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March 28, 2025

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

*Re: PJM Interconnection, L.L.C., Docket No. ER25-1811-000
Revisions to Incorporate Cost Responsibility Assignments for Regional Transmission
Expansion Plan Baseline Upgrades; **30-Day Comment Period Requested***

Dear Secretary Reese:

In accordance with PJM Open Access Transmission Tariff (“Tariff”), Schedule 12¹ and Amended and Restated Operating Agreement of PJM Interconnection, L.L.C. (“Operating Agreement”), Schedule 6, section 1.6, and pursuant to section 205 of the Federal Power Act,² PJM Interconnection, L.L.C. (“PJM”) hereby submits amendments to Tariff, Schedule 12-Appendix A to incorporate cost responsibility assignments for additions and modifications to the Regional Transmission Expansion Plan (“RTEP”) approved by the PJM Board of Managers (“PJM Board”) on February 26, 2025.³ PJM requests that the revised Tariff sections become effective on June 26, 2025, which is ***90 days after the date of this filing.***

¹ All capitalized terms that are not otherwise defined herein have the meaning as defined in the Tariff, Operating Agreement, and Reliability Assurance Agreement among Load Serving Entities in the PJM Region.

² 16 U.S.C. § 824d.

³ On February 26, 2025, the Board approved: (i) 222 PJM reliability criteria expansions and enhancements totaling approximately \$5,919.77 million; (ii) scope and cost changes to existing RTEP baseline projects resulting in a net increase of approximately \$782.94 million; and (iii) cancellation of existing approved RTEP baseline projects resulting in a net decrease of approximately \$48.7 million. The PJM Board’s approval of these additions and modifications results in an estimated overall RTEP net increase of approximately \$6,654.01 million. *See* PJM Interconnection, L.L.C., Transmission Expansion Advisory Committee (TEAC) Recommendations to the PJM Board (February 2025), <https://www.pjm.com/-/media/DotCom/committees-groups/committees/teac/2025/20250204/20250204-pjm-board-whitepaper-february-2025.pdf>.

I. DESCRIPTION OF FILING

A. Tariff, Schedule 12 Requirements to Designate Cost Responsibility Assignments

Pursuant to Tariff, Schedule 12, PJM is required to designate in Tariff, Schedule 12-Appendix A, cost responsibility assignments for all transmission enhancements and expansions included in the RTEP after February 1, 2013.⁴ Similarly, Tariff, Schedule 12 requires that within 30 days of the PJM Board's approval of each RTEP, or addition to the RTEP, PJM shall designate in Tariff, Schedule 12-Appendix A, and in a report filed with the Federal Energy Regulatory Commission ("Commission"), the Responsible Customers⁵ that will be subject to charges related to transmission enhancements and expansions included in the RTEP.⁶

Tariff, Schedule 12 further provides that customers designated to be responsible for assignments of costs that PJM files with the Commission shall have 30 days from the date of such filing to submit comments regarding the proposed cost responsibility assignments.⁷

Accordingly, PJM hereby submits amendments to Tariff, Schedule 12-Appendix A to include the new cost responsibility assignments for RTEP upgrades approved by the PJM Board on February 26, 2025. The revised Tariff sections containing new language, including new cost

⁴ *PJM Interconnection, L.L.C.*, 142 FERC ¶ 61,214, at PP 411, 448 (2013) (accepting revisions to Tariff, Schedule 12 modifying the cost allocation methodologies for transmission projects included in the RTEP, effective February 1, 2013).

⁵ Responsible Customers include "the customers using Point-to-Point Transmission Service and/or Network Integration Transmission Service and Merchant Transmission Facility owners that will be subject to each such Transmission Enhancement Charge." See Tariff, Schedule 12(b)(viii).

⁶ *Id.*; see also Operating Agreement, Schedule 6, section 1.6.

⁷ See Tariff, Schedule 12(b)(viii).

responsibility assignments, are reflected in redline and clean format in Attachments B and C, respectively, to this filing.⁸

1. Assignment of Cost Responsibility for Regional Facilities or Necessary Lower Voltage Facilities

PJM amends Schedule 12-Appendix A to include the cost responsibility for 39 new transmission enhancements or expansions needed for reliability that are Regional Facilities or Necessary Lower Voltage Facilities⁹ included in the most recent update to the RTEP approved by the PJM Board on February 26, 2025.¹⁰

The cost responsibility assignment for the Regional Facilities and Necessary Lower Voltage Facilities is based on the hybrid cost allocation methodology approved by Commission order issued on March 22, 2013.¹¹ Pursuant to this hybrid methodology, 50 percent of the costs of the Regional Facilities or Necessary Lower Voltage Facilities are allocated on a region-wide postage stamp basis while the other 50 percent is allocated to specifically-identified beneficiaries.¹²

The region-wide, postage stamp allocations for each Transmission Owner zone are based on its annual load-ratio share using the applicable zonal loads at the time of each Transmission

⁸ The revised Tariff sections do not include any proposed rates or charges for recovery of any system upgrade costs. In accordance with Tariff, Schedule 12, recovery of the costs of such facilities that the RTEP requires Transmission Owners to construct, own and/or finance is governed by the Transmission Owners' established rates.

⁹ As defined in PJM Tariff, Schedule 12, section (b)(i), Regional Facilities include transmission enhancements and expansions that, among other things, will operate at or above 500 kV or will be double-circuit 345 kV facilities; and Necessary Lower Voltage Facilities include transmission enhancements and expansions that operate below 500 kV, or 345 kV in the case of double-circuit 345 kV facilities, that must be constructed or strengthened to support new Regional Facilities.

¹⁰ The Regional Facilities or Necessary Lower Voltage Facilities included in the RTEP upgrades are b3909.1, b3915.1-3, b3929.1-3, b4000.1-11, b4000.13, b4000.200, b4000.251-.252, b4000.341-.347, b4000.349-.357, and b4000.359.

¹¹ *PJM Interconnection, L.L.C.*, 142 FERC ¶ 61,214, at PP 411, 448.

¹² Schedule 12 provides different methodologies to identify and allocate costs to specific beneficiaries depending on whether the project is designed to address one or more reliability or operational adequacy and performance issues ("Reliability Projects") or to relieve one or more economic constraints (*i.e.*, "Economic Projects"). Tariff, Schedule 12(b)(i)(A)(2).

Owner's annual peak load from the 12-month period ending October 31 of the year preceding the year for which the annual cost responsibility allocation is determined.¹³ Similarly, the cost responsibility assignments for a new Regional Facility to the owners of merchant transmission facilities with Firm Transmission Withdrawal Rights are based on the merchant transmission facilities' annual peak load (not to exceed actual Firm Transmission Withdrawal Rights set forth in their respective Interconnection Service Agreements) from the 12-month period ending October 31 of the year preceding the year for which the annual cost responsibility allocation is determined. The annual peak loads used to determine the new annual cost responsibility assignments for the Regional Facilities included in this filing are the 2024 peak loads.¹⁴

The Regional Facilities are reliability projects; therefore, the second 50 percent of the costs of the Regional Facilities are allocated using the "solution-based" distribution factor, or DFAX, methodology set forth in Tariff, Schedule 12(b)(iii). The solution-based DFAX methodology evaluates the projected relative use on the new facility by the load of each transmission zone or merchant transmission facility and allocates costs based on such usage. More specifically, to determine cost responsibility under the DFAX methodology, based on a computer model of the electric network and using power flow modeling software, PJM calculates distribution factors, represented as decimal values or percentages, which express the portions of a transfer of energy from a defined source to a defined sink that will flow across a particular transmission facility or group of transmission facilities. These distribution factors represent a measure of the relative use

¹³ See Tariff, Schedule 12(b)(i)(A).

¹⁴ *PJM Interconnection, L.L.C.*, 2025 RTEP Annual Update Filing at 20, Docket No. ER25-775-000 (Dec. 20, 2025) ("2025 Cost Allocation Update Filing"). See also *PJM Interconnection, L.L.C.*, 190 FERC ¶ 61,094 (2024) (accepting 2025 Cost Allocation Update Filing).

of the specific transmission facility by the load of each transmission zone or merchant transmission facility, as determined by a power flow analysis.¹⁵

2. Cost Responsibility Assignments for Upgrades Included in the RTEP that are Lower Voltage Facilities Needed for Reliability and With Estimated Costs Greater than \$5 Million

Consistent with Tariff, Schedule 12, PJM submits amendments to the Tariff, Schedule 12-Appendix A to include the cost responsibility assignments for transmission enhancements or expansions that are not Regional Facilities (“Lower Voltage Facilities”).¹⁶ On February 26, 2025, the PJM Board approved 80 enhancements or expansions, which are included in this filing, that are Lower Voltage Facilities required to address reliability needs and estimated to cost more than \$5 million for which PJM applied the solution-based DFAX analysis described in Tariff, Schedule 12(b)(iii).¹⁷

3. Cost Responsibility for Transmission Enhancements or Expansions Costing Less than \$ 5 Million

Tariff, Schedule 12, section (b)(vi) provides that notwithstanding Tariff, Schedule 12, sections (b)(i), (b)(ii), (b)(iv) and (b)(v), cost responsibility for an enhancement or expansion for which the good faith estimate of the cost of such enhancement or expansion included for the first time in the RTEP does not equal or exceed \$5 million shall be assigned to the zone where the enhancement or expansion is to be located. Consistent with Tariff, Schedule 12, section (b)(vi), PJM proposes revisions to Tariff, Schedule 12-Appendix A to include cost responsibility

¹⁵ See Tariff, Schedule 12(b)(iii).

¹⁶ See Tariff, Schedule 12(b)(ii)(A) (“If the Lower Voltage Facility is a Reliability Project, [PJM] shall use the DFAX analysis described in subsection (b)(iii) . . . of this Schedule 12 as applicable;”). As defined in Tariff, Schedule 12(b)(ii), Lower Voltage Facilities include transmission enhancements and expansions that are not Regional Facilities or Necessary Lower Voltage Facilities.

¹⁷ The Lower Voltage Facilities are b3906.1, b3907.1-.3, b3910.1, b3911.1, b3912.1, b3913.1-.2, b3916.1, b3919.1-.10, b3925.1-.4, b3929.4, b4000.12, b4000.201-.211, b4000.300-.340, b4000.348, and b4000.358.

assignments for 34 enhancements or expansions needed for reliability that are included in the RTEP for the first time and do not equal or exceed \$5 million.¹⁸ Therefore, consistent with Tariff, Schedule 12, section (b)(vi), cost responsibility for such enhancements or expansions shall be allocated 100 percent to the zone of the Transmission Owner where the enhancements or expansions are to be located.

4. Cost Responsibility Assignments for Enhancements or Expansions that Address Reliability Violations on Transmission Facilities Operating At or Below 200 kV

Tariff, Schedule 12, section (b)(xvi), provides that solutions for reliability violations on a facility operating at or below 200 kV not included in a competitive proposal window pursuant to Operating Agreement, Schedule 6, section 1.5.8(c) will be allocated 100 percent to the zone in which the transmission facilities will be located.¹⁹ Consistent with Tariff, Schedule 12, section (b)(xvi), PJM proposes revisions to Tariff, Schedule 12-Appendix A to include cost responsibility assignments for 15 reliability enhancements or expansions²⁰ to address reliability violations on transmission facilities operating at or below 200 kV that were not included in a competitive proposal window. Therefore, consistent with Tariff, Schedule, section (b)(xvi), cost responsibility for such enhancements shall be allocated 100 percent to the zone in which the facilities will be located.

¹⁸ The enhancements and expansions allocated pursuant to Tariff, Schedule 12, section (b)(vi) include the following: b3862.1, b3863.1, b3864.1-2, b3866.1-2, b3867.1, b3870.1, b3872.1, b3873.1, b3876.1, b3879.1-2, b3880.1, b3883.1, b3888.1, b3889.1, b3890.1, b3891.1, b3894.1, b3896.1, b3898.1, b3899.1, b3900.1, b3901.1-2, b3908.1, b3914.1-6, and b3928.1.

¹⁹ *PJM Interconnection, L.L.C.*, 158 FERC ¶ 61,124 (2017) (accepting Tariff, Schedule 12, section (b)(xvi) cost allocation methodology, effective August 26, 2016, to assign costs of projects exempted from a proposal window pursuant to Operating Agreement, Schedule 6, section 1.5.8(n) 100 percent to the zone in which the transmission facilities will be located).

²⁰ The baseline upgrades addressing reliability violations on transmission facilities operating at or below 200 kV not included in a competitive proposal window include the following: b3858.1-2, b3865.1, b3868.1-3, b3869.1-2, b3871.1, b3875.1, b3904.1, b3918.1, b3921.1-2, and b3922.1.

5. Cost Responsibility Assignments that Address Circuit Breakers Independently Included in the RTEP

Tariff, Schedule 12, section (b)(iv)(C) provides that cost responsibility for circuit breakers independently included in the RTEP and not a part of the design specifications of a transmission element of a Required Transmission Enhancement shall be assigned to the zone of the owner of the circuit breaker, if the owner of the circuit breaker is a Transmission Owner listed in Tariff, Attachment J.

Consistent with Tariff, Schedule 12, section (b)(iv)(C), PJM proposes revisions to Schedule 12-Appendix A to include cost responsibility assignments for 54 circuit breakers.²¹ Because such equipment is independently included in the RTEP and not part of the design specifications of a transmission element of a Required Transmission Enhancement, cost responsibility for such enhancements shall be allocated 100 percent to the zone of the Transmission Owner of the circuit breakers.

B. Cost Responsibility Assignment Summary

For informational purposes, PJM also includes, as Attachment A to this filing, a Cost Responsibility Assignment Summary for the enhancements or expansions approved by the PJM Board on February 26, 2025. In addition to specifying the cost responsibility assignments for the enhancements or expansions, the summary sheets provide the criteria violation and test, a description of the upgrade, in-service date, estimated upgrade costs, and the entity designated with construction responsibility for each enhancement or expansion.

²¹ The enhancements and expansions allocated pursuant to Tariff, Schedule 12, section (b)(iv)(B) include the following: b3857.1, b3860.1, b3861.1, b3877.1-2, b3878.1, b3882.1, b3884.1, b3885.1, b3886.1, b3887.1, b3892.1, b3895.1, b3897.1, b3902.1, b3903.1, and b4000.100-137.

II. MINISTERIAL CLEAN-UP

PJM has identified the need to make two corrections to cost allocation assignments included in its 2025 Cost Allocation Update Filing.²² Both corrections involve baseline projects previously approved by the PJM Board that were designated to Virginia Electric and Power Company d/b/a Dominion Energy Virginia (“VEPCO”).

First, in updating the cost allocation assignment for baseline project b0217 in Tariff, Schedule 12-Appendix, section 20 (VEPCO), PJM inadvertently omitted to report a 1.97% DFAX cost assignment to the Delmarva Power & Light (“DPL”) Zone. PJM therefore proposes a revision to correct the DFAX cost assignment for baseline project b0217 in the Tariff, Schedule 12-Appendix, section (20).²³

Second, baseline project b2654.4 was inadvertently mislabeled as b2654.3 in Tariff, Schedule 12-Appendix A, section 20 (VEPCO). PJM therefore proposes a revision to correct the designation of baseline project b2654.4 in the Tariff, Schedule 12-Appendix A section (20).²⁴

PJM requests an effective date of January 1, 2025 for both of these ministerial clean-up changes, consistent with the effective date of the 2025 Cost Allocation Update Filing.

III. COMMENT PERIOD

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

²² See *supra*, n.14.

²³ PJM notes that the failure to include the DFAX allocation for the DPL Zone was purely an administrative error made when creating the Tariff sheets for the 2025 Cost Allocation Update Filing; the costs associated with the project have been correctly allocated since the January 1, 2025 effective date of the 2025 Cost Allocation Update Filing. Thus, no resettlement associated with this error is required.

²⁴ PJM notes that it has not initiated billing related to baseline projects b2654.3 or b2654.4. As such, no resettlement associated with this error is required.

regarding the proposed cost responsibility assignments. Consistent with this provision, PJM requests that the comment date for this filing be set as April 28, 2025, 30 days from the date of this filing.²⁵ To accommodate such a comment date, PJM requests an effective date of June 26, 2025 (90 days from the date of this filing) for the revised Tariff sections for the baseline projects described in Section I of this filing.²⁶

IV. DOCUMENTS ENCLOSED

PJM encloses the following:

1. This transmittal letter;
2. Attachment A – Cost Responsibility Assignment Summary Sheets;
3. Attachment B – Revised Tariff, Schedule 12-Appendix A (in redlined form);
4. Attachment C – Revised Tariff, Schedule 12-Appendix A (in clean form);
5. Attachment D—Revised Tariff, Schedule 12-Appendix section (20) and Schedule 12-Appendix A, section (20) effective January 1, 2025 (in redlined form); and
6. Attachment E— Revised Tariff, Schedule 12-Appendix section (20) and Schedule 12-Appendix A, section (20) effective January 1, 2025 (in clean form).

²⁵ Thirty days from today's date is Sunday, April 27, 2025. PJM requests that the Commission establish the comment deadline on the next business day, which is Monday, April 28, 2025. *See* 18 C.F.R. § 385.2007(a)(2) (2023).

²⁶ *See, e.g., PJM Interconnection, L.L.C.*, Errata Notice of Extending Comment Period, Docket No. ER23-364-000 (Nov. 10, 2022) (granting extension of time for filing protests or comments to accommodate Tariff, Schedule 12); *PJM Interconnection, L.L.C.*, Errata Notice of Extending Comment Period, Docket No. ER22-2653-000 (Aug. 16, 2022) (same); *PJM Interconnection, L.L.C.*, Errata Notice of Extending Comment Period, Docket No. ER22-1397-000 (Mar. 23, 2022) (same); *PJM Interconnection, L.L.C.*, Errata Notice of Extending Comment Period, Docket No. ER22-788-000 (Jan. 13, 2022) (same); *PJM Interconnection, L.L.C.*, Errata Notice of Extending Comment Period, Docket No. ER22-135-000 (Oct. 20, 2021) (same); *PJM Interconnection, L.L.C.*, Errata Notice of Extending Comment Period, Docket No. ER21-2774-000 (Sept. 2, 2021) (same).

V. CORRESPONDENCE AND COMMUNICATIONS

Correspondence and communications with respect to this filing should be sent to the following persons:

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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 Commission's regulations,²⁷ PJM will post a copy of this filing to the FERC filings section of its internet site, located at the following link: <https://www.pjm.com/library/filing-order> 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 Region²⁸ 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 the FERC's eLibrary website located at the following link: <http://www.ferc.gov/docs-filing/elibrary.asp> in accordance with the Commission's regulations and Order No. 714.

²⁷ See 18 C.F.R. §§ 35.2(e) and 385.2010(f)(3) (2022).

²⁸ PJM already maintains, updates and regularly uses e-mail lists for all PJM Members and affected state commissions.

VII. CONCLUSION

For the reasons set forth above, PJM respectfully requests that the Commission issue an order: (i) accepting the revised Tariff sections described in Section I, above, to be effective on June 26, 2025 and (ii) accepting the ministerial clean-up changes described in Section II, above, to be effective on January 1, 2025.

Respectfully submitted,

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Attachment A

Cost Responsibility Assignment Summary Sheets

Baseline Upgrade b3857.1

- Overview of Reliability Problem
 - Criteria Violation: 230 kV Conastone No. 5 Breaker is overdutied
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: Replace Conastone 230 kV Breaker No. 5
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$1.92 M
 - Construction Responsibility: BGE
- Cost Allocation
 - The cost for this baseline upgrade is allocated to BGE (100.00%).

Baseline Upgrade b3858.1

- Overview of Reliability Problem
 - Criteria Violation: Voltage magnitude and drop violations on the 115 kV MetEd system in the Yorkana and Windsor vicinity
 - Contingency: Multiple contingencies
 - Criteria Test: Summer/Winter N-1 Voltage Magnitude and Voltage Drop
- Overview of Reliability Solution
 - Description of Upgrade: Rebuild the Windsor Substation 115 kV yard to convert from a straight bus configuration into a six-breaker ring bus configuration. Install two (2) 21.62 MVAR, 115 kV capacitor banks. The substation fence will need to be expanded and approximately 1 acre of land will need to be purchased. No wetlands or environmental risks were identified at this time. The Tolna and Yorkana 115 kV line exits will need to be relocated.
 - Required Upgrade In-Service Date: 6/1/2028
 - Estimated Upgrade Cost: \$12.36 M
 - Construction Responsibility: ME
- Cost Allocation
 - The driver for this upgrade is less than 200 kV. The cost for this baseline upgrade is allocated to ME (100.00%).

Baseline Upgrade b3858.2

- Overview of Reliability Problem
 - Criteria Violation: Voltage magnitude and drop violations on the 115 kV MetEd system in the Yorkana and Windsor vicinity
 - Contingency: Multiple contingencies
Criteria Test: Summer/Winter N-1 Voltage Magnitude and Voltage Drop
- Overview of Reliability Solution
 - Description of Upgrade: Rebuild the Yorkana substation 115 kV yard converting from a straight bus configuration to a (9) breaker, breaker-and-a-half configuration. The substation fence will need to be expanded but no land acquisition will be required. The Glades, Windsor, and Redfront 115 kV line exits will need to be relocated.
Required Upgrade In-Service Date: 6/1/2028
 - Estimated Upgrade Cost: \$20.80 M
 - Construction Responsibility: ME
- Cost Allocation
 - The driver for this upgrade is less than 200 kV. The cost for this baseline upgrade is allocated to ME (100.00%).

Baseline Upgrade b3860.1

- Overview of Reliability Problem
 - Criteria Violation: The bus tie breaker at Chester substation is overdutied
 - Contingency: N/A
 - Criteria Test: FE Form 715 Criteria
- Overview of Reliability Solution
 - Description of Upgrade: Replace the 34.5 kV bus tie breaker at Chester substation with a new 34.5 kV breaker that has an interruption capability of 40 kA.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.54 M
 - Construction Responsibility: JCPL
- Cost Allocation
 - The cost for this baseline upgrade is allocated to JCPL (100.00%).

Baseline Upgrade b3861.1

- Overview of Reliability Problem
 - Criteria Violation: The breaker at Werner substation is overdutied
 - Contingency: N/A
 - Criteria Test: FE Form 715 Criteria
- Overview of Reliability Solution
 - Description of Upgrade: Replace the W101 34.5 kV breaker at Werner substation with a new 34.5 kV breaker that has an interruption capability of 40 kA.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.54 M
 - Construction Responsibility: JCPL
- Cost Allocation
 - The cost for this baseline upgrade is allocated to JCPL (100.00%).

Baseline Upgrade b3862.1

- Overview of Reliability Problem
 - Criteria Violation: Overload of the Elroy – Hosensack 500 kV line
 - Contingency: Multiple contingencies
 - Criteria Test: Summer Generator Deliverability and Summer IPD
- Overview of Reliability Solution
 - Description of Upgrade: Upgrade two (2) 500 kV free standing CTs, one (1) disconnect switch, and four (4) sections of tube bus at Elroy 500 kV substation.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$1.50 M
 - Construction Responsibility: PECO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to PECO (100.00%).

Baseline Upgrade b3863.1

- Overview of Reliability Problem
 - Criteria Violation: Overload of Schuylkill No. 7 transformer
 - Contingency: N-1
 - Criteria Test: PECO FERC Form 715 Criteria
- Overview of Reliability Solution
 - Description of Upgrade: Change tap ratios on two (2) CTs at Schuylkill 230 kV substation
 - Required Upgrade In-Service Date: 12/1/2029
 - Estimated Upgrade Cost: \$0.10 M
 - Construction Responsibility: PECO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to PECO (100.00%).

Baseline Upgrade b3864.1

- Overview of Reliability Problem
 - Criteria Violation: Overload of the Richmond – Tacony 69 kV line
 - Contingency: N-1
 - Criteria Test: Summer Thermal N-1
- Overview of Reliability Solution
 - Description of Upgrade: Replace station cable at Tacony 69 kV station
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.18 M
 - Construction Responsibility: PECO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to PECO (100.00%).

Baseline Upgrade b3864.2

- Overview of Reliability Problem
 - Criteria Violation: Overload of the Richmond – Tacony 69 kV line
 - Contingency: N-1
 - Criteria Test: Summer N-1 ThermalCriteria Test: Summer Thermal
- Overview of Reliability Solution
 - Description of Upgrade: Replace station cable at Richmond 230 kV station
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.18 M
 - Construction Responsibility: PECO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to PECO (100.00%).

Baseline Upgrade b3865.1

- Overview of Reliability Problem
 - Criteria Violation: Overload of Reybold 138/69 kV transformer
 - Contingency: Multiple contingencies
 - Criteria Test: Winter Generator Deliverability
- Overview of Reliability Solution
 - Description of Upgrade: Upgrade 138/69 kV autotransformer, a 69 kV breaker, two disconnects and move a takeoff structure at Reybold substation. These upgrades will require a substation expansion to move the takeoff structure and a control house expansion to move the 69 kV breaker relays from the Delaware City control house to the Reybold control house.
 - Required Upgrade In-Service Date: 12/1/2029
 - Estimated Upgrade Cost: \$9.48 M
 - Construction Responsibility: DPL
- Cost Allocation
 - The driver for this upgrade is less than 200 kV. The cost for this baseline upgrade is allocated to DPL (100.00%).

Baseline Upgrade b3866.1

- Overview of Reliability Problem
 - Criteria Violation: Overload of Cedar Creek – Milford 230 kV line
 - Contingency: N-1
 - Criteria Test: Winter Generator Deliverability and Winter N-1
- Overview of Reliability Solution
 - Description of Upgrade: Adjust relay setting at Cedar Creek 230 kV substation.
 - Required Upgrade In-Service Date: 12/31/2029
 - Estimated Upgrade Cost: \$0.10 M
 - Construction Responsibility: DPL
- Cost Allocation
 - The cost for this baseline upgrade is allocated to DPL (100.00%).

Baseline Upgrade b3866.2

- Overview of Reliability Problem
 - Criteria Violation: Overload of Cedar Creek – Milford 230 kV line
 - Contingency: N-1
 - Criteria Test: Winter Generator Deliverability and Winter N-1
- Overview of Reliability Solution
 - Description of Upgrade: Change relay setting at Milford 230 kV substation
 - Required Upgrade In-Service Date: 12/31/2029
 - Estimated Upgrade Cost: \$0.10 M
 - Construction Responsibility: DPL
- Cost Allocation
 - The cost for this baseline upgrade is allocated to DPL (100.00%).

Baseline Upgrade b3867.1

- Overview of Reliability Problem
 - Criteria Violation: Overload of the Delco Tap – Mickleton 230 kV line
 - Contingency: N-1
 - Criteria Test: Summer Generator Deliverability
- Overview of Reliability Solution
 - Description of Upgrade: Upgrade a circuit switcher at Mickleton substation.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$1.03 M
 - Construction Responsibility: AEC
- Cost Allocation
 - The cost for this baseline upgrade is allocated to AEC (100.00%).

Baseline Upgrade b3868.1

- Overview of Reliability Problem
 - Criteria Violation: Overload of Penhorn – Union City 69 kV line
 - Contingency: N-1-1
 - Criteria Test: PSEG FERC Form 715 Criteria
- Overview of Reliability Solution
 - Description of Upgrade: Cut existing Carlstadt to River Road 69 kV line and extend Carlstadt line side to Penhorn 69 kV. Extend the other end of the line by constructing a new portion and connecting it to Kingsland 69 kV switch.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$14.62 M
 - Construction Responsibility: PSEG
- Cost Allocation
 - The driver for this upgrade is less than 200 kV. The cost for this baseline upgrade is allocated to PSEG (100.00%).

Baseline Upgrade b3868.2

- Overview of Reliability Problem
 - Criteria Violation: Overload of Penhorn – Union City 69 kV line
 - Contingency: N-1-1
 - Criteria Test: PSEG FERC Form 715 Criteria
- Overview of Reliability Solution
 - Description of Upgrade: Extend the other end of L-636 to Kingsland switch by constructing new 5.5 miles portion utilizing existing I-2314 transmission towers from H-A 5/4 to H-A 2/3. New 69 kV line to be routed along County Ave. pass Secaucus Rd. in Secaucus NJ.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$30.87 M
 - Construction Responsibility: PSEG
- Cost Allocation
 - The driver for this upgrade is less than 200 kV. The cost for this baseline upgrade is allocated to PSEG (100.00%).

Baseline Upgrade b3868.3

- Overview of Reliability Problem
 - Criteria Violation: Overload of Penhorn – Union City 69 kV line
 - Contingency: N-1-1
 - Criteria Test: PSEG FERC Form 715 Criteria
- Overview of Reliability Solution
 - Description of Upgrade: Reconfigure former River Road to Carlstadt 69 kV and Tonnelle Ave. to Union City 69 kV lines at the intersection Tonnelle Ave. and Granton Ave. in North Bergen, NJ by connecting Union City to River Road and Tonnelle Ave. to Kingsland.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.51M
 - Construction Responsibility: PSEG
- Cost Allocation
 - The driver for this upgrade is less than 200 kV. The cost for this baseline upgrade is allocated to PSEG (100.00%).

Baseline Upgrade b3869.1

- Overview of Reliability Problem
 - Criteria Violation: Overload of Bergen – Fairlawn and Bergen – East Rutherford 138 kV lines
 - Contingency: Multiple contingencies
 - Criteria Test: Winter Spare Equipment
- Overview of Reliability Solution
 - Description of Upgrade: Relocate the Bergen Gen No. 1 point of interconnection from Bergen 138 kV to Bergen 345 kV GIS through the existing 345/138 kV transformer.
 - Required Upgrade In-Service Date: 12/1/2029
 - Estimated Upgrade Cost: \$6.80 M
 - Construction Responsibility: PSEG
- Cost Allocation
 - The driver for this upgrade is less than 200 kV. The cost for this baseline upgrade is allocated to PSEG (100.00%).

Baseline Upgrade b3869.2

- Overview of Reliability Problem
 - Criteria Violation: Overload of Bergen – Fairlawn and Bergen – East Rutherford 138 kV lines
 - Contingency: Multiple contingencies
 - Criteria Test: Winter Spare Equipment
- Overview of Reliability Solution
 - Description of Upgrade: Remove and retire the two (2) existing Bergen 138 kV series reactors and associated ancillary equipment.
 - Required Upgrade In-Service Date: 12/1/2029
 - Estimated Upgrade Cost: \$5.70 M
 - Construction Responsibility: PSEG
- Cost Allocation
 - The driver for this upgrade is less than 200 kV. The cost for this baseline upgrade is allocated to PSEG (100.00%).

Baseline Upgrade b3870.1

- Overview of Reliability Problem
 - Criteria Violation: Overloads of Federal St. – Springdale 138 kV line
 - Contingency: Multiple
 - Criteria Test: Winter N-1-1 Thermal
- Overview of Reliability Solution
 - Description of Upgrade: At Federal Street substation:
 - Install (3) 138 kV CCVTs on the 138 kV bus.
 - Remove the Transformer 1 CO-6 138 kV Phase relay overcurrent relays.
 - Install (1) SEL-421 relay on the high side of Transformer No. 1.
 - Install foundations, conduit, and grounding for new CCVTs.
 - Install cables between CCVTs and relay.
 - Required Upgrade In-Service Date: 6/1/2028
 - Estimated Upgrade Cost: \$0.69 M
 - Construction Responsibility: KATCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to APS (100.00%).

