%})$ / Dayton $(\frac{2.122.03\%})$ / DEOK $(\frac{3.253.21\%})$ / DL $(\frac{1.741.59\%})$ / DPL $(\frac{2.602.55\%})$ / Dominion $(\frac{13.3213.89\%})$ / EKPC $(\frac{1.892.35\%})$ / JCPL $(\frac{3.863.59\%})$ / ME $(\frac{1.901.81\%})$ / NEPTUNE* (0.42%) / OVEC $(\frac{0.080.06\%})$ / PECO $(\frac{5.405.11\%})$ / PENELEC $(\frac{1.781.73\%})$ / PEPCO $(\frac{3.673.68\%})$ / PPL $(\frac{4.724.43\%})$ / PSEG $(\frac{6.395.99\%})$ / RE $(\frac{0.260.24\%})$ DFAX Allocation: BGE (40.11%) / DEOK $(\frac{0.717.57\%})$ / Dominion $(\frac{9.3088.85\%})$ / EKPC $(\frac{0.433.58\%})$ / PEPCO $(\frac{49.45\%})$

equired Ira	nsmission Enhancements Annual I	Revenue Requirement	Responsible Customer(s)
			Load-Ratio Share Allocatio
			AEC (1.65%) / AEP
			(13.68<u>14.29</u>%) / APS
			(5.76<u>5.82</u>%) / ATSI
			(8.04<u>7.49</u>%) / BGE
			(4.114.01%) / ComEd
			(<u>13.3914.06</u> %) / Dayton
			(2.122.03%) / DEOK
			(3.253.21%) / DL $(1.711.59%)$
			/ DPL (<u>2.602.55</u> %) / Dominie
			(13.32<u>13.89</u>%) / EKPC
	Replace fixed series		(<u>1.892.35</u> %) / JCPL
b2960.2	capacitors on 500 kV Line		(3.86<u>3.59</u>%) / ME (<u>1.901.81</u>%
	#548 at Valley		/ NEPTUNE* (0.42%) / OVE
			(0.08<u>0.06</u>%) / PECO
			(5.40 5.11%) / PENELEC
			(1.78 1.73%) / PEPCO
			(3.67 3.68%) / PPL
			(4.724.43%) / PSEG
			(6.39 5.99%) / RE (0.26 0.24%
			DFAX Allocation:
			BGE (3.77%) / DEOK
			(<u>8.846.54</u> %) / Dominion
			(78.84<u>91.29</u>%) / EKPC
			(3.90<u>2.17</u>%) / PEPCO (4.65%
	Rebuild approximately 3 miles of Line #205 & Line		
b2961	#2003 from Chesterfield to		
	Locks & Poe respectively		Dominion (100%)
	Split Line #227 (Brambleton		
	– Beaumeade 230 kV) and		
b2962	terminate into existing		
	Belmont substation		Dominion (100%)
	Replace the Beaumeade 230		
b2962.1	kV breaker "274T2081" with		
	63 kA breaker		Dominion (100%)
1 0 0 6 0 0	Replace the NIVO 230 kV		
b2962.2	breaker "2116T2130" with 63		$D_{\text{ominion}}(100\%)$
	kA breaker Reconductor the Woodbridge		Dominion (100%)
	to Occoquan 230 kV line		
	segment of Line #2001 with		
b2963	1047 MVA conductor and		
	replace line terminal		
	equipment at Possum Point,		
	Woodbridge, and Occoquan		Dominion (100%)

Required Tra	Insmission Enhancements Annu	al Revenue Requirement	Responsible Customer(s)
b2978	Install 2-125 MVAR STATCOMs at Rawlings and 1-125 MVAR STATCOM at Clover 500 kV substations		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.6814.29%) / APS (5.765.82%) / ATSI (8.047.49%) / BGE (4.114.01%) / ComEd (13.3914.06%) / Dayton (2.122.03%) / DEOK (3.253.21%) / DL (1.711.59%) / DPL (2.602.55%) / Dominion (13.3213.89%) / EKPC (1.892.35%) / JCPL (3.863.59%) / ME (1.901.81%) / NEPTUNE* (0.42%) / OVEC (0.080.06%) / PECO (5.405.11%) / PENELEC (1.781.73%) / PEPCO (3.673.68%) / PPL (4.724.43%) / PSEG (6.395.99%) / RE (0.260.24%) DFAX Allocation: Dominion (100%)
b2980	Rebuild 115 kV Line #43 between Staunton and Harrisonburg (22.8 miles) to current standards with a summer emergency rating of 261 MVA at 115 kV		Dominion (100%)
b2981	Rebuild 115 kV Line #29 segment between Fredericksburg and Aquia Harbor to current 230 kV standards (operating at 115 kV) utilizing steel H-frame structures with 2-636 ACSR to provide a normal continuous summer rating of 524 MVA at 115 kV (1047 MVA at 230 kV)		Dominion (100%)

Required Tran	nsmission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
b2989	Install a second 230/115 kV Transformer (224 MVA) approximately 1 mile north of Bremo and tie 230 kV Line #2028 (Bremo – Charlottesville) and 115 kV Line #91 (Bremo - Sherwood) together. A three breaker 230 kV ring bus will split Line #2028 into two lines and Line #91 will also be split into two lines with a new three breaker 115 kV ring bus. Install a temporary 230/115 kV transformer at Bremo substation for the interim until the new substation is complete		Dominion (100%)
b2990	Chesterfield to Basin 230 kV line – Replace 0.14 miles of 1109 ACAR with a conductor which will increase the line rating to approximately 706 MVA		Dominion (100%)
b2991	Chaparral to Locks 230 kV line – Replace breaker lead		Dominion (100%)
b2994	Acquire land and build a new switching station (Skippers) at the tap serving Brink DP with a 115 kV four breaker ring to split Line #130 and terminate the end points		Dominion (100%)
b3018	Rebuild Line #49 between New Road and Middleburg substations with single circuit steel structures to current 115 kV standards with a minimum summer emergency rating of 261 MVA		Dominion (100%)

equired Tra	nsmission Enhancements Annual R	evenue Requirement	Responsible Customer(s)
equired Tra b3019	Rebuild 500 kV Line #552 Bristers to Chancellor – 21.6 miles long	evenue Requirement	Responsible Customer(s) Load-Ratio Share Allocation AEC (1.65%) / AEP (13.6814.29%) / APS (5.765.82%) / ATSI (8.047.49%) / BGE (4.114.01%) / ComEd (13.3914.06%) / Dayton (2.122.03%) / DEOK (3.253.21%) / DL (1.711.59% / DPL (2.602.55%) / Dominio (13.3213.89%) / EKPC (1.892.35%) / JCPL (3.863.59%) / ME (1.901.81% / NEPTUNE* (0.42%) / OVEC (0.080.06%) / PECO (5.405.11%) / PENELEC (1.781.73%) / PEPCO (3.673.68%) / PPL (4.724.43%) / PSEG
b3019.1 b3019.2	Update the nameplate for Morrisville 500 kV breaker "H1T594" to be 50 kA Update the nameplate for Morrisville 500 kV breaker "H1T545" to be 50 kA		(<u>2.110</u> , 0) / 1000 (<u>6.395.99</u> %) / RE (<u>0.260.24</u> % DFAX Allocation: <u>BGE (6.89%) / Dominion</u> (<u>85.01100.00</u> %) / <u>PEPCO</u> (<u>8.10%)</u> Dominion (100%)

Required Tran	nsmission Enhancements Ann	ual Revenue Requirement	Responsible Customer(s)
			Load-Ratio Share Allocation:
			AEC (1.65%) / AEP
			(13.68<u>14.29</u>%) / APS
			(5.76<u>5.82</u>%) / ATSI
			(8.04<u>7.49</u>%) / BGE
			(4.11 <u>4.01</u> %) / ComEd
			(13.39<u>14.06</u>%) / Dayton
			(2.12<u>2.03</u>%) / DEOK
			(3.25<u>3.21</u>%) / DL (<u>1.71<u>1.59</u>%)</u>
	Rebuild 500 kV Line #574 Ladysmith to Elmont – 26.2 miles long		/ DPL (2.602.55%) / Dominion
			$(\frac{13.3213.89}{12.000})$ / EKPC
1 2 2 2 2			(<u>1.892.35</u> %) / JCPL
b3020			(3.863.59 %) / ME (1.90<u>1.81</u>%)
			/ NEPTUNE* (0.42%) / OVEC
			(<u>0.080.06</u> %) / PECO (<u>5.40</u> 5.11%) / PENELEC
			(3.40<u>3.11</u>%)/PENELEC (<u>1.781.73</u>%)/PEPCO
			$(\frac{1.78}{3.673.68}\%)$ / PPL
			(4.724.43%) / PSEG
			(6.395.99%) / RE (0.260.24%)
			DFAX Allocation:
			APS (16.36%) / DEOK
			(11.61%) / Dominion (51.27%)
			/ EKPC (5.30%) / PEPCO
			(15.46%)

		Load-Ratio Share Allocation:
		AEC (1.65%) / AEP
		(13.68<u>14.29</u>%) / APS
		(5.76 5.82%) / ATSI
		(8.047.49 %) / BGE
		(4.114.01%) / ComEd
		(13.39<u>14.06</u>%) / Dayton
		(<u>2.122.03</u> %) / DEOK
		(3.25 <u>3.21</u> %) / DL (1.71<u>1.59</u>%)
		/ DPL (2.60<u>2.55</u>%) / Dominion
	Rebuild 500 kV Line #581	(13.32<u>13.89</u>%) / EKPC
b3021	Ladysmith to Chancellor –	(1.89<u>2.35</u>%) / JCPL
	15.2 miles long	(3.86 <u>3.59</u> %) / ME (1.90<u>1.81</u>%)
		/ NEPTUNE* (0.42%) / OVEC
		(0.08<u>0.06</u>%) / PECO
		(5.40<u>5.11</u>%) / PENELEC
		(<u>1.78</u> <u>1.73</u> %) / PEPCO
		(3.67<u>3.68</u>%) / PPL
		(4 .72<u>4.43</u>%) / PSEG
		(6.39<u>5.99</u>%) / RE (<u>0.260.24</u>%)
		DFAX Allocation:
		Dominion (92.28<u>100.00</u>%) ≁
		PEPCO (7.72%)
	Reconductor Line #274	
	(Pleasant View – Ashburn – Beaumeade 230 kV) with a	
b3026	minimum rating of 1200	
	MVA. Also upgrade terminal	
	equipment	Dominion (100%)

Required Trai	ismission Enhancements Annual F	Xevenue Kequitement	Responsible Customer(s)
b3027.1	Add a 2nd 500/230 kV 840 MVA transformer at		
05027.1	Dominion's Ladysmith substation		Dominion (100%)
	Reconductor 230 kV Line #2089 between Ladysmith and Ladysmith CT		
b3027.2	substations to increase the line rating from 1047 MVA		Dominion (100%)
	to 1225 MVA Replace the Ladysmith 500		Dominion (100%)
b3027.3	kV breaker "H1T581" with		
0002710	50 kA breaker		Dominion (100%)
	Update the nameplate for		
b3027.4	Ladysmith 500 kV breaker "H1T575" to be 50 kA		
	breaker		Dominion (100%)
	Update the nameplate for		
	Ladysmith 500 kV breaker		
b3027.5	"568T574" (will be		
	renumbered as "H2T568") to		Dominion (100%)
	be 50 kA breaker Install spare 230/69 kV		Dominion (100%)
b3055	transformer at Davis		
05025	substation		Dominion (100%)
12056	Partial rebuild 230 kV Line		
b3056	#2113 Waller to Lightfoot		Dominion (100%)
	Rebuild 230 kV Lines #2154		
b3057	and #19 Waller to Skiffes		
	Creek		Dominion (100%)
b3058	Partial rebuild of 230 kV		
03030	Lines #265, #200 and #2051		Dominion (100%)
1.2050	Rebuild 230 kV Line #2173		
b3059	Loudoun to Elklick		Dominion (100%)
L	ı		

Required Ira	nsmission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
b3060	Rebuild 4.6 mile Elklick – Bull Run 230 kV Line #295 and the portion (3.85 miles) of the Clifton – Walney 230 kV Line #265 which shares structures with Line #295		Dominion (100%)
b3088	Rebuild 4.75 mile section of Line #26 between Lexington and Rockbridge with a minimum summer emergency rating of 261 MVA		Dominion (100%)
b3089	Rebuild 230 kV Line #224 between Lanexa and Northern Neck utilizing double circuit structures to current 230 kV standards. Only one circuit is to be installed on the structures with this project with a minimum summer emergency rating of 1047 MVA		Dominion (100%)
b3090	Convert the overhead portion (approx. 1500 feet) of 230 kV Lines #248 & #2023 to underground and convert Glebe substation to gas insulated substation		Dominion (100%)
b3096	Rebuild 230 kV line No.2063 (Clifton – Ox) and part of 230 kV line No.2164 (Clifton – Keene Mill) with double circuit steel structures using double circuit conductor at current 230 kV northern Virginia standards with a minimum rating of 1200 MVA		Dominion (100%)
b3097	Rebuild 4 miles of 115 kV Line #86 between Chesterfield and Centralia to current standards with a minimum summer emergency rating of 393 MVA		Dominion (100%)
b3098	Rebuild 9.8 miles of 115 kV Line #141 between Balcony Falls and Skimmer and 3.8 miles of 115 kV Line #28 between Balcony Falls and Cushaw to current standards with a minimum rating of 261 MVA		Dominion (100%)

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b3098.1	Rebuild Balcony Falls 115 kV substation	Dominion (100%)
b3110.1	Rebuild Line #2008 between Loudoun to Dulles Junction using single circuit conductor at current 230 kV northern Virginia standards with minimum summer ratings of 1200 MVA. Cut and loop Line #265 (Clifton – Sully) into Bull Run substation. Add three (3) 230 kV breakers at Bull Run to accommodate the new line and upgrade the substation	Dominion (100%)
b3110.2	Replace the Bull Run 230 kV breakers "200T244" and "200T295" with 50 kA breakers	Dominion (100%)
b3110.3	Replace the Clifton 230 kV breakers "201182" and "XT2011" with 63 kA breakers	Dominion (100%)
b3113	Rebuild approximately 1 mile of 115 kV Lines #72 and #53 to current standards with a minimum summer emergency rating of 393 MVA. The resulting summer emergency rating of Line #72 segment from Brown Boveri to Bellwood is 180 MVA. There is no change to Line #53 ratings	Dominion (100%)
b3114	Rebuild the 18.6 mile section of 115 kV Line #81 which includes 1.7 miles of double circuit Line #81 and 230 kV Line #2056. This segment of Line #81 will be rebuilt to current standards with a minimum rating of 261 MVA. Line #2056 rating will not change	Dominion (100%)
b3121	Rebuild Clubhouse – Lakeview 230 kV Line #254 with single- circuit wood pole equivalent structures at the current 230 kV standard with a minimum rating of 1047 MVA	Dominion (100%)

Required Tra	nsmission Enhancements Annual Revenue	Requirement	Respons	sible Customer(s)
b3122	Rebuild Hathaway – Rocky Mount (Duke Energy Progress) 230 kV Line #2181 and Line #2058 with double circuit steel structures using double circuit conductor at current 230 kV standards with a minimum rating of 1047 MVA			Dominion (100%)
b3161.1	Split Chesterfield-Plaza 115 kV Line No. 72 by rebuilding the Brown Boveri tap line as double circuit loop in-and-out of the Brown Boveri Breaker station			Dominion (100%)
b3161.2	Install a 115 kV breaker at the Brown Boveri Breaker station. Site expansion is required to accommodate the new layout			Dominion (100%)
b3162	Acquire land and build a new 230 kV switching station (Stevensburg) with a 224 MVA, 230/115 kV transformer. Gordonsville-Remington 230 kV Line No. 2199 will be cut and connected to the new station. Remington-Mt. Run 115 kV Line No.70 and Mt. Run-Oak Green 115 kV Line No. 2 will also be cut and connected to the new station			Dominion (100%)
b3211	Rebuild the 1.3 mile section of 500 kV Line No. 569 (Loudoun – Morrisville) with single-circuit 500 kV structures at the current 500 kV standard. This will increase the rating of the line to 3424 MVA			Dominion (100%)
b3213	Install 2nd Chickahominy 500/230 kV transformer			Dominion (100%)
b3213.1	Replace the eight (8) Chickahominy 230 kV breakers with 63 kA breakers: "SC122", "205022", "209122", 210222-2", "28722", "H222", "21922" and "287T2129"			Dominion (100%)

Required Tran	nsmission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
	Install a second 230 kV		
	circuit with a minimum		
	summer emergency rating of		
	1047 MVA between Lanexa		
	and Northern Next		
	substations. The second		
b3223.1	circuit will utilize the vacant		
	arms on the double-circuit		
	structures that are being		
	installed on Line #224		
	(Lanexa – Northern Next) as		
	part of the End-of-Life		$\mathbf{D}_{\text{aminion}}$ (1009/)
	rebuild project (b3089)		Dominion (100%)
	Expand the Northern Neck terminal from a 230 kV, 4-		
b3223.2	breaker ring bus to a 6-		
	breaker ring bus		Dominion (100%)
	Expand the Lanexa terminal		
	from a 6-breaker ring bus to a		
b3223.3	breaker-and-a-half		
	arrangement		Dominion (100%)
	Convert 115 kV Line #172		
	Liberty – Lomar and 115 kV		
	Line #197 Cannon Branch –		
	Lomar to 230 kV to provide a		
	new 230 kV source between		
	Cannon Branch and Liberty.		
	The majority of 115 kV Line		
	#172 Liberty – Lomar and		
b3246.1	Line #197 Cannon Branch –		
	Lomar is adequate for 230 kV		
	operation. Rebuild 0.36 mile		
	segment between the Lomar		
	and Cannon Branch junction.		
	Lines will have a summer		
	rating of 1047MVA/1047MVA		
	(SN/SE)		Dominion (100%)
	Perform substation work for		
	the 115 kV to 230 kV line		
b3246.2	conversion at Liberty,		
05270.2	Wellington, Godwin, Pioneer,		
	Sandlot and Cannon Branch		Dominion (100%)

Required Tra	nsmission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
b3246.3	Extend 230 kV Line #2011 Cannon Branch – Clifton to Winters Branch by removing the existing Line #2011 termination at Cannon Branch and extending the line to Brickyard creating 230 kV Line #2011 Brickyard - Clifton. Extend a new 230 kV line between Brickyard and Winters Branch with a summer rating of 1572MVA/1572MVA (SN/SE)		Dominion (100%)
b3246.4	Perform substation work at Cannon Branch, Brickyard and Winters Branch for the 230 kV Line #2011 Cannon Branch – Clifton extension		Dominion (100%)
b3246.5	Replace the Gainesville 230 kV 40 kA breaker "216192" with a 50 kA breaker		Dominion (100%)
b3247	Replace 13 towers with galvanized steel towers on Doubs – Goose Creek 500 kV. Reconductor 3 mile section with three (3) 1351.5 ACSR 45/7. Upgrade line terminal equipment at Goose Creek substation to support the 500 kV line rebuild		Load-Ratio Share Allocation: AEC (1.65%) / AEP $(\frac{13.6814.29\%}{4.29\%})$ / APS $(\frac{5.765.82\%}{4.749\%})$ / BGE (4.114.01%) / ComEd $(\frac{13.3914.06\%}{1.3914.06\%})$ / Dayton $(\frac{2.122.03\%}{1.253.21\%})$ / DEOK $(\frac{3.253.21\%}{1.00})$ / DL $(\frac{1.741.59\%}{1.73\%})$ / DPL $(\frac{2.602.55\%}{2.55\%})$ / Dominion $(\frac{13.3213.89\%}{1.325\%})$ / EKPC $(\frac{1.892.35\%}{1.90})$ / JCPL $(\frac{3.863.59\%}{1.90})$ / ME $(\frac{1.901.81\%}{1.901.81\%})$ / NEPTUNE* (0.42%) / OVEC $(\frac{0.080.06\%}{1.781.73\%})$ / PEPCO $(\frac{3.673.68\%}{1.955\%})$ / PECO $(\frac{3.673.68\%}{1.955\%})$ / PECO $(\frac{6.395.99\%}{1.724.43\%})$ / PSEG $(\frac{6.395.99\%}{1.99\%})$ / RE $(\frac{0.260.24\%}{1.90\%})$ DFAX Allocation: Dominion (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required The	ansmission Ennancements Annual I	Revenue Requirement	Responsible Customer(s)
b3262	Install a second 115 kV 33.67 MVAR cap bank at Harrisonburg substation along with a 115 kV breaker		Dominion (100%)
b3263	Cut existing 115 kV Line #5 between Bremo and Cunningham substations and loop in and out of Fork Union substation		Dominion (100%)
b3264	Install 40 kA breaker at Stuarts Draft 115 kV station and sectionalize the Doom to Dupont-Waynesboro 115 kV Line #117 into two 115 kV lines		Dominion (100%)
b3268	Build a switching station at the junction of 115 kV line #39 and 115 kV line #91 with a 115 kV capacitor bank. The switching station will be built with 230 kV structures but will operate at 115 kV		Dominion (100%)
b3300	Reconductor 230 kV Line #2172 from Brambleton to Evergreen Mills along with upgrading the line leads at Brambleton to achieve a summer emergency rating of 1574 MVA		Dominion (100%)

Required Tra	ansmission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
b3301	Reconductor 230 kV Line #2210 from Brambleton to Evergreen Mills along with upgrading the line leads at Brambleton to achieve a summer emergency rating of 1574 MVA		Dominion (100%)
b3302	Reconductor 230 kV Line #2213 from Cabin Run to Yardley Ridge along with upgrading the line leads at Yardley to achieve a summer emergency rating of 1574 MVA		Dominion (100%)
b3303.1	Extend a new single circuit 230 kV Line #9250 from Farmwell substation to Nimbus substation		Dominion (100%)
b3303.2	Remove Beaumeade 230 kV Line #2152 line switch		Dominion (100%)
b3304	Midlothian area improvements for 300 MW load drop relief		Dominion (100%)
b3304.1	Cut 230 kV Line #2066 at Trabue junction		Dominion (100%)
b3304.2	Reconductor idle 230 kV Line #242 (radial from Midlothian to Trabue junction) to allow a minimum summer rating of 1047 MVA and connect to the section of 230 kV Line #2066 between Trabue junction and Winterpock, re-number 230 kV Line #242 structures to Line #2066		Dominion (100%)
b3304.3	Use the section of idle 115 kV Line #153, between Midlothian and Trabue junction to connect to the section of (former) 230 kV Line #2066 between Trabue junction and Trabue to create new Midlothian – Trabue lines with new line numbers #2218 and #2219		Dominion (100%)
b3304.4	Create new line terminations at Midlothian for the new Midlothian – Trabue 230 kV lines		Dominion (100%)

Required Tra	nsmission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
	Rebuild 12.4 miles of 115 kV		
	line from Earleys to Kelford		
	with a summer emergency		
h2691	rating of 262 MVA. Replace		
b3684	structures as needed to support		
	the new conductor. Upgrade		
	breaker switch 13668 at		
	Earleys from 1200 A to 2000 A		Dominion (100%)
	Install a 33 MVAR cap bank at		
	Cloud 115 kV bus along with a		
b3685	115 kV breaker. Add 115 kV		
20000	circuit breaker for 115 kV Line		
	#38		Dominion (100%)
	Purchase land close to the		
	bifurcation point of 115 kV		
	Line #4 (where the line is split		
	into two sections) and build a		
	new 115 kV switching station		
10000	called Duncan Store. The new		
b3686	switching station will require		
	space for an ultimate		
	transmission interconnection		
	consisting of a 115 kV six-		
	breaker ring bus (with three		
	breakers installed initially)		Dominion (100%)
	Rebuild approximately 15.1		
	miles line segment between		
	Bristers and Minnieville D.P.		
	with 2-768 ACSS and 4000 A		
	supporting equipment from		
	Bristers to Ox to allow for		
10007	future 230 kV capability of 115		
b3687	kV Line #183. The continuous		
	summer normal rating will be		
	523 MVA for line Ox –		
	Minnieville. The continuous		
	summer normal rating will be		
	786 MVA for Minnieville –		
	Bristers line		Dominion (100%)
	Reconductor approximately		
	24.42 miles of 230 kV Line		
	#2114 Remington CT- Elk		
b3689.1	Run – Gainesville to achieve a		
	summer rating of 1574 MVA		
	by fully reconductoring the line		
	and upgrading the wave trap		
	and substation conductor at		
	Remington CT and Gainesville		
	230 kV stations		Dominion (100%)