Baseline Upgrade b3871.1

- Overview of Reliability Problem
 - Criteria Violation: Overload of the Duquesne Light 2-12 138 kV bus tie breaker
 - Contingency: N-2
 - Criteria Test: Summer Generator Deliverability
- Overview of Reliability Solution
 - Description of Upgrade: Replace two 138 kV disconnect switches with 3000 amp disconnect switches and replace a portion of the stranded conductor on the No. 2 138 kV bus with aluminum pipe bus.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$8.00 M
 - Construction Responsibility: DL
- Cost Allocation
 - The driver for this upgrade is less than 200 kV. The cost for this baseline upgrade is allocated to DL (100.00%).

Baseline Upgrade b3872.1

- Overview of Reliability Problem
 - Criteria Violation: High voltage violations at Hartford, Keelette switch and Sister Lakes 34.5 kV buses
 - Contingency: N-1
 - Criteria Test: AEP FERC Form 715 Criteria
- Overview of Reliability Solution
 - Description of Upgrade: Adjust the tertiary tap on the Hartford 138/69/34.5 kV transformer 1 and on Hartford 138/69/12 kV transformer 4 to eliminate the high voltage issues and avoid circulating current.
 - Required Upgrade In-Service Date: 4/15/2029
 - Estimated Upgrade Cost: \$0.10 M
 - Construction Responsibility: AEP
- Cost Allocation
 - The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b3873.1

- Overview of Reliability Problem
 - Criteria Violation: Voltage drop violations at Greenleaf, Conant, Middlebury, Wyland, Parkway, and Middleton Run 34.5 kV stations.
 - Contingency: N-1-1
 - Criteria Test: AEP FERC Form 715 Criteria
- Overview of Reliability Solution
 - Description of Upgrade: Install 12 MVAR 34.5 kV cap bank at Greenleaf station
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$1.31 M
 - Construction Responsibility: AEP
- Cost Allocation
 - The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b3875.1

- Overview of Reliability Problem
 - Criteria Violation: Overloads of the Firebrick – Jefferson Switch 69 kV line
 - Contingency: Multiple contingencies
 - Criteria Test: AEP FERC Form 715 Criteria
- Overview of Reliability Solution
 - Description of Upgrade: Reconductor approximately 3.95 miles of ACSR 6/1 Penguin (4/0) on the Firebrick – Jefferson Switch 69 kV line with ACSR 556.6 26/7. Remote end (line setting) would need to be updated at Firebrick and Lick. Replace 600A switches at Jefferson and replace 477 AA 19 substation conductor at Firebrick.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$8.50 M
 - Construction Responsibility: AEP
- Cost Allocation
 - The driver for this upgrade is less than 200 kV. The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b3876.1

- Overview of Reliability Problem
 - Criteria Violation: Voltage drop violations at Richlands and Town of Richlands stations
 - Contingency: N-1-1
 - Criteria Test: AEP FERC Form 715 Criteria
- Overview of Reliability Solution
 - Description of Upgrade: Install a 69 kV 11.5 MVAR capacitor bank at Richlands station with a circuit switcher.
 - Required Upgrade In-Service Date: 12/1/2029
 - Estimated Upgrade Cost: \$1.00 M
 - Construction Responsibility: AEP
- Cost Allocation
 - The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b3877.1

- Overview of Reliability Problem
 - Criteria Violation: Overloads of the Beatty – Adkins and Beatty – Chenoweth 345 kV lines
 - Contingency: Multiple contingencies
 - Criteria Test: Summer Generator Deliverability
- Overview of Reliability Solution
 - Description of Upgrade: Replace station conductor and switches in the 345 kV yard at Beatty that are currently limiting the 345 kV lines to Adkins and Chenoweth
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.50 M
 - Construction Responsibility: AEP
- Cost Allocation
 - The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b3877.2

- Overview of Reliability Problem
 - Criteria Violation: Overloads of the Beatty – Adkins and Beatty – Chenoweth 345 kV lines
 - Contingency: Multiple contingencies
 - Criteria Test: Summer Generator Deliverability
- Overview of Reliability Solution
 - Description of Upgrade: Upgrade 345 kV circuit breakers 'A' and 'A1' to 4000A 63 kA breakers at Adkins station along with some station conductor that is currently limiting the 345 kV line to Beatty.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$4.50 M
 - Construction Responsibility: AEP
- Cost Allocation
 - The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b3878.1

- Overview of Reliability Problem
 - Criteria Violation: Overload of the Marysville 765 kV reactor lead towards Sorenson
 - Contingency: Multiple
 - Criteria Test: Summer Generator Deliverability
- Overview of Reliability Solution
 - Description of Upgrade: Upgrade 765 kV circuit breakers 'B' and 'B2' to 5000A 50 kA breakers at Marysville station. In addition, the project will upgrade the existing wavetrap towards Sorenson.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$10.00 M
 - Construction Responsibility: AEP
- Cost Allocation
 - The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b3879.1

- Overview of Reliability Problem
 - Criteria Violation: Overload of the line section between South Toronto station and the South Toronto Tap 69 kV
 - Contingency: N-2
 - Criteria Test: AEP FERC Form 715 Criteria
- Overview of Reliability Solution
 - Description of Upgrade: Replace line conductor, approximately 0.11 mile of 4/0 ACSR 6/1 conductor with 556.5 26/7 between South Toronto and the South Toronto Tap.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.50 M
 - Construction Responsibility: AEP
- Cost Allocation
 - The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b3879.2

- Overview of Reliability Problem
 - Criteria Violation: Overload of the line section between South Toronto station and the South Toronto Tap 69 kV
 - Contingency: N-2
 - Criteria Test: AEP FERC Form 715 Criteria
- Overview of Reliability Solution
 - Description of Upgrade: Upgrade the wave trap, CCVTs, switches, and station conductor at South Toronto station currently limiting the line to South Toronto Tap.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.60 M
 - Construction Responsibility: AEP
- Cost Allocation
 - The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b3880.1

- Overview of Reliability Problem
 - Criteria Violation: Low voltage and voltage drop violations at the Galloway, Beatty, Clark Lakes, Ballah SS, Madison, Deer Creek, Texas Eastern, Dry Run SS, Darbyville, Big Darby SS 69 kV buses
 - Contingency: N-2
 - Criteria Test: AEP FERC Form 715 Criteria
- Overview of Reliability Solution
 - Description of Upgrade: At Beatty Road substation, install a 69 kV 23 MVAR capacitor bank along with the 69 kV Cap bank breaker.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$2.25 M
 - Construction Responsibility: AEP
- Cost Allocation
 - The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b3882.1

- Overview of Reliability Problem
 - Criteria Violation: Sunnyside 138kV breaker BB is overdutied
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: Replace 138 kV circuit breaker BB with higher fault current capable counterpart.
 - Required Upgrade In-Service Date: 6/1/2026
 - Estimated Upgrade Cost: \$1.00 M
 - Construction Responsibility: AEP
- Cost Allocation
 - The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b3883.1

- Overview of Reliability Problem
 - Criteria Violation: Overload of the Haviland – Cavett and Haviland – North Van Wert 69 kV lines
 - Contingency: Multiple contingencies
 - Criteria Test: AEP FERC Form 715 Criteria
- Overview of Reliability Solution
 - Description of Upgrade: 69 kV station equipment, including relays, conductor, and switches, will be replaced at Haviland station in order to address identified overloads on the lines to North Van Wert and Cavett.
 - Required Upgrade In-Service Date: 12/1/2029
 - Estimated Upgrade Cost: \$0.80 M
 - Construction Responsibility: AEP
- Cost Allocation
 - The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b3884.1

- Overview of Reliability Problem
 - Criteria Violation: Van Wert 69 kV breaker D is overdutied.
 - Contingency: N/A
 - Criteria Test: AEP FERC Form 715 Criteria
- Overview of Reliability Solution
 - Description of Upgrade: Replace the 69 kV circuit breaker D at Van Wert with a 40 kA breaker.
 - Required Upgrade In-Service Date: 6/1/2026
 - Estimated Upgrade Cost: \$1.00 M
 - Construction Responsibility: AEP
- Cost Allocation
 - The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b3885.1

- Overview of Reliability Problem
 - Criteria Violation: Schroyer Avenue 69 kV breakers M and N are overdutied.
 - Contingency: N/A
 - Criteria Test: AEP FERC Form 715 Criteria
- Overview of Reliability Solution
 - Description of Upgrade: Replace 69 kV circuit breakers N and M at Schroyer Avenue station with higher fault current capable counterparts.
 - Required Upgrade In-Service Date: 6/1/2026
 - Estimated Upgrade Cost: \$2.00 M
 - Construction Responsibility: AEP
- Cost Allocation
 - The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b3886.1

- Overview of Reliability Problem
 - Criteria Violation: Benwood 69 kV breaker A is overdutied.
 - Contingency: N/A
 - Criteria Test: AEP FERC Form 715 Criteria
- Overview of Reliability Solution
 - Description of Upgrade: Replace 69 kV circuit breaker 'A' along with disconnect switches at Benwood substation with a 40 kA Circuit Breaker.
 - Required Upgrade In-Service Date: 6/1/2026
 - Estimated Upgrade Cost: \$1.00 M
 - Construction Responsibility: AEP
- Cost Allocation
 - The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b3887.1

- Overview of Reliability Problem
 - Criteria Violation: Circuit switcher at Greentown 138 kV station is overdutied
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: Replace Greentown 138 kV circuit switcher for Transformer No. 5 with a 138 kV 63 kA circuit breaker
 - Required Upgrade In-Service Date: 6/1/2026
 - Estimated Upgrade Cost: \$1.00 M
 - Construction Responsibility: AEP
- Cost Allocation
 - The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b3888.1

- Overview of Reliability Problem
 - Criteria Violation: Overload of the 138 kV line between East Leipsic and AE2-072 (Lammer)
 - Contingency: N-2
 - Criteria Test: Generator Deliverability, Summer/Winter IPD
- Overview of Reliability Solution
 - Description of Upgrade: Perform sag study and complete mitigations on the 138 kV line between East Leipsic and the AE2-072 tap (Lammer) to allow line's conductor to operate to its maximum operating temperature (MOT).
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$2.50 M
 - Construction Responsibility: AEP
- Cost Allocation
 - The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b3889.1

- Overview of Reliability Problem
 - Criteria Violation: Overload of the Tiltonsville – Windsor Junction 138 kV line
 - Contingency: Multiple contingencies
 - Criteria Test: Summer Generator Deliverability and IPD
- Overview of Reliability Solution
 - Description of Upgrade: Replace limiting station equipment at Tiltonsville station to increase the rating on the branch to Windsor
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.80 M
 - Construction Responsibility: AEP
- Cost Allocation
 - The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b3890.1

- Overview of Reliability Problem
 - Criteria Violation: Overload of the Ohio Central – South Coshocton 138 kV line
 - Contingency: N-2
 - Criteria Test: Summer Generator Deliverability
- Overview of Reliability Solution
 - Description of Upgrade: Replace station conductor at South Coshocton station currently limiting the branch to Ohio Central
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.20 M
 - Construction Responsibility: AEP
- Cost Allocation
 - The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b3891.1

- Overview of Reliability Problem
 - Criteria Violation: Overload of the Kenny – Roberts 138 kV line
 - Contingency: Multiple contingencies
 - Criteria Test: Summer N-1 Thermal, Summer IPD, Summer Summer Generator Deliverability
- Overview of Reliability Solution
 - Description of Upgrade: Perform relay upgrades at Kenny 138 kV to raise the CT and relay thermal limits that are currently limiting the line to Roberts.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.40 M
 - Construction Responsibility: AEP
- Cost Allocation
 - The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b3892.1

- Overview of Reliability Problem
 - Criteria Violation: Mount Vernon 69 kV breakers A and S are overdutied.
 - Contingency: N/A
 - Criteria Test: AEP FERC Form 715 Criteria
- Overview of Reliability Solution
 - Description of Upgrade: Replace 69 kV circuit breakers A and S at Mount Vernon station with 40 kA breakers.
 - Required Upgrade In-Service Date: 6/1/2026
 - Estimated Upgrade Cost: \$2.00 M
 - Construction Responsibility: AEP
- Cost Allocation
 - The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b3894.1

- Overview of Reliability Problem
 - Criteria Violation: Overload of the Tidd – Carnegie 138 kV line
 - Contingency: Multiple contingencies
 - Criteria Test: Summer Generator Deliverability
- Overview of Reliability Solution
 - Description of Upgrade: Replace limiting station conductor at Tidd on the line to Carnegie (FE).
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.50 M
 - Construction Responsibility: AEP
- Cost Allocation
 - The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b3895.1

- Overview of Reliability Problem
 - Criteria Violation: 138 kV circuit switcher L at Jacksons Ferry station is overdutied
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: Replace existing 138 kV, 40 kA circuit switcher L at Jacksons Ferry Station with new 138 kV, 63 kA circuit breaker
 - Required Upgrade In-Service Date: 6/1/2026
 - Estimated Upgrade Cost: \$1.00 M
 - Construction Responsibility: AEP
- Cost Allocation
 - The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b3896.1

- Overview of Reliability Problem
 - Criteria Violation: Voltage drop violations at Skimmer station
 - Contingency: Multiple contingencies
 - Criteria Test: AEP FERC Form 715 Criteria
- Overview of Reliability Solution
 - Description of Upgrade: Adjust the capacitor bank voltage settings to allow the cap bank to operate as needed under N-1-1 scenarios.
 - Required Upgrade In-Service Date: 12/1/2029
 - Estimated Upgrade Cost: \$0.10 M
 - Construction Responsibility: AEP
- Cost Allocation
 - The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b3897.1

- Overview of Reliability Problem
 - Criteria Violation: Cloverdale 138 kV circuit switcher XT8 is overdutied
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: Replace the 138 kV 40kA circuit switcher XT8 with a 63 kA circuit breaker.
 - Required Upgrade In-Service Date: 6/1/2026
 - Estimated Upgrade Cost: \$1.00 M
 - Construction Responsibility: AEP
- Cost Allocation
 - The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b3898.1

- Overview of Reliability Problem
 - Criteria Violation: Overload of the Buchanan – Keen Mountain 138 kV line
 - Contingency: N/A
 - Criteria Test: Winter Generator Deliverability
- Overview of Reliability Solution
 - Description of Upgrade: Upgrade the CT thermal limit at Buchanan station on the Buchanan – Keen Mountain 138 kV line.
 - Required Upgrade In-Service Date: 12/1/2029
 - Estimated Upgrade Cost: \$0.10 M
 - Construction Responsibility: AEP
- Cost Allocation
 - The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b3899.1

- Overview of Reliability Problem
 - Criteria Violation: Overload of the Kyger – Sporn 345 kV line
 - Contingency: Multiple contingencies
 - Criteria Test: Summer Generator Deliverability
- Overview of Reliability Solution
 - Description of Upgrade: Replace OVEC owned station equipment at Kyger Creek to raise the rating of the Kyger Creek – Sporn 345 kV line. Equipment to be replaced includes station conductor and a wavetrap at Kyger Creek.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.80 M
 - Construction Responsibility: OVEC
- Cost Allocation
 - The cost for this baseline upgrade is allocated to OVEC (100.00%).

Baseline Upgrade b3900.1

- Overview of Reliability Problem
 - Criteria Violation: Overload of the Kewanee 138 kV bus No. 1
 - Contingency: N-1
 - Criteria Test: Light Load Generator Deliverability
- Overview of Reliability Solution
 - Description of Upgrade: Replace 300 copper conductor with 1113 kcmil ACSR conductor on Kewanee 138 kV Bus No. 1.
 - Required Upgrade In-Service Date: 4/1/2029
 - Estimated Upgrade Cost: \$0.20 M
 - Construction Responsibility: ComEd
- Cost Allocation
 - The cost for this baseline upgrade is allocated to ComEd (100.00%).

Baseline Upgrade b3901.1

- Overview of Reliability Problem
 - Criteria Violation: Overload of the Electric Junction – W541 138 kV line
 - Contingency: Multiple contingencies
 - Criteria Test: Summer N-1-1 Thermal
- Overview of Reliability Solution
 - Description of Upgrade: Reconductor 138 kV line from Electric Junction to W541.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$1.38 M
 - Construction Responsibility: ComEd
- Cost Allocation
 - The cost for this baseline upgrade is allocated to ComEd (100.00%).

Baseline Upgrade b3901.2

- Overview of Reliability Problem
 - Criteria Violation: Overload of the Electric Junction – W541 138 kV line
 - Contingency: Multiple contingencies
 - Criteria Test: Summer N-1-1 Thermal
- Overview of Reliability Solution
 - Description of Upgrade: Replace 2" tubular bus, 2-500 KCMIL Cu and 1113 KCMIL ACSR/AA on bus 2 and line terminal of 138 kV L11106 at TSS 111 Electric Junction with bus that meets or exceeds a minimum thermal capability of 2036/2236/2690A (487/534/643MVA) SN/SE/SLD.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.28 M
 - Construction Responsibility: ComEd
- Cost Allocation
 - The cost for this baseline upgrade is allocated to ComEd (100.00%).

Baseline Upgrade b3902.1

- Overview of Reliability Problem
 - Criteria Violation: Overload of the Wilton Center – AD1-100 tap 345 kV line
 - Contingency: N-1 and N-2
 - Criteria Test: Winter Generator Deliverability
- Overview of Reliability Solution
 - Description of Upgrade: Replace the Wilton Center 345 kV BT 4-5 circuit breaker.
 - Required Upgrade In-Service Date: 12/1/2029
 - Estimated Upgrade Cost: \$2.70 M
 - Construction Responsibility: ComEd
- Cost Allocation
 - The cost for this baseline upgrade is allocated to ComEd (100.00%).

Baseline Upgrade b3903.1

- Overview of Reliability Problem
 - Criteria Violation: 138 kV L7411 Circuit Breaker (74 7411) is overdutied
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: Replace the Kewanee 138 kV kV L7411 circuit breaker with a SF6 63 kA circuit breaker.
 - Required Upgrade In-Service Date: 6/1/2026
 - Estimated Upgrade Cost: \$1.10 M
 - Construction Responsibility: ComEd
- Cost Allocation
 - The cost for this baseline upgrade is allocated to ComEd (100.00%).

Baseline Upgrade b3904.1

- Overview of Reliability Problem
 - Criteria Violation: Overload of the Rockford – Roller Creek 69 kV line
 - Contingency: Multiple contingencies
 - Criteria Test: Light Load Generator Deliverability
- Overview of Reliability Solution
 - Description of Upgrade: Rebuild and reconductor 7.7 miles of 69 kV line with standard 1351 AAC conductor from Rockford substation to the POI.
 - Required Upgrade In-Service Date: 4/15/2029
 - Estimated Upgrade Cost: \$25.00 M
 - Construction Responsibility: Dayton
- Cost Allocation
 - The driver for this upgrade is less than 200 kV. The cost for this baseline upgrade is allocated to Dayton (100.00%).

Baseline Upgrade b3906.1

- Overview of Reliability Problem
 - Criteria Violation: Overload of the following facilities:
 - Chestnut Hill – Frederick Rd. 115 kV Line No. 527
 - Chestnut Hill – Frederick Rd. 115 kV Line No. 528
 - North East 230/115 kV transformer No. 1
 - North East 230/115 kV transformer No. 2
 - Wagner 230/115 kV transformer No. 1
 - Wagner 230/115 kV transformer No. 2
 - Howard – Pumphrey 230 kV line
 - Contingency: Multiple contingencies
 - Criteria Test: Summer N-1-1 Thermal
- Overview of Reliability Solution
 - Description of Upgrade: Construct new Marley Neck 115 kV substation. Marley Neck 115 kV portion will accommodate 10 breaker-and-a-half bays, with only 6 bays planned for initial service while accommodating 4 future bays. Two Standard 230/115 kV transformers will be connected between the 230 and 115 kV equipment with appropriate isolation methods.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$107.62 M
 - Construction Responsibility: BGE
- Cost Allocation
 - Only BGE has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to BGE (100.00%).

Baseline Upgrade b3907.1

- Overview of Reliability Problem
 - Criteria Violation: Overload of the following facilities:
 - Richmond – Waneeta 230 kV line
 - Waneeta – North Philadelphia 230 kV line
 - North Philadelphia – Master 230 kV line
 - Contingency: Multiple contingencies
 - Criteria Test: Summer/Winter Generator Deliverability
- Overview of Reliability Solution
 - Description of Upgrade: Reconductor entire 2.5 miles of North Philadelphia – Master 230 kV line
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$6.49 M
 - Construction Responsibility: PECO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to AEC (0.76%)/JCPL (1.45%)/PECO (94.22%)/PSEG (3.29%)/RE (0.13%)/Neptune (0.15%).

Transmission Zone	Planned Load (MW)	DFAX	%Flow Direction	DFAX Allocation
AEC	2,614	1.90%	5.78%	0.76%
JCPL	6,252	1.51%	5.78%	1.45%
NEPTUNE	685	1.48%	5.78%	0.15%
PECO	8,754	-3.75%	94.22%	94.22%
PSEG	10,520	2.04%	5.78%	3.29%
RE	409	2.04%	5.78%	0.13%

Baseline Upgrade b3907.2

- Overview of Reliability Problem
 - Criteria Violation: Overload of the following facilities are overloaded:
 - Richmond – Waneeta 230 kV line
 - Waneeta – North Philadelphia 230 kV line
 - North Philadelphia – Master 230 kV line
 - Contingency: Multiple contingencies
 - Criteria Test: Summer/Winter Generator Deliverability
- Overview of Reliability Solution
 - Description of Upgrade: Richmond – Waneeta 230 kV line: Rebuild entire 0.95 miles of existing UGT, and rebuild entire 2.23 miles of existing OHT
 - Required Upgrade In-Service Date: 6/1/2028
 - Estimated Upgrade Cost: \$29.40 M
 - Construction Responsibility: PECO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to AEC (9.99%)/JCPL (8.34%)/PECO (55.62%)/PSEG (24.31%)/RE (0.94%)/Neptune (0.80%).

Transmission Zone	Planned Load (MW)	DFAX	%Flow Direction	DFAX Allocation
AEC	2,614	7.67%	44.38%	9.99%
JCPL	6,252	2.68%	44.38%	8.34%
NEPTUNE	685	2.35%	44.38%	0.80%
PECO	8,754	-9.88%	55.62%	55.62%
PSEG	10,520	4.64%	44.38%	24.31%
RE	409	4.64%	44.38%	0.94%

Baseline Upgrade b3907.3

- Overview of Reliability Problem
 - Criteria Violation: Overload of the following facilities:
 - Richmond – Waneeta 230 kV line
 - Waneeta – North Philadelphia 230 kV line
 - North Philadelphia – Master 230 kV line
 - Contingency: Multiple contingencies
 - Criteria Test: Summer/Winter Generator Deliverability
- Overview of Reliability Solution
 - Description of Upgrade: Reconductor 2.12 miles of North Philadelphia – Waneeta 230 kV line
 - Required Upgrade In-Service Date: 6/1/2028
 - Estimated Upgrade Cost: \$7.33M
 - Construction Responsibility: PECO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to AEC (10.75%)/JCPL (14.26%)/PECO (38.58%)/PSEG (33.62%)/RE (1.31%)/Neptune (1.48%).

Transmission Zone	Planned Load (MW)	DFAX	%Flow Direction	DFAX Allocation
AEC	2,614	3.67%	61.42%	10.75%
JCPL	6,252	2.04%	61.42%	14.26%
NEPTUNE	685	1.93%	61.42%	1.48%
PECO	8,754	4.38%	38.58%	38.58%
PSEG	10,520	2.85%	61.42%	33.62%
RE	409	2.85%	61.42%	1.31%

Baseline Upgrade b3908.1

- Overview of Reliability Problem
 - Criteria Violation: Voltage magnitude and voltage drop violations on the PPL 230 kV system in the Pocono vicinity.
 - Contingency: Multiple contingencies
 - Criteria Test: Winter N-1-1 Voltage Magnitude, Winter N-1-1 Voltage Drop
- Overview of Reliability Solution
 - Description of Upgrade: Install one 80 MVar 230 kV capacitor bank at Pocono 230 kV Substation
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$4.93 M
 - Construction Responsibility: PPL
- Cost Allocation
 - The cost for this baseline upgrade is allocated to PPL (100.00%).

Baseline Upgrade b3909.1

- Overview of Reliability Problem
 - Criteria Violation: Overloads of the Juniata 500/230 kV transformer and Susquehanna – Glenbrook 230 kV line.
 - Contingency: Multiple contingencies
 - Criteria Test: Winter/Summer Generator Deliverability, Winter/Summer IPD
- Overview of Reliability Solution
 - Description of Upgrade: Juniata 500 kV yard expansion/reconfiguration to include one new bay and eliminate the line fault stuck breaker
 - Required Upgrade In-Service Date: 6/1/2028
 - Estimated Upgrade Cost: \$22.20 M
 - Construction Responsibility: PPL
- Cost Allocation
 - 50% of the cost of this baseline upgrade is allocated based on load ratio and 50% of the cost for this baseline upgrade is allocated 100% to PPL based on solution-based DFAX. The solution-based DFAX calculation was based on an interface entirely within the PPL zone and therefore no distribution factor table is provided.

Transmission Zone	Peak Load (MW) for 2025	Load Ratio Allocation (%) for 2025
AEC	2,566	1.58%
AEP	22,318	13.71%
APS	8,938	5.49%
ATSI	12,508	7.69%
BGE	6,766	4.16%
ComEd	21,560	13.25%
Dayton	3,365	2.07%
DEOK	5,171	3.18%
Dominion	23,118	14.20%
DPL	4,189	2.57%
DL	2,691	1.65%
EKPC	3,748	2.30%
JCPL	6,184	3.80%
ME	3,067	1.88%
OVEC	104	0.06%
PECO	8,652	5.32%
PENELEC	2,953	1.81%
PEPCO	6,162	3.79%
PPL	7,460	4.58%
PSEG	10,152	6.24%
RE	404	0.25%
Neptune	676	0.42%

Baseline Upgrade b3910.1

- Overview of Reliability Problem
 - Criteria Violation: Overloads of the Juniata 500/230 kV transformer and Susquehanna – Glenbrook 230 kV line.
 - Contingency: Multiple contingencies
 - Criteria Test: Summer/Winter Generator Deliverability, Summer/Winter IPD
- Overview of Reliability Solution
 - Description of Upgrade: Susquehanna T10 230 kV station reconfiguration. Break the existing Susquehanna - Glen Brook 230 kV line and loop it 0.2 miles in and out of the Susquehanna T10 230 kV station.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$9.50 M
 - Construction Responsibility: PPL
- Cost Allocation
 - The cost for this baseline upgrade is allocated to PPL (100.00%). The solution-based DFAX calculation was based on an interface entirely within the PPL zone and therefore no distribution factor table is provided.

Baseline Upgrade b3911.1

- Overview of Reliability Problem
 - Criteria Violation: Overload of the Canal – Gay 138 kV line
 - Contingency: N-1-1
 - Criteria Test: Summer N-1-1 Thermal
- Overview of Reliability Solution
 - Description of Upgrade: Rebuild the existing 1.1 mile Canal – Gay 138 kV oil filled pipe-type underground line to address overloads on the existing cable utilizing 5000 MCM XLPE cable.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$15.60 M
 - Construction Responsibility: AEP
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b3912.1

- Overview of Reliability Problem
 - Criteria Violation: Overload of the Canal – Mound Street 138 kV line
 - Contingency: Multiple contingencies
 - Criteria Test: Summer Generator Deliverability, Summer N-1, Summer N-1-1
- Overview of Reliability Solution
 - Description of Upgrade: Rebuild the existing 2.2 miles Canal - Mound St. 138 kV oil filled pipe-type underground line to address overloads on the existing cable utilizing 5000 MCM XLPE cable.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$31.09 M
 - Construction Responsibility: AEP
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b3913.1

- Overview of Reliability Problem
 - Criteria Violation: Overload of Beatty – White Road – Cyprus 138 kV line
 - Contingency: Multiple contingencies
 - Criteria Test: Summer Generator Deliverability, Summer IPD, Summer N-1, Summer N-1-1
- Overview of Reliability Solution
 - Description of Upgrade: Rebuild 138 kV line section between Beatty and White Road stations (approximately 4.5 miles). Update remote end relay settings as needed.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$18.80 M
 - Construction Responsibility: AEP
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b3913.2

- Overview of Reliability Problem
 - Criteria Violation: Overload of the Beatty – White Road - Cyprus 138 kV line
 - Contingency: Multiple contingencies
 - Criteria Test: Summer Generator Deliverability, Summer IPD, Summer N-1, Summer N-1-1
- Overview of Reliability Solution
 - Description of Upgrade: Rebuild 138 kV line section between White Road and Cyprus stations (approximately 3.34 miles). Update remote end relay settings as needed.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$14.31 M
 - Construction Responsibility: AEP
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b3914.1

- Overview of Reliability Problem
 - Criteria Violation: High voltage magnitude violations on multiple 138 kV buses in the Chicago area
 - Contingency: Multiple contingencies
 - Criteria Test: Light Load N-1 Voltage Magnitude
- Overview of Reliability Solution
 - Description of Upgrade: Change No-load tap of 2 autotransformers at Fisk from 338.25 kV to 346.5 kV.
 - Required Upgrade In-Service Date: 4/15/2029
 - Estimated Upgrade Cost: \$0.03 M
 - Construction Responsibility: ComEd
- Cost Allocation
 - The cost for this baseline upgrade is allocated to ComEd (100.00%).

Baseline Upgrade b3914.2

- Overview of Reliability Problem
 - Criteria Violation: High voltage magnitude violations on multiple 138 kV buses in the Chicago area
 - Contingency: Multiple contingencies
 - Criteria Test: Light Load N-1 Voltage Magnitude
- Overview of Reliability Solution
 - Description of Upgrade: Change No-load tap of 4 autotransformers at Crawford from 338.25 kV to 346.5 kV.
 - Required Upgrade In-Service Date: 4/15/2029
 - Estimated Upgrade Cost: \$0.07 M
 - Construction Responsibility: ComEd
- Cost Allocation
 - The cost for this baseline upgrade is allocated to ComEd (100.00%).

Baseline Upgrade b3914.3

- Overview of Reliability Problem
 - Criteria Violation: High voltage magnitude violations on multiple 138 kV buses in the Chicago area
 - Contingency: Multiple contingencies
 - Criteria Test: Light Load N-1 Voltage Magnitude
- Overview of Reliability Solution
 - Description of Upgrade: Change No-load tap of 3 autotransformers at Elmhurst from 338.25 kV to 346.5 kV.
 - Required Upgrade In-Service Date: 4/15/2029
 - Estimated Upgrade Cost: \$0.05 M
 - Construction Responsibility: ComEd
- Cost Allocation
 - The cost for this baseline upgrade is allocated to ComEd (100.00%).

Baseline Upgrade b3914.4

- Overview of Reliability Problem
 - Criteria Violation: High voltage magnitude violations on multiple 138 kV buses in the Chicago area
 - Contingency: Multiple contingencies
 - Criteria Test: Light Load N-1 Voltage Magnitude
- Overview of Reliability Solution
 - Description of Upgrade: Change No-load tap of 2 autotransformers at West Loop from 338.25 kV to 346.5 kV.
 - Required Upgrade In-Service Date: 4/15/2029
 - Estimated Upgrade Cost: \$0.03 M
 - Construction Responsibility: ComEd
- Cost Allocation
 - The cost for this baseline upgrade is allocated to ComEd (100.00%).

Baseline Upgrade b3914.5

- Overview of Reliability Problem
 - Criteria Violation: High voltage magnitude violations on multiple 138 kV buses in the Chicago area
 - Contingency: Multiple contingencies
 - Criteria Test: Light Load N-1 Voltage Magnitude
- Overview of Reliability Solution
 - Description of Upgrade: Change No-load tap of 2 autotransformers at Taylor from 338.25 kV to 346.5 kV.
 - Required Upgrade In-Service Date: 4/15/2029
 - Estimated Upgrade Cost: \$0.03 M
 - Construction Responsibility: ComEd
- Cost Allocation
 - The cost for this baseline upgrade is allocated to ComEd (100.00%).

Baseline Upgrade b3914.6

- Overview of Reliability Problem
 - Criteria Violation: High voltage magnitude violations on multiple 138 kV buses in the Chicago area
 - Contingency: Multiple contingencies
 - Criteria Test: Light Load N-1 Voltage Magnitude
- Overview of Reliability Solution
 - Description of Upgrade: Change No-load tap of 4 autotransformers at Skokie from 338.25 kV to 346.5 kV.
 - Required Upgrade In-Service Date: 4/15/2029
 - Estimated Upgrade Cost: \$0.07 M
 - Construction Responsibility: ComEd
- Cost Allocation
 - The cost for this baseline upgrade is allocated to ComEd (100.00%).

Baseline Upgrade b3915.1

- Overview of Reliability Problem
 - Criteria Violation: Overload of the Dresden – Mulberry 345 kV double circuit
 - Contingency: Multiple contingencies
 - Criteria Test: Summer/Winter N-1 Thermal, Summer/Winter Generator Deliverability
- Overview of Reliability Solution
 - Description of Upgrade: Reconductor 1.5 miles of 345 kV lines 1202 and 1227 from Dresden to Mulberry with two conductor bundled 1033.5 ACSS conductor. Modify and replace towers as necessary to accommodate the higher mechanical loads of the bundled conductor.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$12.33 M
 - Construction Responsibility: ComEd
- Cost Allocation
 - 50% of the cost of this baseline upgrade is allocated based on load ratio and 50% of the cost for this baseline upgrade is allocated 100% to ComEd based on solution-based DFAX. Only ComEd has greater than 1% distribution factor.

Transmission Zone	Peak Load (MW) for 2025	Load Ratio Allocation (%) for 2025
AEC	2,566	1.58%
AEP	22,318	13.71%
APS	8,938	5.49%
ATSI	12,508	7.69%
BGE	6,766	4.16%
ComEd	21,560	13.25%
Dayton	3,365	2.07%
DEOK	5,171	3.18%
Dominion	23,118	14.20%
DPL	4,189	2.57%
DL	2,691	1.65%
EKPC	3,748	2.30%
JCPL	6,184	3.80%
ME	3,067	1.88%
OVEC	104	0.06%
PECO	8,652	5.32%
PENELEC	2,953	1.81%
PEPCO	6,162	3.79%
PPL	7,460	4.58%
PSEG	10,152	6.24%
RE	404	0.25%
Neptune	676	0.42%

Baseline Upgrade b3915.2

- Overview of Reliability Problem
 - Criteria Violation: Overload of the Dresden – Mulberry 345 kV double circuit
 - Contingency: : Multiple contingencies
 - Criteria Test: Summer/Winter N-1 Thermal, Summer/Winter Generator Deliverability
- Overview of Reliability Solution
 - Description of Upgrade: Install 345 kV circuit breaker on line 1202 (Dresden-Mulberry 345 kV) and upgrade disconnects and associated equipment at Dresden 345 kV substation.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$3.77 M
 - Construction Responsibility: ComEd
- Cost Allocation
 - 50% of the cost of this baseline upgrade is allocated based on load ratio and 50% of the cost for this baseline upgrade is allocated 100% to ComEd based on solution-based DFAX. Only ComEd has greater than 1% distribution factor.

Transmission Zone	Peak Load (MW) for 2025	Load Ratio Allocation (%) for 2025
AEC	2,566	1.58%
AEP	22,318	13.71%
APS	8,938	5.49%
ATSI	12,508	7.69%
BGE	6,766	4.16%
ComEd	21,560	13.25%
Dayton	3,365	2.07%
DEOK	5,171	3.18%
Dominion	23,118	14.20%
DPL	4,189	2.57%
DL	2,691	1.65%
EKPC	3,748	2.30%
JCPL	6,184	3.80%
ME	3,067	1.88%
OVEC	104	0.06%
PECO	8,652	5.32%
PENELEC	2,953	1.81%
PEPCO	6,162	3.79%
PPL	7,460	4.58%
PSEG	10,152	6.24%
RE	404	0.25%
Neptune	676	0.42%

Baseline Upgrade b3915.3

- Overview of Reliability Problem
 - Criteria Violation: Overload of the Dresden – Mulberry 345 kV double circuit
 - Contingency: : Multiple contingencies
 - Criteria Test: Summer/Winter N-1 Thermal, Summer/Winter Generator Deliverability
- Overview of Reliability Solution
 - Description of Upgrade: Upgrade disconnects and associated equipment at Mulberry 345 kV substation.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.17 M
 - Construction Responsibility: ComEd
- Cost Allocation
 - 50% of the cost of this baseline upgrade is allocated based on load ratio and 50% of the cost for this baseline upgrade is allocated 100% to ComEd based on solution-based DFAX. Only ComEd has greater than 1% distribution factor.

Transmission Zone	Peak Load (MW) for 2025	Load Ratio Allocation (%) for 2025
AEC	2,566	1.58%
AEP	22,318	13.71%
APS	8,938	5.49%
ATSI	12,508	7.69%
BGE	6,766	4.16%
ComEd	21,560	13.25%
Dayton	3,365	2.07%
DEOK	5,171	3.18%
Dominion	23,118	14.20%
DPL	4,189	2.57%
DL	2,691	1.65%
EKPC	3,748	2.30%
JCPL	6,184	3.80%
ME	3,067	1.88%
OVEC	104	0.06%
PECO	8,652	5.32%
PENELEC	2,953	1.81%
PEPCO	6,162	3.79%
PPL	7,460	4.58%
PSEG	10,152	6.24%
RE	404	0.25%
Neptune	676	0.42%

Baseline Upgrade b3916.1

- Overview of Reliability Problem
 - Criteria Violation: Overload of the Busse – Des Plaines 138 kV line
 - Contingency: Multiple contingencies
 - Criteria Test: Summer N-1-1 Thermal
- Overview of Reliability Solution
 - Description of Upgrade: Install a new 420 MVA 345/138 kV autotransformer and associated 345 kV and 138 kV circuit breakers at Itasca substation.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$14.31 M
 - Construction Responsibility: ComEd
- Cost Allocation
 - Only ComEd has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to ComEd (100.00%).

Baseline Upgrade b3918.1

- Overview of Reliability Problem
 - Criteria Violation: Low voltage violations at multiple buses in the AMPT 69 kV network
 - Contingency: Multiple contingencies
 - Criteria Test: AMPT FERC Form 715 Criteria
- Overview of Reliability Solution
 - Description of Upgrade: Add one additional breaker, a 2nd 138/69 kV transformer, replace five 69 kV breakers and four 138 kV breakers.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$12.00 M
 - Construction Responsibility: Dayton
- Cost Allocation
 - The driver for this upgrade is less than 200 kV. The cost for this baseline upgrade is allocated to Dayton (100.00%).

Baseline Upgrade b3919.1

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Reconfigure Maliszewski 765 kV station from 2 breakers to a 6 breaker ring bus. Install a new 765/345 kV transformer. Establish new 345 kV breakeryard with 3 string breaker and a half to include a line exit to Hyatt and a line exit to Corridor. Loop the existing Hyatt – West Millersport 345 kV line into the new established 345 kV yard at the Maliszewski station.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$79.74 M
 - Construction Responsibility: AEP
- Cost Allocation
 - The cost for this baseline upgrade is allocated to AEP (85.10%)/Dayton (9.33%)/DEOK (5.48%)/OVEC (0.09%).

Transmission Zone	Planned Load (MW)	DFAX	%Flow Direction	DFAX Allocation
AEP	25,757	3.46%	100.00%	85.10%
DAYTON	3,350	2.91%	100.00%	9.33%
DEOK	5,376	1.07%	100.00%	5.48%
OVEC	90	1.01%	100.00%	0.09%

Baseline Upgrade b3919.2

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Establish a 0.18 mile double circuit 345 kV line extension to cut the existing Hyatt – West Millersport 345 kV line in and out of Corridor station.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$3.10 M
 - Construction Responsibility: AEP
- Cost Allocation
 - The cost for this baseline upgrade is allocated to AEP (100.00%).

Transmission Zone	Planned Load (MW)	DFAX	%Flow Direction	DFAX Allocation
AEP	25,757	2.49%	100.00%	100.00%
DAYTON	3,350	-1.42%	0.00%	0.00%

Baseline Upgrade b3919.3

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Install three new 345 kV breakers at Corridor station in order to accommodate the cut in of the Hyatt -- West Millersport 345 kV line.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$5.52 M
 - Construction Responsibility: AEP
- Cost Allocation
 - The cost for this baseline upgrade is allocated to AEP (100.00%).

Transmission Zone	Planned Load (MW)	DFAX	%Flow Direction	DFAX Allocation
AEP	25,757	2.49%	100.00%	100.00%
DAYTON	3,350	-1.42%	0.00%	0.00%

Baseline Upgrade b3919.4

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Reconductor 10.2 miles of Maliszewski – Corridor 345 kV line.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$18.30 M
 - Construction Responsibility: AEP
- Cost Allocation
 - The cost for this baseline upgrade is allocated to AEP (100.00%).

Transmission Zone	Planned Load (MW)	DFAX	%Flow Direction	DFAX Allocation
AEP	25,757	2.49%	100.00%	100.00%
DAYTON	3,350	-1.42%	0.00%	0.00%

Baseline Upgrade b3919.5

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Reconductor 4.75 miles of the existing Bokes Creek – Marysville 345 kV circuit. Update the associated relay settings.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$6.67 M
 - Construction Responsibility: AEP
- Cost Allocation
 - Only AEP has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b3919.6

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Rebuild 4.4 miles of the existing Marysville – Hyatt 345 kV double circuit line where it extends into Marysville station.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$26.26M
 - Construction Responsibility: AEP
- Cost Allocation
 - Only AEP has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b3919.7

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Upgrade 345 kV breakers K and K1 along with associated switches and conductor to 5000A at Hyatt station.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$2.94 M
 - Construction Responsibility: AEP
- Cost Allocation
 - Only AEP has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b3919.8

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Upgrade the relaying and associated equipment at West Millersport station to coordinate with the cut in work to Corridor station.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.41 M
 - Construction Responsibility: AEP
- Cost Allocation
 - The cost for this baseline upgrade is allocated to AEP (100.00%).

Transmission Zone	Planned Load (MW)	DFAX	%Flow Direction	DFAX Allocation
AEP	25,757	2.49%	100.00%	100.00%
DAYTON	3,350	-1.42%	0.00%	0.00%

Baseline Upgrade b3919.9

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Upgrade 3000A 345 kV breaker 'L2' along with associated terminal elements to 5000A at Marysville.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$2.56 M
 - Construction Responsibility: AEP
- Cost Allocation
 - Only AEP has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b3919.10

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Rebuild approximately 19.0 miles of Hyatt – Marysville 345 kV line using 4-bundled 795 ACSR conductor Bold construction (This is an EOL rebuild)
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$116.70 M
 - Construction Responsibility: AEP
- Cost Allocation
 - Only AEP has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b3921.1

- Overview of Reliability Problem
 - Criteria Violation: Overload of the Merck No. 5 – Port Republic 115 kV line
 - Contingency: Multiple contingencies
 - Criteria Test: Summer/Winter Generator Deliverability, Summer IPD
- Overview of Reliability Solution
 - Description of Upgrade: Wreck and rebuild 115 kV Line 119 from structure 119/305 (Merck No. 5 substation) to 119/411A (Port Republic Substation). The existing structures shall be replaced one for one within the existing ROW using primarily custom engineered double circuit 115 kV steel structures on concrete foundations. The line will be rebuilt with 3-phase 1-768.2 ACSS/TW/HS (20/7) 250 MOT “Maumee” conductor and two (2) DNO-11410 OPGW. The rebuild includes the installation of double circuit structures but assumes the second circuit will not be installed as part of this project, and that the vacant conductor arms should not be utilized without acquiring additional ROW. This scope assumes project GITAE2029C will be completed prior to the construction of this project. Project GITAE2029C serves to install Port Republic substation, which will split Line 119 in between existing structures 119/411 and 119/412.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$44.84 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The driver for this upgrade is less than 200 kV. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b3921.2

- Overview of Reliability Problem
 - Criteria Violation: Overload of the Merck No. 5 – Port Republic 115 kV line
 - Contingency: Multiple contingencies
 - Criteria Test: Summer/Winter Generator Deliverability, Summer IPD
- Overview of Reliability Solution
 - Description of Upgrade: Upgrade the 397.5 ACSR jumpers and associated equipment to meet the line conductor rating of 393 MVA.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.49 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The driver for this upgrade is less than 200 kV. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b3922.1

- Overview of Reliability Problem
 - Criteria Violation: Overload of Pantego – Terra 115 kV line
 - Contingency: N-1-1
 - Criteria Test: Summer Generator Deliverability
- Overview of Reliability Solution
 - Description of Upgrade: This project serves to wreck and rebuild 115 kV line 1031 from structure 1031/220 to structure 1031/329. The existing structures to be removed are primarily single circuit wood, steel or concrete monopoles. The existing structures to be removed were primarily constructed in 1993 with the weathering steel structures being constructed in 2011. The existing structures shall be replaced one for one within the existing ROW using single circuit steel monopoles on foundations. The line will be rebuilt with single circuit 3-phase 768.2 ACSS/TW/HS (20/7) “Maumee” conductor and single (1) DNO-11410 OPGW, respectively.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$29.37 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The driver for this upgrade is less than 200 kV. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b3925.1

- Overview of Reliability Problem
 - Criteria Violation: Overload of multiple 138 kV lines and two 345 kV lines in the Northern Ohio area
 - Contingency: Multiple contingencies
 - Criteria Test: Summer/Light Load Generator Deliverability, Summer/Light Load N-1 Thermal
- Overview of Reliability Solution
 - Description of Upgrade: Rebuild the 7.46 miles of Avery - Shinrock 138 kV line with 795 kcmil 26/7 ACSS
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$15.20 M
 - Construction Responsibility: ATSI
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to ATSI (100.00%).

Baseline Upgrade b3925.2

- Overview of Reliability Problem
 - Criteria Violation: Overload of multiple 138 kV lines and two 345 kV lines in the Northern Ohio area
 - Contingency: Multiple contingencies
 - Criteria Test: Summer/Light Load Generator Deliverability, Summer/Light Load N-1 Thermal
- Overview of Reliability Solution
 - Description of Upgrade: Rebuild the 13.45 miles of Greenfield – Lakeview 138 kV line from 2 x 336.4 kcmil 26/7 ACSR to 1 x 795 kcmil 26/7 ACSS
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$59.68 M
 - Construction Responsibility: ATSI
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to ATSI (100.00%).

Baseline Upgrade b3925.3

- Overview of Reliability Problem
 - Criteria Violation: Overload of multiple 138 kV lines and two 345 kV lines in the Northern Ohio area
 - Contingency: Multiple contingencies
 - Criteria Test: Summer/Light Load Generator Deliverability, Summer/Light Load N-1 Thermal
- Overview of Reliability Solution
 - Description of Upgrade: Rebuild the 6.5 miles of Avery – Hayes 138 kV line with 795 kcmil 26/7 ACSS conductor
 - Required Upgrade In-Service Date: 6/1/2027
 - Estimated Upgrade Cost: \$11.01 M
 - Construction Responsibility: ATSI
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to ATSI (100.00%).

Baseline Upgrade b3925.4

- Overview of Reliability Problem
 - Criteria Violation: Overload of multiple 138 kV lines and two 345 kV lines in the Northern Ohio area
 - Contingency: Multiple contingencies
 - Criteria Test: Summer/Light Load Generator Deliverability, Summer/Light Load N-1 Thermal
- Overview of Reliability Solution
 - Description of Upgrade: Rebuild the Greenfield – Beaver 138 kV corridor (32 miles) with 795 kcmil 26/7 ACSS. This corridor encompasses multiple 138 kV lines that are constructed on common towers.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$131.43 M
 - Construction Responsibility: ATSI
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to ATSI (100.00%).

Baseline Upgrade b3928.1

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Install (1) 230 kV, 50 MVAR shunt capacitor bank and associated equipment including breaker at Navy North substation.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$3.00 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b3929.1

- Overview of Reliability Problem
 - Criteria Violation: End of Life of 500 kV Line No. 579 from Septa to Yadkin
 - Contingency: N/A
 - Criteria Test: Dominion FERC Form 715 Criteria
- Overview of Reliability Solution
 - Description of Upgrade: Rebuild approximately 33.09 miles of 500 kV line No. 579 from structure 579/1 inside Septa substation to structure 579/193 inside Yadkin substation.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$191.25 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - 50% of the cost of this baseline upgrade is allocated based on load ratio and 50% of the cost for this baseline upgrade is allocated 100% to Dominion based on solution-based DFAX. Only Dominion has greater than 1% distribution factor.

Transmission Zone	Peak Load (MW) for 2025	Load Ratio Allocation (%) for 2025
AEC	2,566	1.58%
AEP	22,318	13.71%
APS	8,938	5.49%
ATSI	12,508	7.69%
BGE	6,766	4.16%
ComEd	21,560	13.25%
Dayton	3,365	2.07%
DEOK	5,171	3.18%
Dominion	23,118	14.20%
DPL	4,189	2.57%
DL	2,691	1.65%
EKPC	3,748	2.30%
JCPL	6,184	3.80%
ME	3,067	1.88%
OVEC	104	0.06%
PECO	8,652	5.32%
PENELEC	2,953	1.81%
PEPCO	6,162	3.79%
PPL	7,460	4.58%
PSEG	10,152	6.24%
RE	404	0.25%
Neptune	676	0.42%

Baseline Upgrade b3929.2

- Overview of Reliability Problem
 - Criteria Violation: End of Life of 500 kV Line No. 579 from Septa to Yadkin
 - Contingency: N/A
 - Criteria Test: Dominion FERC Form 715 Criteria
- Overview of Reliability Solution
 - Description of Upgrade: At Septa substation, upgrade CB (579T586), breaker switches (56288, 57985, 58688 & 57988), and line leads to 5000A rating to support Line No. 579 rebuild.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$3.84 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - 50% of the cost of this baseline upgrade is allocated based on load ratio and 50% of the cost for this baseline upgrade is allocated 100% to Dominion based on solution-based DFAX. Only Dominion has greater than 1% distribution factor.

Transmission Zone	Peak Load (MW) for 2025	Load Ratio Allocation (%) for 2025
AEC	2,566	1.58%
AEP	22,318	13.71%
APS	8,938	5.49%
ATSI	12,508	7.69%
BGE	6,766	4.16%
ComEd	21,560	13.25%
Dayton	3,365	2.07%
DEOK	5,171	3.18%
Dominion	23,118	14.20%
DPL	4,189	2.57%
DL	2,691	1.65%
EKPC	3,748	2.30%
JCPL	6,184	3.80%
ME	3,067	1.88%
OVEC	104	0.06%
PECO	8,652	5.32%
PENELEC	2,953	1.81%
PEPCO	6,162	3.79%
PPL	7,460	4.58%
PSEG	10,152	6.24%
RE	404	0.25%
Neptune	676	0.42%

Baseline Upgrade b3929.3

- Overview of Reliability Problem
 - Criteria Violation: End of Life of 500 kV Line No. 579 from Septa to Yadkin
 - Contingency: N/A
 - Criteria Test: Dominion FERC Form 715 Criteria
- Overview of Reliability Solution
 - Description of Upgrade: At Yadkin substation, upgrade line leads to 5000A rating to support Line No. 579 rebuild.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.44 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - 50% of the cost of this baseline upgrade is allocated based on load ratio and 50% of the cost for this baseline upgrade is allocated 100% to Dominion based on solution-based DFAX. Only Dominion has greater than 1% distribution factor.

Transmission Zone	Peak Load (MW) for 2025	Load Ratio Allocation (%) for 2025
AEC	2,566	1.58%
AEP	22,318	13.71%
APS	8,938	5.49%
ATSI	12,508	7.69%
BGE	6,766	4.16%
ComEd	21,560	13.25%
Dayton	3,365	2.07%
DEOK	5,171	3.18%
Dominion	23,118	14.20%
DPL	4,189	2.57%
DL	2,691	1.65%
EKPC	3,748	2.30%
JCPL	6,184	3.80%
ME	3,067	1.88%
OVEC	104	0.06%
PECO	8,652	5.32%
PENELEC	2,953	1.81%
PEPCO	6,162	3.79%
PPL	7,460	4.58%
PSEG	10,152	6.24%
RE	404	0.25%
Neptune	676	0.42%

Baseline Upgrade b3929.4

- Overview of Reliability Problem
 - Criteria Violation: End of Life of 500 kV Line No. 579 from Septa to Yadkin
 - Contingency: N/A
 - Criteria Test: Dominion FERC Form 715 Criteria
- Overview of Reliability Solution
 - Description of Upgrade: Rebuild approximately 7.7 miles of 230 kV Line No. 2110 Suffolk – Thrasher that share the double circuit towers under Line No. 579.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$21.25M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%). No transmission zone has greater than 1% distribution factor.

Baseline Upgrade b4000.1

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Add one 765 kV breaker at Amos Substation to expand the breaker and a half scheme to accommodate the new Amos – Welton Spring 765 kV line
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$30.87 M
 - Construction Responsibility: AEP
- Cost Allocation
 - 50% of the cost of this baseline upgrade is allocated based on load ratio and 50% of the cost for this baseline upgrade is allocated based on solution-based DFAX.

Transmission Zone	Peak Load (MW) for 2025	Load Ratio Allocation (%) for 2025
AEC	2,566	1.58%
AEP	22,318	13.71%
APS	8,938	5.49%
ATSI	12,508	7.69%
BGE	6,766	4.16%
ComEd	21,560	13.25%
Dayton	3,365	2.07%
DEOK	5,171	3.18%
Dominion	23,118	14.20%
DPL	4,189	2.57%
DL	2,691	1.65%
EKPC	3,748	2.30%
JCPL	6,184	3.80%
ME	3,067	1.88%
OVEC	104	0.06%
PECO	8,652	5.32%
PENELEC	2,953	1.81%
PEPCO	6,162	3.79%
PPL	7,460	4.58%
PSEG	10,152	6.24%
RE	404	0.25%
Neptune	676	0.42%

Transmission Zone	Planned Load (MW)	DFAX	Flow Direction (%)	DFAX Allocation
AEP	25,757	-0.80%	0.00%	0.00%
APS	10,208	3.17%	100.00%	14.67%
BGE	6,636	2.70%	100.00%	8.11%
Dayton	3,350	-1.89%	0.00%	0.00%
DEOK	5,376	-2.45%	0.00%	0.00%
Dominion	31,776	4.59%	100.00%	66.09%
DPL	3,928	1.21%	100.00%	2.15%
EKPC	2,153	-1.95%	0.00%	0.00%
OVEC	90	-1.07%	0.00%	0.00%
PEPCO	6,206	3.19%	100.00%	8.98%

Baseline Upgrade b4000.2

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Construct a new 175 miles Amos – Welton Spring 765 kV line. (AEP Section of the line is 30 miles)
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$150.00 M
 - Construction Responsibility: VLT
- Cost Allocation
 - 50% of the cost of this baseline upgrade is allocated based on load ratio and 50% of the cost for this baseline upgrade is allocated based on solution-based DFAX.

Transmission Zone	Peak Load (MW) for 2025	Load Ratio Allocation (%) for 2025
AEC	2,566	1.58%
AEP	22,318	13.71%
APS	8,938	5.49%
ATSI	12,508	7.69%
BGE	6,766	4.16%
ComEd	21,560	13.25%
Dayton	3,365	2.07%
DEOK	5,171	3.18%
Dominion	23,118	14.20%
DPL	4,189	2.57%
DL	2,691	1.65%
EKPC	3,748	2.30%
JCPL	6,184	3.80%
ME	3,067	1.88%
OVEC	104	0.06%
PECO	8,652	5.32%
PENELEC	2,953	1.81%
PEPCO	6,162	3.79%
PPL	7,460	4.58%
PSEG	10,152	6.24%
RE	404	0.25%
Neptune	676	0.42%

Transmission Zone	Planned Load (MW)	DFAX	Flow Direction (%)	DFAX Allocation
AEP	25,757	-0.80%	0.00%	0.00%
APS	10,208	3.17%	100.00%	14.67%
BGE	6,636	2.70%	100.00%	8.11%
Dayton	3,350	-1.89%	0.00%	0.00%
DEOK	5,376	-2.45%	0.00%	0.00%
Dominion	31,776	4.59%	100.00%	66.09%
DPL	3,928	1.21%	100.00%	2.15%
EKPC	2,153	-1.95%	0.00%	0.00%
OVEC	90	-1.07%	0.00%	0.00%
PEPCO	6,206	3.19%	100.00%	8.98%

Baseline Upgrade b4000.3

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Construct a new 175 miles Amos – Welton Spring 765 kV line. (APS/FE Section of the line is 145 miles)
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$725.00 M
 - Construction Responsibility: VLT
- Cost Allocation
 - 50% of the cost of this baseline upgrade is allocated based on load ratio and 50% of the cost for this baseline upgrade is allocated based on solution-based DFAX.

Transmission Zone	Peak Load (MW) for 2025	Load Ratio Allocation (%) for 2025
AEC	2,566	1.58%
AEP	22,318	13.71%
APS	8,938	5.49%
ATSI	12,508	7.69%
BGE	6,766	4.16%
ComEd	21,560	13.25%
Dayton	3,365	2.07%
DEOK	5,171	3.18%
Dominion	23,118	14.20%
DPL	4,189	2.57%
DL	2,691	1.65%
EKPC	3,748	2.30%
JCPL	6,184	3.80%
ME	3,067	1.88%
OVEC	104	0.06%
PECO	8,652	5.32%
PENELEC	2,953	1.81%
PEPCO	6,162	3.79%
PPL	7,460	4.58%
PSEG	10,152	6.24%
RE	404	0.25%
Neptune	676	0.42%

Transmission Zone	Planned Load (MW)	DFAX	Flow Direction (%)	DFAX Allocation
APS	10,208	3.17%	100.00%	14.67%
BGE	6,636	2.70%	100.00%	8.11%
Dayton	3,350	-1.89%	0.00%	0.00%
DEOK	5,376	-2.45%	0.00%	0.00%
Dominion	31,776	4.59%	100.00%	66.09%
DPL	3,928	1.21%	100.00%	2.15%
EKPC	2,153	-1.95%	0.00%	0.00%
OVEC	90	-1.07%	0.00%	0.00%
PEPCO	6,206	3.19%	100.00%	8.98%

Baseline Upgrade b4000.4

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Construct a new 765 kV switchyard (Welton Spring)
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$92.28 M
 - Construction Responsibility: VLT
- Cost Allocation
 - 50% of the cost of this baseline upgrade is allocated based on load ratio and 50% of the cost for this baseline upgrade is allocated based on solution-based DFAX.

Transmission Zone	Peak Load (MW) for 2025	Load Ratio Allocation (%) for 2025
AEC	2,566	1.58%
AEP	22,318	13.71%
APS	8,938	5.49%
ATSI	12,508	7.69%
BGE	6,766	4.16%
ComEd	21,560	13.25%
Dayton	3,365	2.07%
DEOK	5,171	3.18%
Dominion	23,118	14.20%
DPL	4,189	2.57%
DL	2,691	1.65%
EKPC	3,748	2.30%
JCPL	6,184	3.80%
ME	3,067	1.88%
OVEC	104	0.06%
PECO	8,652	5.32%
PENELEC	2,953	1.81%
PEPCO	6,162	3.79%
PPL	7,460	4.58%
PSEG	10,152	6.24%
RE	404	0.25%
Neptune	676	0.42%

Transmission Zone	Planned Load (MW)	DFAX	Flow Direction (%)	DFAX Allocation
APS	10,208	3.17%	100.00%	14.67%
BGE	6,636	2.70%	100.00%	8.11%
Dayton	3,350	-1.89%	0.00%	0.00%
DEOK	5,376	-2.45%	0.00%	0.00%
Dominion	31,776	4.59%	100.00%	66.09%
DPL	3,928	1.21%	100.00%	2.15%
EKPC	2,153	-1.95%	0.00%	0.00%
OVEC	90	-1.07%	0.00%	0.00%
PEPCO	6,206	3.19%	100.00%	8.98%

Baseline Upgrade b4000.5

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Install four 250 MVAR shunt capacitors, and a +/-500 MVAR STATCOM at Welton Spring 765 kV substation
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$121.54 M
 - Construction Responsibility: VLT
- Cost Allocation
 - 50% of the cost of this baseline upgrade is allocated based on load ratio and 50% of the cost for this baseline upgrade is allocated 100% to APS based on solution-based DFAX. The solution-based DFAX calculation was based on an interface entirely within the APS zone and therefore no distribution factor table is provided.

Transmission Zone	Peak Load (MW) for 2025	Load Ratio Allocation (%) for 2025
AEC	2,566	1.58%
AEP	22,318	13.71%
APS	8,938	5.49%
ATSI	12,508	7.69%
BGE	6,766	4.16%
ComEd	21,560	13.25%
Dayton	3,365	2.07%
DEOK	5,171	3.18%
Dominion	23,118	14.20%
DPL	4,189	2.57%
DL	2,691	1.65%
EKPC	3,748	2.30%
JCPL	6,184	3.80%
ME	3,067	1.88%
OVEC	104	0.06%
PECO	8,652	5.32%
PENELEC	2,953	1.81%
PEPCO	6,162	3.79%
PPL	7,460	4.58%
PSEG	10,152	6.24%
RE	404	0.25%
Neptune	676	0.42%

Baseline Upgrade b4000.6

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Construct a new 86 miles Welton Spring to Rocky Point 765 kV line (Welton Spring to DVP local area, roughly 70.7 miles)
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$353.50 M
 - Construction Responsibility: VLT
- Cost Allocation
 - 50% of the cost of this baseline upgrade is allocated based on load ratio and 50% of the cost for this baseline upgrade is allocated based on solution-based DFAX.

Transmission Zone	Peak Load (MW) for 2025	Load Ratio Allocation (%) for 2025
AEC	2,566	1.58%
AEP	22,318	13.71%
APS	8,938	5.49%
ATSI	12,508	7.69%
BGE	6,766	4.16%
ComEd	21,560	13.25%
Dayton	3,365	2.07%
DEOK	5,171	3.18%
Dominion	23,118	14.20%
DPL	4,189	2.57%
DL	2,691	1.65%
EKPC	3,748	2.30%
JCPL	6,184	3.80%
ME	3,067	1.88%
OVEC	104	0.06%
PECO	8,652	5.32%
PENELEC	2,953	1.81%
PEPCO	6,162	3.79%
PPL	7,460	4.58%
PSEG	10,152	6.24%
RE	404	0.25%
Neptune	676	0.42%

Transmission Zone	Planned Load (MW)	DFAX	Flow Direction (%)	DFAX Allocation
APS	10,208	3.17%	100.00%	14.67%
BGE	6,636	2.70%	100.00%	8.11%
Dayton	3,350	-1.89%	0.00%	0.00%
DEOK	5,376	-2.45%	0.00%	0.00%
Dominion	31,776	4.59%	100.00%	66.09%
DPL	3,928	1.21%	100.00%	2.15%
EKPC	2,153	-1.95%	0.00%	0.00%
OVEC	90	-1.07%	0.00%	0.00%
PEPCO	6,206	3.19%	100.00%	8.98%

Baseline Upgrade b4000.7

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Construct a new 86 miles Welton Spring to Rocky Point 765 kV line (in DVP local area/Millville to Lovettsville section, roughly 10.5 miles)
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$52.50 M
 - Construction Responsibility: VLT
- Cost Allocation
 - 50% of the cost of this baseline upgrade is allocated based on load ratio and 50% of the cost for this baseline upgrade is allocated based on solution-based DFAX.