Required Tra	ansmission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
b3689.2	Replace 230 kV breakers SC102, H302, H402 and 218302 at Brambleton substation with 4000A 80 kA breakers and associated equipment including breaker leads as necessary to address breaker duty issues identified in short circuit analysis		Dominion (100%)
b3690	Reconductor approximately 1.07 miles of 230 kV Line #2008 segment from Cub Run to Walney to achieve a summer rating of 1574 MVA. Replace line switch 200826 with a 4000A switch		Dominion (100%)
b3691	Reconductor approximately 1.4 miles of 230 kV Line #2141 from Lakeview to Carolina to achieve a summer rating of 1047 MVA		Dominion (100%)
b3692	Rebuild approximately 27.7 miles of 500 kV transmission line from Elmont to Chickahominy with current 500 kV standards construction practices to achieve a summer rating of 4330 MVA		Load-Ratio Share Allocation AEC (1.65%) / AEP (13.6814.29%) / APS (5.765.82%) / ATSI (8.047.49%) / BGE (4.114.01%) / ComEd (13.3914.06%) / Dayton (2.122.03%) / DEOK (3.253.21%) / DL (1.711.59%) / DPL (2.602.55%) / Dominion (13.3213.89%) / EKPC (1.892.35%) / JCPL (3.863.59%) / ME (1.901.81%) / NEPTUNE* (0.42%) / OVEC (0.080.06%) / PECO (5.405.11%) / PENELEC (1.781.73%) / PEPCO (3.673.68%) / PPL (4.724.43%) / PSEG (6.395.99%) / RE (0.260.24%) DFAX Allocation: Dominion (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tra	ansmission Enhancements Annual Reve	enue Requirement Resp	onsible Customer(s)
b3693	Expand substation and install approximately 294 MVAR cap bank at 500 kV Lexington substation along with a 500 kV breaker. Adjust the tap positions associated with the two 230/69 kV transformers at Harrisonburg to neutral position and lock them	(3. / [(3. / N	ad-Ratio Share Allocation: AEC (1.65%) / AEP (13.6814.29%) / APS (5.765.82%) / ATSI (8.047.49%) / BGE (4.114.01%) / ComEd (13.3914.06%) / Dayton (2.122.03%) / DEOK .253.21%) / DL (1.711.59%) DPL (2.602.55%) / Dominion (13.3213.89%) / EKPC (1.892.35%) / JCPL .863.59%) / ME (1.901.81%) VEPTUNE* (0.42%) / OVEC (0.080.06%) / PECO (5.405.11%) / PENELEC (1.781.73%) / PEPCO (3.673.68%) / PPL (4.724.43%) / PSEG .395.99%) / RE (0.260.24%) DFAX Allocation: Dominion (100%)
b3694.1	Convert 115 kV Line #29 Aquia Harbour to Possum Point to 230 kV (Extended Line #2104) and swap Line #2104 and converted Line #29 at Aquia Harbour backbone termination. Upgrade terminal equipment at Possum Point to terminate converted Line #29 (now extended line #2104). (Line #29 from Fredericksburg to Aquia Harbour is being rebuilt under baseline b2981 to 230 kV standards)		Dominion (100%)

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b3694.2	Upgrade Aquia Harbour terminal equipment to not limit 230 kV Line #9281 conductor rating		Dominion (100%)
b3694.3	Upgrade Fredericksburg terminal equipment by rearranging 230 kV bus configuration to terminate converted Line #29 (now becoming 9281). The project will add a new breaker at the 230 kV bay and reconfigure line termination of 230 kV Line #2157, #2090 and #2083		Dominion (100%)
b3694.4	Reconductor/rebuild approximately 7.6 miles of 230 kV Line #2104 Cranes Corner – Stafford to achieve a summer rating of 1047 MVA. Reconductor/rebuild approximately 0.34 miles of 230 kV Line #2104 Stafford – Aquia Harbour to achieve a summer rating of 1047 MVA. Upgrade terminal equipment at Cranes Corner to not limit the new conductor rating		Dominion (100%)
b3694.5	Upgrade wave trap and line leads at 230 kV Line #2090 Ladysmith CT terminal to achieve 4000A rating		Dominion (100%)

Required Tra	nsmission Enhancements Annual Rev	enue Requirement	Responsible Customer(s)
	Upgrade Fuller Road substation		
	to feed Quantico substation via		
	115 kV radial line. Install four-		
	breaker ring bus and break 230		
	kV Line #252 into two new lines:		
b3694.6	1) Line #252 between Aquia		
0507110	Harbour and Fuller Road and 2)		
	Line #9282 between Fuller Road		
	and Possum Point. Install a		
	230/115 kV transformer which		
	will serve Quantico substation		Dominion (100%)
	Energize in-service spare		
b3694.7	500/230 kV Carson Transformer		
03094.7			Dominion (100%)
	Partial wreck and rebuild 10.34		
	miles of 230 kV Line #249		
	Carson – Locks to achieve a		
b3694.8	minimum summer emergency		
	rating of 1047 MVA. Upgrade		
	terminal equipment at Carson		
	and Locks stations to not limit		$\mathbf{D}_{\text{residue}}$ (1000/)
	the new conductor rating		Dominion (100%)
	Wreck and rebuild 5.4 miles of		
	115 kV Line #100 Locks –		
	Harrowgate to achieve a		
	minimum summer emergency		
b3694.9	rating of 393 MVA. Upgrade		
05074.7	terminal equipment at Locks and		
	Harrowgate stations to not limit		
	the new conductor rating and		
	perform Line #100 Chesterfield		
	terminal relay work		Dominion (100%)
	Reconductor approximately 2.9		
	miles of 230 kV Line #211		
b3694.10	Chesterfield – Hopewell to		
	achieve a minimum summer		
	emergency rating of 1046 MVA		Dominion (100%)
	Reconductor approximately 2.9		
b3694.11	miles of 230 kV Line #228		
	Chesterfield – Hopewell to		
	achieve a minimum summer		
	emergency rating of 1046 MVA		Dominion (100%)
	Upgrade equipment at		
12004.12	Chesterfield 230 kV substation to		
b3694.12	not limit ratings on Line #211		
	and #228		Dominion (100%)
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Required IIa		evenue Requirement	Responsible Customer(s)
b3694.13	Upgrade equipment at Hopewell 230 kV substation to not limit ratings on Line #211 and #228		Dominion (100%)
b3702	Install one 13.5 Ohm series reactor to control the power flow on the 230 kV Line #2054 from Charlottesville substation to Proffit Rd. 230 kV line		AEC (1.59%) / APS (8.85%) / ATSI (5.54%) / BGE (10.79%) / ComEd (1.86%) / Dayton (0.21%) / DEOK (1.16%) / Dominion (18.99%) / DPL (3.68%) / DL (1.16%) / ECP** (0.27%) / HTP*** (0.22%) / JCPL (4.53%) / ME (1.73%) / NEPTUNE* (0.68%) / PECO (6.95%) / PENELEC (4.75%) / PEPCO (9.69%) / PPL (9.78%) / PSEG (7.28%) / RE (0.29%)
b3707.1	Reconductor approximately 0.57 mile of 115 kV Line #1021 from Harmony Village to Greys Point with 768 ACSS to achieve a summer emergency rating of 237 MVA. The current conductor is 477 ACSR		Dominion (100%)
b3707.2	Reconductor approximately 0.97 mile of 115 kV Line #65 from Rappahannock to White Stone with 768 ACSS to achieve a summer emergency rating of 237 MVA. The current conductor is 477 ACSR		Dominion (100%)
b3759	Reconductor approximately 10.5 miles of 115 kV Line #23 segment from Oak Ridge to AC2-079 Tap to minimum emergency ratings of 393 MVA Summer / 412 MVA Winter		Dominion (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

*Neptune Regional Transmission System, LLC

**East Coast Power, L.L.C.

***Hudson Transmission Partners, LLC

Required Transmission Enhancements Annual Revenue Requirement	Responsible Customer(s)
Cut existing 230 kV line #2183 and extend from Poland Road substation to Evergreen Mills substation. Approximately 0.59 miles of new line will be built from the cut-in to the Evergreen Mills substation. Cut and extend the existing 230 kV line #2183 creating a new line #2210 from Brambleton substation. Approximately 0.59 miles of new line will be built from the cut-in to the terminated at Evergreen Mills substation. Approximately 0.59 miles of new line will be built from the cut-in to the Evergreen Mills substation.	Dominion (100%)

PJM Open Access Transmission Tariff Schedule 12-Appendix A Section 20 – Virginia Elec. and Power Co.

Version 40.0.0 Effective April 9, 2024 (Accepted in Docket No. ER24-843-000)

SCHEDULE 12 – APPENDIX A

(20) Virginia Electric and Power Company

Quilea II	ansmission Ennancements Annual	Revenue Requirement	Responsible Customer(s)
b1698.7	Replace Loudoun 230 kV breaker '203052' with 63 kA rating		Dominion (100%)
b1696.1	Replace the Idylwood 230 kV '25112' breaker with 50 kA breaker		Dominion (100%)
b1696.2	Replace the Idylwood 230 kV '209712' breaker with 50 kA breaker		Dominion (100%)
b1793.1	Remove the Carolina 22 SPS to include relay logic changes, minor control wiring, relay resets and SCADA programming upon completion of project		Dominion (100%)
b2281	Additional Temporary SPS at Bath County		Dominion (100%)
b2350	Reconductor 211 feet of 545.5 ACAR conductor on 59 Line Elmont - Greenwood DP 115 kV to achieve a summer emergency rating of 906 amps or greater		Dominion (100%)
b2358	Install a 230 kV 54 MVAR capacitor bank on the 2016 line at Harmony Village Substation		Dominion (100%)
b2359	Wreck and rebuild approximately 1.3 miles of existing 230 kV line between Cochran Mill - X4-039 Switching Station		Dominion (100%)
b2360	Build a new 39 mile 230 kV transmission line from Dooms - Lexington on existing right- of-way		Dominion (100%)
b2361	Construct 230 kV OH line along existing Line #2035 corridor, approx. 2.4 miles from Idylwood - Dulles Toll Road (DTR) and 2.1 miles on new right-of-way along DTR to new Scott's Run Substation		Dominion (100%)

Required In	ansmission Enhancements Annual R	Levenue Requirement	Responsible Customer(s)
b2368	Replace the Brambleton 230 kV breaker '209502' with 63 kA breaker		Dominion (100%)
b2369	Replace the Brambleton 230 kV breaker '213702' with 63 kA breaker		Dominion (100%)
b2370	Replace the Brambleton 230 kV breaker 'H302' with 63 kA breaker		Dominion (100%)
b2373	Build a 2nd Loudoun - Brambleton 500 kV line within the existing ROW. The Loudoun - Brambleton 230 kV line will be relocated as an underbuild on the new 500 kV line		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (83.98%) / Dominion (16.02%)
b2397	Replace the Beaumeade 230 kV breaker '2079T2116' with 63 kA		Dominion (100%)
b2398	Replace the Beaumeade 230 kV breaker '2079T2130' with 63 kA		Dominion (100%)
b2399	Replace the Beaumeade 230 kV breaker '208192' with 63 kA		Dominion (100%)
b2400	Replace the Beaumeade 230 kV breaker '209592' with 63 kA		Dominion (100%)
b2401	Replace the Beaumeade 230 kV breaker '211692' with 63 kA		Dominion (100%)
b2402	Replace the Beaumeade 230 kV breaker '227T2130' with 63 kA		Dominion (100%)
			· · · · ·

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

The Annual Revenue Requirement for all Virginia Electric and Power Company projects in this Section 20 shall be as specified in Attachment 7 to Appendix A of Attachment H-16A and under the procedures detailed in Attachment H-16B.

Required Ir		nual Revenue Requirement	Responsible Customer(s)
b2403	Replace the Beaumeade 230 kV breaker '274T2130' with 63 kA		Dominion (100%)
b2404	Replace the Beaumeade 230 kV breaker '227T2095' with 63 kA		Dominion (100%)
b2405	Replace the Pleasant view 230 kV breaker '203T274' with 63 kA		Dominion (100%)
b2443	Construct new underground 230 kV line from Glebe to Station C, rebuild Glebe Substation, construct 230 kV high side bus at Station C with option to install 800 MVA PAR		Dominion (97.11%) / ME (0.18%) / PEPCO (2.71%)
b2443.1	Replace the Idylwood 230 kV breaker '203512' with 50 kA		Dominion (100%)
b2443.2	Replace the Ox 230 kV breaker '206342' with 63 kA breaker		Dominion (100%)
b2443.3	Glebe – Station C PAR		DFAX Allocation: Dominion (22.57%) / PEPCO (77.43%)
b2443.6	Install a second 500/230 kV transformer at Possum Point substation and replace bus work and associated equipment as needed		Dominion (100%)
b2443.7	Replace 19 63 kA 230 kV breakers with 19 80 kA 230 kV breakers		Dominion (100%)
b2457	Replace 24 115 kV wood h-frames with 230 kV Dominion pole H-frame structures on the Clubhouse – Purdy 115 kV line		Dominion (100%)
b2458.1	Replace 12 wood H-frame structures with steel H- frame structures and install shunts on all conductor splices on Carolina – Woodland 115 kV		Dominion (100%)

Required Tr	ansmission Enhancements An	nual Revenue Requirement	Responsible Customer(s)
b2458.2	Upgrade all line switches and substation components at Carolina 115 kV to meet or exceed		
	new conductor rating of 174 MVA		Dominion (100%)
b2458.3	Replace 14 wood H-frame structures on Carolina – Woodland 115 kV		Dominion (100%)
b2458.4	Replace 2.5 miles of static wire on Carolina – Woodland 115 kV		Dominion (100%)
b2458.5	Replace 4.5 miles of conductor between Carolina 115 kV and Jackson DP 115 kV with min. 300 MVA summer STE rating; Replace 8 wood H-frame structures located between Carolina and Jackson DP with steel H-frames		Dominion (100%)
b2460.1	Replace Hanover 230 kV substation line switches with 3000A switches		Dominion (100%)
b2460.2	Replace wave traps at Four River 230 kV and Elmont 230 kV substations with 3000A wave traps		Dominion (100%)
b2461	Wreck and rebuild existing Remington CT – Warrenton 230 kV (approx. 12 miles) as a double-circuit 230 kV line		Dominion (100%)
b2461.1	Construct a new 230 kV line approximately 6 miles from NOVEC's Wheeler Substation a new 230 kV switching station in Vint Hill area		Dominion (100%)
b2461.2	Convert NOVEC's Gainesville – Wheeler line (approximately 6 miles) to 230 kV		Dominion (100%)
b2461.3	Complete a Vint Hill – Wheeler – Loudoun 230 kV networked line		Dominion (100%)

Required Tra	ansmission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
b2471	Replace Midlothian 500 kV breaker 563T576 and motor operated switches with 3 breaker 500 kV ring bus. Terminate Lines # 563 Carson – Midlothian, #576 Midlothian –North Anna, Transformer #2 in new ring		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / DD (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: Dominion (100%)
b2504	Rebuild 115 kV Line #32 from Halifax-South Boston (6 miles) for min. of 240 MVA and transfer Welco tap to Line #32. Moving Welco to Line #32 requires disabling auto- sectionalizing scheme		Dominion (100%)
b2505	Install structures in river to remove the 115 kV #65 line (Whitestone-Harmony Village 115 kV) from bridge and improve reliability of the line		Dominion (100%)
b2542	Replace the Loudoun 500 kV 'H2T502' breaker with a 50 kA breaker		Dominion (100%)
b2543	Replace the Loudoun 500 kV 'H2T584' breaker with a 50 kA breaker		Dominion (100%)
b2565	Reconductor wave trap at Carver Substation with a 2000A wave trap		Dominion (100%)
b2566	Reconductor 1.14 miles of existing line between ACCA and Hermitage and upgrade associated terminal equipment		Dominion (100%)

Required Tr	ansmission Enhancements An	nual Revenue Requirement	Responsible Customer(s)
b2582	Rebuild the Elmont – Cunningham 500 kV line		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / DD (1.71%) / DPL (2.60%) / DOminion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: BGE (5.71%) / Dominion
b2583	Install 500 kV breaker at Ox Substation to remove Ox Tx#1 from H1T561 breaker failure outage		(84.43%) / PEPCO (9.86%) Dominion (100%)
b2584	Relocate the Bremo load (transformer #5) to #2028 (Bremo-Charlottesville 230 kV) line and Cartersville distribution station to #2027 (Bremo- Midlothian 230 kV) line		Dominion (100%)
b2585	Reconductor 7.63 miles of existing line between Cranes and Stafford, upgrade associated line switches at Stafford		PEPCO (100%)
b2620	Wreck and rebuild the Chesapeake – Deep Creek – Bowers Hill – Hodges Ferry 115 kV line; minimum rating 239 MVA normal/emergency, 275 MVA load dump rating		Dominion (100%)

Required Tra		ual Revenue Requirement	Responsible Customer(s)
b2622	Rebuild Line #47 between Kings Dominion 115 kV and Fredericksburg 115 kV to current standards with summer emergency rating of 353 MVA at 115 kV		Dominion (100%)
b2623	Rebuild Line #4 between Bremo and Structure 8474 (4.5 miles) to current standards with a summer emergency rating of 261 MVA at 115 kV		Dominion (100%)
b2624	Rebuild 115 kV Lines #18 and #145 between Possum Point Generating Station and NOVEC's Smoketown DP (approx. 8.35 miles) to current 230 kV standards with a normal continuous summer rating of 524 MVA at 115 kV Rebuild 115 kV Line #48		Dominion (100%)
b2625	between Thole Street and Structure 48/71 to current standard. The remaining line to Sewells Point is 2007 vintage. Rebuild 115 kV Line #107 line, Sewells Point to Oakwood, between structure 107/17 and 107/56 to current standard		Dominion (100%)
b2626	Rebuild 115 kV Line #34 between Skiffes Creek and Yorktown and the double circuit portion of 115 kV Line #61 to current standards with a summer emergency rating of 353 MVA at 115 kV		Dominion (100%)
b2627	Rebuild 115 kV Line #1 between Crewe 115 kV and Fort Pickett DP 115 kV (12.2 miles) to current standards with summer emergency rating of 261 MVA at 115 kV		Dominion (100%)

Required Ir		al Revenue Requirement	Responsible Customer(s)
	Rebuild 115 kV Line #82		
	Everetts – Voice of America		
1.0.000	(20.8 miles) to current		
b2628	standards with a summer		
	emergency rating of 261		
	MVA at 115 kV		Dominion (100%)
	Rebuild the 115 kV Lines		
	#27 and #67 lines from		
1.2(20)	Greenwich 115 kV to Burton		
b2629	115 kV Structure 27/280 to		
	current standard with a		
	summer emergency rating of		\mathbf{D} $(1000())$
	262 MVA at 115 kV		Dominion (100%)
	Install circuit switchers on		
	Gravel Neck Power Station		
b2630	GSU units #4 and #5. Install		
02030	two 230 kV CCVT's on		
	Lines #2407 and #2408 for		
	loss of source sensing		Dominion (100%)
	Install three 230 kV bus		
	breakers and 230 kV, 100		
	MVAR Variable Shunt		
	Reactor at Dahlgren to		
b2636	provide line protection		
02050	during maintenance, remove		
	the operational hazard and		
	provide voltage reduction		
			Dominion (100%)
	during light load conditions Rebuild Boydton Plank Rd –		
	Kebulid Boydion Plank Kd –		
	Kerr Dam 115 kV Line #38		
b2647	(8.3 miles) to current		
02017	standards with summer		
	emergency rating of 353		
	MVA at 115 kV		Dominion (100%)
	Rebuild Carolina – Kerr		
	Dam 115 kV Line #90 (38.7		
b2648	miles) to current standards		
	with summer emergency		
	rating of 353 MVA 115 kV		Dominion (100%)
	Rebuild Clubhouse –		``````````````````````````````````````
	Carolina 115 kV Line #130		
10(10	(17.8 miles) to current		
b2649	standards with summer		
	emergency rating of 353		
	MVA at 115 kV		Dominion (100%)
	111 1 1 WU 1 1 U IX V	1	

	li Revenue Requirement	Responsible Customer(s)
Rebuild of 1.7 mile tap to		
wood H-frames. The		
proposed new rating is 176		
MVA using 636 ACSR		
		Dominion (100%)
ACSR and 393.6 ACSR on		
wood H-frames. The		
		Dominion (100%)
standards with summer		
MVA at 115 kV		Dominion (100%)
	Rebuild of 1.7 mile tap to Metcalf and Belfield DP (MEC) due to poor condition. The existing summer rating of the tap is 48 MVA and existing conductor is 4/0 ACSR on wood H-frames. The proposed new rating is 176 MVA using 636 ACSR conductor Rebuild of 4.1 mile tap to Brinks DP (MEC) due to wood poles built in 1962. The existing summer rating of the tap is 48 MVA and existing conductor is 4/0 ACSR and 393.6 ACSR on wood H-frames. The proposed new rating is 176 MVA using 636 ACSR conductor Rebuild Twittys Creek – Pamplin 115 kV Line #154 (17.8 miles) to current standards with summer emergency rating of 353	Rebuild of 1.7 mile tap to Metcalf and Belfield DP (MEC) due to poor condition. The existing summer rating of the tap is 48 MVA and existing conductor is 4/0 ACSR on wood H-frames. The proposed new rating is 176 MVA using 636 ACSR conductor Rebuild of 4.1 mile tap to Brinks DP (MEC) due to wood poles built in 1962. The existing summer rating of the tap is 48 MVA and existing conductor is 4/0 ACSR and 393.6 ACSR on wood H-frames. The proposed new rating is 176 MVA using 636 ACSR conductor Rebuild Twittys Creek – Pamplin 115 kV Line #154 (17.8 miles) to current standards with summer emergency rating of 353

Required Trai		al Revenue Requirement	Responsible Customer(s)
b2651	Rebuild Buggs Island – Plywood 115 kV Line #127 (25.8 miles) to current standards with summer emergency rating of 353 MVA at 115 kV. The line should be rebuilt for 230 kV and operated at 115 kV		Dominion (100%)
b2652	Rebuild Greatbridge – Hickory 115 kV Line #16 and Greatbridge – Chesapeake E.C. to current standard with summer emergency rating of 353 MVA at 115 kV		Dominion (100%)
b2653.1	Build 20 mile 115 kV line from Pantego to Trowbridge with summer emergency rating of 353 MVA		Dominion (100%)
b2653.2	Install 115 kV four-breaker ring bus at Pantego		Dominion (100%)
b2653.3	Install 115 kV breaker at Trowbridge		Dominion (100%)
b2654.1	Build 15 mile 115 kV line from Scotland Neck to S Justice Branch with summer emergency rating of 353 MVA. New line will be routed to allow HEMC to convert Dawson's Crossroads RP from 34.5 kV to 115 kV		Dominion (100%)
b2654.2	Install 115 kV three-breaker ring bus at S Justice Branch		Dominion (100%)
b2654.3	Install 115 kV breaker at Scotland Neck		Dominion (100%)
b2654.3	Install a 2nd 224 MVA 230/115 kV transformer at Hathaway		Dominion (100%)

Required Tra	nsmission Enhancements Annua	al Revenue Requirement	Responsible Customer(s)
b2665	Rebuild the Cunningham – Dooms 500 kV line		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / DD (1.71%) / DPL (2.60%) / DL (1.71%) / DPL (2.60%) / DEOK (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: BGE (9.35%) / Dominion (73.04%) / PEPCO (17.61%)
b2686	Pratts Area Improvement		Dominion (100%)
b2686.1	Build a 230 kV line from Remington Substation to Gordonsville Substation utilizing existing ROW		Dominion (100%)
b2686.2	Install a 3rd 230/115 kV transformer at Gordonsville Substation		Dominion (100%)
b2686.3	Upgrade Line 2088 between Gordonsville Substation and Louisa CT Station		Dominion (100%)
b2686.4	Replace the Remington CT 230 kV breaker "2114T2155" with a 63 kA breaker		Dominion (100%)
b2686.11	Upgrading sections of the Gordonsville – Somerset 115 kV circuit		Dominion (100%)
b2686.12	Upgrading sections of the Somerset – Doubleday 115 kV circuit		Dominion (100%)
b2686.13	Upgrading sections of the Orange – Somerset 115 kV circuit		Dominion (100%)
b2686.14	Upgrading sections of the Mitchell – Mt. Run 115 kV circuit		Dominion (100%)

Required Tra		Annual Revenue Requirement Responsible Customer(s)
b2717.1	De-energize Davis – Rosslyn #179 and #180 69 kV lines	Dominion (100%)
b2717.2	Remove splicing and stop joints in manholes	Dominion (100%)
b2717.3	Evacuate and dispose of insulating fluid from various reservoirs and cables	Dominion (100%)
b2717.4	Remove all cable along the approx. 2.5 mile route, swab and cap-off conduits for future use, leave existing communication fiber in place	Dominion (100%)
b2719.1	Expand Perth substation and add a 115 kV four breaker ring	Dominion (100%)
b2719.2	Extend the Hickory Grove DP tap 0.28 miles to Perth and terminate it at Perth	Dominion (100%)
b2719.3	Split Line #31 at Perth and terminate it into the new ring bus with 2 breakers separating each of the line terminals to prevent a breaker failure from taking out both 115 kV lines	Dominion (100%)
b2720	Replace the Loudoun 500 kV 'H1T569' breakers with 50 kA breaker	Dominion (100%)
b2729	Optimal Capacitors Configuration: New 175 MVAR capacitor at Brambleton, new 175 MVAR capacitor at Ashburn, new 300 MVAR capacitor at Shelhorm, new 150 MVAR capacitor at Liberty	AEC (1.96%) / BGE (14.37%) / Dominion (35.11%) / DPL (3.76%) / ECP** (0.29%) / HTP*** (0.34%) / JCPL (3.31%) / ME (2.51%) / NEPTUNE* (0.63%) / PECO (6.26%) / PEPCO (20.23%) / PPL (3.94%) / PSEG (7.29%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

* Neptune Regional Transmission System, LLC

** East Coast Power, L.L.C.

***Hudson Transmission Partners, LLC

Required Tran	nsmission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
b2744	Rebuild the Carson – Rogers Rd 500 kV circuit		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: BGE (4.27%) / Dominion (90.13%) / PEPCO (5.60%)
b2745	Rebuild 21.32 miles of existing line between Chesterfield – Lakeside 230 kV		Dominion (100%)
b2746.1	Rebuild Line #137 Ridge Rd – Kerr Dam 115 kV, 8.0 miles, for 346 MVA summer		Dominion (100%)
b2746.2	emergency rating Rebuild Line #1009 Ridge Rd – Chase City 115 kV, 9.5 miles, for 346 MVA summer emergency rating		Dominion (100%)
b2746.3	Install a second 4.8 MVAR capacitor bank on the 13.8 kV bus of each transformer at Ridge Rd		Dominion (100%)
b2747	Install a Motor Operated Switch and SCADA control between Dominion's Gordonsville 115 kV bus and FirstEnergy's 115 kV line	~	Dominion (100%)

		Responsible Customer(s)
b2757	Install a +/-125 MVAr Statcom at Colington 230 kV	Dominion (100%)
		Load-Ratio Share Allocation:
b2758	Rebuild Line #549 Dooms – Valley 500 kV	AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)
		DFAX Allocation: Dominion (100%)
b2759	Rebuild Line #550 Mt. Storm – Valley 500 kV	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (47.87%) / DL (1.02%) / Dominion (9.20%) / EKPC (13.57%) / PEPCO (28.34%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tra	nsmission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
	The 7 mile section from Dozier to Thompsons Corner		
	of line #120 will be rebuilt to		
	current standards using 768.2		
b2800	ACSS conductor with a		
02000	summer emergency rating of 346 MVA at 115 kV. Line is		
	proposed to be rebuilt on single circuit steel monopole		
	structure		Dominion (100%)
	Lines #76 and #79 will be		
	rebuilt to current standard		
	using 768.2 ACSS conductor		
b2801	with a summer emergency		
02001	rating of 346 MVA at 115		
	kV. Proposed structure for		
	rebuild is double circuit steel monopole structure		Dominion (100%)
	Rebuild Line #171 from		
	Chase City – Boydton Plank		
	Road tap by removing end-		
	of-life facilities and installing		
b2802	9.4 miles of new conductor.		
	The conductor used will be at		
	current standards with a		
	summer emergency rating of 393 MVA at 115 kV		Dominion (100%)
	Build a new Pinewood 115		
	kV switching station at the		
b2815	tap serving North Doswell		
	DP with a 115 kV four		
	breaker ring bus		Dominion (100%)
b2842	Update the nameplate for Mount Storm 500 kV		
	"57272" to be 50 kA breaker		Dominion (100%)
b2843	Replace the Mount Storm		
	500 kV "G2TY" with 50 kA		
	breaker		Dominion (100%)
	Replace the Mount		
b2844	Storm 500 kV "G2TZ" with		
	50 kA breaker		Dominion (100%)

Required Ira	nsmission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
b2845	Update the nameplate for Mount Storm 500 kV "G3TSX1" to be 50 kA breaker		Dominion (100%)
b2846	Update the nameplate for Mount Storm 500 kV "SX172" to be 50 kA breaker		Dominion (100%)
b2847	Update the nameplate for Mount Storm 500 kV "Y72" to be 50 kA breaker		Dominion (100%)
b2848	Replace the Mount Storm 500 kV "Z72" with 50 kA breaker		Dominion (100%)
b2871	Rebuild 230 kV line #247 from Swamp to Suffolk (31 miles) to current standards with a summer emergency rating of 1047 MVA at 230 kV		Dominion (100%)
b2876	Rebuild line #101 from Mackeys – Creswell 115 kV, 14 miles, with double circuit structures. Install one circuit with provisions for a second circuit. The conductor used will be at current standards with a summer emergency rating of 262 MVA at 115 kV		Dominion (100%)
b2877	Rebuild line #112 from Fudge Hollow – Lowmoor 138 kV (5.16 miles) to current standards with a summer emergency rating of 314 MVA at 138 kV		Dominion (100%)
b2899	Rebuild 230 kV line #231 to current standard with a summer emergency rating of 1046 MVA. Proposed conductor is 2-636 ACSR		Dominion (100%)
b2900	Build a new 230/115 kV switching station connecting to 230 kV network line #2014 (Earleys – Everetts). Provide a 115 kV source from the new station to serve Windsor DP		Dominion (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tra		Revenue Requirement	Responsible Customer(s)
b2922	Rebuild 8 of 11 miles of 230 kV lines #211 and #228 to current standard with a summer emergency rating of 1046 MVA for rebuilt section. Proposed conductor is 2-636 ACSR		Dominion (100%)
b2928	Rebuild four structures of 500 kV line #567 from Chickahominy to Surry using galvanized steel and replace the river crossing conductor with 3-1534 ACSR. This will increase the line #567 line rating from 1954 MVA to 2600 MVA		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / DD (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation:
b2929	Rebuild 230 kV line #2144 from Winfall to Swamp (4.3 miles) to current standards with a standard conductor (bundled 636 ACSR) having a summer emergency rating of 1047 MVA at 230 kV		Dominion (100%) Dominion (100%)
b2960	Replace fixed series capacitors on 500 kV Line #547 at Lexington and on 500 kV Line #548 at Valley		See sub-IDs for cost allocations

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tran	nsmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
			Load-Ratio Share Allocation:
			AEC (1.65%) / AEP (13.68%)
			/ APS (5.76%) / ATSI (8.04%)
			/ BGE (4.11%) / ComEd
			(13.39%) / Dayton (2.12%) /
			DEOK (3.25%) / DL (1.71%) /
			DPL (2.60%) / Dominion
	Replace fixed series capacitors on 500 kV Line #547 at Lexington		(13.32%) / EKPC (1.89%) /
			JCPL (3.86%) / ME (1.90%) /
b2960.1		ine	NEPTUNE* (0.42%) / OVEC
			(0.08%) / PECO (5.40%) /
			PENELEC (1.78%) / PEPCO
			(3.67%) / PPL (4.72%) / PSEG
			(6.39%) / RE (0.26%)
			DFAX Allocation:
			BGE (40.11%) / DEOK
			(0.71%) / Dominion (9.30%) /
			EKPC (0.43%) / PEPCO
			(49.45%)

Required Tran	nsmission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
b2960.2	Replace fixed series capacitors on 500 kV Line #548 at Valley		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / DDL (1.71%) / DPL (2.60%) / DL (1.71%) / DPL (2.60%) / DEOK (8.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: BGE (3.77%) / DEOK (8.84%) / Dominion (78.84%) / EKPC (3.90%) / PEPCO (4.65%)
b2961	Rebuild approximately 3 miles of Line #205 & Line #2003 from Chesterfield to Locks & Poe respectively		Dominion (100%)
b2962	Split Line #227 (Brambleton – Beaumeade 230 kV) and terminate into existing Belmont substation		Dominion (100%)
b2962.1	Replace the Beaumeade 230 kV breaker "274T2081" with 63 kA breaker		Dominion (100%)
b2962.2	Replace the NIVO 230 kV breaker "2116T2130" with 63 kA breaker		Dominion (100%)
b2963	Reconductor the Woodbridge to Occoquan 230 kV line segment of Line #2001 with 1047 MVA conductor and replace line terminal equipment at Possum Point, Woodbridge, and Occoquan		Dominion (100%)

Required Tra	nsmission Enhancements Annu	al Revenue Requirement	Responsible Customer(s)
			Load-Ratio Share Allocation:
			AEC (1.65%) / AEP (13.68%) /
			APS (5.76%) / ATSI (8.04%) /
			BGE (4.11%) / ComEd
			(13.39%) / Dayton (2.12%) /
	Install 2-125 MVAR		DEOK (3.25%) / DL (1.71%) /
	STATCOMs at Rawlings		DPL (2.60%) / Dominion
b2978	and 1-125 MVAR		(13.32%) / EKPC (1.89%) /
02778	STATCOM at Clover 500		JCPL (3.86%) / ME (1.90%) /
	kV substations		NEPTUNE* (0.42%) / OVEC
	k v Substations		(0.08%) / PECO (5.40%) /
			PENELEC (1.78%) / PEPCO
			(3.67%) / PPL (4.72%) / PSEG
			(6.39%) / RE (0.26%)
			DFAX Allocation:
			Dominion (100%)
	Rebuild 115 kV Line #43		
	between Staunton and		
b2980	Harrisonburg (22.8 miles)		
	to current standards with a		
	summer emergency rating		
	of 261 MVA at 115 kV		Dominion (100%)
	Rebuild 115 kV Line #29		
	segment between		
	Fredericksburg and Aquia		
	Harbor to current 230 kV		
b2981	standards (operating at 115		
	kV) utilizing steel H-frame		
	structures with 2-636		
	ACSR to provide a normal continuous summer rating		
	of 524 MVA at 115 kV		
			Dominion (100%)
*) (D	(1047 MVA at 230 kV)		Dominion (100%)

Required Tran	nsmission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
b2989	Install a second 230/115 kV Transformer (224 MVA) approximately 1 mile north of Bremo and tie 230 kV Line #2028 (Bremo – Charlottesville) and 115 kV Line #91 (Bremo - Sherwood) together. A three breaker 230 kV ring bus will split Line #2028 into two lines and Line #91 will also be split into two lines with a new three breaker 115 kV ring bus. Install a temporary 230/115 kV transformer at Bremo substation for the interim until the new substation is complete		Dominion (100%)
b2990	Chesterfield to Basin 230 kV line – Replace 0.14 miles of 1109 ACAR with a conductor which will increase the line rating to approximately 706 MVA		Dominion (100%)
b2991	Chaparral to Locks 230 kV line – Replace breaker lead		Dominion (100%)
b2994	Acquire land and build a new switching station (Skippers) at the tap serving Brink DP with a 115 kV four breaker ring to split Line #130 and terminate the end points		Dominion (100%)
b3018	Rebuild Line #49 between New Road and Middleburg substations with single circuit steel structures to current 115 kV standards with a minimum summer emergency rating of 261 MVA		Dominion (100%)

Required Tran	nsmission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
b3019	Rebuild 500 kV Line #552 Bristers to Chancellor – 21.6 miles long		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / DD (1.71%) / DPL (2.60%) / DD (1.71%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: BGE (6.89%) / Dominion (85.01%) / PEPCO (8.10%)
b3019.1	Update the nameplate for Morrisville 500 kV breaker "H1T594" to be 50 kA		Dominion (100%)
b3019.2	Update the nameplate for Morrisville 500 kV breaker "H1T545" to be 50 kA		Dominion (100%)

Required '	Transmission Enhancements A	nnual Revenue Requirement	Responsible Customer(s)
			Load-Ratio Share Allocation:
			AEC (1.65%) / AEP (13.68%)
			/ APS (5.76%) / ATSI (8.04%)
			/ BGE (4.11%) / ComEd
			(13.39%) / Dayton (2.12%) /
			DEOK (3.25%) / DL (1.71%) /
			DPL (2.60%) / Dominion
			(13.32%) / EKPC (1.89%) /
	Rebuild 500 kV Line #57	4	JCPL (3.86%) / ME (1.90%) /
b302) Ladysmith to Elmont -26		NEPTUNE* (0.42%) / OVEC
	miles long		(0.08%) / PECO (5.40%) /
			PENELEC (1.78%) / PEPCO
			(3.67%) / PPL (4.72%) / PSEG
			(6.39%) / RE (0.26%)
			DFAX Allocation:
			APS (16.36%) / DEOK
			(11.61%) / Dominion (51.27%)
			/ EKPC (5.30%) / PEPCO
			(15.46%)
			Load-Ratio Share Allocation:
			AEC (1.65%) / AEP (13.68%)
			/ APS (5.76%) / ATSI (8.04%)
			/ BGE (4.11%) / ComEd
			(13.39%) / Dayton (2.12%) /
			DEOK (3.25%) / DL (1.71%) /
			DPL (2.60%) / Dominion
	Rebuild 500 kV Line #58		(13.32%) / EKPC (1.89%) /
b302		-	JCPL (3.86%) / ME (1.90%) /
	15.2 miles long		NEPTUNE* (0.42%) / OVEC
			(0.08%) / PECO (5.40%) /
			PENELEC (1.78%) / PEPCO
			(3.67%) / PPL (4.72%) / PSEG
			(6.39%) / RE (0.26%)
			DFAX Allocation:
			Dominion (92.28%) / PEPCO
			(7.72%)
	Reconductor Line #274 (Pleasant View – Ashbur	n	
1	Beaumeade 230 kV) with		
b302	5 minimum rating of 1200	u l	
	MVA. Also upgrade term	ninal	
	equipment Regional Transmission Syste		Dominion (100%)

Required Trai	ismission Enhancements Annual F	Revenue Requirement	Responsible Customer(s)
b3027.1	Add a 2nd 500/230 kV 840 MVA transformer at		
05027.1	Dominion's Ladysmith substation		Dominion (100%)
	Reconductor 230 kV Line #2089 between Ladysmith and Ladysmith CT		
b3027.2	substations to increase the line rating from 1047 MVA		Dominion (100%)
	to 1225 MVA Replace the Ladysmith 500		Dominion (100%)
b3027.3	kV breaker "H1T581" with		
0002710	50 kA breaker		Dominion (100%)
	Update the nameplate for		
b3027.4	Ladysmith 500 kV breaker "H1T575" to be 50 kA		
	breaker		Dominion (100%)
	Update the nameplate for		
	Ladysmith 500 kV breaker		
b3027.5	"568T574" (will be		
	renumbered as "H2T568") to		Dominion (100%)
	be 50 kA breaker Install spare 230/69 kV		Dominion (100%)
b3055	transformer at Davis		
05025	substation		Dominion (100%)
12056	Partial rebuild 230 kV Line		
b3056	#2113 Waller to Lightfoot		Dominion (100%)
	Rebuild 230 kV Lines #2154		
b3057	and #19 Waller to Skiffes		
	Creek		Dominion (100%)
b3058	Partial rebuild of 230 kV		
03030	Lines #265, #200 and #2051		Dominion (100%)
1.2050	Rebuild 230 kV Line #2173		
b3059	Loudoun to Elklick		Dominion (100%)
L	ı		

Required Tran	nsmission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
	Rebuild 4.6 mile Elklick –		
120(0	Bull Run 230 kV Line #295		
	and the portion (3.85 miles)		
b3060	of the Clifton – Walney 230		
	kV Line #265 which shares		
	structures with Line #295		Dominion (100%)
	Rebuild 4.75 mile section of		
	Line #26 between Lexington		
b3088	and Rockbridge with a		
	minimum summer emergency		
	rating of 261 MVA		Dominion (100%)
	Rebuild 230 kV Line #224		
	between Lanexa and		
	Northern Neck utilizing		
	double circuit structures to		
b3089	current 230 kV standards.		
05007	Only one circuit is to be		
	installed on the structures		
	with this project with a		
	minimum summer emergency		
	rating of 1047 MVA		Dominion (100%)
	Convert the overhead portion		
	(approx. 1500 feet) of 230 kV		
b3090	Lines #248 & #2023 to		
00000	underground and convert		
	Glebe substation to gas		$\mathbf{D}_{\mathbf{r}}$
	insulated substation		Dominion (100%)
	Rebuild 230 kV line No.2063		
	(Clifton – Ox) and part of 230		
	kV line No.2164 (Clifton –		
	Keene Mill) with double circuit steel structures using		
b3096	double circuit conductor at		
	current 230 kV northern		
	Virginia standards with a		
	minimum rating of 1200		
	MVA		Dominion (100%)
	Rebuild 4 miles of 115 kV		
	Line #86 between		
1.0.0	Chesterfield and Centralia to		
b3097	current standards with a		
	minimum summer emergency		
	rating of 393 MVA		Dominion (100%)
	Rebuild 9.8 miles of 115 kV		
	Line #141 between Balcony		
	Falls and Skimmer and 3.8		
b3098	miles of 115 kV Line #28		
	between Balcony Falls and		
	Cushaw to current standards		
	with a minimum rating of 261		
	MVA		Dominion (100%)

		· · · · · · · · · · · · · · · · · · ·
b3098.1	Rebuild Balcony Falls 115 kV substation	Dominion (100%)
b3110.1	Rebuild Line #2008 between Loudoun to Dulles Junction using single circuit conductor at current 230 kV northern Virginia standards with minimum summer ratings of 1200 MVA. Cut and loop Line #265 (Clifton – Sully) into Bull Run substation. Add three (3) 230 kV breakers at Bull Run to accommodate the new line and upgrade the substation	Dominion (100%)
b3110.2	Replace the Bull Run 230 kV breakers "200T244" and "200T295" with 50 kA breakers	Dominion (100%)
b3110.3	Replace the Clifton 230 kV breakers "201182" and "XT2011" with 63 kA breakers	Dominion (100%)
b3113	Rebuild approximately 1 mile of 115 kV Lines #72 and #53 to current standards with a minimum summer emergency rating of 393 MVA. The resulting summer emergency rating of Line #72 segment from Brown Boveri to Bellwood is 180 MVA. There is no change to Line #53 ratings	Dominion (100%)
b3114	Rebuild the 18.6 mile section of 115 kV Line #81 which includes 1.7 miles of double circuit Line #81 and 230 kV Line #2056. This segment of Line #81 will be rebuilt to current standards with a minimum rating of 261 MVA. Line #2056 rating will not change	Dominion (100%)
b3121	Rebuild Clubhouse – Lakeview 230 kV Line #254 with single- circuit wood pole equivalent structures at the current 230 kV standard with a minimum rating of 1047 MVA	Dominion (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tran	smission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
b3122	Rebuild Hathaway – Rocky Mount (Duke Energy Progress) 230 kV Line #2181 and Line #2058 with double circuit steel structures using double circuit conductor at current 230 kV standards with a minimum rating of 1047 MVA		Dominion (100%)
b3161.1	Split Chesterfield-Plaza 115 kV Line No. 72 by rebuilding the Brown Boveri tap line as double circuit loop in-and-out of the Brown Boveri Breaker station		Dominion (100%)
b3161.2	Install a 115 kV breaker at the Brown Boveri Breaker station. Site expansion is required to accommodate the new layout		Dominion (100%)
b3162	Acquire land and build a new 230 kV switching station (Stevensburg) with a 224 MVA, 230/115 kV transformer. Gordonsville- Remington 230 kV Line No. 2199 will be cut and connected to the new station. Remington-Mt. Run 115 kV Line No.70 and Mt. Run-Oak Green 115 kV Line No. 2 will also be cut and connected to the new station		Dominion (100%)
b3211	Rebuild the 1.3 mile section of 500 kV Line No. 569 (Loudoun – Morrisville) with single-circuit 500 kV structures at the current 500 kV standard. This will increase the rating of the line to 3424 MVA		Dominion (100%)
b3213	Install 2nd Chickahominy 500/230 kV transformer		Dominion (100%)
b3213.1	Replace the eight (8) Chickahominy 230 kV breakers with 63 kA breakers: "SC122", "205022", "209122", 210222-2", "28722", "H222", "21922" and "287T2129"		Dominion (100%)

Required Tran	nsmission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
	Install a second 230 kV		
	circuit with a minimum		
	summer emergency rating of		
	1047 MVA between Lanexa		
	and Northern Next		
	substations. The second		
b3223.1	circuit will utilize the vacant		
	arms on the double-circuit		
	structures that are being		
	installed on Line #224		
	(Lanexa – Northern Next) as		
	part of the End-of-Life		$\mathbf{D}_{\text{aminion}}$ (1009/)
	rebuild project (b3089)		Dominion (100%)
	Expand the Northern Neck terminal from a 230 kV, 4-		
b3223.2	breaker ring bus to a 6-		
	breaker ring bus		Dominion (100%)
	Expand the Lanexa terminal		
	from a 6-breaker ring bus to a		
b3223.3	breaker-and-a-half		
	arrangement		Dominion (100%)
	Convert 115 kV Line #172		
	Liberty – Lomar and 115 kV		
	Line #197 Cannon Branch –		
	Lomar to 230 kV to provide a		
	new 230 kV source between		
	Cannon Branch and Liberty.		
	The majority of 115 kV Line		
	#172 Liberty – Lomar and		
b3246.1	Line #197 Cannon Branch –		
	Lomar is adequate for 230 kV		
	operation. Rebuild 0.36 mile		
	segment between the Lomar		
	and Cannon Branch junction.		
	Lines will have a summer		
	rating of 1047MVA/1047MVA		
	(SN/SE)		Dominion (100%)
	Perform substation work for		
	the 115 kV to 230 kV line		
b3246.2	conversion at Liberty,		
	Wellington, Godwin, Pioneer,		
	Sandlot and Cannon Branch		Dominion (100%)

Required Trar	nsmission Enhancements Annual	Revenue Requirement	Responsible Customer(s)
	Extend 230 kV Line #2011		
	Cannon Branch – Clifton to		
	Winters Branch by removing		
	the existing Line #2011		
	termination at Cannon		
	Branch and extending the line		
b3246.3	to Brickyard creating 230 kV		
03240.3	Line #2011 Brickyard -		
	Clifton. Extend a new 230 kV		
	line between Brickyard and		
	Winters Branch with a		
	summer rating of		
	1572MVA/1572MVA (SN/SE)		Dominion (100%)
	Perform substation work at		
	Cannon Branch, Brickyard		
b3246.4	and Winters Branch for the		
03240.4	230 kV Line #2011 Cannon		
	Branch – Clifton extension		Dominion (100%)
	Replace the Gainesville 230		
b3246.5	kV 40 kA breaker "216192"		
	with a 50 kA breaker		Dominion (100%)
			Load-Ratio Share Allocation:
			AEC (1.65%) / AEP (13.68%)
			/ APS (5.76%) / ATSI (8.04%)
			/ BGE (4.11%) / ComEd
	Replace 13 towers with		(13.39%) / Dayton (2.12%) /
	galvanized steel towers on		DEOK (3.25%) / DL (1.71%) /
	Doubs – Goose Creek 500		DPL (2.60%) / Dominion
	kV. Reconductor 3 mile		(13.32%) / EKPC (1.89%) /
b3247	section with three (3) 1351.5		JCPL (3.86%) / ME (1.90%) /
	ACSR 45/7. Upgrade line		NEPTUNE* (0.42%) / OVEC
	terminal equipment at Goose		· /
	Creek substation to support		(0.08%) / PECO (5.40%) /
	the 500 kV line rebuild		PENELEC (1.78%) / PEPCO
			(3.67%) / PPL (4.72%) / PSEG
			(6.39%) / RE (0.26%)
			DFAX Allocation:
			Dominion (100%)
	aional Transmission System II	~	

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required The	ansmission Ennancements Annual I	Revenue Requirement	Responsible Customer(s)
b3262	Install a second 115 kV 33.67 MVAR cap bank at Harrisonburg substation along with a 115 kV breaker		Dominion (100%)
b3263	Cut existing 115 kV Line #5 between Bremo and Cunningham substations and loop in and out of Fork Union substation		Dominion (100%)
b3264	Install 40 kA breaker at Stuarts Draft 115 kV station and sectionalize the Doom to Dupont-Waynesboro 115 kV Line #117 into two 115 kV lines		Dominion (100%)
b3268	Build a switching station at the junction of 115 kV line #39 and 115 kV line #91 with a 115 kV capacitor bank. The switching station will be built with 230 kV structures but will operate at 115 kV		Dominion (100%)
b3300	Reconductor 230 kV Line #2172 from Brambleton to Evergreen Mills along with upgrading the line leads at Brambleton to achieve a summer emergency rating of 1574 MVA		Dominion (100%)