Transmission Zone	Peak Load (MW) for 2025	Load Ratio Allocation (%) for 2025
AEC	2,566	1.58%
AEP	22,318	13.71%
APS	8,938	5.49%
ATSI	12,508	7.69%
BGE	6,766	4.16%
ComEd	21,560	13.25%
Dayton	3,365	2.07%
DEOK	5,171	3.18%
Dominion	23,118	14.20%
DPL	4,189	2.57%
DL	2,691	1.65%
EKPC	3,748	2.30%
JCPL	6,184	3.80%
ME	3,067	1.88%
OVEC	104	0.06%
PECO	8,652	5.32%
PENELEC	2,953	1.81%
PEPCO	6,162	3.79%
PPL	7,460	4.58%
PSEG	10,152	6.24%
RE	404	0.25%
Neptune	676	0.42%

Transmission Zone	Planned Load (MW)	DFAX	Flow Direction (%)	DFAX Allocation
APS	10,208	3.17%	100.00%	14.67%
BGE	6,636	2.70%	100.00%	8.11%
Dayton	3,350	-1.89%	0.00%	0.00%
DEOK	5,376	-2.45%	0.00%	0.00%
Dominion	31,776	4.59%	100.00%	66.09%
DPL	3,928	1.21%	100.00%	2.15%
EKPC	2,153	-1.95%	0.00%	0.00%
OVEC	90	-1.07%	0.00%	0.00%
PEPCO	6,206	3.19%	100.00%	8.98%

Baseline Upgrade b4000.8

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Construct a new 86 miles Welton Spring to Rocky Point 765 kV line (DVP local area to Rocky Point, roughly 4.8 miles)
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$24.00 M
 - Construction Responsibility: VLT
- Cost Allocation
 - 50% of the cost of this baseline upgrade is allocated based on load ratio and 50% of the cost for this baseline upgrade is allocated based on solution-based DFAX.

Transmission Zone	Peak Load (MW) for 2025	Load Ratio Allocation (%) for 2025
AEC	2,566	1.58%
AEP	22,318	13.71%
APS	8,938	5.49%
ATSI	12,508	7.69%
BGE	6,766	4.16%
ComEd	21,560	13.25%
Dayton	3,365	2.07%
DEOK	5,171	3.18%
Dominion	23,118	14.20%
DPL	4,189	2.57%
DL	2,691	1.65%
EKPC	3,748	2.30%
JCPL	6,184	3.80%
ME	3,067	1.88%
OVEC	104	0.06%
PECO	8,652	5.32%
PENELEC	2,953	1.81%
PEPCO	6,162	3.79%
PPL	7,460	4.58%
PSEG	10,152	6.24%
RE	404	0.25%
Neptune	676	0.42%

Transmission Zone	Planned Load (MW)	DFAX	Flow Direction (%)	DFAX Allocation
APS	10,208	3.17%	100.00%	14.67%
BGE	6,636	2.70%	100.00%	8.11%
Dayton	3,350	-1.89%	0.00%	0.00%
DEOK	5,376	-2.45%	0.00%	0.00%
Dominion	31,776	4.59%	100.00%	66.09%
DPL	3,928	1.21%	100.00%	2.15%
EKPC	2,153	-1.95%	0.00%	0.00%
OVEC	90	-1.07%	0.00%	0.00%
PEPCO	6,206	3.19%	100.00%	8.98%

Baseline Upgrade b4000.9

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Construct a new substation called Rocky Point with a 765 kV and a 500 kV yard. Loop in the Doubs – Goose Creek 500 kV line, the Doubs – Aspen 500 kV line, and the Woodside – Goose Creek 500 kV line. Install two 765/500 kV transformer at Rocky Point substation
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$254.70 M
 - Construction Responsibility: VLT
- Cost Allocation
 - 50% of the cost of this baseline upgrade is allocated based on load ratio and 50% of the cost for this baseline upgrade is allocated based on solution-based DFAX.

Transmission Zone	Peak Load (MW) for 2025	Load Ratio Allocation (%) for 2025
AEC	2,566	1.58%
AEP	22,318	13.71%
APS	8,938	5.49%
ATSI	12,508	7.69%
BGE	6,766	4.16%
ComEd	21,560	13.25%
Dayton	3,365	2.07%
DEOK	5,171	3.18%
Dominion	23,118	14.20%
DPL	4,189	2.57%
DL	2,691	1.65%
EKPC	3,748	2.30%
JCPL	6,184	3.80%
ME	3,067	1.88%
OVEC	104	0.06%
PECO	8,652	5.32%
PENELEC	2,953	1.81%
PEPCO	6,162	3.79%
PPL	7,460	4.58%
PSEG	10,152	6.24%
RE	404	0.25%
Neptune	676	0.42%

Transmission Zone	Planned Load (MW)	DFAX	Flow Direction (%)	DFAX Allocation
APS	10,208	1.59%	100.00%	14.99%
BGE	6,636	1.35%	100.00%	8.29%
DEOK	5,376	-1.22%	0.00%	0.00%
Dominion	31,776	2.30%	100.00%	67.55%
PEPCO	6,206	1.60%	100.00%	9.17%

Baseline Upgrade b4000.10

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Install four 250 MVAR cap banks (two on 765 and two on 500 kV side) and a +/-500 MVAR STATCOM on the 765 kV Rocky Point yard
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$121.00 M
 - Construction Responsibility: VLT
- Cost Allocation
 - 50% of the cost of this baseline upgrade is allocated based on load ratio and 50% of the cost for this baseline upgrade is allocated 100% to APS based on solution-based DFAX. The solution-based DFAX calculation was based on an interface entirely within the APS zone and therefore no distribution factor table is provided.

Transmission Zone	Peak Load (MW) for 2025	Load Ratio Allocation (%) for 2025
AEC	2,566	1.58%
AEP	22,318	13.71%
APS	8,938	5.49%
ATSI	12,508	7.69%
BGE	6,766	4.16%
ComEd	21,560	13.25%
Dayton	3,365	2.07%
DEOK	5,171	3.18%
Dominion	23,118	14.20%
DPL	4,189	2.57%
DL	2,691	1.65%
EKPC	3,748	2.30%
JCPL	6,184	3.80%
ME	3,067	1.88%
OVEC	104	0.06%
PECO	8,652	5.32%
PENELEC	2,953	1.81%
PEPCO	6,162	3.79%
PPL	7,460	4.58%
PSEG	10,152	6.24%
RE	404	0.25%
Neptune	676	0.42%

Baseline Upgrade b4000.11

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Expand Black Oak Substation to accommodate the connection of the 502 Jct – Woodside 500 kV line and loop the 502 Jct – Woodside 500 kV line into the Black Oak substation by constructing approximately 0.85 miles of new 500 kV line into and out of Black Oak 500 kV substation
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$19.23 M
 - Construction Responsibility: POTED
- Cost Allocation
 - 50% of the cost of this baseline upgrade is allocated based on load ratio and 50% of the cost for this baseline upgrade is allocated based on solution-based DFAX.

Transmission Zone	Peak Load (MW) for 2025	Load Ratio Allocation (%) for 2025
AEC	2,566	1.58%
AEP	22,318	13.71%
APS	8,938	5.49%
ATSI	12,508	7.69%
BGE	6,766	4.16%
ComEd	21,560	13.25%
Dayton	3,365	2.07%
DEOK	5,171	3.18%
Dominion	23,118	14.20%
DPL	4,189	2.57%
DL	2,691	1.65%
EKPC	3,748	2.30%
JCPL	6,184	3.80%
ME	3,067	1.88%
OVEC	104	0.06%
PECO	8,652	5.32%
PENELEC	2,953	1.81%
PEPCO	6,162	3.79%
PPL	7,460	4.58%
PSEG	10,152	6.24%
RE	404	0.25%
Neptune	676	0.42%

Transmission Zone	Planned Load (MW)	DFAX	Flow Direction (%)	DFAX Allocation
APS	10,208	1.19%	100.00%	8.93%
BGE	6,636	2.80%	100.00%	13.63%
DL	2,754	-2.41%	0.00%	0.00%
Dominion	31,776	2.65%	100.00%	61.66%
PEPCO	6,206	3.47%	100.00%	15.78%

Baseline Upgrade b4000.12

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Upgrade the terminal equipment on the Doubs No. 1 500/230 kV transformer.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.43 M
 - Construction Responsibility: POTED
- Cost Allocation
 - The cost for this baseline upgrade is allocated to APS (74.10%)/PEPCO (25.90%).

Transmission Zone	Planned Load (MW)	DFAX	%Flow Direction	DFAX Allocation
APS	10,208	2.60%	100.00%	74.10%
PEPCO	6,206	1.49%	100.00%	25.90%

Baseline Upgrade b4000.13

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Terminate the Woodside – Goose Creek 500 kV line into Doubs Substation, creating the Woodside – Doubs No. 2 500 kV Line.
Remove the Chanceford – Doubs and Rocky Point – Doubs line terminations at the Doubs substation and connects the two lines through a 0.6 mile 500 kV bypass line around the Doubs substation
 - Required Upgrade In-Service Date: 6/1/2032
 - Estimated Upgrade Cost: \$13.97 M
 - Construction Responsibility: POTED
- Cost Allocation
 - 50% of the cost of this baseline upgrade is allocated based on load ratio and 50% of the cost for this baseline upgrade is allocated based on solution-based DFAX.

Transmission Zone	Peak Load (MW) for 2025	Load Ratio Allocation (%) for 2025
AEC	2,566	1.58%
AEP	22,318	13.71%
APS	8,938	5.49%
ATSI	12,508	7.69%
BGE	6,766	4.16%
ComEd	21,560	13.25%
Dayton	3,365	2.07%
DEOK	5,171	3.18%
Dominion	23,118	14.20%
DPL	4,189	2.57%
DL	2,691	1.65%
EKPC	3,748	2.30%
JCPL	6,184	3.80%
ME	3,067	1.88%
OVEC	104	0.06%
PECO	8,652	5.32%
PENELEC	2,953	1.81%
PEPCO	6,162	3.79%
PPL	7,460	4.58%
PSEG	10,152	6.24%
RE	404	0.25%
Neptune	676	0.42%

Transmission Zone	Planned Load (MW)	DFAX	Flow Direction (%)	DFAX Allocation
AEC	2,614	-2.31%	3.01%	0.20%
APS	10,208	-0.18%	3.01%	0.06%
BGE	6,636	-3.20%	3.01%	0.71%
Dominion	31,776	3.30%	96.99%	89.06%
DPL	3,928	-2.74%	3.01%	0.36%
JCPL	6,252	-1.59%	3.01%	0.33%
ME	3,323	-1.36%	3.01%	0.15%
PECO	8,754	-2.52%	3.01%	0.73%

PEPCO	6,206	1.50%	96.99%	7.93%
PSEG	10,520	-1.21%	3.01%	0.42%
RE	409	-1.21%	3.01%	0.02%
Neptune	685	-1.57%	3.01%	0.03%

Baseline Upgrade b4000.100

- Overview of Reliability Problem
 - Criteria Violation: Breaker Overduty
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: At Ashburn substation 230 kV replace 50 kA breaker SC332 with 63 kA
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.50 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.101

- Overview of Reliability Problem
 - Criteria Violation: Breaker Overduty
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: At Beaumeade substation 230 kV replace 63 kA breaker 274T2206 with 80 kA
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.66 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.102

- Overview of Reliability Problem
 - Criteria Violation: Breaker Overduty
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: At Braddock substation 230 kV replace 40kA breakers 207T294, 237T294, 237T297, 281T297 with 63 kA
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$2.00 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.103

- Overview of Reliability Problem
 - Criteria Violation: Breaker Overduty
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: At Brambleton substation 230 kV replace 63 kA breakers 217202, 2172T2183, L102, and L202 with 80 kA
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$2.64 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.104

- Overview of Reliability Problem
 - Criteria Violation: Breaker Overduty
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: At Bristers substation 230 kV replace 40kA and 50 kA breakers H1TH2, H2TH3 and L1T2101 with 63 kA
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$1.50 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.105

- Overview of Reliability Problem
 - Criteria Violation: Breaker Overduty
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: At Bull Run substation 230 kV replace 50 kA breaker H362 with 63 kA
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.50 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.106

- Overview of Reliability Problem
 - Criteria Violation: Breaker Overduty
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: At Buttermilk substation 230 kV replace 63 kA breakers 215212, 217012, 220312, 221412, and 2152T2203 with 80 kA
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$3.30 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.107

- Overview of Reliability Problem
 - Criteria Violation: Breaker Overduty
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: At Cabin Run substation 230 kV replace 63 kA breakers 209512, 221312, and T122 with 80 kA
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$1.98 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.108

- Overview of Reliability Problem
 - Criteria Violation: Breaker Overduty
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: At Carson substation 230 kV replace 40kA breaker 23872 with 63 kA
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.50 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.109

- Overview of Reliability Problem
 - Criteria Violation: Breaker Overduty
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: At Clifton substation 230 kV replace 63 kA breakers 201182, SR182, and XT2011 with 80 kA
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$1.98 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.110

- Overview of Reliability Problem
 - Criteria Violation: Breaker Overduty
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: At Doubs substation 500 kV replace 50 kA breaker DL-59 No. 2CAP with 63 kA
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$11.50 M
 - Construction Responsibility: POTED
- Cost Allocation
 - The cost for this baseline upgrade is allocated to APS (100.00%).

Baseline Upgrade b4000.111

- Overview of Reliability Problem
 - Criteria Violation: Breaker Overduty
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: At Evergreen Mills substation 230 kV, replace 63 kA breakers H132, H232 with 80 kA
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$1.32 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.112

- Overview of Reliability Problem
 - Criteria Violation: Breaker Overduty
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: At Goose Creek substation 230 kV, replace 63 kA breaker L1T227 with 80 kA
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.66 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.113

- Overview of Reliability Problem
 - Criteria Violation: Breaker Overduty
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: At Goose Creek substation 500 kV, replace 50 kA breaker SC182 with 63 kA
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$1.02 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.114

- Overview of Reliability Problem
 - Criteria Violation: Breaker Overduty
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: At Ladysmith S1 substation 230 kV, replace 40kA breakers 25672, 209072, 256T2090, GT172, GT272, GT372, GT472, GT572 with 63 kA
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$4.00 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.115

- Overview of Reliability Problem
 - Criteria Violation: Breaker Overduty
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: At Ladysmith substation 500 kV, replace 40kA breaker 574T581 with 63 kA
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$1.02 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.116

- Overview of Reliability Problem
 - Criteria Violation: Breaker Overduty
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: At Liberty substation 230 kV, replace 50 kA breaker SC112 with 63 kA
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.50 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.117

- Overview of Reliability Problem
 - Criteria Violation: Breaker Overduty
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: At Lockridge substation 230 kV, replace 63 kA breakers 218872, H12T2188, 222372, and H12T2223 with 80 kA
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$2.64 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.118

- Overview of Reliability Problem
 - Criteria Violation: Breaker Overduty
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: At Loudoun substation 230 kV, replace 63 kA breakers 209452, L152, and L252 with 80 kA
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$1.98 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.119

- Overview of Reliability Problem
 - Criteria Violation: Breaker Overduty
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: At Loudoun Cap substation 230 kV, replace 50 kA breaker SC352 with 63 kA
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.50 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.120

- Overview of Reliability Problem
 - Criteria Violation: Breaker Overduty
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: At Loudoun substation 500 kV, replace 50 kA breakers 502T535, 569T584, H1T569, H2T502, H2T584, and SC152 with 63 kA
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$6.09 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.121

- Overview of Reliability Problem
 - Criteria Violation: Breaker Overduty
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: At Marsh Run substation 230 kV, replace 50 kA breaker 28002, 29902, 280T2039, 299T2040, 203902, and 204002 with 63 kA
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$3.00 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.122

- Overview of Reliability Problem
 - Criteria Violation: Breaker Overduty
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: At Morrisville substation 230 kV, replace 50 kA breaker L1T2039, L1T2040, L2T2039, and L2T2040 with 63 kA
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$2.00 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.123

- Overview of Reliability Problem
 - Criteria Violation: Breaker Overduty
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: At Morrisville substation 500 kV, replace 50 kA breakers H1T541, H1T594, H2T545, H2T569, and SC122 with 63 kA
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$5.08 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.124

- Overview of Reliability Problem
 - Criteria Violation: Breaker Overduty
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: At Mosby substation 500 kV, replace 50 kA breakers 50272, 54672, 55972, 58472, 59072, 502T546, 559T584, SC172, SV172, SV272, and XT590 with 63 kA
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$11.17 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.125

- Overview of Reliability Problem
 - Criteria Violation: Breaker Overduty
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: At Mt Storm substation 500 kV, replace 40kA breaker G3T572X with 63 kA
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$1.02 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.126

- Overview of Reliability Problem
 - Criteria Violation: Breaker Overduty
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: At Nimbus substation 230 kV, replace 63 kA breakers 215282, 225532-5, 225532-6, 226034 with 80 kA
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$2.64 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.127

- Overview of Reliability Problem
 - Criteria Violation: Breaker Overduty
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: At NIVO 1 substation 230 kV, replace 63 kA breaker 2116T2130 with 80 kA (4-breaker ring bus)
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.66 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.128

- Overview of Reliability Problem
 - Criteria Violation: Breaker Overduty
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: At North Anna substation 500 kV, replace 40kA breakers 57502, G102-1, G102-2, G202, G2T575, and XT573 with 63 kA
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$6.09 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.129

- Overview of Reliability Problem
 - Criteria Violation: Breaker Overduty
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: At Ox substation 230 kV, replace 50 kA and 63 kA breakers 201342, 209742, 206342, and SC242 with 80 kA
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$2.64 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.130

- Overview of Reliability Problem
 - Criteria Violation: Breaker Overduty
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: At Ox substation 500 kV, replace 40 kA breakers 56142, H1T539, and H2T539 with 63 kA
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$3.05 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.131

- Overview of Reliability Problem
 - Criteria Violation: Breaker Overduty
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: At Paragon Park substation 230 kV, replace 63 kA breakers 220632 and 220732 with 80 kA
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$1.32 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.132

- Overview of Reliability Problem
 - Criteria Violation: Breaker Overduty
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: At Pleasantview substation 230 kV, replace 63 kA breakers 203T274 and 274T2098 with 80 kA
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$1.32 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.133

- Overview of Reliability Problem
 - Criteria Violation: Breaker Overduty
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: At Pleasantview substation 500 kV, replace 40 kA breaker H322 with 63 kA
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$1.02 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.134

- Overview of Reliability Problem
 - Criteria Violation: Breaker Overduty
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: At Remington substation 230 kV, replace 40 kA and 50 kA breakers 211462, GT162, GT262, GT362, GT462, 2077T2086, 208662, H962, and H9T299 with 63 kA
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$4.50 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.135

- Overview of Reliability Problem
 - Criteria Violation: Breaker Overduty
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: At Roundtable substation 230 kV, replace 63 kA breakers 203102, 214902, 221402, 222302, 2031T2223, and 2149T2214 with 80 kA
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$3.96 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.136

- Overview of Reliability Problem
 - Criteria Violation: Breaker Overduty
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: At Vint Hill substation 230 kV, replace 63 kA breakers 2101T2174, 2163T2174, and 2101T2163 with 80 kA
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$1.98 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.137

- Overview of Reliability Problem
 - Criteria Violation: Breaker Overduty
 - Contingency: N/A
 - Criteria Test: Short Circuit
- Overview of Reliability Solution
 - Description of Upgrade: At Yardley substation 230 kV, replace 63 kA breakers WT2209, WT2213, XT2209, and XT2213 with 80 kA
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$2.64 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.200

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Broadford 765 kV Upgrade: Replace Jackson's Ferry CB Q2
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$4.50 M
 - Construction Responsibility: AEP
- Cost Allocation
 - 50% of the cost of this baseline upgrade is allocated based on load ratio and 50% of the cost for this baseline upgrade is allocated based on solution-based DFAX.

Transmission Zone	Peak Load (MW) for 2025	Load Ratio Allocation (%) for 2025
AEC	2,566	1.58%
AEP	22,318	13.71%
APS	8,938	5.49%
ATSI	12,508	7.69%
BGE	6,766	4.16%
ComEd	21,560	13.25%
Dayton	3,365	2.07%
DEOK	5,171	3.18%
Dominion	23,118	14.20%
DPL	4,189	2.57%
DL	2,691	1.65%
EKPC	3,748	2.30%
JCPL	6,184	3.80%
ME	3,067	1.88%
OVEC	104	0.06%
PECO	8,652	5.32%
PENELEC	2,953	1.81%
PEPCO	6,162	3.79%
PPL	7,460	4.58%
PSEG	10,152	6.24%
RE	404	0.25%
Neptune	676	0.42%

Transmission Zone	Planned Load (MW)	DFAX	Flow Direction (%)	DFAX Allocation
AEP	25,757	0.85%	100.00%	21.60%
APS	10,208	1.22%	100.00%	12.36%
BGE	6,636	1.26%	100.00%	8.28%
Dayton	3,350	-1.39%	0.00%	0.00%
DEOK	5,376	-2.42%	0.00%	0.00%
Dominion	31,776	1.49%	100.00%	46.81%
EKPC	2,153	-3.08%	0.00%	0.00%
OVEC	90	-1.75%	0.00%	0.00%
PEPCO	6,206	1.78%	100.00%	10.95%

Baseline Upgrade b4000.201

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Smith Mountain 138 kV Upgrade: Replace 795 KCM AAC, 37-Str. 795 KCM AAC, 37-Str. PH A B2S1 B2S2 BS1 BS2
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.40 M
 - Construction Responsibility: AEP
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b4000.202

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Reconductor 34 miles of Smith Mountain – Redeye 138 kV line
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$14.90 M
 - Construction Responsibility: AEP
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b4000.203

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Reconductor 34 miles of Redeye – Candler's Mountain 138 kV line
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$21.00 M
 - Construction Responsibility: AEP
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b4000.204

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Reconductor 34 miles of Candler's Mountain – Opossum Creek 138 kV line
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$4.90 M
 - Construction Responsibility: AEP
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b4000.205

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Candler's Mountain 138 kV: Replace 1590 KCM AAC, 61-Str. Replace MOAB "Y" SMITH MTN line
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.20 M
 - Construction Responsibility: AEP
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b4000.206

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Opossum Creek 138 kV: Replace Opossum Creek switch
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.10 M
 - Construction Responsibility: AEP
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b4000.207

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Leesville Station Upgrade 138 kV: Replace 795 KCM AAC, 37-Str. IPS Sch. 40 1272 KCM AAC, 61-Str. 1272 KCM AAC, 61-Str. PH A,B,C ALTA VISTA CB-A BUS DISC ALTA VISTA CB-A LINE DISC Wavetrap (1200A) relay thermal Limit 1356 amps.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.60 M
 - Construction Responsibility: AEP
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b4000.208

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Otter 138 kV Station Upgrade: Replace 795 KCM AAC, 37-Str.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.10 M
 - Construction Responsibility: AEP
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b4000.209

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Reconductor 14.4 miles of Altavista – Otter 138 kV line
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$1.20 M
 - Construction Responsibility: AEP
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b4000.210

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Reconductor 14.4 miles of Otter – Johnson Mountain 138 kV line
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$8.40 M
 - Construction Responsibility: AEP
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b4000.211

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Reconductor 14.4 miles of Johnson Mountain – New London 138 kV line
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$7.68 M
 - Construction Responsibility: AEP
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to AEP (100.00%).

Baseline Upgrade b4000.251

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Replace the wave trap and upgrade the relay at Cloverdale 765 kV substation
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$1.00 M
 - Construction Responsibility: AEP
- Cost Allocation
 - 50% of the cost of this baseline upgrade is allocated based on load ratio and 50% of the cost for this baseline upgrade is allocated based on solution-based DFAX.

Transmission Zone	Peak Load (MW) for 2025	Load Ratio Allocation (%) for 2025
AEC	2,566	1.58%
AEP	22,318	13.71%
APS	8,938	5.49%
ATSI	12,508	7.69%
BGE	6,766	4.16%
ComEd	21,560	13.25%
Dayton	3,365	2.07%
DEOK	5,171	3.18%
Dominion	23,118	14.20%
DPL	4,189	2.57%
DL	2,691	1.65%
EKPC	3,748	2.30%
JCPL	6,184	3.80%
ME	3,067	1.88%
OVEC	104	0.06%
PECO	8,652	5.32%
PENELEC	2,953	1.81%
PEPCO	6,162	3.79%
PPL	7,460	4.58%
PSEG	10,152	6.24%
RE	404	0.25%
Neptune	676	0.42%

Transmission Zone	Planned Load (MW)	DFAX	Flow Direction (%)	DFAX Allocation
AEP	25,757	-0.21%	100.00%	3.00%
APS	10,208	-1.56%	100.00%	8.96%
BGE	6,636	-1.75%	100.00%	6.53%
Dayton	3,350	1.00%	0.00%	0.00%
DEOK	5,376	1.50%	0.00%	0.00%
Dominion	31,776	-4.07%	100.00%	72.75%
EKPC	2,153	1.73%	0.00%	0.00%
PEPCO	6,206	-2.51%	100.00%	8.76%

Baseline Upgrade b4000.252

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Replace the wave trap and upgrade the relay at Joshua Falls 765 kV substation
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$1.00 M
 - Construction Responsibility: AEP
- Cost Allocation
 - 50% of the cost of this baseline upgrade is allocated based on load ratio and 50% of the cost for this baseline upgrade is allocated based on solution-based DFAX.

Transmission Zone	Peak Load (MW) for 2025	Load Ratio Allocation (%) for 2025
AEC	2,566	1.58%
AEP	22,318	13.71%
APS	8,938	5.49%
ATSI	12,508	7.69%
BGE	6,766	4.16%
ComEd	21,560	13.25%
Dayton	3,365	2.07%
DEOK	5,171	3.18%
Dominion	23,118	14.20%
DPL	4,189	2.57%
DL	2,691	1.65%
EKPC	3,748	2.30%
JCPL	6,184	3.80%
ME	3,067	1.88%
OVEC	104	0.06%
PECO	8,652	5.32%
PENELEC	2,953	1.81%
PEPCO	6,162	3.79%
PPL	7,460	4.58%
PSEG	10,152	6.24%
RE	404	0.25%
Neptune	676	0.42%

Transmission Zone	Planned Load (MW)	DFAX	Flow Direction (%)	DFAX Allocation
AEP	25,757	-0.21%	100.00%	3.00%
APS	10,208	-1.56%	100.00%	8.96%
BGE	6,636	-1.75%	100.00%	6.53%
Dayton	3,350	1.00%	0.00%	0.00%
DEOK	5,376	1.50%	0.00%	0.00%
Dominion	31,776	-4.07%	100.00%	72.75%
EKPC	2,153	1.73%	0.00%	0.00%
PEPCO	6,206	-2.51%	100.00%	8.76%

Baseline Upgrade b4000.300

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Rebuild approximately 1.71 miles of 230 kV Line 299 from the Marsh Run substation to the Remington CT substation. New conductor has a summer rating of 1573 MVA.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$5.35 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.301

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Reconductor approximately 1.24 miles of 230 kV Line 280 from Remington – Marsh Run CT substation. New conductor has a summer rating of 1573 MVA.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$3.89 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.302

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Upgrade Line No. 299 terminal equipment, line leads, and bus at Marsh Run substation to be rated to 4000A.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$2.53 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.303

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Upgrade Line No. 299 terminal equipment, line leads, and bus at Remington CT substation to be rated to 4000A.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$2.44 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.304

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Partial reconductor/partial wreck & rebuild of 230 kV Line No. 2161 Gainesville – Wheeler. New conductor has a summer rating of 1573 MVA. (Wheeler – Linton Tap segment)
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$17.72 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - Only Dominion zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.305

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Partial reconductor/partial wreck & rebuild of 230 kV Line No. 2161 Gainesville – Wheeler. New conductor has a summer rating of 1573 MVA. (Linton Tap – Atlantic segment)
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$3.49 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.306

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Partial reconductor/partial wreck & rebuild of 230kV Line No. 2161 Gainesville – Wheeler. New conductor has a summer rating of 1573 MVA. (Atlantic – Trident segment)
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$1.72 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.307

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Partial reconductor/partial wreck & rebuild of 230 kV Line No. 2161 Gainesville – Wheeler. New conductor has a summer rating of 1573 MVA. (Trident – Gainesville segment)
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$6.16 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.308

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Upgrade all Line No. 2161 terminal equipment at Gainesville to 4000A. A CCVT will also be replaced due to aging.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$1.78 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.309

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Upgrade all Line No. 2161 terminal equipment Wheeler substation to 4000A.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$2.25 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - Only Dominion zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.310

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Revise relay settings at Trident substation.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.03 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.311

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Rebuild 230 kV Line No. 213 and No. 225 from Thelma – Lakeview. New conductor has a summer rating of 1573 MVA.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$44.69 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.312

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: At Thelma substation, upgrade line lead, wave traps (213WT & 225WT), circuit breaker leads to 4000A. CB switches 22535, 23235, 23238 and 21335 will also be upgrade to 4000A DEB switches. CCVTs 213P1, 213P2 and 213P3 will be replaced due to aging.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$2.30 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.313

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: At Lakeview substation, upgrade wave traps 213WT and 225WT, line leads, and circuit breaker leads to 4000A. Upgrade CB switches 22565 and 22564 to 4000A double-end break switches. Replace CCVTs 225P1, 225P2, and 225P3 due to aging.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$1.72 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.314

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Reconductor 230 kV Line No. 2003 Chesterfield – Tyler segment. New conductor has a summer rating of 1573 MVA.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$3.16 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.315

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Reconductor 230 kV Line No. 2003 Tyler – Poe segment. New conductor has a summer rating of 1573 MVA.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$20.61 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.316

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: At Poe substation, upgrade all Line No. 2003 terminal equipment, line leads, and bus to be rated to 4000A.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$1.79 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.317

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: At Tyler substation, upgrade the necessary line terminal equipment to maintain 4000A at Tyler substation.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.54 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.318

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Revise relay settings at Chesterfield substation.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.02 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.319

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Reconductor 230 kV Line No. 2002 Carson – Poe. New conductor has a summer rating of 1573 MVA.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$30.29 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.320

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: At Carson substation, upgrade all Line No. 2002 terminal equipment at Carson to 4000A. CCVTs will also be replaced due to aging.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.89 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.321

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: At Poe substation, upgrade all Line No. 2002 terminal equipment at Carson to 4000A. CCVTs will also be replaced due to aging.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.81M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.322

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Build a new 230 kV Line from Nokesville – Hornbaker using the vacant arms of the double circuit monopole structures installed as part of previous project 993027. New conductor has a summer rating of 1573 MVA.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$15.28 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - Only Dominion has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.323

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Upgrade terminal equipment at Nokesville substation. The project adds one more line to Nokesville, including the installation of one 230 kV breaker and two 230 kV switches.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$1.43 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - Only Dominion has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.324

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Upgrade terminal equipment at Hornbaker substation.
This project is for installing a new 230 kV 4000A rated line terminal at Hornbaker to accommodate the new line to Nokesville.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$1.43 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - Only Dominion has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.325

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Build a new 26.38 miles 230 kV line from Elmont to Ladysmith on the existing 5-2 structures between the two stations. New conductor has a summer rating of 1573 MVA.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$26.09 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.326

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: At Elmont substation, install/upgrade associated equipment to accommodate a 4000A line rating for the new 230 kV line between Elmont and Ladysmith.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$2.19 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.327

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Upgrade/install equipment at Ladysmith substation to 4000A. Expansion will be required to accommodate a total of three (3) new 230 kV strings of breaker and a half scheme.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$8.72 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.328

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Construct a new 24.5 miles 230 kV Line 9482 from Cloverhill substation to Ox substation.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$287.54 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.329

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: At Ox substation, install the necessary associated equipment to accommodate the new Line No. 9482 between Cloverhill and Ox. This project also includes expanding the substation with associated security level 1 fencing and super post structure needed.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$6.37 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.330

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: At Cloverhill substation, install the necessary associated equipment to accommodate the new line between Cloverhill and Ox. This project also includes demolishing and reconstructing the existing bus system and roadway.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$2.27 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.331

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Construct a new 230 kV single circuit line from Raines substation to Cloud substation to solve electrical violations caused by the significant load growth in South Hill, Virginia. The scope also includes an idle 230 kV circuit being installed between these stations.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$77.50 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.332

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: At Cloud substation, upgrade substation terminal equipment to 4000A.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$1.43 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.333

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: At Raines substation, upgrade substation terminal equipment to 4000A.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$1.32 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.334

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Reconductor 115 kV Line No. 121 from Poe to Prince George. Specifically, Line No. 121 will be reconductored and converted to 230 kV from Poe substation to Prince George substation.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$14.62 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.335

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: At Poe substation, install a new 230 kV six breaker ultimate ring bus which will fit the station to current 230 kV standards. The substation scope includes the installation of 230 kV breaker and half GIS bus. Work at Poe substation is associated with Line No. 121 reconductor.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$38.28 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.336

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Build a new 230/115 kV Prince George substation along the existing 115 or 230 kV corridor. The substation scope includes the installation of 230 kV breakers & 1-115 kV breaker along with its associated terminal equipment initially but will have provision for making it a 6-breaker ring (both 230 and 115 kV) in future. The existing 230-115 kV transformer at Prince George will be relocated to serve this new substation.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$26.62 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - No transmission zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.337

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Extend a new 230 kV line approximately 7.85 miles between the existing Morrisville and Anderson Branch substations. The existing tower structures currently supporting the Bristers to Morrisville 500 kV Line No. 545 will be used to support this new line as shared tower structures.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$5.26 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - Only Dominion has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.338

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: At Morrisville substation, install/upgrade substation terminal equipment to 4000A.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.95 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - Only Dominion has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.339

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: At Anderson Branch substation, install/upgrade substation terminal equipment to 4000A.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.95 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - Only Dominion has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.340

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Upgrade existing Goose Creek 500/230kV transformer to 1440 MVA.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$34.01 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - Only Dominion has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.341

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Remove the 500 kV conductor previously planned to terminate into the Vint Hill 500 kV substation and extend approximately 0.2 miles of conductor to fly-over the site.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.00 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - 50% of the cost of this baseline upgrade is allocated based on load ratio and 50% of the cost for this baseline upgrade is allocated 100% to Dominion based on solution-based DFAX. The solution-based DFAX calculation was based on an interface entirely within the Dominion zone and therefore no distribution factor table is provided.