Required Tra	ansmission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
b3301	Reconductor 230 kV Line #2210 from Brambleton to Evergreen Mills along with upgrading the line leads at Brambleton to achieve a summer emergency rating of 1574 MVA		Dominion (100%)
b3302	Reconductor 230 kV Line #2213 from Cabin Run to Yardley Ridge along with upgrading the line leads at Yardley to achieve a summer emergency rating of 1574 MVA		Dominion (100%)
b3303.1	Extend a new single circuit 230 kV Line #9250 from Farmwell substation to Nimbus substation		Dominion (100%)
b3303.2	Remove Beaumeade 230 kV Line #2152 line switch		Dominion (100%)
b3304	Midlothian area improvements for 300 MW load drop relief		Dominion (100%)
b3304.1	Cut 230 kV Line #2066 at Trabue junction		Dominion (100%)
b3304.2	Reconductor idle 230 kV Line #242 (radial from Midlothian to Trabue junction) to allow a minimum summer rating of 1047 MVA and connect to the section of 230 kV Line #2066 between Trabue junction and Winterpock, re-number 230 kV Line #242 structures to Line #2066		Dominion (100%)
b3304.3	Use the section of idle 115 kV Line #153, between Midlothian and Trabue junction to connect to the section of (former) 230 kV Line #2066 between Trabue junction and Trabue to create new Midlothian – Trabue lines with new line numbers #2218 and #2219		Dominion (100%)
b3304.4	Create new line terminations at Midlothian for the new Midlothian – Trabue 230 kV lines		Dominion (100%)

Required Tra	nsmission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
	Rebuild 12.4 miles of 115 kV		
	line from Earleys to Kelford		
	with a summer emergency		
12694	rating of 262 MVA. Replace		
b3684	structures as needed to support		
	the new conductor. Upgrade		
	breaker switch 13668 at		
	Earleys from 1200 A to 2000 A		Dominion (100%)
	Install a 33 MVAR cap bank at		
	Cloud 115 kV bus along with a		
b3685	115 kV breaker. Add 115 kV		
	circuit breaker for 115 kV Line		
	#38		Dominion (100%)
	Purchase land close to the		(
	bifurcation point of 115 kV		
	Line #4 (where the line is split		
	into two sections) and build a		
	new 115 kV switching station		
12606	called Duncan Store. The new		
b3686	switching station will require		
	space for an ultimate		
	transmission interconnection		
	consisting of a 115 kV six-		
	breaker ring bus (with three		
	breakers installed initially)		Dominion (100%)
	Rebuild approximately 15.1		
	miles line segment between		
	Bristers and Minnieville D.P.		
	with 2-768 ACSS and 4000 A		
	supporting equipment from		
	Bristers to Ox to allow for		
12607	future 230 kV capability of 115		
b3687	kV Line #183. The continuous		
	summer normal rating will be		
	523 MVA for line $Ox -$		
	Minnieville. The continuous		
	summer normal rating will be		
	786 MVA for Minnieville –		
	Bristers line		Dominion (100%)
	Reconductor approximately		
	24.42 miles of 230 kV Line		
	#2114 Remington CT– Elk		
	Run – Gainesville to achieve a		
b3689.1	summer rating of 1574 MVA		
	by fully reconductoring the line		
	and upgrading the wave trap		
	and substation conductor at		
	Remington CT and Gainesville		
	230 kV stations		Dominion (100%)

Required I rai	nsmission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
b3689.2	Replace 230 kV breakers SC102, H302, H402 and 218302 at Brambleton substation with 4000A 80 kA breakers and associated equipment including breaker leads as necessary to address breaker duty issues identified in short circuit analysis		Dominion (100%)
b3690	Reconductor approximately 1.07 miles of 230 kV Line #2008 segment from Cub Run to Walney to achieve a summer rating of 1574 MVA. Replace line switch 200826 with a 4000A switch		Dominion (100%)
b3691	Reconductor approximately 1.4 miles of 230 kV Line #2141 from Lakeview to Carolina to achieve a summer rating of 1047 MVA		Dominion (100%)
b3692	Rebuild approximately 27.7 miles of 500 kV transmission line from Elmont to Chickahominy with current 500 kV standards construction practices to achieve a summer rating of 4330 MVA		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / DL (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: Dominion (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tra	insmission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
b3693	Expand substation and install approximately 294 MVAR cap bank at 500 kV Lexington substation along with a 500 kV breaker. Adjust the tap positions associated with the two 230/69 kV transformers at Harrisonburg to neutral position and lock them		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DPL (2.60%) / DD (1.71%) / DPL (2.60%) / Dominion (13.32%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: Dominion (100%)
b3694.1	Convert 115 kV Line #29 Aquia Harbour to Possum Point to 230 kV (Extended Line #2104) and swap Line #2104 and converted Line #29 at Aquia Harbour backbone termination. Upgrade terminal equipment at Possum Point to terminate converted Line #29 (now extended line #2104). (Line #29 from Fredericksburg to Aquia Harbour is being rebuilt under baseline b2981 to 230 kV standards)		Dominion (100%)

Required 11a	IISIIIISSIOII EIIIIAIICEIIIEIIIS AIIIIUAI K	evenue Requirement	Responsible Customer(s)
b3694.2	Upgrade Aquia Harbour terminal equipment to not limit 230 kV Line #9281 conductor rating		Dominion (100%)
b3694.3	Upgrade Fredericksburg terminal equipment by rearranging 230 kV bus configuration to terminate converted Line #29 (now becoming 9281). The project will add a new breaker at the 230 kV bay and reconfigure line termination of 230 kV Line #2157, #2090 and #2083		Dominion (100%)
b3694.4	Reconductor/rebuild approximately 7.6 miles of 230 kV Line #2104 Cranes Corner – Stafford to achieve a summer rating of 1047 MVA. Reconductor/rebuild approximately 0.34 miles of 230 kV Line #2104 Stafford – Aquia Harbour to achieve a summer rating of 1047 MVA. Upgrade terminal equipment at Cranes Corner to not limit the new conductor rating		Dominion (100%)
b3694.5	Upgrade wave trap and line leads at 230 kV Line #2090 Ladysmith CT terminal to achieve 4000A rating		Dominion (100%)

Required Tra	nsmission Enhancements Annual Rev	enue Requirement	Responsible Customer(s)
b3694.6	Upgrade Fuller Road substation to feed Quantico substation via 115 kV radial line. Install four- breaker ring bus and break 230 kV Line #252 into two new lines: 1) Line #252 between Aquia Harbour and Fuller Road and 2) Line #9282 between Fuller Road and Possum Point. Install a 230/115 kV transformer which will serve Quantico substation		Dominion (100%)
b3694.7	Energize in-service spare 500/230 kV Carson Transformer #1		Dominion (100%)
b3694.8	Partial wreck and rebuild 10.34 miles of 230 kV Line #249 Carson – Locks to achieve a minimum summer emergency rating of 1047 MVA. Upgrade terminal equipment at Carson and Locks stations to not limit the new conductor rating		Dominion (100%)
b3694.9	Wreck and rebuild 5.4 miles of 115 kV Line #100 Locks – Harrowgate to achieve a minimum summer emergency rating of 393 MVA. Upgrade terminal equipment at Locks and Harrowgate stations to not limit the new conductor rating and perform Line #100 Chesterfield terminal relay work		Dominion (100%)
b3694.10	Reconductor approximately 2.9 miles of 230 kV Line #211 Chesterfield – Hopewell to achieve a minimum summer emergency rating of 1046 MVA		Dominion (100%)
b3694.11	Reconductor approximately 2.9 miles of 230 kV Line #228 Chesterfield – Hopewell to achieve a minimum summer emergency rating of 1046 MVA		Dominion (100%)
b3694.12	Upgrade equipment at Chesterfield 230 kV substation to not limit ratings on Line #211 and #228		Dominion (100%)

Required Tra		evenue Requirement	Responsible Customer(s)
b3694.13	Upgrade equipment at Hopewell 230 kV substation to not limit ratings on Line #211 and #228		Dominion (100%)
b3702	Install one 13.5 Ohm series reactor to control the power flow on the 230 kV Line #2054 from Charlottesville substation to Proffit Rd. 230 kV line		AEC (1.59%) / APS (8.85%) / ATSI (5.54%) / BGE (10.79%) / ComEd (1.86%) / Dayton (0.21%) / DEOK (1.16%) / Dominion (18.99%) / DPL (3.68%) / DL (1.16%) / ECP** (0.27%) / HTP*** (0.22%) / JCPL (4.53%) / ME (1.73%) / NEPTUNE* (0.68%) / PECO (6.95%) / PENELEC (4.75%) / PEPCO (9.69%) / PPL (9.78%) / PSEG (7.28%) / RE (0.29%)
b3707.1	Reconductor approximately 0.57 mile of 115 kV Line #1021 from Harmony Village to Greys Point with 768 ACSS to achieve a summer emergency rating of 237 MVA. The current conductor is 477 ACSR		Dominion (100%)
b3707.2	Reconductor approximately 0.97 mile of 115 kV Line #65 from Rappahannock to White Stone with 768 ACSS to achieve a summer emergency rating of 237 MVA. The current conductor is 477 ACSR		Dominion (100%)
b3759	Reconductor approximately 10.5 miles of 115 kV Line #23 segment from Oak Ridge to AC2-079 Tap to minimum emergency ratings of 393 MVA Summer / 412 MVA Winter		Dominion (100%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

*Neptune Regional Transmission System, LLC

**East Coast Power, L.L.C.

***Hudson Transmission Partners, LLC

Required Tran	nsmission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
b3779	Cut existing 230 kV line #2183 and extend from Poland Road substation to Evergreen Mills substation. Approximately 0.59 miles of new line will be built from the cut-in to the Evergreen Mills substation. Cut and extend the existing 230 kV line #2183 creating a new line #2210 from Brambleton substation to be terminated at Evergreen Mills substation. Approximately 0.59 miles of new line will be built from the cut-in to the Evergreen Mills substation		Dominion (100%)
<u>b3800.118</u>	Line work for terminating Doubs to Bismark line into Woodside 500 kV substation (DOM Portion)		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (21.09%) / BGE (6.55%) / Dominion (64.94%) / PEPCO (7.42%)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Trar	nsmission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
<u>b3800.120</u>	<u>Aspen substation work to</u> terminate the new NextEra 500 kV line. Include Aspen 500 kV substation portion build		Load-Ratio Share Allocation: <u>AEC (1.65%) / AEP (13.68%)</u> <u>/ APS (5.76%) / ATSI (8.04%)</u> <u>/ BGE (4.11%) / ComEd</u> (13.39%) / Dayton (2.12%) / <u>DEOK (3.25%) / DL (1.71%) /</u> <u>Dominion (13.32%) / DPL</u> (2.60%) / EKPC (1.89%) / <u>JCPL (3.86%) / ME (1.90%) /</u> <u>NEPTUNE* (0.42%) / OVEC</u> (0.08%) / PECO (5.40%) / <u>PENELEC (1.78%) / PEPCO</u> (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)
			DFAX Allocation: APS (9.18%) / BGE (7.21%) / Dominion (72.52%) / PEPCO (11.09%)
<u>b3800.200</u>	Build a new 500 kV line from Aspen - Golden on 500/230 kV double circuit structures with substation upgrades at Aspen and Golden. New conductor to have a minimum summer normal rating of 4357 MVA		Load-Ratio Share Allocation: <u>AEC (1.65%) / AEP (13.68%)</u> / <u>APS (5.76%) / ATSI (8.04%)</u> <u>/ BGE (4.11%) / ComEd</u> (13.39%) / Dayton (2.12%) / <u>DEOK (3.25%) / DL (1.71%) /</u> <u>Dominion (13.32%) / DPL</u> (2.60%) / EKPC (1.89%) / <u>JCPL (3.86%) / ME (1.90%) /</u> <u>NEPTUNE* (0.42%) / OVEC</u> (0.08%) / PECO (5.40%) / <u>PENELEC (1.78%) / PEPCO</u> (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) <u>DFAX Allocation:</u> Deminion (100%)
<u>b3800.201</u>	Install two 500/230 kV transformer at Golden substation		<u>Dominion (100%)</u> <u>Dominion (100%)</u>
<u>b3800.202</u>	Install one 500/230 kV transformer at Aspen substation		<u>Dominion (86.28%) / PEPCO</u> (13.72%)
*Neptune Re	egional Transmission System, LLC		

		venue requirement responsible eustomer(s)
1 2000 202	Install a second 500/230 kV	
<u>b3800.203</u>	1440 MVA transformer at Mars substation	$D_{ominion}$ (100%)
	Reconductor 0.5 mile section	<u>Dominion (100%)</u>
	of 230 kV line No. 2150	
b3800.204	Golden - Paragon Park Circuit	
03800.204	1 to achieve a summer rating of	
	1573 MVA	Dominion (100%)
	Reconductor 0.5 mile section	
	of 230 kV line No. 2081	
b3800.205	Golden - Paragon Park Circuit	
	2 to achieve a summer rating of	
	1573 MVA	<u>Dominion (100%)</u>
	Upgrade Paragon Park	
	substation line conductors to	
<u>b3800.206</u>	4000A continuous current	
	rating for 230 kV lines No.	
	2081 and No. 2150	<u>Dominion (100%)</u>
	Reconductor 230 kV line No.	
<u>b3800.207</u>	<u>2207 Paragon Park – BECO to</u> achieve a summer rating of	
	1573 MVA	Dominion (100%)
	Upgrade Paragon Park	
	substation conductor and line	
b3800.208	leads to 4000A continuous	
0000.200	current rating for 230 kV line	
	current rating for 230 kV line No. 2207	Dominion (100%)
	Upgrade BECO substation	
b3800.209	equipment to 4000A	
03800.209	continuous current rating for	
	230 kV line No.2207	<u>Dominion (100%)</u>
	Build a new 230 kV line from	
	Mars - Lockridge on 500/230	
1 2 2 0 0 2 1 0	kV double circuit structures to	
<u>b3800.210</u>	achieve a summer rating of 1573 MVA. Install 230 kV	
	equipment at Mars and	
	Lockridge substations	Dominion (100%)
	Build a new 230 kV line from	
	Lockridge - Golden on 500/230	
	kV double circuit structures to	
<u>b3800.211</u>	achieve a summer rating of	
	1573 MVA. Install 230 kV	
	equipment at Golden and	
	Lockridge substations	<u>Dominion (100%)</u>

Required Tran	nsmission Enhancements Annual Ro	evenue Requirement	Responsible Customer(s)
<u>b3800.212</u>	Build a new 500 kV line from Mars - Golden on 500/230 kV double circuit structures with substation upgrades at Golden and Mars. New conductor to have a minimum summer normal rating of 4357 MVA		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (99.96%) / Dominion (0.04%)
<u>b3800.213</u>	Cut 500 kV line No. 558 Brambleton - Goose Creek into Aspen substation. Upgrade 500 kV terminal equipment at Aspen and Goose Creek to 5000A continuous rating current. At Goose Creek, replace circuit breakers 59582 and 55882, and associated disconnect switches, breaker leads, bus, and line risers to accommodate 5000A rating		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (99.39%) / Dominion (0.61%)

Required Trar	nsmission Enhancements Annual Ro	evenue Requirement	Responsible Customer(s)
<u>Required Trar</u> <u>b3800.214</u>	Build a new 500 kV line from Aspen - Goose Creek to achieve a summer rating of 4357 MVA. Install new 500 kV terminal equipment at Aspen	evenue Requirement	Responsible Customer(s) Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) /APS (5.76%) / ATSI (8.04%) /BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)
b3800.215	<u>Cut 230 kV line No. 2150</u> <u>Sterling Park - Paragon Park</u> <u>Circuit 1 into Golden</u> <u>substation and install 230 kV</u> equipment at Golden. Upgrade		DFAX Allocation: APS (99.39%) / Dominion (0.61%)
	relay settings at Golden substation for upgrading 230 kV line No. 2150 to 4000A continuous current rating		<u>Dominion (100%)</u>
<u>b3800.216</u>	<u>Cut 230 kV line No. 2081</u> <u>Sterling Park - Paragon Park</u> <u>Circuit 2 into Golden</u> <u>substation and install 230 kV</u> <u>equipment at Golden. Upgrade</u> <u>relay settings at Golden</u> <u>substation for upgrading 230</u> <u>kV line No. 2081 to 4000A</u> continuous current rating		Dominion (100%)
<u>b3800.217</u>	Build a new 230 kV line from Aspen - Sycolin Creek on 500/230 kV double circuit structures to achieve a summer rating of 1573 MVA. Install 230 kV equipment at Golden and Sycolin Creek substations egional Transmission System, LLC	7	<u>Dominion (86.28%) / PEPCO</u> (13.72%)

Build a new 230 kV line from Swoolin Creek - Golden on 500/230 kV double circuit structures to achieve a summer rating of 1573 MVA. Install 230 kV equipment at Golden and Sycolin Creek substationsDominion (100%)b3800.219Replace seven overdutied 230 kV breakers at Beaumeade substation with 80 kA breakersDominion (100%)b3800.220Replace four overdutied 230 kV breakers at Belmont substation with 80 kA breakersDominion (100%)b3800.221Replace four overdutied 230 kV breakers at Belmont substation with 80 kA breakersDominion (100%)b3800.222Replace con coverduted 230 kV breakers at Belmont substation with 80 kA breakersDominion (100%)b3800.223Replace con coverduted 230 kV breaker at Discovery substation with 80 kA breakerDominion (100%)b3800.224Replace one overduted 230 kV breaker at Discovery substation substation with 80 kA breakersDominion (100%)b3800.224Replace two overduted 230 kV breaker at Discovery substation substation with 80 kA breakersDominion (100%)b3800.224Replace two overduted 230 kV breakers at Shellhom substation with 80 kA breakersDominion (100%)b3800.224Replace two overduted 230 kV breakers at Shellhom substation with 80 kA breakersDominion (100%)b3800.225Change 500 kV line No. 558 destination at Brambleton to Aspen substation and upgrade line protection relaysAEC (1.65%) / AEV (1.38%) / DeVic (0.60%) / DeCi (1.32%) / DPL (0.26%) / DEVC (1.47%) / PEECG (1.38%) / DeCi (1.32%) / DPL (0.60%) / DeCi (1.32%) / DPL (0.60%) / DeCi (1.32%) / DPL (0.60%) / DECO (3.67%) / PECO (5.40%) / DeCi (6.39%)	Required Tran	smission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
Best StateReplace seven overdutied 230 kV breakers at Beaumeade substation with 80 kA breakersDominion (100%)B3800.220Replace four overdutied 230 kV breakers at BECO substation with 80 kA breakersDominion (100%)B3800.221Replace four overdutied 230 kV breakers at Belmont substation with 80 kA breakersDominion (100%)B3800.222Replace one overdutied 230 kV breaker at Discovery substation with 80 kA breaker substation with 80 kA breakerDominion (100%)B3800.223Replace one overdutied 230 kV breaker at Pleasant View substation with 80 kA breaker substation with 80 kA breakerDominion (100%)B3800.224Replace two overdutied 230 kV breakers at Shellhorn substation with 80 kA breakersDominion (100%)B3800.224Replace two overdutied 230 kV breakers at Shellhorn substation with 80 kA breakersDominion (100%)B3800.225Replace two overdutied 230 kV breakers at Shellhorn substation with 80 kA breakersDominion (100%)B3800.225Replace two overdutied 230 kV breakers at Shellhorn substation at Brambleton to Aspen substation and upgrade line protection relaysDominion (13.32%) / DPL (2.60%) / EKPC (1.88%) / APS (5.76%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PEPCO (2.35%)B3800.225Change 500 kV line No. 558 destination at Brambleton to Aspen substation and upgrade line protection relaysDominion (13.22%) / DPL (2.60%) / EKPC (1.88%) / APS (5.20%) / DE(0.46%) / DEOK (3.25%) / PEPCO (2.40%) / DEOK (2.25%) / DE(0.46%) / DEOK (2.25%) / DE(0.46%) / DEOK (2.25%) / DE(0.46%) / DEOK (2.25%) / DE(0	<u>b3800.218</u>	Sycolin Creek - Golden on 500/230 kV double circuit structures to achieve a summer rating of 1573 MVA. Install 230 kV equipment at Golden		Dominion (100%)
b3800.220kV breakers at BECO substation with 80 kA breakersDominion (100%)Replace four overduited 230 kV breakers at Belmont substation with 80 kA breakersDominion (100%)Basson.221Replace one overduited 230 kV breaker at Discovery substation with 80 kA breakerDominion (100%)Basson.223Replace one overduited 230 kV breaker at Pleasant View substation with 80 kA breakerDominion (100%)Basson.224Replace one overduited 230 kV breaker at Pleasant View substation with 80 kA breakerDominion (100%)b3800.224Replace two overduited 230 kV breakers at Shellhorn substation with 80 kA breakersDominion (100%)b3800.225Replace two overduited 230 kV breakers at Shellhorn 	<u>b3800.219</u>	Replace seven overdutied 230 kV breakers at Beaumeade substation with 80 kA breakers		
b3800.221KV breakers at Belmont substation with 80 kA breakersDominion (100%)b3800.222Replace one overdutied 230 kV breaker at Discovery substation with 80 kA breakerDominion (100%)b3800.223Replace one overdutied 230 kV breaker at Pleasant View substation with 80 kA breakerDominion (100%)b3800.224Replace two overdutied 230 kV breakers at Bellmorn 	<u>b3800.220</u>	<u>kV breakers at BECO</u> substation with 80 kA breakers		<u>Dominion (100%)</u>
b3800.222 breaker at Discovery substation with 80 kA breaker Dominion (100%) b3800.223 Replace one overdutied 230 kV breaker at Pleasant View substation with 80 kA breaker Dominion (100%) b3800.224 KV breakers at Shellhorn substation with 80 kA breakers Dominion (100%) b3800.224 KV breakers at Shellhorn substation with 80 kA breakers Dominion (100%) b3800.224 KV breakers at Shellhorn substation with 80 kA breakers Dominion (100%) b3800.225 Change 500 kV line No. 558 destination at Brambleton to Aspen substation and upgrade line protection relays Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (5.20%) / DL (0.46%) / Dominion (91.40%) / ME (0.59%) / PEPCO (2.35%)	<u>b3800.221</u>	kV breakers at Belmont substation with 80 kA breakers		<u>Dominion (100%)</u>
b3800.223breaker at Pleasant View substation with 80 kA breakerDominion (100%)b3800.224Replace two overdutied 230 kV breakers at Shellhorn substation with 80 kA breakersDominion (100%)Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / Deominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / MEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PL (4.72%) / PSEG (6.39%) / RE (0.26%)b3800.225Deck (3.25%) / DL (0.46%) / Dominion relays	<u>b3800.222</u>	breaker at Discovery substation with 80 kA breaker		Dominion (100%)
b3800.224 kV breakers at Shellhorn substation with 80 kA breakers Dominion (100%) Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%)/ DEOK (3.25%) / DL (1.71%)/ Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%)/ JCPL (3.86%) / ME (1.90%)/ NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%)/ PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DfAX Allocation: APS (5.20%) / DL (0.46%) / Dominion (91.40%) / ME (0.59%) / PEPCO (2.35%)	<u>b3800.223</u>	breaker at Pleasant View		<u>Dominion (100%)</u>
b3800.225 Change 500 kV line No. 558 destination at Brambleton to Aspen substation and upgrade line protection relays AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (5.20%) / DL (0.46%) / Dominion (91.40%) / ME (0.59%) / PEPCO (2.35%)	<u>b3800.224</u>	kV breakers at Shellhorn		Dominion (100%)
		destination at Brambleton to <u>Aspen substation and upgrade</u> <u>line protection relays</u>		AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (5.20%) / DL (0.46%) / Dominion (91.40%) / ME
*Neptune Regional Transmission System, LLC	*Neptune Re	gional Transmission System, LLC	N	

Required Tran	smission Enhancements Annual Revenue	e Requirement Responsible Customer(s)
<u>b3800.226</u>	Change 230 kV lines No. 2081 and No. 2150 at Paragon Park substation destination to Golden substation and upgrade line protection relays	<u>Dominion (100%)</u>
<u>b3800.227</u>	Change 230 kV lines No. 2081 and No. 2150 at Sterling Park substation destination to Golden substation and upgrade line protection relays	<u>Dominion (100%)</u>
<u>b3800.228</u>	Reconductor 1.47 miles of 230 <u>kV lines No. 2081 and No.</u> 2150 from Sterling Park to <u>Golden substation. Upgrade</u> terminal equipment at Sterling <u>Park to 4000A continuous</u> <u>current</u>	<u>Dominion (100%)</u>
<u>b3800.229</u>	Reconductor 0.67 miles of 230 <u>kV lines No. 2194 and No.</u> <u>9231 from Davis Drive to</u> <u>Sterling Park substation.</u> <u>Terminal equipment at remote</u> <u>end substations will be</u> <u>installed or upgraded to 4000A</u> <u>continuous current rating to</u> <u>support new conductor ratings</u>	<u>Dominion (100%)</u>
<u>b3800.230</u>	Reset relays at Breezy Knoll for the revised current rating of 230 kV line No. 2098 Pleasant View - Hamilton	<u>Dominion (100%)</u>
<u>b3800.231</u>	Reset relays at Dry Mill for the revised current rating of 230 kV line No. 2098 Pleasant View - Hamilton	<u>Dominion (100%)</u>
<u>b3800.232</u>	Reset relays at Hamilton for the revised current rating of 230 kV line No. 2098 Pleasant View - Hamilton	<u>Dominion (100%)</u>
<u>b3800.233</u>	Upgrade equipment to 4000A continuous current rating at Pleasant View substation in support of 230 kV line No. 2098 wreck and rebuild. Replace circuit breakers 274T2098 & 2098T2180 and associated disconnect switches, breaker leads, bus, and line risers to accommodate 4000A rating	<u>Dominion (100%)</u>

Required Tran	ismission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
<u>b3800.234</u>	Wreck and rebuild approximately one mile of 230 kV line No. 2098 between Pleasant View and structure 2098/9, where line No. 2098 turns towards Hamilton		
	substation Replace five eventuation 220		Dominion (100%)
<u>b3800.235</u>	Replace five overdutied 230 kV breakers at Loudoun substation with 80 kA breakers		<u>Dominion (100%)</u>
<u>b3800.236</u>	Replace two overdutied 230 kV breakers at Ox substation with 63 kA breakers		Dominion (100%)
<u>b3800.237</u>	Replace two overdutied 230 kV breakers at Pleasant View substation with 63 kA breakers		<u>Dominion (100%)</u>
<u>b3800.238</u>	Upgrade equipment to 4000A continuous current rating at Pleasant View substation in support of 230 kV line No. 203 rebuild. Replace circuit breakers 203T274 & L3T203 and associated disconnect switches, breaker leads, bus, and line risers to accommodate 4000A rating		<u>APS (8.09%) / BGE (8.25%) /</u> <u>Dominion (64.87%) / PEPCO</u> (18.79%)
<u>b3800.239</u>	Wreck and rebuild 230 kV line No. 203 between Pleasant View and structure 203/15 using double circuit 500/230 kV structures. The 500 kV line is from Aspen - Doubs		<u>APS (8.09%) / BGE (8.25%) /</u> <u>Dominion (64.87%) / PEPCO</u> (18.79%)

Required Trar	nsmission Enhancements Annual R	evenue Requirement	Responsible Customer(s)
<u>b3800.240</u>	Build a new 500 kV line from Aspen - Doubs using double circuit 500/230 kV structures. The 230 kV line is from Pleasant View - structure 203/15. Install terminal equipment at Aspen for a 5000A line to Doubs. This includes GIS breakers, GIS-to- AIS transition equipment, and metering CCVTs and CTs for the tie line		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (0.09%) / Dominion
<u>b3800.241</u>	Rebuild 500 kV line No. 514 from Goose Creek - Doubs using 500/230 kV double circuit structures. The new double circuit towers will accommodate 230 kV line No. 2098 between Pleasant View substation and structure 2098/9. Upgrade equipment at Goose Creek to 5000A continuous current rating in support of line No. 514 wreck and rebuild. Replace circuit breakers 514T595 & 51482 and associated disconnect switches, breaker leads, bus, and line risers to accommodate 5000A rating		(99.89%) / PEPCO (0.02%) Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / RE (0.26%) DFAX Allocation: APS (0.08%) / Dominion (99.90%) / PEPCO (0.02%)
<u>b3800.242</u>	Upgrading switches 20366M and 20369M and line leads to 4000A continuous current rating of 230 kV line No. 203 at Edwards Ferry substation		<u>APS (11.45%) / BGE (14.14%)</u> / Dominion (42.82%) / PEPCO (31.59%)
*Neptune Re	egional Transmission System, LLC	2	

Required Tran	smission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
<u>b3800.300</u>	<u>Rebuild 230 kV line No. 2135</u> <u>Hollymeade Junction – Cash's</u> <u>Corner using double-circuit</u> <u>capable 500/230 kV poles.</u> <u>New conductor has a summer</u> <u>rating of 1573 MVA. (The 500</u> <u>kV circuit will not be wired as</u> <u>part of this project)</u>		Dominion (100%)
<u>b3800.301</u>	<u>Rebuild 230 kV line No. 2135</u> <u>Cash's Corner - Gordonsville</u> <u>using double-circuit capable</u> <u>500/230 kV poles. New</u> <u>conductor has a summer rating</u> <u>of 1573 MVA. (The 500 kV</u> <u>circuit will not be wired as part</u> <u>of this project)</u>		<u>Dominion (100%)</u>
<u>b3800.302</u>	<u>Upgrade Cash's Corner</u> switches 213576 and 213579 and line leads to 4000A continuous current rating of 230 kV line No. 2135		<u>Dominion (100%)</u>
<u>b3800.303</u>	<u>Upgrade Gordonsville</u> <u>substation line leads to 4000A</u> <u>continuous current rating of</u> <u>230 kV line No. 2135</u>		<u>Dominion (100%)</u>
<u>b3800.304</u>	<u>Upgrade Hollymeade</u> <u>substation switch 213549 and</u> <u>line leads to 4000A continuous</u> <u>current rating of 230 kV line</u> <u>No. 2135</u>		<u>Dominion (100%)</u>
<u>b3800.305</u>	Install one 230 kV 300 MVAR STATCOM and associated equipment at Beaumeade 230 kV substation		<u>Dominion (100%)</u>

Required Trar	smission Enhancements Annual Ro	evenue Requirement	Responsible Customer(s)
<u>b3800.306</u>	Install one 500 kV, 150 MVAR Shunt Capacitor Bank and associated equipment at Morrisville substation. This addition will require a control house expansion to accommodate for two new panels		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: Dominion (100%)
<u>b3800.307</u>	Install one 500 kV, 300 MVAR STATCOM and associated equipment at Mars substation		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: Dominion (100%)
<u>b3800.308</u>	Install one 230 kV, 150 MVAR Shunt Capacitor Bank and associated equipment at Mars substation		<u>Dominion (100%)</u>
<u>b3800.309</u>	Install one 230 kV, 150 MVAR Shunt Capacitor Bank and associated equipment at Wishing Star substation egional Transmission System, LLC		<u>Dominion (100%)</u>

*Neptune Regional Transmission System, LLC

Required Tra	nsmission Enhancements Annual R	evenue Requirement	Responsible Customer(s)
<u>b3800.310</u>	Install one 500 kV, 293.8 MVAR Shunt Capacitor Bank & associated equipment at Wishing Star substation		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: Dominion (100%)
<u>b3800.311</u>	Rebuild 500 kV line No. 545 Bristers - Morrisville as a single circuit monopole line to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 4357 MVA		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: Dominion (91.07%) / PEPCO (8.93%)

Required Trar	nsmission Enhancements Annual R	evenue Requirement	Responsible Customer(s)
<u>b3800.312</u>	Rebuild 500 kV line No. 569 Loudoun - Morrisville to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 4357 MVA		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (11.72%) / Dominion (88.28%)
<u>b3800.313</u>	Rebuild approximately 10.29 miles 500 kV line segment of line No. 535 (Meadow Brook to Loudoun) to accommodate the new 500 kV line in the existing ROW		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) Dominion (70.92%) / PEPCO (8.29%)

*Neptune Regional Transmission System, LLC

Required Tran	nsmission Enhancements Annual Re	evenue Requirement	· · · · · · · · · · · · · · · · · · ·
<u>b3800.314</u>	Rebuild approximately 4.83 miles of 500 kV line No. 546 Mosby - Wishing Star to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 4357 MVA. Upgrade and install equipment at Mosby substation to upgrade terminal equipment to be rated for 5000A for 500 kV line No. 546		Load-Ratio Share Allocation AEC (1.65%) / AEP (13.68% / APS (5.76%) / ATSI (8.04% / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEC (6.39%) / RE (0.26%)
			DFAX Allocation:APS (41.98%) / Dominion(34.03%) / PEPCO (23.99%)Load-Ratio Share Allocation
<u>b3800.315</u>	Rebuild approximately 4.59 miles of 500 kV line No. 590 Mosby - Wishing Star to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 4357 MVA. Upgrade and install equipment at Mosby substation to upgrade terminal equipment to be rated for 5000A for 500 kV line No. 590		AEC (1.65%) / AEP (13.68% / APS (5.76%) / ATSI (8.04% / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCC (3.67%) / PPL (4.72%) / PSEC (6.39%) / RE (0.26%) DFAX Allocation:
<u>b3800.316</u>	Rebuild approximately 6.17 miles of 230 kV line No. 2030 Gainesville - Mint Springs to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVA egional Transmission System, LLC		<u>APS (41.98%) / Dominion</u> (34.03%) / PEPCO (23.99%) <u>Dominion (100%)</u>

Required Tran	smission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
<u>b3800.317</u>	Rebuild approximately 1.58 miles of 230 kV line No. 2030 Mint Springs - Loudoun to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer		
<u>b3800.318</u>	rating of 1573 MVA <u>Rebuild approximately 4.2</u> miles of 230 kV line No. 2045 <u>Loudoun - North Star to</u> <u>accommodate the new 500 kV</u> <u>line in the existing ROW. New</u> <u>conductor to have a summer</u> rating of 1573 MVA		<u>Dominion (100%)</u> <u>Dominion (100%)</u>
<u>b3800.319</u>	Rebuild approximately 0.88 miles of 230 kV line No. 2045 North Star - Brambleton to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVA		Dominion (100%)
<u>b3800.320</u>	Rebuild approximately 1.22 miles of 230 kV line No. 2227 Brambleton - Racefield to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVA		Dominion (100%)
<u>b3800.321</u>	Rebuild approximately 3.69 miles of 230 kV line No. 2094 Racefield - Loudoun to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVA		<u>Dominion (100%)</u>
<u>b3800.322</u>	Rebuild approximately 9.16 miles of 230 kV line No. 2101 Bristers - Nokesville to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVA		<u>Dominion (100%)</u>
<u>b3800.323</u>	<u>Rebuild approximately 2.89</u> miles of 230 kV line No. 2101 Nokesville - Vint Hill TP to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVA		<u>Dominion (100%)</u>

Required Tran	smission Enhancements Annual Rev	venue Requirement	Responsible Customer(s)
<u>b3800.324</u>	Rebuild approximately 0.33 miles of 230 kV line No. 2101 Vint Hill TP - Vint Hill to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVA		<u>Dominion (100%)</u>
<u>b3800.325</u>	Rebuild approximately 3.32 miles of 230 kV line No. 2114 Rollins Ford - Vint Hill to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVA		<u>Dominion (100%)</u>
<u>b3800.326</u>	Rebuild approximately 10.09 miles of 230 kV line No. 2114 Vint Hill - Elk Run to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVA		Dominion (100%)
<u>b3800.327</u>	Rebuild approximately 4.43 miles of 230 kV line No. 2140 Heathcote - Catharpin to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVA		Dominion (100%)
<u>b3800.328</u>	Rebuild approximately 2.88 miles of 230 kV line No. 2140 Catharpin - Loudoun to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVA		<u>Dominion (100%)</u>
<u>b3800.329</u>	Rebuild approximately 0.25 miles of 230 kV line No. 2151 Railroad DP - Gainesville to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVA		<u>Dominion (100%)</u>
<u>b3800.330</u>	<u>Rebuild approximately 4.14</u> miles of 230 kV line No. 2163 Vint Hill - Liberty to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVA		<u>Dominion (100%)</u>

smission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
Rebuild approximately 0.48 miles of 230 kV line No. 2176 Heathcote - Gainesville to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVA		<u>Dominion (100%)</u>
miles of 230 kV line No. 2222 Rollins Ford - Gainesville to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVA		<u>Dominion (100%)</u>
Rebuild approximately 1.65 miles of 115 kV line No. 183 Bristers - Ox to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVA		Dominion (100%)
Replace four overdutied 230 kV breakers at Loudoun Substation with 80 kA breakers		<u>Dominion (100%)</u>
Replace one overdutied 500 kV breaker at Ox Substation with a 63 kA breaker		<u>Dominion (100%)</u>
<u>Upgrade and install equipment</u> at Bristers substation to support the new conductor 5000A rating for 500 kV line No. 545		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: Dominion (91.07%) / PEPCO (8.93%)
	Rebuild approximately 0.48 miles of 230 kV line No. 2176 Heathcote - Gainesville to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVARebuild approximately 1.11 miles of 230 kV line No. 2222 Rollins Ford - Gainesville to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVARebuild approximately 1.11 miles of 230 kV line No. 2222 Rollins Ford - Gainesville to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVARebuild approximately 1.65 miles of 115 kV line No. 183 Bristers - Ox to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVAReplace four overdutied 230 kV breakers at Loudoun Substation with 80 kA breakers Replace one overdutied 500 kV breaker at Ox Substation with a 63 kA breakerUpgrade and install equipment at Bristers substation to support the new conductor 5000A	miles of 230 kV line No. 2176 Heathcote - Gainesville to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVARebuild approximately 1.11 miles of 230 kV line No. 2222 Rollins Ford - Gainesville to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVARebuild approximately 1.65 miles of 115 kV line No. 183 Bristers - Ox to accommodate the new 500 kV line in the existing ROW. New conductor to have a summer rating of 1573 MVAReplace four overdutied 230 kV breakers at Loudoun Substation with 80 kA breakers Replace one overdutied 500 kV breaker at Ox Substation with a 63 kA breakerUpgrade and install equipment at Bristers substation to support the new conductor 5000A

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

Required Tran	smission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
<u>b3800.337</u>	Upgrade and install equipment at Brambleton substation to support the new conductor termination. All terminal equipment for 230 kV lines No. 2045 and No. 2094 to be rated for 4000A continuous		Deminian (100%)
<u>b3800.338</u>	<u>current rating</u> <u>Revise relay settings at</u> <u>Dawkins Branch 230 kV</u> station		Dominion (100%)
<u>b3800.339</u>	Upgrade and install equipment at Gainesville 230 kV substation to support the new conductor termination. All terminal equipment for 230 kV line No. 2030 to be rated for 4000A continuous current rating		Dominion (100%)
<u>b3800.340</u>	Revise relay settings at Heathcote 230 kV station		Dominion (100%)
<u>b3800.341</u>	Upgrade and install equipment at Loudoun substation for 230 kV line No. 2094 Loudoun - Racefield to be rated for 4000A continuous current rating		<u>Dominion (100%)</u>
<u>b3800.342</u>	Upgrade and install equipment at Loudoun substation for 230 kV line No. 2045 Loudoun - North Star to be rated for 4000A continuous current rating		Dominion (100%)
<u>b3800.343</u>	Upgrade and install equipment at Loudoun substation for 230 kV line No. 2030 Loudoun - Mint Springs to be rated for 4000A continuous current rating		<u>Dominion (100%)</u>

AEC (1.65%) / AEP (13.68%) (APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.32%) / Davton (2.12%) / DEOK (3.25%) / DEL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / DEOK (3.25%) / ME (1.90%) / ME (1.90%) / ME (1.90%) / ME (1.90%) / ME (1.90%) / ME (1.90%) / ME (1.90%) / PENELEC (1.78%) / PENCO (3.67%) / PENCO (5.40%) / PENELEC (1.78%) / PENCO (3.67%) / RE (0.26%)b3800.345Revise relay settings at 230 kV Mint Springs stationDominion (100%) Load-Ratio Share Allocation: APS (11.72%) / Dominion (100%)b3800.346Upgrade and install equipment at Morrisville substation to support the new 500 kV conductor termination to terminal equipme	Required Tran	nsmission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
b3800.345Revise relay settings at 230 kV Mint Springs stationDominion (100%)Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / UPL (3.86%) / ME (1.90%) / UPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PEPCO (5.40%) / PENCO (5.40%) / PEPCO (5.40%) / ME (0.26%)b3800.347Revise relay settings at North Star 230 kV station	<u>b3800.344</u>	at Loudoun substation to support the new conductor 5000A rating for 500 kV line		/ APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (11.72%) / Dominion
b3800.346Upgrade and install equipment at Morrisville substation to support the new 500 kV conductor termination. All terminal equipment to be rated for 5000A for 500 kV line No. 545 and No. 569. Upgrade 500 kV bus 2 to 5000ALoad-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PL (4.72%) / PSEG (6.39%) / RE (0.26%)b3800.347Revise relay settings at North Star 230 kV stationDominion (100%)	<u>b3800.345</u>			
b3800.347Revise relay settings at North Star 230 kV stationDominion (100%)	<u>b3800.346</u>	at Morrisville substation to support the new 500 kV conductor termination. All terminal equipment to be rated for 5000A for 500 kV line No. 545 and No. 569. Upgrade 500		Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: APS (11.72%) / Dominion
		Revise relay settings at North Star 230 kV station egional Transmission System, LLC	, ,	

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<u>b3800.348</u>	Revise relay settings at Racefield 230 kV station		Dominion (100%)
<u>b3800.349</u>	Revise relay settings at Railroad 230 kV station		Dominion (100%)
<u>b3800.350</u>	Install terminal equipment at Vint Hill 500 kV substation to support a 5000A line to 500 kV Morrisville substation. Update relay settings for 230 kV lines No. 2101, No. 2163, and 500 kV line No. 535		Load-Ratio Share Allocation: <u>AEC</u> (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / <u>BGE</u> (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation: <u>APS</u> (9.79%) / Dominion (90.21%)
<u>b3800.351</u>	<u>Update relay settings at Vint</u> <u>Hill for 230 kV line No. 2101</u> <u>Vint Hill - Bristers</u>		<u>Dominion (100%)</u>
<u>b3800.352</u>	<u>Update relay settings at Vint</u> <u>Hill for 230 kV line No. 2163</u> <u>Vint Hill - Liberty</u>		<u>Dominion (100%)</u>
*Neptune Re	egional Transmission System, LLC	2	

b3800.353 Update relay settings at Vint Hill for 500 kV line No. 535 Vint Hill - Loudoun JCPL (3.86%) / AEP (13.68%) / ATSI (8.04 / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) DeOK (3.25%) / DL (1.71%) Dominion (13.32%) / DPI (2.60%) / EKPC (1.89%) JCPL (3.86%) / ME (1.90%) NEPTUNE* (0.42%) / OVF (0.08%) / PECO (5.40%) PENELEC (1.78%) / PEPC (3.67%) / PPL (4.72%) / PEPC (3.67%) / PPL (4.72%) / PEPC (3.67%) / PEL (4.72%) / PEPC (3.67%) / PEL (4.72%) / PEPC (3.67%) / AEP (13.68%) / AEC (1.65%) / AEP (13.68%) / AES (13.93%) / Dept (3.25%) / DL (1.71%) Dominion (13.32%) / DPI (2.60%) / EKPC (1.89%) JCPL (3.86%) / ME (1.90%) b3800 354 Install terminal equipment at Wishing Star 500 kV substation to support a 5000A JCPL (3.86%) / ME (1.90%)	Required Trar	smission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
b3800.353 Update relay settings at Vint Hill for 500 kV line No. 535 JCPL (3.86%) / ME(1.90%) Vint Hill - Loudoun b3800.353 Update relay settings at Vint Hill for 500 kV line No. 535 JCPL (3.86%) / ME (1.90%) NEPTUNE* (0.42%) / OVI (0.08%) / PECO (5.40%). PENELEC (1.78%) / PEPC (3.67%) / PPL (4.72%) / PSI (6.39%) / RE (0.26%) DFAX Allocation: APS (13.93%) / BGE (6.86%) Dominion (70.92%) / PEPC (8.29%) Dominion (70.92%) / PEPC (8.29%) Load-Ratio Share Allocatia AEC (1.65%) / AEP (13.68 / APS (5.76%) / ATSI (8.04 / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) DEOK (3.25%) / DL (1.71%) Install terminal equipment at Wishing Star 500 kV Dominion (13.32%) / DPI				Load-Ratio Share Allocation:
b3800.353 Update relay settings at Vint Hill for 500 kV line No. 535 Vint Hill - Loudoun JCPL (3.86%) / ME (1.90%) UCPL (3.86%) / ME (1.90%) NEPTUNE* (0.42%) / OVH (0.08%) / PECO (5.40%) PENELEC (1.78%) / PEPC (3.67%) / PPL (4.72%) / PSI (6.39%) / RE (0.26%) DFAX Allocation: APS (13.93%) / BGE (6.86%) Dominion (70.92%) / PEPC (8.29%) Load-Ratio Share Allocatio (3.39%) / ASI (8.04 / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) DEOK (3.25%) / DL (1.71%) Install terminal equipment at Wishing Star 500 kV Dominion (13.32%) / DPI				
b3800.353 Update relay settings at Vint Hill for 500 kV line No. 535 Vint Hill - Loudoun JCPL (3.86%) / DL (1.71% Dominion (13.32%) / DPI (2.60%) / EKPC (1.89%). b3800.353 Hill for 500 kV line No. 535 Vint Hill - Loudoun JCPL (3.86%) / ME (1.90%) NEPTUNE* (0.42%) / OVH (0.08%) / PECO (5.40%). PENELEC (1.78%) / PEPC (3.67%) / PPL (4.72%) / PSI (6.39%) / RE (0.26%) DFAX Allocation: APS (13.93%) / BGE (6.86%) Dominion (70.92%) / PEPC (8.29%) Load-Ratio Share Allocati (AEC (1.65%) / AEP (13.68% / APS (5.76%) / ATSI (8.04 / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) DEOK (3.25%) / DL (1.71%) DeOK (3.25%) / DL (1.71%) Install terminal equipment at Wishing Star 500 kV Dominion (13.32%) / DPI (2.60%) / EKPC (1.89%)				
b3800.353 Update relay settings at Vint Hill for 500 kV line No. 535 Vint Hill - Loudoun JCPL (3.86%) / DE (1.71% Dominion (13.32%) / DPI (2.60%) / EKPC (1.89%). b3800.353 Update relay settings at Vint Hill for 500 kV line No. 535 Vint Hill - Loudoun JCPL (3.86%) / ME (1.90%). DEDK (0.26%) / DE (1.71%). JCPL (3.86%) / ME (1.90%). NEPTUNE* (0.42%) / OVH (0.08%) / PECO (5.40%). DENELEC (1.78%) / PEPC (3.67%) / PPL (4.72%) / PSI (6.39%) / RE (0.26%). Image: Comparison of the temperature of				
b3800.353 Update relay settings at Vint Hill for 500 kV line No. 535 Vint Hill - Loudoun ICPL (3.86%) / ME (1.90%) NEPTUNE* (0.42%) / OVH (0.08%) / PECO (5.40%) PENELEC (1.78%) / PEPC (3.67%) / PPL (4.72%) / PSI (6.39%) / RE (0.26%) DFAX Allocation: (6.39%) / RE (0.26%) DFAX Allocation: (6.39%) / BGE (6.86%) Dominion (70.92%) / PEPC (8.29%) Load-Ratio Share Allocatio (13.39%) / Dayton (2.12%) DEOK (3.25%) / DL (1.71%) Install terminal equipment at Wishing Star 500 kV Dominion (13.32%) / DPI (2.60%) / EKPC (1.89%)				DEOK (3.25%) / DL (1.71%) /
b3800.353 Update relay settings at Vint Hill for 500 kV line No. 535 Vint Hill - Loudoun JCPL (3.86%) / ME (1.90%) NEPTUNE* (0.42%) / OVE (0.08%) / PECO (5.40%). PENELEC (1.78%) / PEPC (3.67%) / PPL (4.72%) / PSI (6.39%) / RE (0.26%) DFAX Allocation: (6.39%) / RE (0.26%) MEY (1.90%) (6.39%) / RE (0.26%) Distance Mey (1.90%) (2.60%) / RE (0.26%) Install terminal equipment at Wishing Star 500 kV Dominion (13.32%) / DPI (2.60%) / EKPC (1.89%)				Dominion (13.32%) / DPL
b3800.353 Hill for 500 kV line No. 535 Vint Hill - Loudoun NEPTUNE* (0.42%) / OVE (0.08%) / PECO (5.40%). PENELEC (1.78%) / PEPC (3.67%) / PPL (4.72%) / PSI (6.39%) / RE (0.26%) DFAX Allocation: (6.39%) / RE (0.26%) APS (13.93%) / BGE (6.86%) Dominion (70.92%) / PEPC (8.29%) Load-Ratio Share Allocatio (8.29%) Load-Ratio Share Allocatio (13.39%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04 / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) DEOK (3.25%) / DL (1.71%) DEOK (3.25%) / DL (1.71%) Install terminal equipment at Wishing Star 500 kV Dominion (13.32%) / DPI (2.60%) / EKPC (1.89%)				
Vint Hill - Loudoun (0.08%) / PECO (5.40%), PENELEC (1.78%) / PEPC (3.67%) / PPL (4.72%) / PSI (6.39%) / RE (0.26%) DFAX Allocation: (6.39%) / RE (0.26%) (0.08%) / PECO (5.40%), PENELEC (1.78%) / PEPC (3.67%) / PEL (4.72%) / PSI (6.39%) / RE (0.26%) Dominion (70.92%) / PEPC (8.29%) (0.08%) / PECO (5.40%), PENELEC (1.78%) / PEPC (8.39%) / BGE (6.86%) Dominion (70.92%) / PEPC (8.29%) (0.08%) / PECO (5.40%), PENELEC (1.65%) / RE (0.26%) Load-Ratio Share Allocatio (APS (5.76%) / AEP (13.68%), / APS (5.76%) / ATSI (8.04%), / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%), DEOK (3.25%) / DL (1.71%), DEOK (3.25%) / DL (1.71%), DEOK (3.25%) / DL (1.71%), DEOK (3.25%) / DL (1.71%), DEOK (3.25%) / DPI (2.60%) / EKPC (1.89%)	h2800 252	Update relay settings at Vint Hill for 500 kV line No. 535		
PENELEC (1.78%) / PEPC (3.67%) / PPL (4.72%) / PSI (6.39%) / RE (0.26%) DFAX Allocation: APS (13.93%) / BGE (6.86%) Dominion (70.92%) / PEPC (8.29%) Load-Ratio Share Allocatio AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) DEOK (3.25%) / DL (1.71%) Dominion (13.32%) / DPI (2.60%) / EKPC (1.89%)	03800.333			
Install terminal equipment at Wishing Star 500 kV Image depindent at Wishing Star 500 kV Install terminal equipment at Wishing Star 500 kV Image depindent at Wishing Star 500 kV				· · · · · · · · · · · · · · · · · · ·
DFAX Allocation: APS (13.93%) / BGE (6.86% Dominion (70.92%) / PEPC (8.29%) Load-Ratio Share Allocatio AEC (1.65%) / AEP (13.68% / APS (5.76%) / ATSI (8.04% / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) DEOK (3.25%) / DL (1.71%) DEOK (3.25%) / DL (1.71%) Dominion (13.32%) / DPI (2.60%) / EKPC (1.89%)				(3.67%) / PPL (4.72%) / PSEG
APS (13.93%) / BGE (6.86% Dominion (70.92%) / PEPC (8.29%) Load-Ratio Share Allocatio AEC (1.65%) / AEP (13.68% / APS (5.76%) / ATSI (8.04 / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) DEOK (3.25%) / DL (1.71%) DEOK (3.25%) / DL (1.71%) Vishing Star 500 kV				<u>(6.39%) / RE (0.26%)</u>
APS (13.93%) / BGE (6.86% Dominion (70.92%) / PEPC (8.29%) Load-Ratio Share Allocatio AEC (1.65%) / AEP (13.68% / APS (5.76%) / ATSI (8.04 / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) DEOK (3.25%) / DL (1.71%) DEOK (3.25%) / DL (1.71%) Vishing Star 500 kV				
Dominion (70.92%) / PEPC (8.29%) Load-Ratio Share Allocation AEC (1.65%) / AEP (13.68% / APS (5.76%) / ATSI (8.04 / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) DEOK (3.25%) / DL (1.71%) DEOK (3.25%) / DL (1.71%) Vishing Star 500 kV				
Install terminal equipment at Dominion (13.32%) / DEV Wishing Star 500 kV Load-Ratio Share Allocation				· · _ · _ · _ · _ · _ · _ ·
Load-Ratio Share Allocation AEC (1.65%) / AEP (13.68% / APS (5.76%) / ATSI (8.04 / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) DEOK (3.25%) / DL (1.71%) DEOK (3.25%) / DL (1.71%) Wishing Star 500 kV				
Install terminal equipment at // APS (5.76%) / ATSI (8.04///BGE (4.11%) / ComEd//(13.39%) / Dayton (2.12%) DEOK (3.25%) / DL (1.71%) Dominion (13.32%) / DPI (2.60%) / EKPC (1.89%)				Load-Ratio Share Allocation:
Install terminal equipment at <u>/ BGE (4.11%) / ComEd</u> (13.39%) / Dayton (2.12%) <u>DEOK (3.25%) / DL (1.71%) DEOK (3.25%) / DL (1.71%) <u>Dominion (13.32%) / DPI (2.60%) / EKPC (1.89%) </u></u>				AEC (1.65%) / AEP (13.68%)
Install terminal equipment at Wishing Star 500 kV $(13.39\%) / Dayton (2.12\%)$ DEOK (3.25%) / DL (1.71%) Dominion (13.32%) / DPI (2.60%) / EKPC (1.89%)				<u>/ APS (5.76%) / ATSI (8.04%)</u>
Install terminal equipment at Wishing Star 500 kVDEOK (3.25%) / DL (1.71%) Dominion (13.32%) / DPI (2.60%) / EKPC (1.89%)				
Install terminal equipment at Wishing Star 500 kVDominion (13.32%) / DPI (2.60%) / EKPC (1.89%)		Wishing Star 500 kV		• • • •
$\frac{\text{Instant terminal equipment at}}{\text{Wishing Star 500 kV}}$				
b3800.354substation to support a 5000A line to Vint Hill. Update relayJCPL (3.86%) / ME (1.90%) NEPTUNE* (0.42%) / OVE	b3800 354			(2.60%) / EKPC (1.89%) /
<u>Ine to Vint Hill. Update relay</u> <u>NEPTUNE* (0.42%) / OVE</u>		substation to support a 5000A		JCPL (3.86%) / ME (1.90%) /
Settings for DUUK V lines NO	03000.334	line to Vint Hill. Update relay settings for 500 kV lines No. 546 and No. 590		<u>NEPTUNE* (0.42%) / OVEC</u>
1346 and No 390				$\frac{(0.08\%) / \text{PECO} (5.40\%) /}{\text{DENELEC} (1.78\%) / \text{DEDCO}}$
				<u>PENELEC (1.78%) / PEPCO</u> (3.67%) / PPL (4.72%) / PSEG
$\frac{(5.0776)(7112)(4.7276)(715)}{(6.39\%)/\text{RE}(0.26\%)}$				
DFAX Allocation:				
				<u>APS (21.45%) / Dominion</u>
(78.55%)		.		(78.55%)
b3800.355 Revise relay settings at Youngs Branch 230 kV station Dominion (100%)	<u>b3800.355</u>			
Branch 230 kV station Dominion (100%) *Neptune Regional Transmission System, LLC			r	<u>Dominion (100%)</u>