Transmission Zone	Peak Load (MW) for 2025	Load Ratio Allocation (%) for 2025
AEC	2,566	1.58%
AEP	22,318	13.71%
APS	8,938	5.49%
ATSI	12,508	7.69%
BGE	6,766	4.16%
ComEd	21,560	13.25%
Dayton	3,365	2.07%
DEOK	5,171	3.18%
Dominion	23,118	14.20%
DPL	4,189	2.57%
DL	2,691	1.65%
EKPC	3,748	2.30%
JCPL	6,184	3.80%
ME	3,067	1.88%
OVEC	104	0.06%
PECO	8,652	5.32%
PENELEC	2,953	1.81%
PEPCO	6,162	3.79%
PPL	7,460	4.58%
PSEG	10,152	6.24%
RE	404	0.25%
Neptune	676	0.42%

Baseline Upgrade b4000.342

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Remove the terminal equipment and substation work required for the termination of the Morrisville – Wishing Star 500 kV line into Vint Hill.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.00 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - 50% of the cost of this baseline upgrade is allocated based on load ratio and 50% of the cost for this baseline upgrade is allocated 100% to Dominion based on solution-based DFAX. The solution-based DFAX calculation was based on an interface entirely within the Dominion zone and therefore no distribution factor table is provided.

Transmission Zone	Peak Load (MW) for 2025	Load Ratio Allocation (%) for 2025
AEC	2,566	1.58%
AEP	22,318	13.71%
APS	8,938	5.49%
ATSI	12,508	7.69%
BGE	6,766	4.16%
ComEd	21,560	13.25%
Dayton	3,365	2.07%
DEOK	5,171	3.18%
Dominion	23,118	14.20%
DPL	4,189	2.57%
DL	2,691	1.65%
EKPC	3,748	2.30%
JCPL	6,184	3.80%
ME	3,067	1.88%
OVEC	104	0.06%
PECO	8,652	5.32%
PENELEC	2,953	1.81%
PEPCO	6,162	3.79%
PPL	7,460	4.58%
PSEG	10,152	6.24%
RE	404	0.25%
Neptune	676	0.42%

Baseline Upgrade b4000.343

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Uprate bus at Brambleton to support 500 kV Line No. 558 (Aspen – Brambleton) uprate.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.00 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - 50% of the cost of this baseline upgrade is allocated based on load ratio and 50% of the cost for this baseline upgrade is allocated 100% to Dominion based on solution-based DFAX. The solution-based DFAX calculation was based on an interface entirely within the Dominion zone and therefore no distribution factor table is provided.

Transmission Zone	Peak Load (MW) for 2025	Load Ratio Allocation (%) for 2025
AEC	2,566	1.58%
AEP	22,318	13.71%
APS	8,938	5.49%
ATSI	12,508	7.69%
BGE	6,766	4.16%
ComEd	21,560	13.25%
Dayton	3,365	2.07%
DEOK	5,171	3.18%
Dominion	23,118	14.20%
DPL	4,189	2.57%
DL	2,691	1.65%
EKPC	3,748	2.30%
JCPL	6,184	3.80%
ME	3,067	1.88%
OVEC	104	0.06%
PECO	8,652	5.32%
PENELEC	2,953	1.81%
PEPCO	6,162	3.79%
PPL	7,460	4.58%
PSEG	10,152	6.24%
RE	404	0.25%
Neptune	676	0.42%

Baseline Upgrade b4000.344

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Build a 500 kV line from North Anna substation (bypassing Ladysmith Substation) to a new substation called Kraken. New conductor to have a minimum summer normal rating of 4357 MVA.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$186.67 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - 50% of the cost of this baseline upgrade is allocated based on load ratio and 50% of the cost for this baseline upgrade is allocated based on solution-based DFAX.

Transmission Zone	Peak Load (MW) for 2025	Load Ratio Allocation (%) for 2025
AEC	2,566	1.58%
AEP	22,318	13.71%
APS	8,938	5.49%
ATSI	12,508	7.69%
BGE	6,766	4.16%
ComEd	21,560	13.25%
Dayton	3,365	2.07%
DEOK	5,171	3.18%
Dominion	23,118	14.20%
DPL	4,189	2.57%
DL	2,691	1.65%
EKPC	3,748	2.30%
JCPL	6,184	3.80%
ME	3,067	1.88%
OVEC	104	0.06%
PECO	8,652	5.32%
PENELEC	2,953	1.81%
PEPCO	6,162	3.79%
PPL	7,460	4.58%
PSEG	10,152	6.24%
RE	404	0.25%
Neptune	676	0.42%

Transmission Zone	Planned Load (MW)	DFAX	Flow Direction (%)	DFAX Allocation
Dominion	31,776	-2.60%	100.00%	91.69%
PEPCO	6,206	-1.21%	100.00%	8.31%

Baseline Upgrade b4000.345

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Build a 500 kV line from a new substation called Kraken to a new substation called Yeat. New conductor to have a minimum summer normal rating of 4357 MVA.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$394.71 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - 50% of the cost of this baseline upgrade is allocated based on load ratio and 50% of the cost for this baseline upgrade is allocated 100% to Dominion based on solution-based DFAX. Only Dominion has greater than 1% distribution factor.

Transmission Zone	Peak Load (MW) for 2025	Load Ratio Allocation (%) for 2025
AEC	2,566	1.58%
AEP	22,318	13.71%
APS	8,938	5.49%
ATSI	12,508	7.69%
BGE	6,766	4.16%
ComEd	21,560	13.25%
Dayton	3,365	2.07%
DEOK	5,171	3.18%
Dominion	23,118	14.20%
DPL	4,189	2.57%
DL	2,691	1.65%
EKPC	3,748	2.30%
JCPL	6,184	3.80%
ME	3,067	1.88%
OVEC	104	0.06%
PECO	8,652	5.32%
PENELEC	2,953	1.81%
PEPCO	6,162	3.79%
PPL	7,460	4.58%
PSEG	10,152	6.24%
RE	404	0.25%
Neptune	676	0.42%

Baseline Upgrade b4000.346

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Cut-in 500 kV line from Kraken substation into Yeat substation
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$5.00 M
 - Construction Responsibility: VLT
- Cost Allocation
 - 50% of the cost of this baseline upgrade is allocated based on load ratio and 50% of the cost for this baseline upgrade is allocated 100% to Dominion based on solution-based DFAX. Only Dominion has greater than 1% distribution factor.

Transmission Zone	Peak Load (MW) for 2025	Load Ratio Allocation (%) for 2025
AEC	2,566	1.58%
AEP	22,318	13.71%
APS	8,938	5.49%
ATSI	12,508	7.69%
BGE	6,766	4.16%
ComEd	21,560	13.25%
Dayton	3,365	2.07%
DEOK	5,171	3.18%
Dominion	23,118	14.20%
DPL	4,189	2.57%
DL	2,691	1.65%
EKPC	3,748	2.30%
JCPL	6,184	3.80%
ME	3,067	1.88%
OVEC	104	0.06%
PECO	8,652	5.32%
PENELEC	2,953	1.81%
PEPCO	6,162	3.79%
PPL	7,460	4.58%
PSEG	10,152	6.24%
RE	404	0.25%
Neptune	676	0.42%

Baseline Upgrade b4000.347

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Upgrade/install equipment at North Anna substation to 5000A to support the new conductor rating.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$9.12 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - 50% of the cost of this baseline upgrade is allocated based on load ratio and 50% of the cost for this baseline upgrade is allocated based on solution-based DFAX.

Transmission Zone	Peak Load (MW) for 2025	Load Ratio Allocation (%) for 2025
AEC	2,566	1.58%
AEP	22,318	13.71%
APS	8,938	5.49%
ATSI	12,508	7.69%
BGE	6,766	4.16%
ComEd	21,560	13.25%
Dayton	3,365	2.07%
DEOK	5,171	3.18%
Dominion	23,118	14.20%
DPL	4,189	2.57%
DL	2,691	1.65%
EKPC	3,748	2.30%
JCPL	6,184	3.80%
ME	3,067	1.88%
OVEC	104	0.06%
PECO	8,652	5.32%
PENELEC	2,953	1.81%
PEPCO	6,162	3.79%
PPL	7,460	4.58%
PSEG	10,152	6.24%
RE	404	0.25%
Neptune	676	0.42%

Transmission Zone	Planned Load (MW)	DFAX	Flow Direction (%)	DFAX Allocation
Dominion	31,776	-2.60%	100.00%	91.69%
PEPCO	6,206	-1.21%	100.00%	8.31%

Baseline Upgrade b4000.348

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Build a new 500/230kV substation called Kraken. The 500 kV, 5000A ring bus will be set up for a redundant breaker configuration. Install (2) 1400MVA 500/230 kV transformers. A new redundant breaker ring will be added at Kraken to accommodate the new 500 kV line from North Anna to Kraken.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$84.41 M
 - Construction Responsibility: VLT
- Cost Allocation
 - The cost for this baseline upgrade is allocated to Dominion (100.00%). The solution-based DFAX calculation was based on an interface entirely within the Dominion zone and therefore no distribution factor table is provided.

Baseline Upgrade b4000.349

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Update relay settings at Ladysmith to change the destination of 500 kV Line No. 568 from Possum Point to Kraken.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.04 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - 50% of the cost of this baseline upgrade is allocated based on load ratio and 50% of the cost for this baseline upgrade is allocated based on solution-based DFAX.

Transmission Zone	Peak Load (MW) for 2025	Load Ratio Allocation (%) for 2025
AEC	2,566	1.58%
AEP	22,318	13.71%
APS	8,938	5.49%
ATSI	12,508	7.69%
BGE	6,766	4.16%
ComEd	21,560	13.25%
Dayton	3,365	2.07%
DEOK	5,171	3.18%
Dominion	23,118	14.20%
DPL	4,189	2.57%
DL	2,691	1.65%
EKPC	3,748	2.30%
JCPL	6,184	3.80%
ME	3,067	1.88%
OVEC	104	0.06%
PECO	8,652	5.32%
PENELEC	2,953	1.81%
PEPCO	6,162	3.79%
PPL	7,460	4.58%
PSEG	10,152	6.24%
RE	404	0.25%
Neptune	676	0.42%

Transmission Zone	Planned Load (MW)	DFAX	Flow Direction (%)	DFAX Allocation
BGE	6,636	2.42%	100.00%	13.28%
Dominion	31,776	2.45%	100.00%	64.48%
PEPCO	6,206	4.32%	100.00%	22.24%

Baseline Upgrade b4000.350

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Update relay settings at Possum Point to change the destination of 500 kV Line No. 568 from Ladysmith to Kraken.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$0.04 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - 50% of the cost of this baseline upgrade is allocated based on load ratio and 50% of the cost for this baseline upgrade is allocated based on solution-based DFAX.

Transmission Zone	Peak Load (MW) for 2025	Load Ratio Allocation (%) for 2025
AEC	2,566	1.58%
AEP	22,318	13.71%
APS	8,938	5.49%
ATSI	12,508	7.69%
BGE	6,766	4.16%
ComEd	21,560	13.25%
Dayton	3,365	2.07%
DEOK	5,171	3.18%
Dominion	23,118	14.20%
DPL	4,189	2.57%
DL	2,691	1.65%
EKPC	3,748	2.30%
JCPL	6,184	3.80%
ME	3,067	1.88%
OVEC	104	0.06%
PECO	8,652	5.32%
PENELEC	2,953	1.81%
PEPCO	6,162	3.79%
PPL	7,460	4.58%
PSEG	10,152	6.24%
RE	404	0.25%
Neptune	676	0.42%

Transmission Zone	Planned Load (MW)	DFAX	Flow Direction (%)	DFAX Allocation
BGE	6,636	-1.52%	100.00%	8.30%
Dominion	31,776	-3.01%	100.00%	78.64%
PEPCO	6,206	-2.56%	100.00%	13.06%

Baseline Upgrade b4000.351

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Cut in Line No. 568 Ladysmith – Possum Point into Kraken, creating Line No. 9517 Ladysmith to Kraken.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$3.60 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - 50% of the cost of this baseline upgrade is allocated based on load ratio and 50% of the cost for this baseline upgrade is allocated based on solution-based DFAX.

Transmission Zone	Peak Load (MW) for 2025	Load Ratio Allocation (%) for 2025
AEC	2,566	1.58%
AEP	22,318	13.71%
APS	8,938	5.49%
ATSI	12,508	7.69%
BGE	6,766	4.16%
ComEd	21,560	13.25%
Dayton	3,365	2.07%
DEOK	5,171	3.18%
Dominion	23,118	14.20%
DPL	4,189	2.57%
DL	2,691	1.65%
EKPC	3,748	2.30%
JCPL	6,184	3.80%
ME	3,067	1.88%
OVEC	104	0.06%
PECO	8,652	5.32%
PENELEC	2,953	1.81%
PEPCO	6,162	3.79%
PPL	7,460	4.58%
PSEG	10,152	6.24%
RE	404	0.25%
Neptune	676	0.42%

Transmission Zone	Planned Load (MW)	DFAX	Flow Direction (%)	DFAX Allocation
BGE	6,636	-1.52%	100.00%	8.30%
Dominion	31,776	-3.01%	100.00%	78.64%
PEPCO	6,206	-2.56%	100.00%	13.06%

Baseline Upgrade b4000.352

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Cut in line Ladysmith – Possum Point into Kraken, creating new Line No. 568 Kraken to Possum Point.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$3.60 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - 50% of the cost of this baseline upgrade is allocated based on load ratio and 50% of the cost for this baseline upgrade is allocated based on solution-based DFAX.

Transmission Zone	Peak Load (MW) for 2025	Load Ratio Allocation (%) for 2025
AEC	2,566	1.58%
AEP	22,318	13.71%
APS	8,938	5.49%
ATSI	12,508	7.69%
BGE	6,766	4.16%
ComEd	21,560	13.25%
Dayton	3,365	2.07%
DEOK	5,171	3.18%
Dominion	23,118	14.20%
DPL	4,189	2.57%
DL	2,691	1.65%
EKPC	3,748	2.30%
JCPL	6,184	3.80%
ME	3,067	1.88%
OVEC	104	0.06%
PECO	8,652	5.32%
PENELEC	2,953	1.81%
PEPCO	6,162	3.79%
PPL	7,460	4.58%
PSEG	10,152	6.24%
RE	404	0.25%
Neptune	676	0.42%

Transmission Zone	Planned Load (MW)	DFAX	Flow Direction (%)	DFAX Allocation
BGE	6,636	2.42%	100.00%	13.28%
Dominion	31,776	2.45%	100.00%	64.48%
PEPCO	6,206	4.32%	100.00%	22.24%

Baseline Upgrade b4000.353

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Upgrade 500 kV terminal equipment at Elmont substation.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$8.90 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - 50% of the cost of this baseline upgrade is allocated based on load ratio and 50% of the cost for this baseline upgrade is allocated based on solution-based DFAX.

Transmission Zone	Peak Load (MW) for 2025	Load Ratio Allocation (%) for 2025
AEC	2,566	1.58%
AEP	22,318	13.71%
APS	8,938	5.49%
ATSI	12,508	7.69%
BGE	6,766	4.16%
ComEd	21,560	13.25%
Dayton	3,365	2.07%
DEOK	5,171	3.18%
Dominion	23,118	14.20%
DPL	4,189	2.57%
DL	2,691	1.65%
EKPC	3,748	2.30%
JCPL	6,184	3.80%
ME	3,067	1.88%
OVEC	104	0.06%
PECO	8,652	5.32%
PENELEC	2,953	1.81%
PEPCO	6,162	3.79%
PPL	7,460	4.58%
PSEG	10,152	6.24%
RE	404	0.25%
Neptune	676	0.42%

Transmission Zone	Planned Load (MW)	DFAX	Flow Direction (%)	DFAX Allocation
APS	10,208	1.40%	100.00%	9.79%
BGE	6,636	1.35%	100.00%	6.14%
Dominion	31,776	3.47%	100.00%	75.61%
PEPCO	6,206	1.99%	100.00%	8.46%

Baseline Upgrade b4000.354

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Expand Ladysmith substation to add redundant circuit breakers to the middle breakers on both 500 kV strings (574T575 and 568T581). The equipment including switches 57518, 57515, and H115 will be replaced with 5000A equipment.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$8.24 M
 - Construction Responsibility: VEPCO
- Cost Allocation
 - 50% of the cost of this baseline upgrade is allocated based on load ratio and 50% of the cost for this baseline upgrade is allocated based on solution-based DFAX.

Transmission Zone	Peak Load (MW) for 2025	Load Ratio Allocation (%) for 2025
AEC	2,566	1.58%
AEP	22,318	13.71%
APS	8,938	5.49%
ATSI	12,508	7.69%
BGE	6,766	4.16%
ComEd	21,560	13.25%
Dayton	3,365	2.07%
DEOK	5,171	3.18%
Dominion	23,118	14.20%
DPL	4,189	2.57%
DL	2,691	1.65%
EKPC	3,748	2.30%
JCPL	6,184	3.80%
ME	3,067	1.88%
OVEC	104	0.06%
PECO	8,652	5.32%
PENELEC	2,953	1.81%
PEPCO	6,162	3.79%
PPL	7,460	4.58%
PSEG	10,152	6.24%
RE	404	0.25%
Neptune	676	0.42%

Transmission Zone	Planned Load (MW)	DFAX	Flow Direction (%)	DFAX Allocation
APS	10,208	1.40%	100.00%	9.79%
BGE	6,636	1.35%	100.00%	6.14%
Dominion	31,776	3.47%	100.00%	75.61%
PEPCO	6,206	1.99%	100.00%	8.46%

Baseline Upgrade b4000.355

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Build a new 156 mile 765 kV line from Joshua Falls – Yeat. (Roughly 69.3 miles in AEP section).
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$341.17 M
 - Construction Responsibility: VLT
- Cost Allocation
 - 50% of the cost of this baseline upgrade is allocated based on load ratio and 50% of the cost for this baseline upgrade is allocated based on solution-based DFAX.

Transmission Zone	Peak Load (MW) for 2025	Load Ratio Allocation (%) for 2025
AEC	2,566	1.58%
AEP	22,318	13.71%
APS	8,938	5.49%
ATSI	12,508	7.69%
BGE	6,766	4.16%
ComEd	21,560	13.25%
Dayton	3,365	2.07%
DEOK	5,171	3.18%
Dominion	23,118	14.20%
DPL	4,189	2.57%
DL	2,691	1.65%
EKPC	3,748	2.30%
JCPL	6,184	3.80%
ME	3,067	1.88%
OVEC	104	0.06%
PECO	8,652	5.32%
PENELEC	2,953	1.81%
PEPCO	6,162	3.79%
PPL	7,460	4.58%
PSEG	10,152	6.24%
RE	404	0.25%
Neptune	676	0.42%

Transmission Zone	Planned Load (MW)	DFAX	Flow Direction (%)	DFAX Allocation
AEP	25,757	-0.42%	0.00%	0.00%
APS	10,208	1.68%	100.00%	9.11%
BGE	6,636	1.85%	100.00%	6.49%
DEOK	5,376	-1.33%	0.00%	0.00%
Dominion	31,776	4.49%	100.00%	75.72%
EKPC	2,153	-1.79%	0.00%	0.00%
PEPCO	6,206	2.64%	100.00%	8.68%

Baseline Upgrade b4000.356

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Build a new 156 mile 765 kV line from Joshua Falls – Yeat. (Roughly 86.7 miles in Dominion section).
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$426.83 M
 - Construction Responsibility: VLT
- Cost Allocation
 - 50% of the cost of this baseline upgrade is allocated based on load ratio and 50% of the cost for this baseline upgrade is allocated based on solution-based DFAX.

Transmission Zone	Peak Load (MW) for 2025	Load Ratio Allocation (%) for 2025
AEC	2,566	1.58%
AEP	22,318	13.71%
APS	8,938	5.49%
ATSI	12,508	7.69%
BGE	6,766	4.16%
ComEd	21,560	13.25%
Dayton	3,365	2.07%
DEOK	5,171	3.18%
Dominion	23,118	14.20%
DPL	4,189	2.57%
DL	2,691	1.65%
EKPC	3,748	2.30%
JCPL	6,184	3.80%
ME	3,067	1.88%
OVEC	104	0.06%
PECO	8,652	5.32%
PENELEC	2,953	1.81%
PEPCO	6,162	3.79%
PPL	7,460	4.58%
PSEG	10,152	6.24%
RE	404	0.25%
Neptune	676	0.42%

Transmission Zone	Planned Load (MW)	DFAX	Flow Direction (%)	DFAX Allocation
APS	10,208	1.68%	100.00%	9.11%
BGE	6,636	1.85%	100.00%	6.49%
DEOK	5,376	-1.33%	0.00%	0.00%
Dominion	31,776	4.49%	100.00%	75.72%
EKPC	2,153	-1.79%	0.00%	0.00%
PEPCO	6,206	2.64%	100.00%	8.68%

Baseline Upgrade b4000.357

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Build a new 765/500/230 kV substation called Yeat. Install (2) 765/500 kV transformers. Cut in 500 kV line Bristers – Ox and 500 kV line Meadowbrook – Vint Hill into Yeat.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$197.10 M
 - Construction Responsibility: VLT
- Cost Allocation
 - 50% of the cost of this baseline upgrade is allocated based on load ratio and 50% of the cost for this baseline upgrade is allocated based on solution-based DFAX.

Transmission Zone	Peak Load (MW) for 2025	Load Ratio Allocation (%) for 2025
AEC	2,566	1.58%
AEP	22,318	13.71%
APS	8,938	5.49%
ATSI	12,508	7.69%
BGE	6,766	4.16%
ComEd	21,560	13.25%
Dayton	3,365	2.07%
DEOK	5,171	3.18%
Dominion	23,118	14.20%
DPL	4,189	2.57%
DL	2,691	1.65%
EKPC	3,748	2.30%
JCPL	6,184	3.80%
ME	3,067	1.88%
OVEC	104	0.06%
PECO	8,652	5.32%
PENELEC	2,953	1.81%
PEPCO	6,162	3.79%
PPL	7,460	4.58%
PSEG	10,152	6.24%
RE	404	0.25%
Neptune	676	0.42%

Transmission Zone	Planned Load (MW)	DFAX	Flow Direction (%)	DFAX Allocation
Dominion	31,776	2.25%	100.00%	89.71%
PEPCO	6,206	1.32%	100.00%	10.29%

Baseline Upgrade b4000.358

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Build a new 765/500/230 kV substation called Yeat. Install (1) 500/230 kV transformer. Cut in 230 kV line Vint Hill – Elk Run into Yeat substation.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$45.60 M
 - Construction Responsibility: VLT
- Cost Allocation
 - Only Dominion has greater than 1% distribution factor. The cost for this baseline upgrade is allocated to Dominion (100.00%).

Baseline Upgrade b4000.359

- Overview of Reliability Problem
 - Criteria Violation: 2024 W1
 - Contingency: 2024 W1
 - Criteria Test: 2024 W1
- Overview of Reliability Solution
 - Description of Upgrade: Add (2) 765 kV breakers at Joshua Falls substation. Substation expansion is required to add the additional breakers.
 - Required Upgrade In-Service Date: 6/1/2029
 - Estimated Upgrade Cost: \$99.19 M
 - Construction Responsibility: AEP
- Cost Allocation
 - 50% of the cost of this baseline upgrade is allocated based on load ratio and 50% of the cost for this baseline upgrade is allocated based on solution-based DFAX.

Transmission Zone	Peak Load (MW) for 2025	Load Ratio Allocation (%) for 2025
AEC	2,566	1.58%
AEP	22,318	13.71%
APS	8,938	5.49%
ATSI	12,508	7.69%
BGE	6,766	4.16%
ComEd	21,560	13.25%
Dayton	3,365	2.07%
DEOK	5,171	3.18%
Dominion	23,118	14.20%
DPL	4,189	2.57%
DL	2,691	1.65%
EKPC	3,748	2.30%
JCPL	6,184	3.80%
ME	3,067	1.88%
OVEC	104	0.06%
PECO	8,652	5.32%
PENELEC	2,953	1.81%
PEPCO	6,162	3.79%
PPL	7,460	4.58%
PSEG	10,152	6.24%
RE	404	0.25%
Neptune	676	0.42%

Transmission Zone	Planned Load (MW)	DFAX	Flow Direction (%)	DFAX Allocation
AEP	25,757	-0.42%	0.00%	0.00%
APS	10,208	1.68%	100.00%	9.11%
BGE	6,636	1.85%	100.00%	6.49%
DEOK	5,376	-1.33%	0.00%	0.00%
Dominion	31,776	4.49%	100.00%	75.72%
EKPC	2,153	-1.79%	0.00%	0.00%
PEPCO	6,206	2.64%	100.00%	8.68%

Attachment B

Schedule 12 – Appendix A of the PJM
Open Access Transmission Tariff

Effective June 26, 2025

(Marked / Redline Format)

SCHEDULE 12 – APPENDIX A

(1) Atlantic City Electric Company

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2123	Upgrade the 69 kV bus at Laurel	AEC (100%)
b2226	Upgrade the Tackahoe to Mill 69 kV circuit	AEC (100%)
b2227	50 MVAR shunt reactor at Mickleton 230 kV and relocate Mickleton #1 230 69 kV transformer	AEC (100%)
b2228	+150/-100 MVAR SVC at Cedar 230 kV	AEC (100%)
b2296	Replace the Mickleton 230kV breaker PCB U with 63kA breaker	AEC (100%)
b2297	Replace the Mickleton 230kV breaker PCB V with 63kA breaker	AEC (100%)
b2305	Rebuild and reductor 1.2 miles of the US Silica to US Silica #1 69 kV circuit	AEC (100%)
b2306	Rebuild and reductor 1.67 miles of the US Silica #1 to W1-089 TAP 69 kV circuit	AEC (100%)
b2351	Reconductor section A of Corson - Sea Isle - Swanton 69 kV line	AEC (100%)
b2353	Upgrade the overcurrent protective relaying at Middle T3 and T4 138/69 kV transformers	AEC (100%)
b2354	Install second 230/69 kV transformer and 230 kV circuit breaker at Churchtown substation	AEC (100%)

Atlantic City Electric Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2354.1	Replace Churchtown 69kV breaker 'D'	AEC (100%)
b2476	Install new Dennis 230/69 kV transformer	AEC (100%)
b2477	Upgrade 138 kV and 69 kV breakers at Corson substation	AEC (100%)
b2478	Reconductor 2.74 miles of Sherman - Lincoln 138 kV line and associated substation upgrades	AEC (100%)
b2479	New Orchard - Cardiff 230 kV line (remove, rebuild and reconfigure existing 138 kV line) and associated substation upgrades	AEC (63.54%) / JCPL (36.46%)
b2480.1	New Upper Pittsgrove - Lewis 138 kV line and associated substation upgrades	AEC (100%)
b2480.2	Relocate Monroe to Deepwater Tap 138 kV to Landis 138 kV and associated substation upgrades	AEC (100%)
b2480.3	New Landis - Lewis 138 kV line and associated substation upgrades	AEC (100%)
b2481	New Cardiff - Lewis #2 138 kV line and associated substation upgrades	AEC (100%)
b2489	Install a 100 MVAR capacitor at BL England	AEC (100%)

Atlantic City Electric Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2538	Replace the Mickleton 230kV 'MK' breaker with 63kA breaker	AEC (100%)
b2553	Replace Middle T3 138/69 kV transformer with 225 MVA nameplate	AEC (100%)
b2723.1	Replace the Mickleton 69 kV 'PCB A' breaker with 63kA breaker	AEC (100%)
b2723.2	Replace the Mickleton 69 kV 'PCB B' breaker with 63kA breaker	AEC (100%)
b2723.3	Replace the Mickleton 69 kV 'PCB C' breaker with 63kA breaker	AEC (100%)
b2723.4	Replace the Mickleton 69 kV 'PCB Q' breaker with 63kA breaker	AEC (100%)
b2839	Replace the Sickler 69 kV 'H' breaker with 63kA breaker	AEC (100%)
b2840	Replace the Sickler 69 kV 'M' breaker with 63kA breaker	AEC (100%)
b2841	Replace the Sickler 69 kV 'A' breaker with 63kA breaker	AEC (100%)
b2945.1	Rebuild the BL England – Middle Tap 138 kV line to 2000A on double circuited steel poles and new foundations	AEC (100%)
b2945.2	Reconductor BL England – Merion 138 kV (1.9 miles) line	AEC (100%)
b2945.3	Reconductor Merion – Corson 138 kV (8 miles) line	AEC (100%)

Atlantic City Electric Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3135	Install back-up relay on the 138 kV bus at Corson substation	AEC (100%)
b3226	Add 10 MVAR 69 kV capacitor bank at Swainton substation	AEC (100%)
b3227	Rebuild the Corson – Court 69 kV line to achieve ratings equivalent to 795 ACSR conductor or better	AEC (100%)
<u>b3867.1</u>	<u>Upgrade a circuit switcher at Mickleton substation</u>	<u>AEC (100%)</u>

SCHEDULE 12 – APPENDIX A

(2) Baltimore Gas and Electric Company

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

Baltimore Gas and Electric Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2396.1	Install a tie breaker at Mays Chapel 115 kV substation	BGE (100%)
b2567	Upgrade the Riverside 115 kV substation strain bus conductors on circuits 115012 and 115011 with double bundled 1272 ACSR to achieve ratings of 491/577 MVA SN/SE on both transformer leads	BGE (100%)
b2568	Reconductor Northwest – Northwest #2 115 kV 110574 substation tie circuit with 2167 ACSR to achieve ratings of 400/462 MVA SN/SE	BGE (100%)
b2752.6	Conastone 230 kV substation tie-in work (install a new circuit breaker at Conastone 230 kV and upgrade any required terminal equipment to terminate the new 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%)
b2752.7	Reconductor/Rebuild the two Conastone – Northwest 230 kV lines 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%)
b2752.8	Replace the Conastone 230 kV '2322 B5' breaker with a 63 kA breaker	BGE (100%)

Baltimore Gas and Electric Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO 3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: AEC (0.62%) / BGE (20.33%) / Dominion (39.76%) / DPL (2.09%) / JCPL (4.64%) / NEPTUNE* (0.49%) / PECO (1.98%) / PEPCO (18.76%) / PSEG (10.91%) / RE (0.42%)</p>

*Neptune Regional Transmission System, LLC

Baltimore Gas and Electric Company (cont.)

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%)

Baltimore Gas and Electric Company (cont.)

Required Transmission Enhancements	Annual Revenue 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%) / PEPSCO (29.30%)
b3780.4	Peach Bottom to Graceton (BGE) 500 kV transmission line. New rating is 4503 MVA SN/ 5022 MVA SE	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPSCO 3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: ATSI (0.03%) / BGE (28.40%) / DPL (0.02%) / Dominion (33.36%) / JCPL (6.36%) / NEPTUNE* (0.73%) / PEPSCO (17.90%) / PSEG (12.69%) / RE (0.51%)</p>

*Neptune Regional Transmission System, LLC

Baltimore Gas and Electric Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b3780.5	Build 230 kV Solley Road substation and STATCOM. New STATCOM rating: 350 MVAR. Add 4x 230 kV breakers bays		BGE (100%)
b3780.6	Build 230 kV Granite substation and STATCOM. New STATCOM rating: 350 MVAR. Add 4x 230 kV breaker bays		BGE (100%)
b3780.7	Build Batavia Road 230 kV substation. Add 4x 230 kV breaker bays		BGE (100%)
b3780.8	Graceton 500 kV substation expansion: Add 3x 500 kV breaker bays, two 500/230 kV auto transformers, and one 250 MVAR capacitor. New transformer rating: 1559 MVA SN / 1940 MVA SE. New capacitor rating: 250 MVAR		BGE (81.92%) / PEPCO (18.08%)
b3780.9	Build Graceton to Batavia Road 230 kV double circuit line. New rating: 1331 MVA SN/ 1594 MVA SE		BGE (100%)
b3780.10	Install new 350 MVAR capacitor at Conastone 500 kV substation		Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO 3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
			DFAX Allocation: BGE (100.00%)
b3780.13	Reconductor Batavia Road to Riverside 230 kV line. New rating: 1941 MVA SN / 2181 MVA SE		BGE (51.24%) / PEPCO (48.76%)

*Neptune Regional Transmission System, LLC

Baltimore Gas and Electric Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.4	New Otter Creek to Doubs 500 kV line (MD Border - PSEG Demarcation Point). Rebuild and expand existing approximately 6 miles of Otter Creek - Conastone 230 kV line to become a double-circuit 500 kV and 230 kV lines.	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPSCO 3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (13.16%) / BGE (0.79%) / Dominion (74.28%) / DPL (0.41%) / PECO (0.77%) / PEPSCO (10.59%)</p>
b3800.26	Build High Ridge 500 kV substation - Three bay breaker and half configuration	This upgrade ID is only for tracking purpose. Cost allocation details are available from b3800.27 ~ b3800.33
b3800.27	High Ridge 500 kV substation (cut into Brighton - Waugh Chapel 500 kV line) - Waugh Chapel side	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPSCO 3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: BGE (70.66%) / PEPSCO (29.34%)</p>

*Neptune Regional Transmission System, LLC

Baltimore Gas and Electric Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.28	High Ridge 500 kV substation (cut into Brighton - Waugh Chapel 500 kV line) - Brighton side	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPSCO 3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (0.68%) / BGE (97.41%) / Dominion (1.91%)</p>
b3800.29	High Ridge termination for the North Delta - High Ridge 500 kV line	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPSCO 3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: BGE (2.58%) / Dominion (59.28%) / DPL (0.02%) / PEPSCO (28.48%) / PSEG (9.24%) / RE (0.40%)</p>
b3800.30	High Ridge - Install two 500/230 kV transformers	BGE (62.75%) / PEPSCO (37.25%)

*Neptune Regional Transmission System, LLC

Baltimore Gas and Electric Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.32	Build new North Delta – High Ridge 500 kV line (approximately 59 miles)	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPSCO 3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: BGE (2.58%) / Dominion (59.28%) / DPL (0.02%) / PEPSCO (28.48%) / PSEG (9.24%) / RE (0.40%)</p>
b3800.34	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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPSCO 3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: BGE (12.36%) / Dominion (24.57%) / DPL (25.17%) / JCPL (7.90%) / NEPTUNE* (0.88%) / PENELEC (1.60%) / PEPSCO (12.32%) / PSEG (14.57%) / RE (0.63%)</p>

*Neptune Regional Transmission System, LLC

Baltimore Gas and Electric Company (cont.)

Required Transmission Enhancements	Annual Revenue 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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO 3.79% / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: BGE (51.35%) / Dominion (32.44%) / DPL (0.01%) / JCPL (0.01%) / PEPCO (16.17%) / PSEG (0.02%)</p>
b3800.37	Replace terminal equipment limitations at Conastone 500 kV - on the existing Peach Bottom – Conastone, future Graceton – Conastone, 500 kV line	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO 3.79% / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>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%)</p>

*Neptune Regional Transmission System, LLC

Baltimore Gas and Electric Company (cont.)

Required Transmission Enhancements	Annual Revenue 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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) <hr/> DFAX Allocation: BGE (9.65%) / Dominion (63.04%) / DPL (0.02%) / PEPCO (27.29%)
<u>b3857.1</u>	<u>Replace Conastone 230 kV Breaker #5</u>	<u>BGE (100%)</u>
<u>b3906.1</u>	<u>Construct new Marley Neck 115 kV substation. Marley Neck 115 kV portion will accommodate 10 breaker-and-a-half bays, with only 6 bays planned for initial service while accommodating 4 future bays. Two Standard 230/115 kV transformers will be connected between the 230 and 115 kV equipment with appropriate isolation methods</u>	<u>BGE (100%)</u>

*Neptune Regional Transmission System, LLC

SCHEDULE 12 – APPENDIX A

(3) Delmarva Power & Light Company

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2288	Build a new 138 kV line from Piney Grove – 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%)
b2633.7	Implement high speed relaying utilizing OPGW on Red Lion – Hope Creek 500 kV line	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		DFAX Allocation: AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)
b2633.10	Interconnect the new Silver Run 230 kV substation with existing Red Lion – Cartanza and Red Lion – Cedar Creek 230 kV lines	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%)

*Neptune Regional Transmission System, LLC

Delmarva Power & Light Company (cont.)

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

Delmarva Power & Light Company (cont.)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

b3143.4	Replace two (2) 1200 A disconnect switches with 2000 A disconnect switches. Replace existing 954 ACSR and 500 SDCU stranded bus with two (2) 954 ACSR stranded bus. 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%)
b3143.5	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 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%)
b3155	Rebuild approx. 12 miles of Wye Mills – Stevensville line		DPL (100%)
b3224	Replace a disconnect switch and reconductor a short span of the Mt. Pleasant – Middletown tap 138 kV line		DPL (100%)

Delmarva Power & Light Company (cont.)

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

Delmarva Power & Light Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b3749	Rebuild the New Church - Piney Grove 138 kV line		DPL (100%)
b3793.1	Reconductor Silver Run - Cedar Creek 230 kV line. Reconductor 8.8 miles of 230 kV Circuit with 1594-T11/ACCR "Lapwing" conductor and replace all insulators with high temperature hardware		DPL (100%)
b3793.2	Cedar Creek – Replace three (3) standalone CTs, disconnect switch, stranded bus, and rigid bus to achieve higher rating		DPL (100%)
b3793.3	Silver Run - Replace three(3) 1-1590 ACSR Jumpers and one(1) air disconnect switch		DPL (100%)

Delmarva Power & Light Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3846.1	Rebuild 6.25 miles of 69 kV circuit 6708 (Vienna – Mardela) with new single pole steel structures and with 954.0 45/7 "Rail" conductor. This new rebuild will be from the dead-end structure on the east side of the Nanticoke River to the Mardela Tap	DPL (100%)
b3846.2	Upgrade of disconnect switch at Vienna to increase ratings of existing Vienna - Mardela 69 kV transmission facility	DPL (100%)
b3846.3	Upgrade of three disconnect switches at Mardela station to increase ratings of existing Vienna - Mardela transmission facility	DPL (100%)
<u>b3865.1</u>	<u>Upgrade 138/69 kV autotransformer, a 69 kV breaker, two disconnects and move a takeoff structure at Reybold Substation. These upgrades will require a substation expansion to move the takeoff structure and a control house expansion to move the 69 kV breaker relays from the Delaware City control house to the Reybold control house</u>	<u>DPL (100%)</u>
<u>b3866.1</u>	<u>Adjust relay setting at Cedar Creek 230 kV Substation</u>	<u>DPL (100%)</u>
<u>b3866.2</u>	<u>Change relay setting at Milford 230 kV Substation</u>	<u>DPL (100%)</u>

SCHEDULE 12 – APPENDIX A

(4) Jersey Central Power & Light Company

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2234	260 MVAR reactor at West Wharton 230 kV	JCPL (100%)
b2270	Advance Raritan River - Replace G1047E breaker at the 230 kV Substation	JCPL (100%)
b2271	Advance Raritan River - Replace G1047F breaker at the 230 kV Substation	JCPL (100%)
b2272	Advance Raritan River - Replace T1034E breaker at the 230 kV Substation	JCPL (100%)
b2273	Advance Raritan River - Replace T1034F breaker at the 230 kV Substation	JCPL (100%)
b2274	Advance Raritan River - Replace I1023E breaker at the 230 kV Substation	JCPL (100%)
b2275	Advance Raritan River - Replace I1023F breaker at the 230 kV Substation	JCPL (100%)
b2289	Freneau Substation - upgrade 2.5 inch pipe to bundled 1590 ACSR conductor at the K1025 230 kV Line Terminal	JCPL (100%)
b2292	Replace the Whippany 230 kV breaker B1 (CAP) with 63 kA breaker	JCPL (100%)
b2357	Replace the East Windsor 230 kV breaker 'E1' with 63 kA breaker	JCPL (100%)

Jersey Central Power & Light Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2495	Replace transformer leads on the Glen Gardner 230/34.5 kV #1 transformer	JCPL (100%)
b2496	Replace Franklin 115/34.5 kV transformer #2 with 90 MVA transformer	JCPL (100%)
b2497	Reconductor 0.9 miles of the Captive Plastics to Morris Park 34.5 kV circuit (397ACSR) with 556 ACSR	JCPL (100%)
b2498	Extend 5.8 miles of 34.5 kV circuit from North Branch substation to Lebanon substation with 397 ACSR and install 34.5 kV breaker at Lebanon substation	JCPL (100%)
b2500	Upgrade terminal equipment at Monroe on the Englishtown to Monroe (H34) 34.5 kV circuit	JCPL (100%)
b2570	Upgrade limiting terminal facilities at Feneau, Parlin, and Williams substations	JCPL (100%)
b2571	Upgrade the limiting terminal facilities at both Jackson and North Hanover	JCPL (100%)
b2586	Upgrade the V74 34.5 kV transmission line between Allenhurst and Elberon Substations	JCPL (100%)

Jersey Central Power & Light Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2633.6	Implement high speed relaying utilizing OPGW on Deans – East Windsor 500 kV	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)</p>
b2633.6.1	Implement high speed relaying utilizing OPGW on East Windsor - New Freedom 500 kV	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)</p>

* Neptune Regional Transmission System, LLC

Jersey Central Power & Light Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b2676	Install one (1) 72 MVAR fast switched capacitor at the Englishtown 230 kV substation		JCPL (100%)
b2708	Replace the Oceanview 230/34.5 kV transformer #1		JCPL (100%)
b2709	Replace the Deep Run 230/34.5 kV transformer #1		JCPL (100%)
b2754.2	Install 5 miles of optical ground wire (OPGW) between Gilbert and Springfield 230 kV substations		JCPL (100%)
b2754.3	Install 7 miles of all-dielectric self-supporting (ADSS) fiber optic cable between Morris Park and Northwood 230 kV substations		JCPL (100%)
b2754.6	Upgrade relaying at Morris Park 230 kV		JCPL (100%)
b2754.7	Upgrade relaying at Gilbert 230 kV		JCPL (100%)
b2809	Install a bypass switch at Mount Pleasant 34.5 kV substation to allow the Mount Pleasant substation load to be removed from the N14 line and transfer to O769 line		JCPL (100%)
b3023	Replace West Wharton 115 kV breakers 'G943A' and 'G943B' with 40 kA breakers		JCPL (100%)
b3042	Replace substation conductor at Raritan River 230 kV substation on the Kilmer line terminal		JCPL (100%)

Jersey Central Power & Light Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b3130	Construct seven new 34.5 kV circuits on existing pole lines (total of 53.5 miles), rebuild/reconductor two 34.5 kV circuits (total of 5.5 miles) and install a second 115/34.5 kV transformer (Werner)		JCPL (100%)
b3130.1	Construct a new 34.5 kV circuit from Oceanview to Allenhurst 34.5 kV (4 miles)		JCPL (100%)
b3130.2	Construct a new 34.5 kV circuit from Atlantic to Red Bank 34.5 kV (12 miles)		JCPL (100%)
b3130.3	Construct a new 34.5 kV circuit from Freneau to Taylor Lane 34.5 kV (6.5 miles)		JCPL (100%)
b3130.4	Construct a new 34.5 kV circuit from Keyport to Belford 34.5 kV (6 miles)		JCPL (100%)
b3130.5	Construct a new 34.5 kV circuit from Red Bank to Belford 34.5 kV (5 miles)		JCPL (100%)
b3130.6	Construct a new 34.5 kV circuit from Werner to Clark Street (7 miles)		JCPL (100%)
b3130.7	Construct a new 34.5 kV circuit from Atlantic to Freneau (13 miles)		JCPL (100%)
b3130.8	Rebuild/reconductor the Atlantic – Camp Woods Switch Point (3.5 miles) 34.5 kV circuit		JCPL (100%)
b3130.9	Rebuild/reconductor the Allenhurst – Elberon (2 miles) 34.5 kV circuit		JCPL (100%)
b3130.10	Install 2nd 115/34.5 kV transformer at Werner substation		JCPL (100%)

Jersey Central Power & Light Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3130.11	Replace four Atlantic 34.5 kV breakers (BK1A, BK1B, BK3A and BK3B) with 63 kA rated breakers and associated equipment	JCPL (100%)
b3130.12	Replace six Werner 34.5 kV breakers (E31A_Prelim, E31B_Prelim, V48 future, W101, M39 and U99) with 40 kA rated breakers and associated equipment	JCPL (100%)
b3238	Replace seven (7) overdutied 34.5 kV breakers with 50 kA rated equipment at the Whippany substation	JCPL (100%)
b3239	Replace fourteen (14) overdutied 34.5 kV breakers with 63 kA rated equipment	JCPL (100%)
b3674	Replace five Atlantic 34.5 kV breakers (J36, BK1A, BK1B, BK3A and BK3B) with 63 kA rated breakers and associated equipment	JCPL (100%)
b3675	Replace six Werner 34.5 kV breakers (E31A_Prelim, E31B_Prelim, V48 future, W101, M39 and U99) with 40 kA rated breakers and associated equipment	JCPL (100%)
b3676	Replace Freneau 34.5 kV breaker (BK6) with 63 kA rated breakers and associated equipment	JCPL (100%)

Jersey Central Power & Light Company (cont.)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

<u>b3860.1</u>	<u>Replace the 34.5 kV bus tie breaker at Chester Substation with a new 34.5 kV breaker that has an interruption capability of 40 kA</u>		<u>JCPL (100%)</u>
<u>b3861.1</u>	<u>Replace the W101 34.5 kV breaker at Werner Substation with a new 34.5 kV breaker that has an interruption capability of 40 kA</u>		<u>JCPL (100%)</u>

SCHEDULE 12 – APPENDIX A

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

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2006.1.1	Loop the 2026 (TMI – Hosensack 500 kV) line in to the Lauschtown	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPSCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: BGE (22.28%) / ME (1.76%) / PPL (75.96%)</p>
b2006.2.1	Upgrade relay at South Reading on the 1072 230 V line	ME (100%)
b2006.4	Replace the South Reading 69 kV ‘81342’ breaker with 40 kA breaker	ME (100%)
b2006.5	Replace the South Reading 69 kV ‘82842’ breaker with 40 kA breaker	ME (100%)
b2452	Install 2nd Hunterstown 230/115 kV transformer	APS (8.30%) / BGE (14.70%) / DEOK (0.48%) / Dominion (36.92%) / ME (23.85%) / PEPSCO (15.75%)

* Neptune Regional Transmission System, LLC

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

Required Transmission 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%)

**Mid-Atlantic Interstate Transmission, LLC for the Metropolitan Edison Company Zone
(cont.)**

Required Transmission Enhancements		Annual 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%)

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

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b3671	Rebuild approximately 3.6 miles of North Boyertown - West Boyertown 69 kV line. Upgrade terminal equipment (circuit breaker, disconnect switches, substation conductor) and relays at North Boyertown and West Boyertown 69 kV substation		ME (100%)
b3715.3	Install a new Allen four breaker ring bus switchyard near the existing ME Allen substation on adjacent property presently owned by FirstEnergy. Terminate the Round Top-Allen and the Allen-PPGI (PPG Industries) 115 kV lines into the new switchyard		ME (100%)
b3768	Rebuild/Reconductor the Germantown – Lincoln 115 kV line. Upgrade limiting 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%)

**Mid-Atlantic Interstate Transmission, LLC for the Metropolitan Edison Company Zone
(cont.)**

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.2	Break the existing Three Mile Island - Peach Bottom 500 kV line and terminate into adjacent Otter Creek 500 kV switchyard	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (13.16%) / BGE (0.71%) / Dominion (74.28%) / DPL (0.36%) / PECO (0.68%) / PEPCO (10.59%) / PPL (0.22%)</p>

* Neptune Regional Transmission System, LLC

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

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.6	Replace terminal equipment at TMI Peach Bottom - TMI 500 kV line	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>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%)</p>
b3800.10	Rebuild the Germantown - Lincoln 115 kV line for 230 kV double circuit construction	ME (100%)
b3800.11	Rebuild the Hunterstown - Lincoln 115 kV line for 230 kV double circuit construction	ME (100%)
b3800.12	Rebuild the Germantown - Carroll 138 kV line for 230 kV double circuit construction (MAIT Section)	ME (100%)
b3800.14	Construct new 230 kV Hunterstown - Carroll line (MAIT Section)	APS (99.86%) / ME (0.14%)

* Neptune Regional Transmission System, LLC

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

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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%)
<u>b3858.1</u>	<u>Rebuild the Windsor Substation 115 kV yard to convert from a straight bus configuration into a six-breaker ring bus configuration. Install two (2) 21.62 MVAR, 115 kV capacitor banks. The substation fence will need to be expanded and approximately 1 acre of land will need to be purchased. No wetlands or environmental risks were identified at this time. The Tolna and Yorkana 115 kV line exits will need to be relocated.</u>		<u>ME (100%)</u>

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

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

<u>b3858.2</u>	<u>Rebuild the Yorkana Substation 115 kV yard converting from a straight bus configuration to a (9) breaker, breaker-and-a-half configuration. The substation fence will need to be expanded but no land acquisition will be required. The Glades, Windsor, and Redfront 115 kV Line exits will need to be relocated.</u>		<u>ME (100%)</u>
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SCHEDULE 12 – APPENDIX A

(8) PECO Energy Company

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

PECO Energy Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b2550	Replace terminal equipment inside Nottingham substation on the 220-05 (Nottingham – Daleville- Bradford) 230 kV line		PECO (100%)
b2551	Replace terminal equipment inside Llanerch substation on the 130-45 (Eddystone to Llanerch) 138 kV line		PECO (100%)
b2572	Replace the Peach Bottom 500 kV ‘#225’ breaker with a 63 kA breaker		PECO (100%)
b2694	Increase ratings of Peach Bottom 500/230 kV transformer to 1479 MVA normal/1839 MVA emergency		AEC (3.97%)/ AEP (5.77%)/ APS (4.27%)/ ATSI (6.15%)/ BGE (1.63%)/ ComEd (0.72%)/ Dayton (1.06%)/ DEOK (1.97%)/ DL (2.25%)/ Dominion (0.35%)/ DPL (14.29%)/ ECP** (0.69%)/ EKPC (0.39%)/ HTP*** (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%)
b2752.2	Tie in new Furnace Run substation to Peach Bottom – TMI 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%)
b2752.3	Upgrade terminal equipment and required relay communication at Peach Bottom 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%)

*Neptune Regional Transmission System, LLC

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

***Hudson Transmission Partners, LLC

PECO Energy Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2766.2	Upgrade substation equipment at Peach Bottom 500 kV to increase facility rating to 2826 MVA normal and 3525 MVA emergency	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: DPL (100%)</p>

*Neptune Regional Transmission System, LLC

PECO Energy Company (cont.)

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

PECO Energy Company (cont.)

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

PECO Energy Company (cont.)

Required Transmission 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)	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>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%)</p>

*Neptune Regional Transmission System, LLC

PECO Energy Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3780.1	Peach Bottom North upgrades – 500 kV substation work. Add 3x 500 kV breakers to form a breaker-and-a-half bay	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		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%)
b3780.2	Peach Bottom to Graceton (PECO) new 500 kV transmission line. New rating: 4503 MVA SN/5022 MVA SE	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		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%)
b3780.3	West Cooper substation work includes 3 breaker ring, 500/230 kV transformer, control house, substation build, and reconfigure Cooper distribution station feed. New transformer rating: 1559 MVA SN/ 1940 MVA SE	DPL (41.52%) / PECO (58.48%)

*Neptune Regional Transmission System, LLC

PECO Energy Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3780.14	Reconfigure Cooper transmission feeds by establishing new Cooper - North Delta 230 kV line and rerouting existing transmissions lines by Cooper	DPL (38.25%) / PECO (61.75%)
b3780.15	Cut-in 5012 Peach Bottom - Conastone 500 kV line into North Delta 500/230 kV substation by rebuilding 5012 between new terminal at Peach Bottom South and North Delta on single circuit structures and terminating at North Delta	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: AEC (11.03%) / BGE (37.40%) / DPL (22.90%) / PECO (0.00%) / PEPCO (28.67%)</p>

*Neptune Regional Transmission System, LLC

PECO Energy Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.52	Reconfigure Peach Bottom North and South yards to allow for termination of 500 kV lines from Peach Bottom to North Delta. North Delta 500 kV termination for the new Peach Bottom - North Delta 500 kV line	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: AEC (11.03%) / BGE (37.40%) / DPL (22.90%) / PECO (0.00%) / PEPCO (28.67%)</p>
b3844.1	Replacement of relays at Macdade, Printz, and Morton stations to increase rating limits of transmission relay equipment. Line protection relays will be upgraded with latest standard relays used across the PECO system	PECO (100%)
b3845.1	Add a second 138 kV breaker next to Nottingham 895 CB to eliminate stuck breaker contingency	PECO (100%)
<u>b3862.1</u>	<u>Upgrade two (2) 500 kV free standing CTs, one (1) disconnect switch, and four (4) sections of tube bus at Elroy 500 kV substation</u>	<u>PECO (100%)</u>

*Neptune Regional Transmission System, LLC

PECO Energy Company (cont.)

<u>Required Transmission Enhancements</u>	<u>Annual Revenue Requirement</u>	<u>Responsible Customer(s)</u>
<u>b3863.1</u>	<u>Change tap ratios on two (2) CTs at Schuylkill 230 kV substation</u>	<u>PECO (100%)</u>
<u>b3864.1</u>	<u>Replace station cable at Tacony 69 kV station</u>	<u>PECO (100%)</u>
<u>b3864.2</u>	<u>Replace station cable at Richmond 230 kV station</u>	<u>PECO (100%)</u>
<u>b3907.1</u>	<u>Reconductor entire 2.5 miles of North Philadelphia to Master 230 kV line</u>	<u>AEC (0.76%) / JCPL (1.45%) / NEPTUNE* (0.15%) / PECO (94.22%) / PSEG (3.29%) / RE (0.13%)</u>
<u>b3907.2</u>	<u>Richmond to Waneeta 230 kV Line: Rebuild entire 0.95 miles of existing UGT, and rebuild entire 2.23 miles of existing OHT</u>	<u>AEC (9.99%) / JCPL (8.34%) / NEPTUNE* (0.80%) / PECO (55.62%) / PSEG (24.31%) / RE (0.94%)</u>
<u>b3907.3</u>	<u>Reconductor 2.12 miles of North Philadelphia to Waneeta 230 kV line</u>	<u>AEC (10.75%) / JCPL (14.26%) / NEPTUNE* (1.48%) / PECO (38.58%) / PSEG (33.62%) / RE (1.31%)</u>

*Neptune Regional Transmission System, LLC

SCHEDULE 12 – APPENDIX A

(9) PPL Electric Utilities Corporation

Required Transmission Enhancements		Annual Revenue Requirement	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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
			DFAX Allocation: PPL (100%)
b2238	100 MVAR shunt reactor at Elimsport 230 kV		PPL (100%)

* Neptune Regional Transmission System, LLC

PPL Electric Utilities Corporation (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2269 Rebuild approximately 23.7 miles of the Susquehanna - Jenkins 230 kV circuit. This 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%)
b2406.1 Rebuild Stanton-Providence 69 kV 2&3 9.5 miles with 795 SCSR		PPL (100%)
b2406.2 Reconductor 7 miles of the Lackawanna - Providence 69 kV #1 and #2 with 795 ACSR		PPL (100%)
b2406.3 Rebuild SUB2 Tap 1 (Lackawanna - Scranton 1) 69 kV 1.5 miles 556 ACSR		PPL (100%)
b2406.4 Rebuild SUB2 Tap 2 (Lackawanna - Scranton 1) 69 kV 1.6 miles 556 ACSR		PPL (100%)
b2406.5 Create Providence - Scranton 69 kV #1 and #2, 3.5 miles with 795 ACSR		PPL (100%)
b2406.6 Rebuild Providence 69 kV switchyard		PPL (100%)
b2406.7 Install 2 - 10.8 MVAR capacitors at EYNO 69 kV		PPL (100%)
b2406.8 Rebuild Stanton 230 kV yard		PPL (100%)

PPL Electric Utilities Corporation (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	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 (80.77%) / PPL (19.23%)
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%)

PPL Electric Utilities Corporation (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2716	Add a 200 MVAR shunt reactor at Lackawanna 500 kV substation	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: PPL (100%)</p>
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%)

* Neptune Regional Transmission System, LLC

PPL Electric Utilities Corporation (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2824	Reconfigure/Expand the Lackawanna 500 kV substation by adding a third bay with three breakers	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: PPL (100%)</p>
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%)

* Neptune Regional Transmission System, LLC

PPL Electric Utilities Corporation (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	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%)

* Neptune Regional Transmission System, LLC

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

***Hudson Transmission Partners, LLC

PPL Electric Utilities Corporation (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (13.16%) / BGE (0.71%) / Dominion (74.28%) / DPL (0.36%) / PECO (0.68%) / PEPCO (10.59%) / PPL (0.22%)</p>

* Neptune Regional Transmission System, LLC

PPL Electric Utilities Corporation (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (13.16%) / BGE (0.71%) / Dominion (74.28%) / DPL (0.36%) / PECO (0.68%) / PEPCO (10.59%) / PPL (0.22%)</p>
b3800.53	Construct a double-circuit 500 kV line from the existing TMI - Peach Bottom 500 kV right-of-way to the proposed Chanceford switchyard, approximately 1.0 miles in length	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (13.37%) / Dominion (75.27%) / PEPCO (11.36%)</p>

* Neptune Regional Transmission System, LLC

PPL Electric Utilities Corporation (cont.)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

<u>b3908.1</u>	<u>Install one 80 MVAr 230 kV capacitor bank at Pocono 230 kV Substation</u>		<u>PPL (100.00%)</u>
<u>b3909.1</u>	<u>Juniata 500 kV yard expansion/reconfiguration to include one new bay and eliminate the line fault stuck breaker</u>		<u>Load-Ratio Share Allocation:</u> <u>AEC (1.58%) / AEP (13.71%) /</u> <u>APS (5.49%) / ATSI (7.69%) /</u> <u>BGE (4.16%) / ComEd (13.25%)</u> <u>/ Dayton (2.07%) / DEOK</u> <u>(3.18%) / DL (1.65%) /</u> <u>Dominion (14.20%) / DPL</u> <u>(2.57%) / EKPC (2.30%) / JCPL</u> <u>(3.80%) / ME (1.88%) /</u> <u>NEPTUNE* (0.42%) / OVEC</u> <u>(0.06%) / PECO (5.32%) /</u> <u>PENELEC (1.81%) / PEPSCO</u> <u>(3.79%) / PPL (4.58%) / PSEG</u> <u>(6.24%) / RE (0.25%)</u> <u>DFAX Allocation:</u> <u>PPL (100%)</u>
<u>b3910.1</u>	<u>Susquehanna T10 230 kV Station Reconfiguration. Break the existing Susquehanna - Glen Brook 230 kV line and loop it 0.2 miles in and out of the Susquehanna T10 230 kV Station</u>		<u>PPL (100.00%)</u>

* Neptune Regional Transmission System, LLC

SCHEDULE 12 – APPENDIX A

(12) Public Service Electric and Gas Company

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b2218	Rebuild 4 miles of overhead line from Edison - 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 at Stanley Terrace 230 kV		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		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.

Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement		Responsible Customer(s)
b2276	Eliminate the Sewaren 138 kV bus by installing a new 230 kV bay at Sewaren 230 kV		PSEG (96.26%) / RE (3.74%)
b2276.1	Convert the two 138 kV circuits from Sewaren – Metuchen to 230 kV circuits including Lafayette and Woodbridge substation		PSEG (96.26%) / RE (3.74%)
b2276.2	Reconfigure the Metuchen 230 kV station to accommodate the two converted circuits		PSEG (96.26%) / RE (3.74%)
b2290	Replace disconnect switches at Kilmer, Lake Nilson and Greenbrook 230 kV substations on the Raritan River - Middlesex (I-1023) circuit		PSEG (100%)
b2291	Replace circuit switcher at Lake Nelson 230 kV substation on the Raritan 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%)

Public Service Electric and Gas Company (cont.)