Required Tran	nsmission Enhancements Annual Re	evenue Requirement Responsible Customer(s)
<u>b3800.356</u>	Build a new 500 kV line from Vint Hill to Wishing Star. The line will be supported on single circuit monopoles. New conductor to have a summer rating of 4357 MVA. Line length is approximately 16.59 miles	Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%) DFAX Allocation:
<u>b3800.357</u>	Build a new 500 kV line from Morrisville to Vint Hill. New conductor to have a summer rating of 4357 MVA. Line length is approximately 19.71 miles	APS (21.45%) / Dominion (78.55%) Load-Ratio Share Allocation: AEC (1.65%) / AEP (13.68%) / APS (5.76%) / ATSI (8.04%) / BGE (4.11%) / ComEd (13.39%) / Dayton (2.12%) / DEOK (3.25%) / DL (1.71%) / DEOK (3.25%) / DL (1.71%) / Dominion (13.32%) / DPL (2.60%) / EKPC (1.89%) / JCPL (3.86%) / ME (1.90%) / NEPTUNE* (0.42%) / OVEC (0.08%) / PECO (5.40%) / PENELEC (1.78%) / PEPCO (3.67%) / PPL (4.72%) / PSEG (6.39%) / RE (0.26%)
<u>b3800.358</u>	Replace single unit Locks 230/115 kV 168 MVA transformer TX No.7 with new single unit transformer with a rating of 224 MVA. Lead lines at the 115 kV level will be upgraded to 2000A	DFAX Allocation: APS (9.79%) / Dominion (90.21%) Dominion (100%)

	Ismission Enhancements Annual Revenue Requirer Wreck and rebuild 230 kV line	tent Responsible Eustomer(s)
	No. 2090 Ladysmith CT -	
	Summit D.P. segment as a double circuit 230 kV line to	
b3800.359	achieve a summer rating of 1573 MVA. Only one circuit	
	will be wired at this stage.	
	<u>Upgrade circuit breaker leads,</u> switches and line leads at	
	Ladysmith CT to 4000A	Dominion (100%)
	Rebuild 230 kV line No. 2054	
	Charlottesville - Proffit DP	
	using double-circuit capable	
<u>b3800.360</u>	1000000000000000000000000000000000000	
	kV circuit will not be wired as	
	part of this project)	Dominion (100%)
	Rebuild 230 kV line No. 233	
	Charlottesville - Hydraulic	
<u>b3800.361</u>	Road - Barracks Road - Crozet-	
	Dooms	Dominion (100%)
	Rebuild 230 kV line No. 291	
b3800.362	segment from Charlottesville -	
	Barracks Road	Dominion (100%)
	Rebuild 230 kV line No. 291	
b3800.363	segment from Barracks Road -	
	Crozet	<u>Dominion (100%)</u>
	Rebuild 230 kV line No. 291	
<u>b3800.364</u>	segment Crozet - Dooms	$D_{\text{ominion}}(1009/)$
		<u>Dominion (100%)</u>
	Hollymeade substation Relay	
b3800.365	Revision for 230 kV line No. 2054 Charlottesville -	
	Hollymeade	Dominion (100%)
	Upgrade the terminal	
	equipment at 230 kV	
	Charlottesville station to	
<u>b3800.366</u>	4000A for 230 kV line No.	
	2054 (Charlottesville -	
	Hollymeade)	Dominion (100%)
	Proffit DP substation Relay	
	revision for 230 kV line No.	
<u>b3800.367</u>	2054 Charlottesville -	
	Hollymeade	Dominion (100%)
	Barracks Road substation relay	
	reset to accommodate the	
<u>b3800.368</u>	rebuilt line 230 kV lines No.	
	233 and No. 291	Dominion (100%)
	Crozet substation relay reset to	
b3800.369	accommodate the rebuilt 230	
	kV lines No. 233 and No. 291	Dominion (100%)

Required Tran	smission Enhancements Annual Revenue Requiremen	t Responsible Customer(s)
	Charlottesville 230 kV	
1 2000 250	substation terminal equipment	
<u>b3800.370</u>	upgrade for 230 kV lines No.	
	233 and No. 291 rebuild	Dominion (100%)
	Upgrade Hydraulic Road	
b3800.371	substation equipment for 230	
<u></u>	kV line No. 233 and No. 291	D_{1} (1000/)
	rebuild	<u>Dominion (100%)</u>
	Dooms substation terminal	
<u>b3800.372</u>	equipment upgrade for 230 kV	
03800.372	line No. 233 and No. 291	
	rebuild	<u>Dominion (100%)</u>
	Wreck and rebuild	
	approximately 7.14 miles of	
	230 kV line No. 256 from St.	
	Johns to structure 256/108 to	
<u>b3800.373</u>	achieve a summer rating of	
	1573 MVA. Line switch 25666	
	at St. Johns to be upgraded to	\mathbf{D} ominion (1000/)
	4000A	<u>Dominion (100%)</u>
	Reconductor approximately 5.30 miles of 230 kV line No.	
	5.30 miles of 230 kV line No.	
	256 from Ladysmith CT to	
b3800.374	structure 256/107 to achieve a	
03800.374	summer rating of 1573 MVA.	
	Terminal equipment at remote	
	end substations will be	
	upgraded to 4000A	Dominion (100%)
	Replace Ashburn 230 kV	
b3800.401	breaker SC432 with a breaker	
03000.401	rated 63 kA	Dominion (100%)
	Replace Beaumeade 230 kV	
1,2000,402		
<u>b3800.402</u>	breaker 227T2152 with a	\mathbf{D} amining (1000/)
	breaker rated 80 kA	<u>Dominion (100%)</u>
	Replace BECO 230 kV	
b3800.403	breakers 215012 and	
03000.403	H12T2150 with breakers rated	
	<u>63 kA</u>	<u>Dominion (100%)</u>
	Replace Belmont 230 kV	
b3800.404	breaker 227T2180 with a	
		Dominion (100%)
h2800 405		
	204502 209402 201T2045	
03000.403	20672004 with breakers rated	
		Dominion (100%)
1.0000	Replace Gainesville 230 kV	
b3800.406	breaker 216192 with a breaker	
	rated 80 kA	Dominion (100%)
<u>b3800.404</u> <u>b3800.405</u>	breaker 227T2180 with a breaker rated 80 kA Replace Brambleton 230 kV breakers 20102, 20602, 204502, 209402, 201T2045, 206T2094 with breakers rated 80 kA	<u>Dominion (100%)</u> <u>Dominion (100%)</u>

Required Tran	ismission Enhancements Annual Re	evenue Requirement	Responsible Customer(s)
<u>b3800.407</u>	Replace Loudoun 230 kV breakers 204552, 217352 with breakers rated 80 kA		Dominion (100%)
<u>b3800.408</u>	Replace Ox 230 kV breakers 22042, 24342, 24842, 220T2063, 243T2097, 248T2013, H342 with breakers rated 80 kA		<u>Dominion (100%)</u>
<u>b3800.409</u>	Replace Paragon Park 230 kV breakers 208132, 215032, 2081T2206, 2150T2207 with breakers rated 80 kA		<u>Dominion (100%)</u>
<u>b3800.410</u>	<u>Replace Reston 230 kV</u> breaker 264T2015 with a breaker rated 63 kA		<u>Dominion (100%)</u>
<u>b3800.411</u>	<u>Replace Stonewater 230 kV</u> <u>breakers 20662-1, 20662-2,</u> <u>217862-1, 217862-2 with</u> breakers rated 80 kA		<u>Dominion (100%)</u>
<u>b3800.412</u>	Replace Waxpool 230 kV breakers 214922-5, 214922-6, 216622-5, 216622-6 with breakers rated 63 kA		<u>Dominion (100%)</u>

PJM Open Access Transmission Tariff Schedule 12-Appendix A Section 33 – Keystone Appalachian Transmission Co.

Version 0.0.0 Effective January 1, 2024 (Accepted in Docket No. ER24-284-000)

SCHEDULE 12 – APPENDIX A

(33) Keystone Appalachian Transmission Company

Required Tra	ansmission Enhancements Annua	1 Revenue Requirement	Responsible Customer(s)
<u>b2120</u>	Six-Wire Lake Lynn - Lardin 138 kV circuits		<u>APS (100%)</u>
<u>b2174.8</u>	<u>Replace relays at Mitchell</u> <u>substation</u>		<u>APS (100%)</u>
<u>b2174.9</u>	Replace primary relay at Piney Fork substation		<u>APS (100%)</u>
<u>b2174.10</u>	Perform relay setting changes at Bethel Park substation		<u>APS (100%)</u>
<u>b2213</u>	Armstrong Substation: Relocate 138 kV controls from the generating station building to new control building		<u>APS (100%)</u>
<u>b2300</u>	Reconductor from Lake Lynn - West Run 138 kV		<u>APS (100%)</u>
<u>b2341</u>	Install 39.6 MVAR Capacitor at Shaffers Corner 138 kV Substation		<u>APS (100%)</u>
<u>b2362</u>	Install a 250 MVAR SVC at Squab Hollow 230 kV		<u>APS (100%)</u>
<u>b2362.1</u>	Install a 230 kV breaker at Squab Hollow 230 kV substation		<u>APS (100%)</u>
<u>b2363</u>	Convert the Shingletown 230 kV bus into a 6 breaker ring bus		<u>APS (100%)</u>
<u>b2364</u>	Install a new 230/138 kV transformer at Squab Hollow 230 kV substation. Loop the Forest - Elko 230 kV line into Squab Hollow. Loop the Brookville - Elko 138 kV line into Squab Hollow		<u>APS (100%)</u>
<u>b2412</u>	Install a 44 MVAR 138 kV capacitor at the Hempfield 138 kV substation		<u>APS (100%)</u>

Required Tr	ansmission Enhancements Annua	al Revenue Requirement	<u>Responsible Customer(s)</u>
<u>b2440</u>	Replace the Cabot 138kV breaker 'C9-KISKI VLY' with 63kA		<u>APS (100%)</u>
<u>b2546</u>	Install a 51.8 MVAR (rated) <u>138 kV capacitor at Nyswaner</u> <u>138 kV substation</u>		<u>APS (100%)</u>
<u>b2547.1</u>	Construct a new 138 kV six breaker ring bus Hillman substation		<u>APS (100%)</u>
<u>b2547.2</u>	Loop Smith- Imperial 138 kV line into the new Hillman substation		<u>APS (100%)</u>
<u>b2547.3</u>	Install +125/-75 MVAR SVC at Hillman substation		<u>APS (100%)</u>
<u>b2547.4</u>	Install two 31.7 MVAR 138 kV capacitors		<u>APS (100%)</u>
<u>b2548</u>	Eliminate clearance de-rate on Wylie Ridge – Smith 138 kV line and upgrade terminals at Smith 138 kV, new line ratings 294 MVA (Rate A)/350 MVA (Rate B)		<u>APS (100%)</u>
<u>b2612.1</u>	Relocate All Dam 6 138 kV line and the 138 kV line to AE units 1&2		<u>APS (100%)</u>
<u>b2612.2</u>	Install 138 kV, 3000A bus-tie breaker in the open bus-tie position next to the Shaffers corner 138 kV line		<u>APS (100%)</u>
<u>b2612.3</u>	Install a 6-pole manual switch, foundation, control cable, and all associated facilities		<u>APS (100%)</u>
<u>b2666</u>	Yukon 138 kV Breaker Replacement		<u>APS (100%)</u>
<u>b2666.1</u>	Replace Yukon 138 kV breaker "Y-11(CHARL1)" with an 80 kA breaker		<u>APS (100%)</u>

Required Tra	ansmission Enhancements Annua	<u>al Revenue Requirement</u>	Responsible Customer(s)
	Replace Yukon 138 kV		
<u>b2666.2</u>	breaker "Y-13(BETHEL)"		APS (100%)
	with an 80 kA breaker		
	Replace Yukon 138 kV		
<u>b2666.3</u>	breaker "Y-18(CHARL2)"		<u>APS (100%)</u>
	with an 80 kA breaker		
	Replace Yukon 138 kV		
<u>b2666.4</u>	breaker "Y-19(CHARL2)"		<u>APS (100%)</u>
	with an 80 kA breaker		
	Replace Yukon 138 kV		
<u>b2666.5</u>	breaker "Y-4(4B-2BUS)"		<u>APS (100%)</u>
	with an 80 kA breaker		
	Replace Yukon 138 kV		
<u>b2666.6</u>	breaker "Y-5(LAYTON)"		<u>APS (100%)</u>
	with an 80 kA breaker		
	Replace Yukon 138 kV		
<u>b2666.7</u>	breaker "Y-8(HUNTING)"		<u>APS (100%)</u>
	with an 80 kA breaker		
	Replace Yukon 138 kV		
<u>b2666.8</u>	breaker "Y-9(SPRINGD)"		<u>APS (100%)</u>
	with an 80 kA breaker		
	Replace Yukon 138 kV		
<u>b2666.9</u>	breaker "Y-10(CHRL-SP)"		<u>APS (100%)</u>
	with an 80 kA breaker		
	Replace Yukon 138 kV		
<u>b2666.10</u>	breaker "Y-12(1-1BUS)" with		<u>APS (100%)</u>
	an 80 kA breaker		
	Replace Yukon 138 kV		
<u>b2666.11</u>	breaker "Y-14(4-1BUS)" with		<u>APS (100%)</u>
	an 80 kA breaker		
	Replace Yukon 138 kV		
<u>b2666.12</u>	breaker "Y-2(1B-BETHE)"		<u>APS (100%)</u>
	with an 80 kA breaker		
	Replace Yukon 138 kV		
<u>b2666.13</u>	breaker "Y-21(SHEPJ)" with		<u>APS (100%)</u>
	an 80 kA breaker		
	Replace Yukon 138 kV		
<u>b2666.14</u>	breaker "Y-22(SHEPHJT)"		<u>APS (100%)</u>
	with an 80 kA breaker		

	ansinission Linancements Annua	
b2689.3	Upgrade terminal equipment	APS (100%)
	at structure 27A	 <u> </u>
<u>b2696</u>	Upgrade 138 kV substation equipment at Butler, Shanor Manor and Krendale substations. New rating of line will be 353 MVA summer normal/422 MVA emergency	<u>APS (100%)</u>
<u>b2763</u>	Replace the breaker risers and wave trap at Bredinville 138 kV substation on the Cabrey Junction 138 kV terminal	<u>APS (100%)</u>
<u>b2965</u>	Reconductor the Charleroi – Allenport 138 kV line with 954 ACSR conductor. Replace breaker risers at Charleroi and Allenport	<u>APS (37.15%) / DL (62.85%)</u>
<u>b2966</u>	<u>Reconductor the Yukon –</u> <u>Smithton – Shepler Hill Jct</u> <u>138 kV line with 795 ACSS</u> <u>conductor. Replace Line</u> <u>Disconnect Switch at Yukon</u>	<u>APS (100%)</u>
<u>b2966.1</u>	Reconductor the Yukon - Smithton - Shepler Hill Jct 138 kV line and replace terminal equipment as necessary to achieve required rating	<u>APS (100%)</u>
<u>b2967</u>	Convert the existing 6 wire Butler - Shanor Manor - Krendale 138 kV line into two separate 138 kV lines. New lines will be Butler - Keisters and Butler - Shanor Manor - Krendale 138 kV	<u>APS (100%)</u>

Required Tr	ansmission Enhancements Annual Revenue	e Requirement	Responsible Customer(s)
<u>b3005</u>	Reconductor 3.1 mile 556 ACSR portion of Cabot to Butler 138 kV with 556 ACSS and upgrade terminal equipment. 3.1 miles of line will be reconductored for this project. The total length of the line is 7.75 miles		<u>APS (100%)</u>
<u>b3006</u>	Replace four Yukon 500/138 kV transformers with three transformers with higher rating and reconfigure 500 kV bus		<u>APS (63.21%) / DL</u> (36.79%)
<u>b3007.1</u>	Reconductor the Blairsville East to Social Hall 138 kV line and upgrade terminal equipment - AP portion. 4.8 miles total. The new conductor will be 636 ACSS replacing the existing 636 ACSR conductor. At Social Hall, meters, relays, bus conductor, a wave trap, circuit breaker and disconnects will be replaced		<u>APS (100%)</u>
<u>b3010</u>	Replace terminal equipment at Keystone and Cabot 500 kV buses.At Keystone, bus tubing and conductor, a wave trap, and meter will be replaced. At Cabot, a wave trap and bus conductor will be replaced		<u>APS (100%)</u>
<u>b3011.1</u>	Construct new Route 51 substation and connect 10 138 kV lines to new substation		<u>DL (100%)</u>
<u>b3011.2</u>	Upgrade terminal equipment at Yukon to increase rating on Yukon to Charleroi #2 138 kV line (New Yukon to Route 51 #4 138 kV line)		<u>APS (22.82%) / DL</u> (77.18%)
<u>b3011.3</u>	Upgrade terminal equipment at Yukon to increase rating on Yukon to Route 51 #1 138 kV line		<u>DL (100%)</u>

Required Ir	ansmission Enhancements Annual Revenue Requ	<u>irement Responsible Customer(s)</u>
<u>b3011.4</u>	Upgrade terminal equipment at Yukon to increase rating on Yukon to Route 51 #2 138 kV line	<u>DL (100%)</u>
<u>b3011.5</u>	Upgrade terminal equipment at Yukon to increase rating on Yukon to Route 51 #3 138 kV line	<u>APS (22.82%) / DL</u> (77.18%)
<u>b3011.6</u>	<u>Upgrade remote end relays for</u> <u>Yukon – Allenport – Iron Bridge</u> <u>138 kV line</u>	<u>DL (100%)</u>
<u>b3012.1</u>	Construct two new 138 kV ties with the single structure from APS's new substation to Duquesne's new substation. The estimated line length is approximately 4.7 miles. The line is planned to use multiple ACSS conductors per phase	<u>ATSI (38.21%) / DL</u> (61.79%)
<u>b3012.3</u>	Construct a new Elrama – Route 51 138 kV No.3 line: reconductor 4.7 miles of the existing line, and construct 1.5 miles of a new line to the reconductored portion. Install a new line terminal at APS Route 51 substation	<u>DL (100%)</u>
<u>b3013</u>	Reconductor Vasco Tap toEdgewater Tap 138 kV line. 4.4miles. The new conductor will be336 ACSS replacing the existing 336ACSR conductor	<u>APS (100%)</u>
<u>b3015.6</u>	Reconductor Elrama to Mitchell 138kV line – AP portion. 4.2 miles total.2x 795 ACSS/TW 20/7	<u>DL (100%)</u>
<u>b3015.8</u>	<u>Upgrade terminal equipment at</u> <u>Mitchell for Mitchell – Elrama 138</u> <u>kV line</u>	<u>APS (100%)</u>