Required Transmission 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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		DFAX Allocation: PSEG (96.26%) / RE (3.74%)
b2436.21	Convert the Marion - Bayonne "L" 138 kV circuit to 345 kV and any associated substation upgrades	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		DFAX Allocation: PSEG (96.26%) / RE (3.74%)

*Neptune Regional Transmission System, LLC

Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2436.22	Convert the Marion - Bayonne "C" 138 kV circuit to 345 kV and any associated substation upgrades	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: PSEG (96.26%) / RE (3.74%)</p>
b2436.33	Construct a new Bayway – Bayonne 345 kV circuit and any associated substation upgrades	PSEG (96.26%) / RE (3.74%)
b2436.34	Construct a new North Ave – Bayonne 345 kV circuit and any associated substation upgrades	PSEG (96.26%) / RE (3.74%)

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Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b2436.50	Construct a new North Ave - Airport 345 kV circuit and any associated substation upgrades		PSEG (96.26%) / RE (3.74%)
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 (96.26%) / RE (3.74%)
b2436.70	Construct a new Airport - Bayway 345 kV circuit and any associated substation upgrades		PSEG (96.26%) / RE (3.74%)
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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
			DFAX Allocation: PSEG (96.26%) / RE (3.74%)

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Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2436.83	Convert the Bayway - Linden "Z" 138 kV circuit to 345 kV and any associated substation upgrades	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: PSEG (96.26%) / RE (3.74%)</p>
b2436.84	Convert the Bayway – Linden “W” 138 kV circuit to 345 kV and any associated substation upgrades	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: PSEG (96.26%) / RE (3.74%)</p>

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Public Service Electric and Gas Company (cont.)

Required Transmission 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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: PSEG (96.26%) / RE (3.74%)</p>
b2436.90	Relocate Farragut - Hudson "B" and "C" 345 kV circuits to Marion 345 kV and any associated substation upgrades	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: PSEG (100%)</p>
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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Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement		Responsible Customer(s)
b2437.10	New Bergen 345/230 kV transformer and any associated substation upgrades		PSEG (96.26%) / RE (3.74%)
b2437.11	New Bergen 345/138 kV transformer #1 and any associated substation upgrades		PSEG (96.26%) / RE (3.74%)
b2437.20	New Bayway 345/138 kV transformer #1 and any associated substation upgrades		PSEG (96.26%) / RE (3.74%)
b2437.21	New Bayway 345/138 kV transformer #2 and any associated substation upgrades		PSEG (96.26%) / RE (3.74%)
b2437.30	New Linden 345/230 kV transformer and any associated substation upgrades		PSEG (96.26%) / RE (3.74%)
b2437.33	New Bayonne 345/69 kV transformer and any associated substation upgrades		PSEG (96.26%) / RE (3.74%)
b2438	Install two reactors at Tosco 230 kV		PSEG (100%)
b2439	Replace the Tosco 138 kV breaker 'CB1/2 (CBT)' with 63 kA		PSEG (100%)
b2474	Rebuild Athenia 138 kV to 80 kA		PSEG (100%)
b2589	Install a 100 MVAR 230 kV shunt reactor at Mercer station		PSEG (100%)
b2590	Install two 75 MVAR 230 kV capacitors at Sewaren station		PSEG (100%)

Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2633.3	Install an SVC at New Freedom 500 kV substation	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)</p>
b2633.4	Add a new 500 kV bay at Hope Creek (Expansion of Hope Creek substation)	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>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%)</p>

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Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements	Annual 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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		DFAX Allocation: AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)

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Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements	Annual 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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		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%)

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Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements	Annual 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 (96.26%) / RE (3.74%)
b2810.1	Install second 230/69 kV transformer at Cedar Grove	PSEG (96.26%) / RE (3.74%)
b2810.2	Build a new 69 kV circuit from Cedar Grove to Great Notch	PSEG (96.26%) / RE (3.74%)
b2811	Build 69 kV circuit from Locust Street to Delair	PSEG (96.26%) / RE (3.74%)
b2812	Construct River Road to Tonnelle Avenue 69kV Circuit	PSEG (96.26%) / RE (3.74%)
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

Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2835.1	Convert the R-1318 and Q-1317 (Edison – Metuchen) 138 kV circuits to one 230 kV circuit (Brunswick – Meadow Road)	AEC (24.55%) / PECO (55.03%) / PSEG (19.65%) / RE (0.77%)
b2835.2	Convert the R-1318 and Q-1317 (Edison - Metuchen) 138 kV circuits to one 230 kV circuit (Meadow Road - Pierson Ave)	AEC (21.71%) / PECO (48.70%) / PSEG (28.48%) / RE (1.11%)
b2835.3	Convert the R-1318 and Q-1317 (Edison - Metuchen) 138 kV circuits to one 230 kV circuit (Pierson Ave - Metuchen)	AEC (19.36%) / PECO (43.42%) / PSEG (35.83%) / RE (1.39%)
b2836	Convert the N-1340 and T-1372/D-1330 (Brunswick – Trenton) 138 kV circuits to 230 kV circuits	See sub-IDs for cost allocations
b2836.1	Convert the N-1340 and T-1372/D-1330 (Brunswick - Trenton) 138 kV circuits to 230 kV circuits (Brunswick - Hunterglen)	AEC (12.72%) / NEPTUNE* (38.66%) / PECO (30.64%) / PSEG (17.31%) / RE (0.67%)
b2836.2	Convert the N-1340 and T-1372/D-1330 (Brunswick - Trenton) 138 kV circuits to 230 kV circuits (Hunterglen - Trenton)	AEC (0.99%) / NEPTUNE* (9.97%) / PECO (2.33%) / PSEG (83.47%) / RE (3.24%)
b2836.3	Convert the N-1340 and T-1372/D-1330 (Brunswick - Trenton) 138 kV circuits to 230 kV circuits (Brunswick - Devils Brook)	AEC (8.10%) / NEPTUNE* (70.21%) / PECO (19.26%) / PSEG (2.34%) / RE (0.09%)
b2836.4	Convert the N-1340 and T-1372/D-1330 (Brunswick - Trenton) 138 kV circuits to 230 kV circuits (Devils Brook - Trenton)	AEC (4.29%) / NEPTUNE* (19.13%) / PECO (10.19%) / PSEG (63.91%) / RE (2.48%)

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Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2837	Convert the F-1358/Z-1326 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)	AEC (0.09%) / NEPTUNE* (10.14%) / PSEG (86.41%) / RE (3.36%)
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)	AEC (0.02%) / NEPTUNE* (8.34%) / PSEG (88.21%) / RE (3.43%)
b2837.3	Convert the N-1340 and T-1372/D-1330 (Brunswick - Trenton) 138 kV circuits to 230 kV circuits (Brunswick - Devils Brook)	AEC (0.01%) / NEPTUNE* (7.83%) / PSEG (88.71%) / RE (3.45%)
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* (6.58%) / PSEG (89.92%) / RE (3.50%)
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* (5.54%) / PSEG (90.93%) / RE (3.53%)
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)	AEC (0.29%) / NEPTUNE* (12.23%) / PSEG (84.21%) / RE (3.27%)

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Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2837.7	Convert the F-1358/Z-1326 and K-1363/Y-1325 (Trenton - Burlington) 138 kV circuits to 230 kV circuits (Yardville - Ward Ave F)	AEC (0.06%) / NEPTUNE* (9.52%) / PSEG (87.04%) / RE (3.38%)
b2837.8	Convert the F-1358/Z-1326 and K-1363/Y-1325 (Trenton - Burlington) 138 kV circuits to 230 kV circuits (Ward Ave - Crosswicks Z)	AEC (0.06%) / NEPTUNE* (9.52%) / PSEG (87.04%) / RE (3.38%)
b2837.9	Convert the F-1358/Z-1326 and K-1363/Y-1325 (Trenton - Burlington) 138 kV circuits to 230 kV circuits (Crosswicks - Williams Z)	AEC (0.01%) / NEPTUNE* (7.61%) / PSEG (88.92%) / RE (3.46%)
b2837.10	Convert the F-1358/Z-1326 and K-1363/Y-1325 (Trenton - Burlington) 138 kV circuits to 230 kV circuits (Williams - Bustleton Z)	NEPTUNE* (6.87%) / PSEG (89.64%) / RE (3.49%)
b2837.11	Convert the F-1358/Z-1326 and K-1363/Y-1325 (Trenton - Burlington) 138 kV circuits to 230 kV circuits (Bustleton - Burlington Z)	NEPTUNE* (5.12%) / PSEG (91.33%) / RE (3.55%)
b2870	Build new 138/26 kV Newark GIS station in a building (layout #1A) located adjacent to the existing Newark Switch and demolish the existing Newark Switch	PSEG (100%)
b2933	Third Source for Springfield Rd. and Stanley Terrace Stations	PSEG (96.26%) / RE (3.74%)

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Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2933.1	Construct a 230/69 kV station at Springfield	PSEG (96.26%) / RE (3.74%)
b2933.2	Construct a 230/69 kV station at Stanley Terrace	PSEG (96.26%) / RE (3.74%)
b2933.31	Construct a 69 kV network between Front Street, Springfield and Stanley Terrace (Front Street - Springfield)	PSEG (96.26%) / RE (3.74%)
b2933.32	Construct a 69 kV network between Front Street, Springfield and Stanley Terrace (Springfield – Stanley Terrace)	PSEG (96.26%) / RE (3.74%)
b2934	Build a new 69 kV line between Hasbrouck Heights and Carlstadt	PSEG (96.26%) / RE (3.74%)
b2935	Third Supply for Runnemede 69 kV and Woodbury 69 kV	PSEG (96.26%) / RE (3.74%)
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 (96.26%) / RE (3.74%)
b2935.2	Build a new line between Hilltop and Woodbury 69 kV providing the 3rd supply	PSEG (96.26%) / RE (3.74%)

Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements	Annual 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 (96.26%) / RE (3.74%)
b2955	Wreck and rebuild the VFT – Warinanco – Aldene 230 kV circuit with paired conductor	PSEG (96.26%) / RE (3.74%)
b2956	Replace existing cable on Cedar Grove - Jackson Rd. with 5000 kcmil XLPE cable	PSEG (96.26%) / RE (3.74%)
b2982	Construct a 230/69 kV station at Hillsdale Substation and tie to Paramus and Dumont at 69 kV	PSEG (96.26%) / RE (3.74%)
b2982.1	Install a 69 kV ring bus and one (1) 230/69 kV transformer at Hillsdale	PSEG (96.26%) / RE (3.74%)
b2982.2	Construct a 69 kV network between Paramus, Dumont, and Hillsdale Substation using existing 69 kV circuits	PSEG (96.26%) / RE (3.74%)
b2983	Convert Kuller Road to a 69/13 kV station	PSEG (96.26%) / RE (3.74%)
b2983.1	Install 69 kV ring bus and two (2) 69/13 kV transformers at Kuller Road	PSEG (96.26%) / RE (3.74%)
b2983.2	Construct a 69 kV network between Kuller Road, Passaic, Paterson, and Harvey (new Clifton area switching station)	PSEG (96.26%) / RE (3.74%)
b2986	Replace the existing Roseland – Branchburg – Pleasant Valley 230 kV corridor with new structures	See sub-IDs for cost allocations

Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2986.11	Roseland-Branchburg 230 kV corridor rebuild (Roseland - Readington)	PSEG (96.26%) / RE (3.74%)
b2986.12	Roseland-Branchburg 230 kV corridor rebuild (Readington - Branchburg)	JCPL (55.22%) / PSEG (43.10%) / RE (1.68%)
b2986.21	Branchburg-Pleasant Valley 230 kV corridor rebuild (Branchburg - East Flemington)	NEPTUNE* (0.12%) / PECO (99.61%) / PSEG (0.26%) / RE (0.01%)
b2986.22	Branchburg-Pleasant Valley 230 kV corridor rebuild (East Flemington - Pleasant Valley)	NEPTUNE* (2.54%) / PECO (91.85%) / PSEG (5.40%) / RE (0.21%)
b2986.23	Branchburg-Pleasant Valley 230 kV corridor rebuild (Pleasant Valley - Rocktown)	JCPL (30.64%) / NEPTUNE* (4.98%) / PECO (1.95%) / PSEG (60.09%) / RE (2.34%)
b2986.24	Branchburg-Pleasant Valley 230 kV corridor rebuild (the PSEG portion of Rocktown - Buckingham)	JCPL (36.52%) / NEPTUNE* (4.48%) / PECO (1.27%) / PSEG (55.57%) / RE (2.16%)
b3003	Construct a 230/69 kV station at Maywood	PSEG (96.26%) / RE (3.74%)
b3003.1	Purchase properties at Maywood to accommodate new construction	PSEG (96.26%) / RE (3.74%)
b3003.2	Extend Maywood 230 kV bus and install one (1) 230 kV breaker	PSEG (96.26%) / RE (3.74%)
b3003.3	Install one (1) 230/69 kV transformer at Maywood	PSEG (96.26%) / RE (3.74%)

* Neptune Regional Transmission System, LLC

Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b3003.4	Install Maywood 69 kV ring bus		PSEG (96.26%) / RE (3.74%)
b3003.5	Construct a 69 kV network between Spring Valley Road, Hasbrouck Heights, and Maywood		PSEG (96.26%) / RE (3.74%)
b3004	Construct a 230/69/13 kV station by tapping the Mercer – Kuser Rd 230 kV circuit		PSEG (96.26%) / RE (3.74%)
b3004.1	Install a new Clinton 230 kV ring bus with one (1) 230/69 kV transformer Mercer - Kuser Rd 230 kV circuit		PSEG (96.26%) / RE (3.74%)
b3004.2	Expand existing 69 kV ring bus at Clinton Ave with two (2) additional 69 kV breakers		PSEG (96.26%) / RE (3.74%)
b3004.3	Install two (2) 69/13 kV transformers at Clinton Ave		PSEG (96.26%) / RE (3.74%)
b3004.4	Install 18 MVAR capacitor bank at Clinton Ave 69 kV		PSEG (96.26%) / RE (3.74%)
b3025	Construct two (2) new 69/13 kV stations in the Doremus area and relocate the Doremus load to the new stations		PSEG (96.26%) / RE (3.74%)

Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3025.1	Install a new 69/13 kV station (Vauxhall) with a ring bus configuration	PSEG (96.26%) / RE (3.74%)
b3025.2	Install a new 69/13 kV station (19th Ave) with a ring bus configuration	PSEG (96.26%) / RE (3.74%)
b3025.3	Construct a 69 kV network between Stanley Terrace, Springfield Road, McCarter, Federal Square, and the two new stations (Vauxhall & 19th Ave)	PSEG (96.26%) / RE (3.74%)
b3703	Construct a third 69 kV supply line from Penns Neck substation to West Windsor substation	PSEG (100%)
b3704	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 (96.26%) / RE (3.74%)
b3705	Replace existing 230/138 kV Athenia Transformer No. 220-1	PSEG (96.26%) / RE (3.74%)
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 substation	PSEG (100%)

Public Service Electric and Gas Company (cont.)

Required Transmission 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%)
b3794.1	Replace existing Waldwick 230 kV 50 MVAR fixed shunt reactor with a 230 kV 150 MVAR variable shunt reactor		PSEG (100%)
b3794.2	Replace existing Waldwick 345 kV 100 MVAR fixed shunt reactor with a 345 kV 150 MVAR variable shunt reactor		PSEG (100%)

Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3848.1	Open East Rutherford 69 kV tie breaker (26K)	PSEG (100%)
b3848.2	Move line U-775 (East Rutherford to Hasbrouck Heights) currently on section 2 to section 7 of the ring bus	PSEG (100%)
b3849.1	Perform all necessary engineering design and evaluation to increase Fairlawn 69 kV GIS from 50 kA to 55 kA	PSEG (100%)

Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3855.1	Build 4 miles new 230 kV XLPE Circuit using (345 kV rated 5000kcmil cable) from Jackson Road 230 kV station to Cedar Grove 230 kV station	PSEG (95.85%) / RE (4.15%)
b3855.2	Expand a new 230 kV bay at the existing Cedar Grove station with one line position by adding two 230 kV circuit breakers and associated disconnect switches	PSEG (95.85%) / RE (4.15%)
b3855.3	Replace the existing HPFF termination structure with a new XLPE termination structure to connect to spare GIS bay position at Jackson 230 kV station	PSEG (95.85%) / RE (4.15%)
<u>b3868.1</u>	<u>Cut existing Carlstadt to River Road 69 kV line and extend Carlstadt line side to Penhorn 69 kV. Extend the other end of the line by constructing a new portion and connecting it to Kingsland 69 kV switch.</u>	<u>PSEG (100%)</u>
<u>b3868.2</u>	<u>Extend the other end of L-636 to Kingsland switch by constructing new 5.5 miles portion utilizing existing I-2314 Transmission towers from H-A 5/4 to H-A 2/3. New 69kV line to be routed along County Ave pass Secaucus Rd in Secaucus NJ.</u>	<u>PSEG (100%)</u>

Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

<u>b3868.3</u>	<u>Reconfigure former River Road to Carlstadt 69 kV and Tonnelle Ave to Union City 69 kV lines at the intersection Tonnelle Ave and Granton Ave in North Bergen, NJ by connecting Union City to River Road and Tonnelle Ave to Kingsland.</u>		<u>PSEG (100%)</u>
<u>b3869.1</u>	<u>Relocate the Bergen Gen No. 1 point of interconnection from Bergen 138 kV to Bergen 345 kV GIS through the existing 345/138 kV transformer</u>		<u>PSEG (100%)</u>
<u>b3869.2</u>	<u>Remove and retire the two (2) existing Bergen 138 kV series reactors and associated ancillary equipment</u>		<u>PSEG (100%)</u>

SCHEDULE 12 – APPENDIX A

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

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2117 Reconductor 0.33 miles of the Parkersburg - Belpre line and upgrade Parkersburg terminal equipment		APS (100%)
b2118 Add 44 MVAR Cap at New Martinsville		APS (100%)
b2120 Six-Wire Lake Lynn - Lardin 138 kV circuits		APS (100%)
b2142 Replace Weirton 138 kV breaker “Wylie Ridge 210” with 63 kA breaker		APS (100%)
b2143 Replace Weirton 138 kV breaker “Wylie Ridge 216” with 63 kA breaker		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%)
b2214 Albright Substation: Install a new control building in the switchyard and relocate controls and SCADA equipment from the generating station building the new control center		APS (100%)
b2215 Rivesville Switching Station: Relocate controls and SCADA equipment from the generating station building to new control building		APS (100%)

Monongahela Power Company, 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)
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 Island switching station		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 substation conductor and 1200 amp wave trap at Marlowe		APS (100%)
b2268 Reconductor 6.8 miles of 138kV 336 ACSR with 336 ACSS from Double Toll Gate to Riverton		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%)
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 31.7 MVAR capacitor		APS (100%)
b2343 Install a 31.7 MVAR capacitor at West Union 138 kV substation		APS (100%)

Monongahela Power Company, 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)
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%)
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, 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)
b2426	Replace the Oak Grove 138 kV breaker 'OG1' with 63 kA breakers	APS (100%)
b2427	Replace the Oak Grove 138 kV breaker 'OG2' with 63 kA breakers	APS (100%)
b2428	Replace the Oak Grove 138 kV breaker 'OG3' with 63 kA breakers	APS (100%)
b2429	Replace the Oak Grove 138 kV breaker 'OG4' with 63 kA breakers	APS (100%)
b2430	Replace the Oak Grove 138 kV breaker 'OG5' with 63 kA breakers	APS (100%)
b2431	Replace the Oak Grove 138 kV breaker 'OG6' with 63 kA breakers	APS (100%)
b2432	Replace the Ridgeley 138 kV breaker 'RC1' with a 40 kA rated breaker	APS (100%)
b2440	Replace the Cabot 138kV breaker 'C9-KISKI VLY' with 63kA	APS (100%)
b2472	Replace the Ringgold 138 kV breaker 'RCM1' with 40kA breakers	APS (100%)
b2473	Replace the Ringgold 138 kV breaker '#4 XMFR' with 40kA breakers	APS (100%)
b2475	Construct a new line between Oak Mound 138 kV substation and Waldo Run 138 kV substation	APS (100%)
b2545.1	Construct a new 138 kV substation (Shuman Hill substation) connected to the Fairview –Willow Island (84) 138 kV line	APS (100%)

Monongahela Power Company, 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)
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%)
b2546	Install a 51.8 MVAR (rated) 138 kV capacitor at Nyswaner 138 kV substation	APS (100%)
b2547.1	Construct a new 138 kV six breaker ring bus Hillman substation	APS (100%)
b2547.2	Loop Smith- Imperial 138 kV line into the new Hillman substation	APS (100%)
b2547.3	Install +125/-75 MVAR SVC at Hillman substation	APS (100%)
b2547.4	Install two 31.7 MVAR 138 kV capacitors	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%)
b2612.1	Relocate All Dam 6 138 kV line and the 138 kV line to AE units 1&2	APS (100%)
b2612.2	Install 138 kV, 3000A bus-tie breaker in the open bus-tie position next to the Shaffers corner 138 kV line	APS (100%)

Monongahela Power Company, 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)
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%)

Monongahela Power Company, 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)
b2666.12	Replace Yukon 138 kV breaker “Y-2(1B-BETHE)” with an 80 kA breaker		APS (100%)
b2666.13	Replace Yukon 138 kV breaker “Y-21(SHEPJ)” with an 80 kA breaker		APS (100%)
b2666.14	Replace Yukon 138 kV breaker “Y-22(SHEPHJT)” with an 80 kA breaker		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%)
b2689.3	Upgrade terminal equipment at structure 27A		APS (100%)
b2696	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		APS (100%)
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%)

Monongahela Power Company, 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)
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 – Catoclin 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%)

Monongahela Power Company, 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)
b2965	Reconductor the Charleroi – Allenport 138 kV line with 954 ACSR conductor. Replace breaker risers at Charleroi and Allenport		APS (33.72%) / DL (66.28%)
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%)

Monongahela Power Company, 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)
b2970.5	Convert Garfield 138/12.5 kV substation to 230/12.5 kV		APS (100%)
b2996	Construct new Flint Run 500/138 kV substation		See sub-IDs for cost allocations
b2996.1	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 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%)
b2996.2	Loop the Belmont – Harrison 500 kV line into and out of the new Flint Run 500 kV substation (less than 1 mile). Replace primary relaying and carrier sets on Belmont and Harrison 500 kV remote end substations		APS (100%)
b2996.3	Upgrade two (2) existing 138 kV breakers (Rider 50 and #1/4 transformer breaker) at Glen Falls with 63 kA 3000A units		APS (100%)

Monongahela Power Company, 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)
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 reconducted 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 (60.47%) / DL (39.53%)
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 (8.19%) / DL (91.81%)

Monongahela Power Company, 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)
b3011.3	Upgrade terminal equipment at Yukon to increase rating on Yukon to Route 51 #1 138 kV line		DL (100%)
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 (8.19%) / DL (91.81%)
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 reconducted portion. Install a new line terminal at APS Route 51 substation		DL (100%)

Monongahela Power Company, 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)
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%)
b3028	Upgrade substation disconnect leads at William 138 kV substation		APS (100%)
b3051.1	Ronceverte cap bank and terminal upgrades		APS (100%)
b3052	Install a 138 kV capacitor (29.7 MVAR effective) at West Winchester 138 kV		APS (100%)
b3064.3	Upgrade line relaying at Piney Fork and Bethel Park for Piney For – Elrama 138 kV line and Bethel Park – Elrama 138 kV		APS (100%)

Monongahela Power Company, 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)
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%)
b3079	Replace the Wylie Ridge 500/345 kV transformer #7		ATSI (72.30%) / DL (27.70%)
b3083	Reconductor the 138 kV bus at Butler and reconductor the 138 kV bus and replace line trap at Karns City		APS (100%)

Monongahela Power Company, 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)
b3128	Relocate 34.5 kV lines from generating station roof R. Paul Smith 138 kV station		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 (5.95%) / DL (94.05%)
b3214.2	Reconductor the Smithton – Shepler Hill Jct 138 kV Line		APS (8.38%) / DL (91.62%)
b3230	At Enon substation install a second 138 kV, 28.8 MVAR nameplate, capacitor and the associated 138 kV capacitor switcher		APS (100%)
b3240	Upgrade Cherry Run and Morgan terminals to make the transmission line the limiting component		APS (100%)
b3241	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%)
b3242	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%)
b3318	Reconductor the Shanor Manor - Butler 138 kV line with an upgraded circuit breaker at Butler 138 kV station		APS (100%)
b3325	Reconductor the Charleroi - Union 138 kV line and upgrade terminal equipment at Charleroi 138 kV station		APS (100%)

Monongahela Power Company, 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)
b3681	Upgrade the Shingletown #82 230/46 kV Transformer circuit by installing a 230 kV breaker and disconnect switches, removing existing 230 kV switches, replacing 46 kV disconnect switches, replacing limiting substation conductor, and installing/replacing relays		APS (100%)
b3683	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%)
b3701	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%)
b3717.1	Install a series reactor on Cheswick - Springdale 138 kV line		APS (23.19%) / DL (76.81%)
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 – Bridgeport 138 kV line		APS (100%)
b3741	Replace limiting terminal equipment on Yukon - Charleroi #1 138 kV line		APS (100%)

Monongahela Power Company, 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)
b3742	Replace limiting terminal equipment on Yukon - Charleroi #2 138 kV line		APS (100%)
b3743	At Bedington substation: Replace substation conductor, wave trap, Current Transformers (CT's) and upgrade relaying At Cherry Run substation: Replace substation conductor, 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%)
b3744	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) 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 and Shanor Manor substations		APS (100%)
b3745	Install redundant relaying at Carbon Center 230 kV substation		APS (100%)
b3746	Install redundant relaying at Meadow Brook 500 kV substation		APS (100%)
b3747	Install redundant relaying at Bedington 500 kV substation		APS (100%)

Monongahela Power Company, 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)
b3761	Install 138 kV breaker on the Ridgway 138/46 kV #2 Transformer		APS (100%)
b3772	Reconductor 27.3 miles of the Messick Road – Morgan 138 kV line from 556 ACSR to 954 ACSR. At Messick Road substation, replace 138 kV wave trap, circuit breaker, CT's, disconnect switch, and substation conductor and upgrade relaying. At Morgan substation, upgrade relaying		APS (100%)
b3773	Install 33 MVAR switched capacitor, 138 kV breaker, and associated relaying at McConnellsburg 138 kV substation		APS (100%)
b3782	Adjust relay settings at Riverton substation on the Riverton-Bethel Tap 138 kV line		APS (100%)

Monongahela Power Company, 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)
b3796.0	Replace the Belmont 765/500 kV transformer No. 5 with a new transformer bank consisting of three single-phase transformers and an additional single phase spare transformer. The project will also replace 500 kV disconnect switches at the Belmont substation	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: AEP (0.28%) / APS (0.15%) / Dayton (0.10%) / DEOK (0.18%) / DL (6.57%) / Dominion (92.68%) / EKPC (0.04%)</p>

*Neptune Regional Transmission System, LLC

Monongahela Power Company, 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)
b3800.128	Construct new Woodside – Goose Creek 500 kV line for approximately 15 miles on single circuit monopole structures within the Doubs – Goose Creek Corridor. (FE Portion)	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPSCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (9.26%) / BGE (7.30%) / Dominion (72.31%) / PEPSCO (11.13%)</p>
b3800.129	Construct 500 kV line from existing structure MVF1-101 on the Doubs – Millville 138 kV line around Doubs substation and into the entrance of the Doubs – Goose Creek corridor. (Approximately 2 miles)	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPSCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (9.26%) / BGE (7.30%) / Dominion (72.31%) / PEPSCO (11.13%)</p>

*Neptune Regional Transmission System, LLC

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

<u>Required Transmission Enhancements</u>	<u>Annual Revenue Requirement</u>	<u>Responsible Customer(s)</u>
<u>b4000.11</u>	<u>Expand Black Oak Substation to accommodate the connection of the 502 Jct-Woodside 500 kV line and loop the 502 Jct-Woodside 500 kV line into the Black Oak substation by constructing ~0.85 miles of new 500 kV line into and out of Black Oak 500 kV substation</u>	<p><u>Load-Ratio Share Allocation:</u> <u>AEC (1.58%) / AEP (13.71%) /</u> <u>APS (5.49%) / ATSI (7.69%) /</u> <u>BGE (4.16%) / ComEd (13.25%) /</u> <u>Dayton (2.07%) / DEOK (3.18%) /</u> <u>DL (1.65%) / DPL (2.57%) /</u> <u>Dominion (14.20%) / EKPC</u> <u>(2.30%) / JCPL (3.80%) / ME</u> <u>(1.88%) / NEPTUNE* (0.42%) /</u> <u>OVEC (0.06%) / PECO (5.32%) /</u> <u>PENELEC (1.81%) / PEPCO</u> <u>(3.79%) / PPL (4.58%) / PSEG</u> <u>(6.24%) / RE (0.25%)</u></p> <hr/> <p><u>DFAX Allocation:</u> <u>APS (8.93%) / BGE (13.63%) /</u> <u>Dominion (61.66%) / PEPCO</u> <u>(15.78%)</u></p>

*Neptune Regional Transmission System, LLC

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

<u>Required Transmission Enhancements</u>	<u>Annual Revenue Requirement</u>	<u>Responsible Customer(s)</u>
<u>b4000.12</u> <u>Upgrade the terminal equipment on the Doubs No. 1 500/230 kV transformer.</u>		<u>APS (74.10%) / PEPCO (25.90%)</u>
<u>b4000.13</u> <u>Terminate the Woodside - Goose Creek 500 kV line into Doubs Substation, creating the Woodside - Doubs #2 500 kV Line.</u> <u>Remove the Chanceford-Doubs and Rocky Point-Doubs line terminations at the Doubs substation and connects the two lines through a 0.6 mile 500 kV bypass line around the Doubs substation</u>		<u>Load-Ratio Share Allocation:</u> <u>AEC (1.58%) / AEP (13.71%) /</u> <u>APS (5.49%) / ATSI (7.69%) /</u> <u>BGE (4.16%) / ComEd (13.25%) /</u> <u>Dayton (2.07%) / DEOK (3.18%) /</u> <u>DL (1.65%) / DPL (2.57%) /</u> <u>Dominion (14.20%) / EKPC</u> <u>(2.30%) / JCPL (3.80%) / ME</u> <u>(1.88%) / NEPTUNE* (0.42%) /</u> <u>OVEC (0.06%) / PECO (5.32%) /</u> <u>PENELEC (1.81%) / PEPCO</u> <u>(3.79%) / PPL (4.58%) / PSEG</u> <u>(6.24%) / RE (0.25%)</u> <u>DFAX Allocation:</u> <u>AEC (0.20%) / APS (0.06%) /</u> <u>BGE (0.71%) / Dominion</u> <u>(89.06%) / DPL (0.36%) / JCPL</u> <u>(0.33%) / ME (0.15%) /</u> <u>NEPTUNE* (0.03%) / PECO</u> <u>(0.73%) / PEPCO (7.93%) / PSEG</u> <u>(0.42%) / RE (0.02%)</u>
<u>b4000.110</u> <u>Doubs Sub 500 kV - replace 50 kA breaker DL-59 No. 2CAP with 63 kA</u>		<u>APS (100%)</u>

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SCHEDULE 12 – APPENDIX A

(15) Commonwealth Edison Company and Commonwealth Edison Company of Indiana, Inc.