Upgrade line relaying at Piney Fork and Bethel Park for Piney Fork = Elrama 138 kV line and Bethel Park - Elrama 138 kVAPS (100%)Backel Park and Park - Elrama 138 kVAPS (100%)Backel Park at Vukon 138 kV and replace switches at Westraver 138 kV busAPS (100%)Backel Park - Elrama 138 kVAPS (100%)Backel Park - Elrama 138 kVAPS (100%)Backel Park - Elrama 138 kVAPS (100%)Backel Park - Reconductor the Westraver - Route 51 switches at Westraver 138 kV busAPS (100%)Backel Park - Reconductor the Westraver - Route 51 #1 138 kV line (5.63 miles), and replace line drops, relays and line disconnect switch at Yukon 138 kV busAPS (100%)Bactor the Yukon - Route 51 #1 138 kV line (8 miles) and replace relays at Yukon 138 kV busAPS (100%)Bactor the Yukon - Route 51 #2 138 kV line (8 miles) and replace relays at Yukon 138 kV busAPS (100%)Bactor the Yukon - Route 51 #3 138 kV line (8 miles) and replace relays at Yukon 138 kV busAPS (100%)Bactor the Solor 138 kV bus at Armstrong substationAPS (100%)Bactor the Solor 138 kV bus at Cabot substationAPS (100%)Bactor the Edgewater - Loyalhanna 138 kV line (0.67 mile)APS (100%)Bactor the Edgewater - Loyalhanna 138 kV line (0.67 mile)APS (100%)Bactor the Edgewater - Loyalhanna 138 kV line Upgrade terminal equipment at Yukon and replace line relaying at Mitchell and Charleroi line	<u>Required In</u>	ansmission Ennancements Annual Revenue	Requirement	Kesponsiole Customer(s)
	<u>b3064.3</u>	Bethel Park for Piney Fork – Elrama 138		<u>APS (100%)</u>
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$\underline{b3214.1}$ $\underline{Reconductor the Yukon - Smithton - Shepler Hill Jct 138 kV Line. Upgrade terminal equipment at Yukon and replace line relaying at Mitchell and Charleroi\underline{APS (12.21\%) / DL}{(87.79\%)}\underline{b3214.2}\underline{Reconductor the Smithton - Shepler Hill Jct 138 kV Line}\underline{APS (4.74\%) / DL}{(95.26\%)}\underline{b3230}\underline{At Enon substation install a second 138 kV capacitor and the associated 138 kV capacitor\underline{APS (100\%)}$	<u>b3083</u>			<u>APS (100%)</u>
b3214.1Shepler Hill Jct 138 kV Line. Upgrade terminal equipment at Yukon and replace line relaying at Mitchell and CharleroiAPS (12.21%) / DL (87.79%)b3214.2Reconductor the Smithton – Shepler Hill Jct 138 kV LineAPS (4.74%) / DL (95.26%)b3230At Enon substation install a second 138 kV, 28.8 MVAR nameplate, capacitor and the associated 138 kV capacitorAPS (100%)				
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b3214.2Jct 138 kV Line(95.26%)At Enon substation install a second 138 kV, 28.8 MVAR nameplate, capacitor and the associated 138 kV capacitorAPS (100%)	1 2 2 1 4 2			APS (4.74%) / DL
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and the associated 138 kV capacitor APS (100%)	<u>b3230</u>			
and the associated 138 kV capacitor		kV, 28.8 MVAR nameplate, capacitor		ADS (100%)
switcher		•		<u>Ars (10076)</u>
		switcher		

<u>Required In</u>	ansmission Ennancements Annual Revenue	Requirement	Kesponsiole Customer(s)
1.2210	Reconductor the Shanor Manor - Butler		A DC (1000/)
<u>b3318</u>	<u>138 kV line with an upgraded circuit</u> breaker at Butler 138 kV station		<u>APS (100%)</u>
	Reconductor the Charleroi - Union 138		
<u>b3325</u>	kV line and upgrade terminal equipment		<u>APS (100%)</u>
	at Charleroi 138 kV station		
	Upgrade the Shingletown #82 230/46 kV		
	Transformer circuit by installing a 230		
b3681	<u>kV breaker and disconnect switches,</u> removing existing 230 kV switches,		APS (100%)
03081	replacing 46 kV disconnect switches,		<u>APS (10076)</u>
	replacing limiting substation conductor,		
	and installing/replacing relays		
	Reconductor AA2-161 to Yukon 138 kV		
<u>b3710</u>	Lines #1 and #2 with 954 ACSS		<u>APS (100%)</u>
	conductor		
b3738	Replace limiting terminal equipment on		APS (100%)
	<u>Charleroi – Dry Run 138 kV line</u>		<u>1115 (10070)</u>
<u>b3739</u>	Replace limiting terminal equipment on		APS (100%)
	Dry Run – Mitchell 138 kV line		
<u>b3740</u>	Replace limiting terminal equipment on		APS (100%)
	Glen Falls –Bridgeport 138 kV line		
<u>b3741</u>	<u>Replace limiting terminal equipment on</u>		<u>APS (100%)</u>
	Yukon - Charleroi #1 138 kV line		
<u>b3742</u>	Replace limiting terminal equipment on		APS (100%)
	Yukon - Charleroi #2 138 kV line		
	Replace one span of 1272 ACSR from Krendale substation to structure 35		
	(approximately 630 feet)		
<u>b3744</u>	Replace one span of 1272 ACSR from		
	Shanor Manor to structure 21		
	(approximately 148 feet) Replace 1272		
	ACSR risers at Krendale and Shanor		APS (100%)
	Manor substations		
	Replace 1272 ACSR substation		
	conductor at Krendale substation Replace		
	relaying at Krendale substation		
	Revise relay settings at Butler and		
	Shanor Manor substations		

<u>b3745</u>	Install redundant relaying at Carbon Center 230 kV substation	<u>APS (100%)</u>
<u>b3761</u>	Install 138 kV breaker on the Ridgway 138/46 kV #2 Transformer	<u>APS (100%)</u>
<u>b3773</u>	Install 33 MVAR switched capacitor, 138 kV breaker, and associated relaying at McConnellsburg 138 kV substation	<u>APS (100%)</u>

PJM Open Access Transmission Tariff Schedule 12-Appendix C SAA Cost Responsibility

Version 3.0.0 Effective January 1, 2024 (Accepted in Docket No. ER24-786-000)

Schedule 12 - Appendix C

State Agreement Public Policy Projects Constructed Pursuant to the State Agreement Approach

This Schedule 12 - Appendix C applies only to the assignment of cost responsibility of State Agreement Public Policy Projects constructed in accordance with Operating Agreement, Schedule 6, section 1.5.9 among Responsible Customers.

(1) Rate Schedule FERC No. 49, State Agreement Approach Agreement By and Among PJM Interconnection, L.L.C. and New Jersey Board of Public Utilities

In accordance with the FERC order in Docket Nos. ER22-2690-000 and -001, 181 FERC ¶ 61,178 (2022), cost responsibility for the State Agreement Public Policy Projects shall be assigned annually on a load-ratio share basis among Network Customers in the State of New Jersey determined in accordance with Schedule 12, section (c)(4), and customers using Point-to-Point Transmission Service with a Point of Delivery within the State of New Jersey determined in accordance with Schedule 12, section (c)(5), as follows:

With respect to each Zone located in the State of New Jersey, using, consistent with Tariff, Part III, section 34.1, the applicable zonal loads at the time of such Zone's annual peak load from the 12-month period ending October 31 preceding the calendar year for which the annual cost responsibility allocation is determined.

Identifier	Description	Responsible Customers	Transmission
		(percentage share)	<u>Owner</u>
b3737.1	Reconfigure Larrabee 230 kV	AEC (13.64<u>14.36</u>%) /	Jersey Central Power
	substation	JCPL (<u>31.9831.31</u> %) /	<u>& Light Company</u>
		PSEG (52.17 <u>52.23</u> %) / RE	
		(<u>2.212.10</u> %)	
b3737.2	Larrabee substation – 230 kV	AEC (13.64<u>14.36</u>%) /	Jersey Central Power
	equipment for direct connection	JCPL (31.98<u>3</u>1.31 %) /	& Light Company
		PSEG (52.17 <u>52.23</u> %) / RE	
		(<u>2.212.10</u> %)	
b3737.3	Lakewood Generator substation	AEC (13.64<u>14.36</u>%) /	Jersey Central Power
	– Update relay settings on the	JCPL (<u>31.9831.31</u> %) /	& Light Company
	Larrabee 230 kV line	PSEG (52.17 <u>52.23</u> %) / RE	
		(<u>2.212.10</u> %)	
b3737.4	B54 Larrabee – South	AEC (13.64<u>14.36</u>%) /	Jersey Central Power
	Lockwood 34.5 kV line transfer	JCPL (31.98<u>31.31</u>%) /	& Light Company
		PSEG (52.17 <u>52.23</u> %) / RE	
		(<u>2.212.10</u> %)	
b3737.5	Larrabee Collector station –	AEC (13.64<u>14.36</u>%) /	Jersey Central Power
	Larrabee 230 kV new line	JCPL (31.98<u>31.31</u>%) /	& Light Company
		PSEG (52.17 <u>52.23</u> %) / RE	
		(<u>2.212.10</u> %)	
b3737.6	Larrabee Collector station –	AEC (13.64<u>14.36</u>%) /	Jersey Central Power
	Smithburg No.1 500 kV line	JCPL (31.98<u>31.31</u>%) /	<u>& Light Company</u>
	(new asset). New 500 kV line	PSEG (52.17 <u>52.23</u> %) / RE	
	will be built double circuit to	(<u>2.212.10</u> %)	
	accommodate a 500 kV line and		
	a 230 kV line		

b3737.7	Rebuild G1021 Atlantic –	AEC (13.64<u>14.36</u>%) /	Jersey Central Power
	Smithburg 230 kV line between	JCPL (31.98<u>31.31</u>%) /	<u>& Light Company</u>
	the Larrabee and Smithburg	PSEG (52.17 <u>52.23</u> %) / RE	
	substations as a double circuit	(<u>2.212.10</u> %)	
	500 kV/230 kV line		

Identifier	Description	Responsible Customers (percentage share)	Transmission Owner
b3737.8	Smithburg substation 500 kV expansion to 4-breaker ring	AEC (<u>13.6414.36</u> %) / JCPL (<u>31.9831.31</u> %) / PSEG (<u>52.1752.23</u> %) / RE (<u>2.21</u> 2.10%)	Jersey Central Power & Light Company
b3737.9	Larrabee substation upgrades	AEC (13.64<u>14.36</u>%) / JCPL (<u>31.9831.31</u>%) / PSEG (<u>52.1752.23</u>%) / RE (<u>2.212.10</u>%)	Jersey Central Power & Light Company
b3737.10	Atlantic 230 kV substation – Convert to double-breaker double- bus	AEC (13.64<u>14.36</u>%) / JCPL (<u>31.9831.31</u>%) / PSEG (<u>52.1752.23</u>%) / RE (<u>2.21</u>2.10%)	Jersey Central Power & Light Company
b3737.11	Freneau substation – Update relay settings on the Atlantic 230 kV line	AEC (13.6414.36 %) / JCPL (31.98<u>3</u>1.31 %) / PSEG (52.17<u>52.23</u>%) / RE (<u>2.212.10</u>%)	Jersey Central Power & Light Company
b3737.12	Smithburg substation – Update relay settings on the Atlantic 230 kV line	AEC (13.64<u>14.36</u>%) / JCPL (<u>31.9831.31</u>%) / PSEG (<u>52.1752.23</u>%) / RE (<u>2.212.10</u>%)	Jersey Central Power & Light Company
b3737.13	Oceanview substation – Update relay settings on the Atlantic 230 kV lines	AEC (<u>13.6414.36</u> %) / JCPL (<u>31.9831.31</u> %) / PSEG (<u>52.1752.23</u> %) / RE (<u>2.212.10</u> %)	Jersey Central Power & Light Company
b3737.14	Red Bank substation – Update relay settings on the Atlantic 230 kV lines	AEC (13.64<u>14.36</u>%) / JCPL (<u>31.9831.31</u>%) / PSEG (<u>52.1752.23</u>%) / RE (<u>2.212.10</u>%)	Jersey Central Power & Light Company
b3737.15	South River substation – Update relay settings on the Atlantic 230 kV line	AEC (<u>13.6414.36</u> %) / JCPL (<u>31.9831.31</u> %) / PSEG (<u>52.1752.23</u> %) / RE (<u>2.212.10</u> %)	Jersey Central Power & Light Company
b3737.16	Larrabee substation – Update relay settings on the Atlantic 230 kV line	AEC (13.64<u>14.36</u>%) / JCPL (<u>31.9831.31</u>%) / PSEG (<u>52.1752.23</u>%) / RE (<u>2.21</u>2.10%)	Jersey Central Power & Light Company
b3737.17	Atlantic substation – Construct a new 230 kV line terminal position to accept the generator lead line from the offshore wind Larrabee Collector station	AEC (13.6414.36 %) / JCPL (31.98<u>31.31</u>%) / PSEG (<u>52.1752.23</u>%) / RE (2.21<u>2.10</u>%)	Jersey Central Power & Light Company
b3737.18	G1021 (Atlantic – Smithburg) 230 kV upgrade	AEC (<u>13.6414.36</u> %) / JCPL (<u>31.9831.31</u> %) / PSEG	Jersey Central Power & Light Company

		(52.17<u>52.23</u>%) / RE	
		(<u>2.212.10</u> %)	
b3737.19	R1032 (Atlantic – Larrabee) 230	AEC (13.64<u>14.36</u>%) / JCPL	Jersey Central Power
	kV upgrade	(31.98<u>31.31</u>%) / PSEG	& Light Company
		(52.17<u>52.23</u>%) / RE	
		(<u>2.212.10</u> %)	
b3737.20	New Larrabee Collector station –	AEC (13.6414.36%) / JCPL	Jersey Central Power
	Atlantic 230 kV line	(31.98<u>31.31</u>%) / PSEG	& Light Company
		(52.17<u>52.23</u>%) / RE	
		(<u>2.212.10</u> %)	

Identifier	Description	Responsible Customers (percentage share)	<u>Transmission</u> Owner
b3737.21	Larrabee – Oceanview 230 kV line upgrade	AEC (13.64<u>14.36</u>%) / JCPL (<u>31.9831.31</u>%) / PSEG (<u>52.1752.23</u>%) / RE (<u>2.21</u>2.10%)	Jersey Central Power & Light Company
b3737.22	Construct the Larrabee Collector station AC switchyard, composed of a 230 kV 3 bay breaker and a half substation with a nominal current rating of 4000 A and four single phase 500/230 kV 450 MVA autotransformers to step up the voltage for connection to the Smithburg substation. Procure land adjacent to the AC switchyard, and prepare the site for construction of future AC to DC converters for future interconnection of DC circuits from offshore wind generation. Land should be suitable to accommodate installation of four individual converters to accommodate circuits with equivalent rating of 1400 MVA at 400 kV	AEC (13.64<u>14.36</u>%) / JCPL (<u>31.98<u>31.31</u>%) / PSEG (52.17<u>52.23</u>%) / RE (<u>2.212.10</u>%)</u>	<u>Mid-Atlantic</u> <u>Offshore</u> <u>Development, LLC</u>
b3737.23	Rebuild the underground portion of Richmond – Waneeta 230 kV line	AEC (13.6414.36 %) / JCPL (31.9831.31 %) / PSEG (52.17<u>52.23</u>%) / RE (<u>2.212.10</u>%)	Atlantic City Electric Company
b3737.24	Upgrade Cardiff – Lewis 138 kV by replacing 1590 kcmil strand bus inside Lewis substation	AEC (<u>13.6414.36</u> %) / JCPL (<u>31.9831.31</u> %) / PSEG (<u>52.1752.23</u> %) / RE (<u>2.212.10</u> %)	Atlantic City Electric Company
b3737.25	Upgrade Lewis No. 2 – Lewis No. 1 138 kV by replacing its bus tie with 2000 A circuit breaker	AEC (<u>13.6414.36</u> %) / JCPL (<u>31.9831.31</u> %) / PSEG (<u>52.1752.23</u> %) / RE (<u>2.212.10</u> %)	Atlantic City Electric Company
b3737.26	Upgrade Cardiff – New Freedom 230 kV by modifying existing relay setting to increase relay limit	AEC (13.64<u>14.36</u>%) / JCPL (<u>31.9831.31</u>%) / PSEG (<u>52.1752.23</u>%) / RE (<u>2.212.10</u>%)	Atlantic City Electric Company
b3737.27	Rebuild approximately 0.8 miles of the D1018 (Clarksville –Lawrence 230 kV) line between Lawrence substation (PSEG) and structure No. 63	AEC (13.6414.36 %) / JCPL (31.9831.31 %) / PSEG (52.1752.23 %) / RE (2.212.10 %)	<u>Jersey Central</u> <u>Power & Light</u> <u>Company</u>
b3737.28	Reconductor Kilmer I – Lake Nelson I 230 kV	AEC (<u>13.6414.36</u> %) / JCPL (<u>31.9831.31</u> %) / PSEG (<u>52.1752.23</u> %) / RE (<u>2.212.10</u> %)	<u>Jersey Central</u> <u>Power & Light</u> <u>Company</u>

b3	3737.29	Convert the six-wired East Windsor –	AEC (13.6414.36%) / JCPL	Jersey Central
		Smithburg E2005 230 kV line (9.0 miles)	(31.98<u>31.31</u>%) / PSEG	Power & Light
		to two circuits: One a 500 kV line and the	(52.17<u>52.23</u>%) / RE	Company
		other a 230 kV line	(<u>2.212.10</u> %)	

Identifier	Description	Responsible Customers	Transmission Owner
		(percentage share)	
b3737.30	Add third Smithburg 500/230 kV	AEC (13.64<u>14.36</u>%) /	Jersey Central Power &
	transformer	JCPL (31.98<u>31.31</u>%) /	Light Company
		PSEG (52.17<u>52.23</u>%) /	
		RE (2.21 <u>2.10</u> %)	
b3737.31	Additional reconductoring	AEC (13.64<u>14.36</u>%) /	Jersey Central Power &
	required for Lake Nelson I –	JCPL (31.98<u>31.31</u>%) /	Light Company
	Middlesex 230 kV line	PSEG (52.17<u>52.23</u>%) /	
		RE (2.21 <u>2.10</u> %)	
b3737.32	Rebuild Larrabee – Smithburg	AEC (13.64<u>14.36</u>%) /	Jersey Central Power &
	No. 1 230 kV line	JCPL (31.98<u>31.31</u>%) /	Light Company
		PSEG (52.17 <u>52.23</u> %) /	
		RE (2.21 2.10%)	
b3737.33	Reconductor Red Oak A –	AEC (13.6414.36 %) /	Jersey Central Power &
	Raritan River 230 kV line	JCPL (31.98<u>31.31</u>%) /	Light Company
		PSEG (52.17 52.23%) /	
		RE (2.21 2.10%)	
b3737.34	Reconductor Red Oak B –	AEC (13.6414.36 %) /	Jersey Central Power &
	Raritan River 230 kV line	JCPL (31.98<u>31.31</u>%) /	Light Company
		PSEG (52.17 52.23%) /	
		RE (2.21 2.10%)	
b3737.35	Reconductor small section of	AEC (13.6414.36 %) /	Jersey Central Power &
	Raritan River – Kilmer I 230 kV	JCPL (31.98 31.31%) /	Light Company
	line	PSEG (52.17 <u>52.23</u> %) /	
		RE (2.21 2.10%)	
b3737.36	Replace substation conductor at	AEC (13.6414.36 %) /	Jersey Central Power &
	Kilmer and reconductor Raritan	JCPL (31.98<u>31.31</u>%) /	Light Company
	River – Kilmer W 230 kV line	PSEG (52.17 52.23%) /	
		RE (2.212.10%)	
b3737.37	Add a third set of submarine	AEC (13.64 14.36%) /	Silver Run Electric, LLC
	cables, rerate the overhead	JCPL (31.9831.31%) /	
	segment, and upgrade terminal	PSEG (52.17<u>52.23</u>%) /	
	equipment to achieve a higher	RE (2.21 2.10%)	
	rating for the Silver Run – Hope		
	Creek 230 kV line		
b3737.38	Linden subproject: Install a new	AEC (13.6414.36 %) /	Public Service Electric and
	345/230 kV transformer at the	JCPL (31.98 31.31%) /	Gas Company
	Linden 345 kV switching station,	PSEG (<u>52.1752.23</u> %) /	<u>.</u>
	and relocate the Linden – Tosco	RE $(2.212.10\%)$	
	230 kV (B-2254) line from the		
	Linden 230 kV to the existing		
	345/230 kV transformer at		
	Linden 345 kV station		

b3737.39	Bergen subproject: Upgrade the	AEC (13.64<u>14.36</u>%) /	Public Service Electric and
	Bergen 138 kV ring bus by	JCPL (31.98<u>31.31</u>%) /	Gas Company
	installing a 80 kA breaker along	PSEG (52.17 <u>52.23</u> %) /	
	with the foundation, piles, and	RE (<u>2.212.10</u> %)	
	relays to the existing ring bus,		
	install breaker isolation switches		
	on existing foundations and		
	modify and extend bus work		

Identifier	Description	Responsible Customers	Transmission Owner
		(percentage share)	
b3737.40	Windsor to Clarksville subproject:	AEC (13.64 <u>14.36</u> %) /	Jersey Central Power &
	Create a paired conductor path between	JCPL (31.98<u>3</u>1.31 %) /	Light Company
	Clarksville 230 kV and JCPL Windsor	PSEG (52.17 <u>52.23</u> %) /	
	Switch 230 kV	RE (2.21 <u>2.10</u> %)	
b3737.41	Windsor to Clarksville subproject:	AEC (13.64<u>14.36</u>%) /	Public Service Electric
	Upgrade all terminal equipment at	JCPL (<u>31.9831.31</u> %) /	and Gas Company
	Windsor 230 kV and Clarksville 230	PSEG (52.17 <u>52.23</u> %) /	
	kV as necessary to create a paired	RE (2.21 <u>2.10</u> %)	
	conductor path between Clarksville and		
	JCPL East Windsor Switch 230 kV		
b3737.42	Upgrade inside plant equipment at	AEC (13.64<u>14.36</u>%) /	Public Service Electric
	Lake Nelson I 230 kV station	JCPL (31.98<u>31.31</u>%) /	and Gas Company
		PSEG (52.17 <u>52.23</u> %) /	
		RE (2.21 <u>2.10</u> %)	
b3737.43	Upgrade Kilmer W – Lake Nelson W	AEC (13.64<u>14.36</u>%) /	Public Service Electric
	230 kV line drop and strain bus	JCPL (<u>31.9831.31</u> %) /	and Gas Company
	connections at Lake Nelson 230 kV	PSEG (52.17 <u>52.23</u> %) /	
		RE (2.21<u>2.10</u>%)	
b3737.44	Upgrade Lake Nelson – Middlesex –	AEC (13.64<u>14.36</u>%) /	Public Service Electric
	Greenbrook W 230 kV line drop and	JCPL (31.98<u>31.31</u>%) /	and Gas Company
	strain bus connections at Lake Nelson	PSEG (52.17<u>52.23</u>%) /	
	230 kV	RE (2.21<u>2.10</u>%)	
b3737.45	Reconductor 0.33 miles of PPL's	AEC (13.64<u>14.36</u>%) /	PPL Electric Utilities
	portion of the Gilbert –Springfield 230	JCPL (31.98<u>31.31</u>%) /	Corporation
	kV line	PSEG (52.17 <u>52.23</u> %) /	
		RE (2.21 <u>2.10</u> %)	
b3737.46	Install a new breaker at Graceton 230	AEC (13.64<u>14.36</u>%) /	Baltimore Gas and
	kV substation to terminate a new 230	JCPL (31.98<u>31.31</u>%) /	Electric Company
	kV line from the new greenfield North	PSEG (52.17<u>52.23</u>%) /	
	Delta station	RE (2.21 <u>2.10</u> %)	
b3737.47	Build a new greenfield North Delta	AEC (13.64<u>14.36</u>%) /	Transource, LLC
	station with two 500/230 kV 1500	JCPL (31.98<u>31.31</u>%) /	
	MVA transformers and nine 63 kA	PSEG (52.17 <u>52.23</u> %) /	
	breakers (four high side and five low	RE (<u>2.21</u> 2.10%)	
	side breakers in ring bus configuration)		
b3737.48	Build a new North Delta – Graceton	AEC (13.64<u>14.36</u>%) /	PECO Energy
	230 kV line by rebuilding 6.07 miles of	JCPL (31.98<u>31.31</u>%) /	<u>Company</u>
	the existing Cooper – Graceton 230 kV	PSEG (52.17 <u>52.23</u> %) /	
	line to double circuit	RE (2.21<u>2.10</u>%)	

b3737.49	Bring the Cooper – Graceton 230 kV	AEC (13.64<u>14.36</u>%) /	PECO Energy
	line "in and out" of North Delta by	JCPL (31.98<u>31.31</u>%) /	<u>Company</u>
	constructing a new double-circuit	PSEG (52.17<u>52.23</u>%) /	
	North Delta – Graceton 230 kV (0.3	RE (2.21<u>2.10</u>%)	
	miles) and a new North Delta – Cooper		
	230 kV (0.4 miles) cut-in lines		

Identifier	Description	Responsible Customers	Transmission
		(percentage share)	<u>Owner</u>
b3737.50	Bring the Peach Bottom – Delta	AEC (13.64<u>14.36</u>%) /	PECO Energy
	Power Plant 500 kV line "in and out"	JCPL (<u>31.9831.31</u> %) /	Company
	of North Delta by constructing a new	PSEG (52.17<u>52.23</u>%) /	
	Peach Bottom – North Delta 500 kV	RE (2.21 2.10%)	
	(0.3 miles) cut-in and cut-out lines		
b3737.51	Replace four 63 kA circuit breakers	AEC (13.64 <u>14.36</u> %) /	PECO Energy
	"205," "235," "225" and "255" at	JCPL (<u>31.9831.31</u> %) /	Company
	Peach Bottom 500 kV with 80 kA	PSEG (52.17<u>52.23</u>%) /	
		RE (2.21 2.10%)	
b3737.52	Replace one 63 kA circuit breaker	AEC (13.64<u>14.36</u>%) /	Baltimore Gas and
	"B4" at Conastone 230 kV with 80	JCPL (<u>31.9831.31</u> %) /	Electric Company
	kA	PSEG (52.17 52.23%) /	
		RE (2.212.10%)	
b3737.53	Remove the existing E83 115 kV line	AEC (13.6414.36%) /	Jersey Central
	(not in-service) to accommodate the	JCPL (31.98<u>31.31</u>%) /	Power & Light
	new 500 kV/230 kV lines	PSEG (52.17<u>52.23</u>%) /	Company
	(approximately 7.7 miles)	RE (2.21 2.10%)	````````````
b3737.54	Remove the existing H2008 Larrabee	AEC (<u>13.6414.36</u> %) /	Jersey Central
	– Smithburg No. 2 230 kV line to	JCPL (31.98<u>31.31</u>%) /	Power & Light
	accommodate the new 500 kV/230	PSEG (<u>52.1752.23</u> %) /	Company
	kV lines	RE (2.21 2.10%)	<u>·</u>
b3737.55	Middlesex substation 230 kV –	AEC (<u>13.6414.36</u> %) /	Jersey Central
	Replace the 2000A circuit switcher at	JCPL (<u>31.9831.31</u> %) /	Power & Light
	Middlesex switch point for the Lake	PSEG (52.17<u>52.23</u>%) /	Company
	Nelson I1023 230 kV exit	RE (2.21 2.10%)	
b3737.56	Build a new North Delta – Graceton	AEC (13.64<u>14.36</u>%) /	Baltimore Gas and
	230 kV line by rebuilding 6.26 miles	JCPL (31.98<u>31.31</u>%) /	Electric Company
	of the existing Cooper – Graceton	PSEG (<u>52.1752.23</u> %) /	<u>+</u>
	230 kV line to double circuit.	RE (2.212.10%)	
	Cooper-Graceton is jointly owned by		
	PECO and BGE. This subproject is		
	for BGE's portion of the line rebuild,		
	which is 2.16 miles		
b3737.59	Windsor to Clarksville subproject:	AEC (<u>13.6414.36</u> %) /	Jersey Central
• •	Upgrade terminal equipment at	JCPL (31.98 31.31%) /	Power & Light
	Windsor 230 kV station	PSEG (<u>52.1752.23</u> %) /	Company
		RE $(2.212.10\%)$	
b3737.60	Perform a Pre-build Infrastructure	AEC (<u>13.6414.36</u> %) /	Mid-Atlantic
	evaluation study in alignment with	JCPL (31.98<u>31.31</u>%)/	Offshore
	the NJBPU Solicitation Guidance	PSEG (<u>52.1752.23</u> %) /	Development,
	Document requirements	$RE \left(\frac{2.21}{2.10\%}\right)$	LLC

PJM Open Access Transmission Tariff Schedule 12-Appendix C SAA Cost Responsibility

Version 4.0.0 Effective April 9, 2024 (Accepted in Docket No. ER24-843-000)

Schedule 12 - Appendix C

State Agreement Public Policy Projects Constructed Pursuant to the State Agreement Approach

This Schedule 12 - Appendix C applies only to the assignment of cost responsibility of State Agreement Public Policy Projects constructed in accordance with Operating Agreement, Schedule 6, section 1.5.9 among Responsible Customers.

(1) Rate Schedule FERC No. 49, State Agreement Approach Agreement By and Among PJM Interconnection, L.L.C. and New Jersey Board of Public Utilities

In accordance with the FERC order in Docket Nos. ER22-2690-000 and -001, 181 FERC ¶ 61,178 (2022), cost responsibility for the State Agreement Public Policy Projects shall be assigned annually on a load-ratio share basis among Network Customers in the State of New Jersey determined in accordance with Schedule 12, section (c)(4), and customers using Point-to-Point Transmission Service with a Point of Delivery within the State of New Jersey determined in accordance with Schedule 12, section (c)(5), as follows:

With respect to each Zone located in the State of New Jersey, using, consistent with Tariff, Part III, section 34.1, the applicable zonal loads at the time of such Zone's annual peak load from the 12-month period ending October 31 preceding the calendar year for which the annual cost responsibility allocation is determined.

Identifier	Description	Responsible Customers (percentage share)
b3737.1	Reconfigure Larrabee 230 kV substation	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)
b3737.2	Larrabee substation – 230 kV equipment for direct connection	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)
b3737.3	Lakewood Generator substation – Update relay settings on the Larrabee 230 kV line	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)
b3737.4	B54 Larrabee – South Lockwood 34.5 kV line transfer	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)
b3737.5	Larrabee Collector station – Larrabee 230 kV new line	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)
b3737.6	Larrabee Collector station – Smithburg No.1 500 kV line (new asset). New 500 kV line will be built double circuit to accommodate a 500 kV line and a 230 kV line	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)
b3737.7	Rebuild G1021 Atlantic – Smithburg 230 kV line between the Larrabee and Smithburg substations as a double circuit 500 kV/230 kV line	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)

Identifier	Description	Responsible Customers (percentage share)
b3737.8	Smithburg substation 500 kV expansion to 4-breaker ring	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)
b3737.9	Larrabee substation upgrades	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)
b3737.10	Atlantic 230 kV substation – Convert to double-breaker double-bus	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)
b3737.11	Freneau substation – Update relay settings on the Atlantic 230 kV line	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)
b3737.12	Smithburg substation – Update relay settings on the Atlantic 230 kV line	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)
b3737.13	Oceanview substation – Update relay settings on the Atlantic 230 kV lines	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)
b3737.14	Red Bank substation – Update relay settings on the Atlantic 230 kV lines	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)
b3737.15	South River substation – Update relay settings on the Atlantic 230 kV line	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)
b3737.16	Larrabee substation – Update relay settings on the Atlantic 230 kV line	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)
b3737.17	Atlantic substation – Construct a new 230 kV line terminal position to accept the generator lead line from the offshore wind Larrabee Collector station	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)
b3737.18	G1021 (Atlantic – Smithburg) 230 kV upgrade	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)
b3737.19	R1032 (Atlantic – Larrabee) 230 kV upgrade	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)
b3737.20	New Larrabee Collector station – Atlantic 230 kV line	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)

Identifier	Description	Responsible Customers (percentage share)
b3737.21	Larrabee – Oceanview 230 kV line upgrade	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)
b3737.22	Construct the Larrabee Collector station AC switchyard, composed of a 230 kV 3 bay breaker and a half substation with a nominal current rating of 4000 A and four single phase 500/230 kV 450 MVA autotransformers to step up the voltage for connection to the Smithburg substation. Procure land adjacent to the AC switchyard, and prepare the site for construction of future AC to DC converters for future interconnection of DC circuits from offshore wind generation. Land should be suitable to accommodate installation of four individual converters to accommodate circuits with equivalent rating of 1400 MVA at 400 kV	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)
b3737.23	Rebuild the underground portion of Richmond – Waneeta 230 kV line	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)
b3737.24	Upgrade Cardiff – Lewis 138 kV by replacing 1590 kcmil strand bus inside Lewis substation	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)
b3737.25	Upgrade Lewis No. 2 – Lewis No. 1 138 kV by replacing its bus tie with 2000 A circuit breaker	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)
b3737.26	Upgrade Cardiff – New Freedom 230 kV by modifying existing relay setting to increase relay limit	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)
b3737.27	Rebuild approximately 0.8 miles of the D1018 (Clarksville –Lawrence 230 kV) line between Lawrence substation (PSEG) and structure No. 63	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)
b3737.28	Reconductor Kilmer I – Lake Nelson I 230 kV	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)
b3737.29	Convert the six-wired East Windsor – Smithburg E2005 230 kV line (9.0 miles) to two circuits: One a 500 kV line and the other a 230 kV line	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)

Identifier	Description	Responsible Customers (percentage share)
b3737.30	Add third Smithburg 500/230 kV transformer	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)
b3737.31	Additional reconductoring required for Lake Nelson I –Middlesex 230 kV line	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)
b3737.32	Rebuild Larrabee – Smithburg No. 1 230 kV line	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)
b3737.33	Reconductor Red Oak A – Raritan River 230 kV line	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)
b3737.34	Reconductor Red Oak B – Raritan River 230 kV line	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)
b3737.35	Reconductor small section of Raritan River – Kilmer I 230 kV line	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)
b3737.36	Replace substation conductor at Kilmer and reconductor Raritan River – Kilmer W 230 kV line	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)
b3737.37	Add a third set of submarine cables, rerate the overhead segment, and upgrade terminal equipment to achieve a higher rating for the Silver Run – Hope Creek 230 kV line	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)
b3737.38	Linden subproject: Install a new 345/230 kV transformer at the Linden 345 kV switching station, and relocate the Linden – Tosco 230 kV (B-2254) line from the Linden 230 kV to the existing 345/230 kV transformer at Linden 345 kV station	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)
b3737.39	Bergen subproject: Upgrade the Bergen 138 kV ring bus by installing a 80 kA breaker along with the foundation, piles, and relays to the existing ring bus, install breaker isolation switches on existing foundations and modify and extend bus work	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)

Identifier	Description	Responsible Customers (percentage share)
b3737.40	Windsor to Clarksville subproject:	AEC (13.64%) / JCPL (31.98%) / PSEG
	Create a paired conductor path between	(52.17%) / RE (2.21%)
	Clarksville 230 kV and JCPL Windsor	
	Switch 230 kV	
b3737.41	Windsor to Clarksville subproject:	AEC (13.64%) / JCPL (31.98%) / PSEG
	Upgrade all terminal equipment at	(52.17%) / RE (2.21%)
	Windsor 230 kV and Clarksville 230	
	kV as necessary to create a paired	
	conductor path between Clarksville and	
	JCPL East Windsor Switch 230 kV	
b3737.42	Upgrade inside plant equipment at	AEC (13.64%) / JCPL (31.98%) / PSEG
	Lake Nelson I 230 kV station	(52.17%) / RE (2.21%)
b3737.43	Upgrade Kilmer W – Lake Nelson W	AEC (13.64%) / JCPL (31.98%) / PSEG
	230 kV line drop and strain bus	(52.17%) / RE (2.21%)
	connections at Lake Nelson 230 kV	
b3737.44	Upgrade Lake Nelson – Middlesex –	AEC (13.64%) / JCPL (31.98%) / PSEG
	Greenbrook W 230 kV line drop and	(52.17%) / RE (2.21%)
	strain bus connections at Lake Nelson	
	230 kV	
b3737.45	Reconductor 0.33 miles of PPL's	AEC (13.64%) / JCPL (31.98%) / PSEG
	portion of the Gilbert –Springfield 230	(52.17%) / RE (2.21%)
	kV line	
b3737.46	Install a new breaker at Graceton 230	AEC (13.64%) / JCPL (31.98%) / PSEG
	kV substation to terminate a new 230	(52.17%) / RE (2.21%)
	kV line from the new greenfield North	
	Delta station	

Identifier	Description	Responsible Customers (percentage share)
b3737.47 [±]	Build a new greenfield North Delta	Reliability Driver (26.73%):
	station with two 500/230 kV 1500	
	MVA transformers and nine 63 kA	Load-Ratio Share Allocation:
	breakers (four high side and five low	<u>AEC (1.65%) / AEP (13.68%) / APS</u>
	side breakers in ring bus configuration)	(5.76%) / ATSI (8.04%) / BGE (4.11%) /
	Build a new North Delta 500 kV	<u>ComEd (13.39%) / Dayton (2.12%) / DEOK</u>
	substation with four bay breaker and	(3.25%) / DL (1.71%) / Dominion (13.32%) /
	half configuration. The substation will	<u>DPL (2.60%) / EKPC (1.89%) / JCPL</u>
	include 12 500 kV breakers and one	<u>(3.86%) / ME (1.90%) / NEPTUNE*</u>
	500/230 kV transformers, will allow	(0.42%) / OVEC (0.08%) / PECO (5.40%) /
	the termination of six 500 kV lines	<u>PENELEC (1.78%) / PEPCO (3.67%) / PPL</u>
		<u>(4.72%) / PSEG (6.39%) / RE (0.26%)</u>
		DFAX Allocation:
		<u>PECO (100%)</u>
		Public Policy Driver (73.27%):
		AEC (13.6413.55 %) / JCPL (31.9831.74 %) /
1 2 7 2 7 4 0		PSEG (52.17 <u>52.60</u> %) / RE (<u>2.212.11</u> %)
b3737.48	Build a new North Delta – Graceton	AEC (13.64%) / JCPL (31.98%) / PSEG
	230 kV line by rebuilding 6.07 miles of	(52.17%) / RE (2.21%)
	the existing Cooper – Graceton 230 kV	
b3737.49	line to double circuit	A = C (12 (40/) / ICDL (21 000/) / DEE C
03/3/.49	Bring the Cooper – Graceton 230 kV	AEC (13.64%) / JCPL (31.98%) / PSEG
	line "in and out" of North Delta by	(52.17%) / RE (2.21%)
	constructing a new double-circuit	
	North Delta – Graceton 230 kV (0.3	
	miles) and a new North Delta – Cooper	
	230 kV (0.4 miles) cut-in lines	

⁺ b3737.47 is an Incremental Multi-Driver Project that includes both a reliability driver and a public policy driver. Accordingly, b3737.47 is included on both Tariff, Schedule 12–Appendix A, section 28 and Tariff, Schedule 12–Appendix C, section 1.

Identifier	Description	Responsible Customers (percentage share)
b3737.50	Bring the Peach Bottom – Delta Power Plant 500 kV line "in and out" of North Delta by constructing a new Peach Bottom – North Delta 500 kV (0.3 miles) cut-in and cut-out lines	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)
b3737.51	Replace four 63 kA circuit breakers "205," "235," "225" and "255" at Peach Bottom 500 kV with 80 kA	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)
b3737.52	Replace one 63 kA circuit breaker "B4" at Conastone 230 kV with 80 kA	AEC (13.64%) / JCPL (31.98%) / PSEG (52.17%) / RE (2.21%)
b3737.53	Remove the existing E83 115 kV line (not in-service) to accommodate the new 500 kV/230 kV lines (approximately 7.7 miles)	AEC (13.55%) / JCPL (31.74%) / PSEG (52.60%) / RE (2.11%)
b3737.54	Remove the existing H2008 Larrabee – Smithburg No. 2 230 kV line to accommodate the new 500 kV/230 kV lines	AEC (13.55%) / JCPL (31.74%) / PSEG (52.60%) / RE (2.11%)
b3737.55	Middlesex substation 230 kV – Replace the 2000A circuit switcher at Middlesex switch point for the Lake Nelson I1023 230 kV exit	AEC (13.55%) / JCPL (31.74%) / PSEG (52.60%) / RE (2.11%)
b3737.56	Build a new North Delta – Graceton 230 kV line by rebuilding 6.26 miles of the existing Cooper – Graceton 230 kV line to double circuit. Cooper-Graceton is jointly owned by PECO and BGE. This subproject is for BGE's portion of the line rebuild, which is 2.16 miles	AEC (13.55%) / JCPL (31.74%) / PSEG (52.60%) / RE (2.11%)
b3737.59	Windsor to Clarksville subproject: Upgrade terminal equipment at Windsor 230 kV station	AEC (13.55%) / JCPL (31.74%) / PSEG (52.60%) / RE (2.11%)
b3737.60	Perform a Pre-build Infrastructure evaluation study in alignment with the NJBPU Solicitation Guidance Document requirements	AEC (13.55%) / JCPL (31.74%) / PSEG (52.60%) / RE (2.11%)

Docket No.	Filing	Order	Effective	Version	Description of the Clean Up Changes
	Date	Date	Date		
ER24-284-000	11/1/23	12/18/24	1/1/24	29.0.0	Missing revisions from version 30.0.0
ER24-786-000	12/29/23	2/27/24	1/1/24	30.0.0	Missing revisions from version 29.0.0; this is the 2024 Annual Update Filing
ER24000 [New Version]	4/29/24		1/1/24	30.0.1	Combine revisions from versions 29.0.0 and 30.0.0

Tariff, Schedule 12 – Appendix, Section 14 - MonPower

Tariff, Schedule 12 – Appendix, Section 25 - KATCO

Docket No.	Filing	Order	Effective	Version	Description of the Clean Up Changes
	Date	Date	Date		
ER24-284-000	11/1/23	12/18/24	1/1/24	0.0.0	Missing revisions from Schedule 12-Appendix,
					Section 14, version 29.0.0 (effective 1/1/24)
ER24000	4/29/24		1/1/24	0.0.1	Combine revisions from versions 0.0.0 and
[New Version]					Schedule 12-Appendix, Section 14, version 29.0.0

Tariff, Schedule 12 – Appendix A, Section 2 - BG&E

Docket No.	Filing	Order	Effective	Version	Description of the Clean Up Changes
	Date	Date	Date		
ER24-786-000	12/29/23	2/27/24	1/1/24	23.0.0	No changes at this time; this is the 2024 Annual
					Update Filing
ER24-843-000	1/10/24	4/8/24	4/9/24	24.0.0	Missing revisions from version 19.0.0
ER24000	4/29/24		4/9/24	24.0.1	Combine revisions from versions 23.0.0 and 24.0.0
[New Version]					

Docket No.	Filing	Order	Effective	Version	Description of the Clean Up Changes
	Date	Date	Date		
ER24-786-000	12/29/23	2/27/24	1/1/24	24.0.0	No changes at this time; this is the 2024 Annual
					Update Filing
ER24-843-000	1/10/24	4/8/24	4/9/24	25.0.0	Missing revisions from version 24.0.0
ER24000	4/29/24		4/9/24	25.0.1	Combine revisions from versions 24.0.0 and 25.0.0
[New Version]					

Tariff, Schedule 12 – Appendix A, Section 3 - DPL

Tariff, Schedule 12 – Appendix A, Section 5 – Met-Ed

Docket No.	Filing	Order	Effective	Version	Description of the Clean Up Changes
	Date	Date	Date		
ER24-786-000	12/29/23	2/27/24	1/1/24	27.0.0	No changes at this time; this is the 2024 Annual
					Update Filing
ER24-843-000	1/10/24	4/8/24	4/9/24	28.0.0	Missing revisions from version 27.0.0
ER24000	4/29/24		4/9/24	28.0.1	Combine revisions from versions 27.0.0 and 28.0.0
[New Version]					

Tariff, Schedule 12 – Appendix A, Section 7 - Penelec

Docket No.	Filing	Order	Effective	Version	Description of the Clean Up Changes
	Date	Date	Date		
ER24-786-000	12/29/23	2/27/24	1/1/24	32.0.0	No changes at this time; this is the 2024 Annual
					Update Filing
ER24-321-000	11/2/23	4/4/23	1/31/24	31.0.0	Missing revisions from version 32.0.0
ER24000	4/29/24		1/31/24	31.0.1	Combine revisions from versions 31.0.0 and 32.0.0
[New Version]					

Docket No.	Filing	Order	Effective	Version	Description of the Clean Up Changes
	Date	Date	Date		
ER24-786-000	12/29/23	2/27/24	1/1/24	25.0.0	No changes at this time; this is the 2024 Annual
					Update Filing
ER24-843-000	1/10/24	4/8/24	4/9/24	26.0.0	Missing revisions from version 25.0.0
ER24000	4/29/24		4/9/24	26.0.1	Combine revisions from versions 25.0.0 and 26.0.0
[New Version]					

Tariff, Schedule 12 – Appendix A, Section 8 - PECO

Tariff, Schedule 12 – Appendix A, Section 9 - PPL

Docket No.	Filing	Order	Effective	Version	Description of the Clean Up Changes
	Date	Date	Date		
ER24-786-000	12/29/23	2/27/24	1/1/24	27.0.0	No changes at this time; this is the 2024 Annual
					Update Filing
ER24-843-000	1/10/24	4/8/24	4/9/24	28.0.0	Missing revisions from version 27.0.0
ER24000	4/29/24		4/9/24	28.0.1	Combine revisions from versions 27.0.0 and 28.0.0
[New Version]					

Tariff, Schedule 12 – Appendix A, Section 12 – PSE&G

Docket No.	Filing	Order	Effective	Version	Description of the Clean Up Changes
	Date	Date	Date		
ER24-786-000	12/29/23	2/27/24	1/1/24	31.0.0	No changes at this time; this is the 2024 Annual
					Update Filing
ER24-843-000	1/10/24	4/8/24	4/9/24	32.0.0	Missing revisions from version 31.0.0
ER24000	4/29/24		4/9/24	32.0.1	Combine revisions from versions 31.0.0 and 32.0.0
[New Version]					

Docket No.	Filing	Order	Effective	Version	Description of the Clean Up Changes
	Date	Date	Date		
ER24-284-000	11/1/23	12/18/24	1/1/24	29.0.0	Missing revisions from version 31.0.0
ER24-786-000	12/29/23	2/27/24	1/1/24	31.0.0	Missing revisions from version 29.0.0; this is the
					2024 Annual Update Filing
ER24000	4/29/24		1/1/24	31.0.1	Combine revisions from versions 29.0.0 and 31.0.0
[New Version]					
ER24-321-000	11/2/23	4/4/23	1/31/24	30.0.0	Missing revisions from version 29.0.0 and 31.0.0
ER24000	4/29/24		1/31/24	30.0.1	Combine revisions from versions 29.0.0, 30.0.0
[New Version]					and 31.0.0
ER24-843-000	1/10/24	4/8/24	4/9/24	32.0.0	Missing revisions from versions 29.0.0, 30.0.0 and
					31.0.0
ER24000	4/29/24		4/9/24	32.0.1	Combine revisions from versions 29.0.0, 30.0.0,
[New Version]					31.0.0 and 32.0.0

Tariff, Schedule 12 – Appendix A, Section 14 – MonPower

Tariff, Schedule 12 – Appendix A, Section 17 – AEP

Docket No.	Filing	Order	Effective	Version	Description of the Clean Up Changes
	Date	Date	Date		
ER24-786-000	12/29/23	2/27/24	1/1/24	43.0.0	No changes at this time; this is the 2024 Annual
					Update Filing
ER24-843-000	1/10/24	4/8/24	4/9/24	44.0.0	Missing revisions from version 43.0.0
ER24000	4/29/24		4/9/24	44.0.1	Combine revisions from versions 43.0.0 and 44.0.0
[New Version]					

Docket No.	Filing	Order	Effective	Version	Description of the Clean Up Changes
	Date	Date	Date		
ER24-786-000	12/29/23	2/27/24	1/1/24	39.0.0	No changes at this time; this is the 2024 Annual Update Filing
ER24-843-000	1/10/24	4/8/24	4/9/24	40.0.0	Missing revisions from version 39.0.0
ER24000 [New Version]	4/29/24		4/9/24	40.0.1	Combine revisions from versions 39.0.0 and 40.0.0

Tariff, Schedule 12 – Appendix A, Section 20 - VEPCO

Tariff, Schedule 12 – Appendix A, Section 33 - KATCO

Docket No.	Filing Date	Order Date	Effective Date	Version	Description of the Clean Up Changes
ER24-284-000	11/1/23	12/18/24	1/1/24	0.0.0	Missing revisions from Schedule 12-Appendix A, Section 14, version 31.0.0 (effective 1/1/24)
ER24000 [New Version]	4/29/24		1/1/24	0.0.1	Combine revisions from versions 0.0.0 and Schedule 12-Appendix, Section 14, version 29.0.0

Tariff, Schedule 12 – Appendix C

Docket No.	Filing	Order	Effective	Version	Description of the Clean Up Changes
	Date	Date	Date		
ER24-786-000	12/29/23	2/27/24	1/1/24	3.0.0	No changes at this time; this is the 2024 Annual
					Update Filing
ER24-843-000	1/10/24	4/8/24	4/9/24	4.0.0	Missing revisions from version 3.0.0
ER24000	4/29/24		4/9/24	4.0.1	Combine revisions from versions 3.0.0 and 4.0.0
[New Version]					