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b2141.1	Remove Byron SPS upon completion of Byron - Wayne 345 kV		ComEd (100%)
b2365	Replace 138 kV bus tie 1-2 circuit breaker, station conductor, relays, and a wave trap at TSS 55 Hegewisch substation		ComEd (100%)
b2366	Reconductor 1.4 miles of 138 kV line 0112, Kickapoo Creek - LaSalle County 138kV line		ComEd (100%)
b2415	Install a 138 kV Red Blue bus tie with underground cable and a line 15913 CB at Highland Park		ComEd (100%)
b2416	Reconductor 0.125 miles of the East Frankfort - Mokena 138 kV line L6604		ComEd (100%)
b2417	Replace Ridgeland 138 kV bus tie CB and underground cable at TSS 192 Ridgeland 138 kV substation		ComEd (100%)
b2418	Reconductor 7.5 miles of Waukegan - Gurnee 138 kV line L1607		ComEd (100%)
b2419	Reconductor 0.33 miles of 138 kV underground cable on the Sawyer - Crawford 138 kV Blue line (L1324)		ComEd (100%)
b2465	Replace the Skokie 138 kV breaker '88 L8809' with a 63 kA breaker		ComEd (100%)
b2466	Replace the Skokie 138 kV breaker '88 L8810' with 63kA breaker		ComEd (100%)
b2467	Replace the Skokie 138 kV breaker '88 L11416' with 63 kA breaker		ComEd (100%)

**Commonwealth Edison Company and Commonwealth Edison Company of Indiana, Inc.
(cont.)**

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b2468	Replace the Skokie 138 kV breaker '88 L8803' with 63kA breaker		ComEd (100%)
b2469	Replace the Des Plaines 138 kV breaker '46 11702' with 63 kA breaker		ComEd (100%)
b2561	Install a new 345 kV circuit breaker 5-7 at Elwood substation		ComEd (100%)
b2562	Remove 2.0 miles of wood poles on 138 kV line 17105, erect new steel structures, and install new 1113 kmil ACSR conductor from Roscoe Bert to Harlem		ComEd (100%)
b2613	Replace relays at Mazon substation		ComEd (100%)
b2692.1	Replace station equipment at Nelson, ESS H-471 and Quad Cities		AEC (0.18%) / AEP (18.68%) / APS (5.86%) / ATSI (7.85%) / BGE (3.32%) / ComEd (38.21%) / Dayton (2.76%) / DEOK (4.13%) / DL (2.23%) / Dominion (5.15%) / DPL (1.97%) / EKPC (1.36%) / HTP (0.05%) / JCPL (0.52%) / MetED (0.04%) / Neptune (0.04%) / PECO (1.08%) / PENELEC (1.25%) / PEPCO (3.56%) / PPL (0.45%) / PSEG (1.17%) / RECO (0.14%)

**Commonwealth Edison Company and Commonwealth Edison Company of Indiana, Inc.
(cont.)**

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2692.2	Upgrade conductor ratings of Cordova – Nelson, Quad Cities – ESS H-471 and ESS H-471 – Nelson 345 kV lines and mitigating sag limitations	AEC (0.18%) / AEP (18.68%) / APS (5.86%) / ATSI (7.85%) / BGE (3.32%) / ComEd (38.21%) / Dayton (2.76%) / DEOK (4.13%) / DL (2.23%) / Dominion (5.15%) / DPL (1.97%) / EKPC (1.36%) / HTP (0.05%) / JCPL (0.52%) / MetED (0.04%) / Neptune (0.04%) / PECO (1.08%) / PENELEC (1.25%) / PEPCO (3.56%) / PPL (0.45%) / PSEG (1.17%) / RECO (0.14%)
b2693	Replace L7815 B phase line trap at Wayne substation	ComEd (100%)
b2699.1	Replace 5 Powerton 345 kV CB's with 2 cycle IPO breakers, install one new 345 kV CB; swap line 0302 and line 0303 bus positions; reconfigure Powerton 345 kV bus as single ring configuration	ComEd (100%)
b2699.2	Remove SPS logic at Powerton that trips generators or sectionalizes bus under normal conditions; minimal SPS logic will remain	ComEd (100%)
b2721	Goodings Grove – Balance Station Load (swap bus positions for 345 kV lines 1312 & 11620 and 345 kV lines 11604 & 11622) and replace 138 kV bus tie 2-3	ComEd (100%)

**Commonwealth Edison Company and Commonwealth Edison Company of Indiana, Inc.
(cont.)**

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b2728	Mitigate sag limitations on Loretto – Wilton Center 345 kV Line and replace station conductor at Wilton Center		ATSI (3.43%) / AEP (3.34%) / ComEd (92.02%) / DLCO (1.21%)
b2732.1	Cut-in of line 93505 Tazewell – Kendall 345 kV line into Dresden		ComEd (100%)
b2732.2	Raise towers to remove the sag limitations on Pontiac – Loretto 345 kV line		ComEd (100%)
b2751	Rebuild/Resag the H440 - H440 Tap 138 kV line 16914-2 (Hays Road - SW 1403 138 kV)		ComEd (100%)
b2930	Upgrade capacity on E. Frankfort – University Park 345 kV		ComEd (100%)
b2931	Upgrade substation equipment at Pontiac Midpoint station to increase capacity on Pontiac – Brokaw 345 kV line		ComEd (100%)
b2941	Build an indoor new Elk Grove 138 kV GIS substation at the point where Rolling Meadows & Schaumburg tap off from the main lines, between Landmeier and Busse. The four 345 kV circuits in the ROW will be diverted into Gas Insulated Bus (GIB) and go through the basement of the building to provide clearance for the above ground portion of the building		ComEd (100%)
b2959	Install a new 138 kV circuit 18702 from Schauff Road to Rock Falls and install a fourth breaker and a half run at Schauff Road		ComEd (100%)

**Commonwealth Edison Company and Commonwealth Edison Company of Indiana, Inc.
(cont.)**

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b2995	Remove Davis Creek RAS		ComEd (100%)
b2997	Remove University Park North RAS		ComEd (100%)
b2998	Install a 120 MVAR 345 kV shunt inductor at Powerton (the 345 kV yard already contains an empty bus position on the ring we only need a switching breaker for the inductor)		ComEd (100%)
b2999	Rebuild the 12.36 mile Schauff Road to Nelson tap 138 kV line L15508		ComEd (100%)
b3049	Replace 345 kV breaker at Joliet substation		ComEd (100%)
b3111	Install high-speed backup clearing scheme on the E. Frankfort – Matteson 138 kV line (L6603)		ComEd (100%)
b3147	Modify 138 kV blue bus total clearing times at TSS 111 Electric Junction to eleven (11) cycles for fault on 345/138 kV Transformer 81, and to thirteen (13) cycles for faults on 138 kV Line #11106, 138 kV Line #11102 and 345/138 kV Transformer 82		ComEd (100%)
b3317	Modify backup relay clearing times at the 138 kV STA16 Waukegan station		ComEd (100%)
b3677	Rebuild a 13 mile section of 138 kV line between LaSalle and Mazon stations with 1113 ACSR or higher rated conductor		ComEd (100%)
b3711	Install 345 kV bus tie 5-20 circuit breaker in the ring at Dresden station in series with existing bus tie 5-6		ComEd (100%)

**Commonwealth Edison Company and Commonwealth Edison Company of Indiana, Inc.
(cont.)**

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3760	At Powerton substation, replace most limiting facility 800A wave trap with 2000A wave trap on the Powerton – Towerline 138 kV line terminal	AEC (0.93%) / AEP (13.17%) / APS (5.41%) / ATSI (6.91%) / BGE (3.21%) / Dayton (1.80%) / DEOK (2.68%) / DL (1.38%) / Dominion (10.80%) / DPL (1.92%) / ECP (0.14%) / EKPC (1.40%) / HTP (0.12%) / JCPL (2.22%) / ME (1.68%) / Neptune (0.50%) / OVEC (0.02%) / PECO (4.06%) / PENELEC (2.17%) / PEPCO (3.37%) / PPL (3.41%) / PSEG (4.18%) / RE (0.14%) / MISO (28.38%)
b3775.3	Rebuild ComEd’s section of 345 kV double circuit in IL from St. John to Crete (5 miles) with twin bundled 1277 ACAR conductor	<p>Reliability Driver: ComEd (62.41%) / Dayton (37.59%)</p> <p>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 (3.91%) / PPL (3.64%) / PSEG (3.93%) / RE (0.14%)</p>

*Neptune Regional Transmission System, LLC

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

***Hudson Transmission Partners, LLC

**Commonwealth Edison Company and Commonwealth Edison Company of Indiana, Inc.
(cont.)**

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3775.4	Rebuild 12.7 miles of 345 kV double circuit extending from Crete to E. Frankfort with twin bundled 1277 ACAR conductor	<p>Reliability Driver: ComEd (100%)</p> <p>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 (3.91%) / PPL (3.64%) / PSEG (3.93%) / RE (0.14%)</p>
b3775.5	Replace E. Frankfort 345 kV circuit breaker “9-14” with 3150A SF6 circuit breaker	<p>Reliability Driver: ComEd (100%)</p> <p>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 (3.91%) / PPL (3.64%) / PSEG (3.93%) / RE (0.14%)</p>

*Neptune Regional Transmission System, LLC

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

***Hudson Transmission Partners, LLC

**Commonwealth Edison Company and Commonwealth Edison Company of Indiana, Inc.
(cont.)**

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b3810.0	Add three 345 kV circuit breakers to Cherry Valley substation		ComEd (100%)
b3811.1	Expand Haumesser Road 138 kV substation as a 4 circuit breaker ring bus		ComEd (100%)
b3811.2	Add one 138 kV circuit breaker at H-452 to complete a three circuit breaker ring bus		ComEd (100%)
b3811.3	Rebuild 3 miles of 138 kV Line 11323 from Haumesser Road to the H-452 tap with double circuit towers. Cut the H-452 tap over to the 2nd circuit from Haumesser Road. Both circuits to use twisted pair 556 ACSR Parakeet conductor		ComEd (100%)
b3812.1	Reconductor 345 kV Line 11620 and 11622 from Elwood to Goodings Grove		Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) <hr/> DFAX Allocation: ComEd (100%)

*Neptune Regional Transmission System, LLC

**Commonwealth Edison Company and Commonwealth Edison Company of Indiana, Inc.
(cont.)**

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3812.2	Upgrade Goodings Grove 345 kV circuit breakers, disconnects, and associated equipment	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: ComEd (100%)</p>
b3812.3	Upgrade station conductor at Elwood 345 kV	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: ComEd (100%)</p>

*Neptune Regional Transmission System, LLC

**Commonwealth Edison Company and Commonwealth Edison Company of Indiana, Inc.
(cont.)**

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3812.4	Adjust reclosing cycle on for Goodings Grove 345 kV circuit breaker '116 9806' to eliminate the reclosing de-rating	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) <hr/> DFAX Allocation: ComEd (100%)
<u>b3900.1</u>	<u>Replace 300 copper conductor with 1113 kcmil ACSR conductor on Kewanee 138 kV Bus No. 1</u>	<u>ComEd (100%)</u>
<u>b3901.1</u>	<u>Reconductor 138 kV line from Electric Junction to W541</u>	<u>ComEd (100%)</u>
<u>b3901.2</u>	<u>Replace 2" tubular bus, 2-500 KCMIL Cu and 1113 KCMIL ACSR/AA on bus 2 and line terminal of 138 kV L11106 at TSS 111 Electric Junction with bus that meets or exceeds a minimum thermal capability of 2036/2236/2690A (487/534/643 MVA) SN/SE/SLD</u>	<u>ComEd (100%)</u>
<u>b3902.1</u>	<u>Replace the Wilton Center 345 kV BT 4-5 circuit breaker</u>	<u>ComEd (100%)</u>

*Neptune Regional Transmission System, LLC

Commonwealth Edison Company and Commonwealth Edison Company of Indiana, Inc.
(cont.)

<u>Required Transmission Enhancements</u>	<u>Annual Revenue Requirement</u>	<u>Responsible Customer(s)</u>
<u>b3903.1</u> <u>Replace the Kewanee 138 kV</u> <u>kV L7411 circuit breaker with</u> <u>a SF6 63 kA circuit breaker</u>		<u>ComEd (100%)</u>
<u>b3914.1</u> <u>Change No-load Tap of 2</u> <u>Autotransformers at Fisk from</u> <u>338.25 kV to 346.5 kV</u>		<u>ComEd (100%)</u>
<u>b3914.2</u> <u>Change No-load Tap of 4</u> <u>Autotransformers at Crawford</u> <u>from 338.25 kV to 346.5 kV</u>		<u>ComEd (100%)</u>
<u>b3914.3</u> <u>Change No-load Tap of 3</u> <u>Autotransformers at Elmhurst</u> <u>from 338.25 kV to 346.5 kV</u>		<u>ComEd (100%)</u>
<u>b3914.4</u> <u>Change No-load Tap of 2</u> <u>Autotransformers at West</u> <u>Loop from 338.25 kV to 346.5</u> <u>kV</u>		<u>ComEd (100%)</u>
<u>b3914.5</u> <u>Change No-load Tap of 2</u> <u>Autotransformers at Taylor</u> <u>from 338.25 kV to 346.5 kV</u>		<u>ComEd (100%)</u>
<u>b3914.6</u> <u>Change No-load Tap of 4</u> <u>Autotransformers at Skokie</u> <u>from 338.25 kV to 346.5 kV</u>		<u>ComEd (100%)</u>

Commonwealth Edison Company and Commonwealth Edison Company of Indiana, Inc.
(cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3915.1	<u>Reconductor 1.5 miles of 345 kV lines 1202 and 1227 from Dresden to Mulberry with two conductor bundled 1033.5 ACSS conductor. Modify and replace towers as necessary to accommodate the higher mechanical loads of the bundled conductor</u>	<p><u>Load-Ratio Share Allocation:</u> <u>AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</u></p> <hr/> <p><u>DFAX Allocation:</u> <u>ComEd (100%)</u></p>
b3915.2	<u>Install 345 kV circuit breaker on line 1202 (Dresden-Mulberry 345 kV) and upgrade disconnects and associated equipment at Dresden 345 kV substation</u>	<p><u>Load-Ratio Share Allocation:</u> <u>AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</u></p> <hr/> <p><u>DFAX Allocation:</u> <u>ComEd (100%)</u></p>

*Neptune Regional Transmission System, LLC

**Commonwealth Edison Company and Commonwealth Edison Company of Indiana, Inc.
(cont.)**

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
<u>b3915.3</u>	<u>Upgrade disconnects and associated equipment at Mulberry 345 kV substation</u>	<p><u>Load-Ratio Share Allocation:</u> <u>AEC (1.58%) / AEP (13.71%) /</u> <u>APS (5.49%) / ATSI (7.69%) /</u> <u>BGE (4.16%) / ComEd</u> <u>(13.25%) / Dayton (2.07%) /</u> <u>DEOK (3.18%) / DL (1.65%) /</u> <u>DPL (2.57%) / Dominion</u> <u>(14.20%) / EKPC (2.30%) /</u> <u>JCPL (3.80%) / ME (1.88%) /</u> <u>NEPTUNE* (0.42%) / OVEC</u> <u>(0.06%) / PECO (5.32%) /</u> <u>PENELEC (1.81%) / PEPCO</u> <u>(3.79%) / PPL (4.58%) / PSEG</u> <u>(6.24%) / RE (0.25%)</u></p> <hr/> <p><u>DFAX Allocation:</u> <u>ComEd (100%)</u></p>
<u>b3916.1</u>	<u>Install a new 420 MVA 345/138 kV autotransformer and associated 345 kV and 138 kV circuit breakers at Itasca substation</u>	<u>ComEd (100%)</u>

*Neptune Regional Transmission System, LLC

SCHEDULE 12 – APPENDIX A

(16) The Dayton Power and Light Company

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2540	Increase rating of Shelby-E. Sidney-Quincy-Logan 138 kV line to 224 MVA by replace/raise three pole swing out structure; push/pull/retension conductors on two spans; lower eight spans of single phase	Dayton (100%)
b2541	As needed in PJM Operations connect two 30 MVAR mobile shunts to Eldean and Sidney 69 kV buses; Block LTCs for Eldean 138/69 kV and Sidney 138/69 kV transformers after loss of Shelby-Sidney 138 kV line	Dayton (100%)
b2879.1	Replace wavetrap at the Stuart 345 kV substation	Dayton (100%)
b3108.1	Install 100 MVAR reactor at Miami 138 kV substation	Dayton (100%)
b3108.2	Install 100 MVAR reactor at Sugarcreek 138 kV substation	Dayton (100%)
b3108.3	Install 100 MVAR reactor at Hutchings 138 kV substation	Dayton (100%)

The Dayton Power and Light Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3133	Move the existing Botkins 69 kV capacitor from the Sidney - Botkins side of the existing breaker at Botkins to the Botkins - Jackson center side. This will keep the capacitor in-service for the loss of Sidney - Botkins. This reduces the voltage drop to less than 3% and also resolves the overload on the Blue Jacket Tap - Huntsville 69 kV line	Dayton (100%)
b3316	Replace 138 kV 40 kA breaker GJ-138C with a 63 kA breaker at Greene substation	Dayton (100%)
b3341.1	Install two 69 kV 16.6 MVAR cap banks; Install five 69 kV circuit breakers at the Marysville substation; Upgrade station relaying; Replace 600 A wave trap on the Marysville - Kings Creek 69 kV (6660) circuit	Dayton (100%)
b3341.2	Upgrade remote end relaying at Darby 69 kV substation	Dayton (100%)
b3341.3	Upgrade remote end relaying at Kings Creek 69 kV substation	Dayton (100%)

The Dayton Power and Light Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3766.4	New Westville – AEP Hodgin 138 kV line: Construct a 138 kV 1.86 miles single circuit transmission line. This transmission line will help loop the radial load served at New Westville as part of the overall effort to improve reliability in this area. Also, it provides a source to feed New Westville load while the 138 kV tie is built back into the AES Ohio system	Dayton (100%)
b3766.5	New Westville – West Manchester 138 kV line: Construct a new approximately 11 miles single circuit 138 kV line from New Westville to the Lewisburg tap off 6656 line. Convert a portion of 6656 West Manchester – Garage Rd 69 kV line between West Manchester - Lewisburg to 138 kV operation (circuit is built to 138 kV). This will utilize part of the line already built to 138 kV and will take the place of the 3302 line that currently feeds New Westville. The 3302 line will be retired as part of this project	Dayton (100%)

The Dayton Power and Light Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3766.6 West Manchester substation: The West Manchester Substation will be expanded to a double bus double breaker design where AES Ohio will install one 138 kV circuit breaker, a 138/69 kV transformer, and eight new 69 kV circuit breakers. These upgrades will help improve a non-standard bus arrangement where there is only one bus tie today and will improve the switching arrangement for the West Sonora Delivery Point		Dayton (100%)
<u>b3904.1</u> <u>Rebuild and reconductor 7.7 miles of 69 kV line with standard 1351 AAC conductor from Rockford substation to the POI</u>		<u>Dayton (100%)</u>
<u>b3918.1</u> <u>Add one additional breaker, a 2nd 138/69 kV transformer, replace five 69 kV breakers and four 138 kV breakers</u>		<u>Dayton (100%)</u>

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 Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: AEP (0.01%) / APS (39.54%) / BGE (26.64%) / PEPCO (33.81%)</p>

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Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1797.1	Reconductor the AEP portion of the Cloverdale - Lexington 500 kV line with 2-1780 ACSS	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: AEP (0.02%) / APS (18.21%) / BGE (13.33%) / Dayton (0.01%) / DEOK (0.03%) / Dominion (51.47%) / EKPC (0.02%) / PEPCO (16.91%)</p>
b2055	Upgrade relay at Brues station	AEP (100%)
b2122.3	Upgrade terminal equipment at Howard on 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 kV line	AEP (100%)
b2229	Install a 300 MVAR reactor at Dequine 345 kV	AEP (100%)

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Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2230	Replace existing 150 MVAR reactor at Amos 765 kV substation on Amos - N. Proctorville - Hanging Rock with 300 MVAR reactor	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: AEP (100%)</p>
b2231	Install 765 kV reactor breaker at Dumont 765 kV substation on the Dumont - Wilton Center line	AEP (100%)
b2232	Install 765 kV reactor breaker at Marysville 765 kV substation on the Marysville - Maliszewski line	AEP (100%)
b2233	Change transformer tap settings for the Baker 765/345 kV transformer	AEP (100%)
b2252	Loop the North Muskingum - Crooksville 138 kV line into AEP's Philo 138 kV station which lies approximately 0.4 miles from the line	AEP (100%)

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Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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

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Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

b2286	Rebuild 4.7 miles of Muskingum River - Wolf Creek 138 kV line and remove the 138/138 kV transformer at Wolf Creek Station		AEP (100%)
b2287	Loop in the Meadow Lake - Olive 345 kV circuit into Reynolds 765/345 kV station		AEP (100%)

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Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

b2344.1	Establish a new 138/12 kV station, transfer and consolidate load from its Nicholasville and Marcellus 34.5 kV stations at this new station		AEP (100%)
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%)
b2344.3	From this station, construct a new 138 kV line (~1.95 miles) to REA’s Marcellus station		AEP (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 Nicholasville 34.5/12 kV stations and also the Marcellus – Valley 34.5 kV line		AEP (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 tap switch to 69 kV (~12 miles)		AEP (100%)

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Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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

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

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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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
			DFAX Allocation: AEP (100%)

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Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

b2444	Willow - Eureka 138 kV line: Reconductor 0.26 mile of 4/0 CU with 336 ACSS		AEP (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%)
b2462	Add two 138 kV circuit breakers at Fremont station to fix tower contingency '408_2'		AEP (100%)
b2501	Construct a new 138/69 kV Yager station by tapping 2-138 kV FE circuits (Nottingham-Cloverdale, Nottingham-Harmon)		AEP (100%)
b2501.2	Build a new 138 kV line from new Yager station to Azalea station		AEP (100%)
b2501.3	Close the 138 kV loop back into Yager 138 kV by converting part of local 69 kV facilities to 138 kV		AEP (100%)
b2501.4	Build 2 new 69 kV exits to reinforce 69 kV facilities and upgrade conductor between Irish Run 69 kV Switch and Bowerstown 69 kV Switch		AEP (100%)

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Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2502.1	Construct new 138 kV switching station Nottingham tapping 6-138 kV FE circuits (Holloway-Brookside, Holloway-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 138 kV	AEP (100%)
b2502.3	Rebuild/convert Freebyrd-South Cadiz 69 kV circuit to 138 kV	AEP (100%)
b2502.4	Upgrade South Cadiz to 138 kV breaker and a half	AEP (100%)
b2530	Replace the Sporn 138 kV breaker 'G1' with 80 kA breaker	AEP (100%)
b2531	Replace the Sporn 138 kV breaker 'D' with 80 kA breaker	AEP (100%)
b2532	Replace the Sporn 138 kV breaker 'O1' with 80 kA breaker	AEP (100%)
b2533	Replace the Sporn 138 kV breaker 'P2' with 80 kA breaker	AEP (100%)
b2534	Replace the Sporn 138 kV breaker 'U' with 80 kA breaker	AEP (100%)
b2535	Replace the Sporn 138 kV breaker 'O' with 80 kA breaker	AEP (100%)

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Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

b2536	Replace the Sporn 138 kV breaker 'O2' with 80 kA breaker		AEP (100%)
b2537	Replace the Robinson Park 138 kV breakers A1, A2, B1, B2, C1, C2, D1, D2, E1, E2, and F1 with 63 kA breakers		AEP (100%)
b2555	Reconductor 0.5 miles Tiltonsville – Windsor 138 kV and string the vacant side of the 4.5 mile section using 556 ACSR in a six wire configuration		AEP (100%)
b2556	Install two 138 kV prop structures to increase the maximum operating temperature of the Clinch River- Clinch Field 138 kV line		AEP (100%)
b2581	Temporary operating 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%)

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Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

b2591	Construct 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%)
b2592	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%)
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%)
b2594	Rebuild 1.0 mile of Brantley – Bridge Street 69 kV Line with 1033 ACSR overhead conductor		AEP (100%)
b2595.1	Rebuild 7.82 mile Elkhorn City – Haysi S.S 69 kV line utilizing 1033 ACSR built to 138 kV standards		AEP (100%)
b2595.2	Rebuild 5.18 mile Moss – Haysi SS 69 kV line utilizing 1033 ACSR built to 138 kV standards		AEP (100%)
b2596	Move load from the 34.5 kV bus to the 138 kV bus by installing a new 138/12 kV XF at New Carlisle station in Indiana		AEP (100%)

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Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2597	Rebuild approximately 1 mi. section of Dragoon-Virgil Street 34.5 kV line between Dragoon and Dodge Tap switch and replace Dodge switch MOAB to increase thermal capability of Dragoon-Dodge Tap branch	AEP (100%)
b2598	Rebuild approximately 1 mile section of the Kline-Virgil Street 34.5 kV line between Kline and Virgil Street tap. Replace MOAB switches at Beiger, risers at Kline, switches and bus at Virgil Street	AEP (100%)
b2599	Rebuild approximately 0.1 miles of 69 kV line between Albion and Albion tap	AEP (100%)
b2600	Rebuild Fremont – Pound line as 138 kV	AEP (100%)
b2601	Fremont Station 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%)
b2601.4	Re-use Breaker A as high side protection on transformer #1	AEP (100%)

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Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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

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.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2604.1	Remove approximately 11.32 miles of the 69 kV line between Millbrook Park and Franklin Furnace	AEP (100%)
b2604.2	At Millbrook Park station, add a new 138/69 kV Transformer #2 (90 MVA) with 3000 A 40 kA breakers 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%)
b2604.3	Replace Sciotoville 69 kV station with a new 138/12 kV in-out station (Cottrell) with 2000 A line MOABs facing Millbrook Park and East Wheelersburg 138 kV station	AEP (100%)
b2604.4	Tie Cottrell switch into the Millbrook Park – East Wheelersburg 138 kV circuit by constructing 0.50 mile of line using 795 ACSR 26/7 Drake (SE 359 MVA)	AEP (100%)
b2604.5	Install a new 2000 A 3-way 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%)

AEP Service Corporation on behalf of its Affiliate Companies: AEP Appalachian Transmission Company, Inc.; 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.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2604.7	Build approximately 1.4 miles of new 138 kV line using 795 ACSR 26/7 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 Hayport Road switch	AEP (100%)
b2604.9	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 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%)
b2604.10	Build a new station (Althea) 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	AEP (100%)

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Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2605	Rebuild and reconductor Kammer – George Washington 69 kV circuit and George Washington – Moundsville ckt #1, designed for 138 kV. Upgrade limiting equipment at remote ends and at tap stations	AEP (100%)
b2606	Convert Bane – Hammondsville from 23 kV to 69 kV operation	AEP (100%)
b2607	Pine Gap Relay Limit Increase	AEP (100%)
b2608	Richlands Relay Upgrade	AEP (100%)
b2609	Thorofare – Goff Run – Powell Mountain 138 kV Build	AEP (100%)
b2610	Rebuild Pax Branch – Scaraboro as 138 kV	AEP (100%)
b2611	Skin Fork Area Improvements	AEP (100%)
b2611.1	New 138/46 kV station near Skin Fork and other components	AEP (100%)
b2611.2	Construct 3.2 miles of 1033 ACSR double circuit from new Station to cut into Sundial-Baileysville 138 kV line	AEP (100%)
b2634.1	Replace metering BCT on Tanners Creek CB T2 with a 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%)

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Required Transmission Enhancements Annual Revenue 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 (100%)
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%)

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Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2687.1	Install a +/- 450 MVAR SVC at Jacksons Ferry 765 kV substation	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: AEP (100%)</p>

*Neptune Regional Transmission System, LLC

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 (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2687.2	Install a 300 MVAR shunt line reactor on the Broadford end of the Broadford – Jacksons Ferry 765 kV line	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: AEP (100%)</p>
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%)
b2697.2	Replace terminal equipment at AEP's Danville and East Danville substations to 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)

b2698	Replace relays at AEP's Cloverdale and Jackson's Ferry substations to improve the thermal capacity of Cloverdale – Jackson's Ferry 765 kV line		AEP (100%)
b2701.1	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%)
b2701.2	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%)
b2701.3	Install 1-138 kV CB at Blue Racer to terminate new Herlan circuit		AEP (100%)
b2714	Rebuild/upgrade line between Glencoe and Willow Grove Switch 69 kV		AEP (100%)
b2715	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%)
b2727	Replace the South Canton 138 kV breakers 'K', 'J', 'J1', and 'J2' with 80 kA breakers		AEP (100%)

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Required Transmission Enhancements 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%)
b2733	Replace South Canton 138 kV breakers ‘L’ and ‘L2’ with 80 kA rated breakers		AEP (100%)
b2750.1	Retire Betsy Layne 138/69/43 kV station and replace it with the greenfield Stanville station about a half mile north of the existing Betsy Layne station		AEP (100%)
b2750.2	Relocate the Betsy Layne capacitor bank to the Stanville 69 kV bus and increase the size to 14.4 MVAR		AEP (100%)
b2753.1	Replace existing George Washington station 138 kV yard with GIS 138 kV breaker and a half yard in existing station footprint. Install 138 kV revenue metering for new IPP connection		AEP (100%)
b2753.2	Replace Dilles Bottom 69/4 kV Distribution station as breaker and a half 138 kV yard design including AEP Distribution facilities but initial configuration will constitute a 3 breaker ring bus		AEP (100%)

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Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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%)
b2753.6	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%)
b2753.7	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 – West Bellaire 69 kV circuit		AEP (100%)
b2753.8	Rebuild existing 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 go past with future plans to cut in		AEP (100%)

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Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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 – Wooten 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 (100%)
b2777	Reconductor the entire Dequine – Eugene 345 kV circuit #1		AEP (100%)
b2779.1	Construct a new 138 kV station, Campbell Road, tapping into the Grabill – South Hicksville 138 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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Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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%)

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Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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

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Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b2790	Install a 3 MVAR, 34.5 kV cap bank at Caldwell substation		AEP (100%)
b2791	Rebuild Tiffin – Howard, new transformer at Chatfield		AEP (100%)
b2791.1	Rebuild portions of the East Tiffin - Howard 69 kV line from East Tiffin to West Rockaway Switch (0.8 miles) using 795 ACSR Drake conductor (129 MVA rating, 50% loading)		AEP (100%)
b2791.2	Rebuild Tiffin - Howard 69 kV line from St. Stephen's Switch to Hinesville (14.7 miles) using 795 ACSR Drake conductor (90 MVA rating, non-conductor limited, 38% loading)		AEP (100%)
b2791.3	New 138/69 kV transformer with 138/69 kV protection at Chatfield		AEP (100%)
b2791.4	New 138/69 kV protection at existing Chatfield transformer		AEP (100%)
b2792	Replace the Elliott transformer with a 130 MVA unit, reconductor 0.42 miles 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%)

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Required Transmission 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 Transmission Enhancements	Annual Revenue Requirement	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%)

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

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Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
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 (41.48%) / Dayton (33.23%) / DEOK (25.29%)
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 (81.56%) / Dayton (18.44%)
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%)

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Required Transmission 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%)

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

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Required Transmission Enhancements	Annual 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%)

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

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Required Transmission Enhancements	Annual Revenue Requirement	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 Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b2988	Replace the Twin Branch 345 kV breaker “JM” with 63 kA breaker and associated substation works including switches, bus leads, control cable and new DICM		AEP (100%)
b2993	Rebuild the Torrey – South Gambrinus Switch – 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%)

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Required Transmission Enhancements	Annual 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%)

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

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

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

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

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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%)

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Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(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%)

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

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Required Transmission 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 all 34.5 kV equipment and install one (1) 69 kV circuit breaker for the new Whitley line entrance	AEP (100%)
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 at 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	AEP (100%)
b3151.9	Remove 34.5 kV circuit breaker “AD” at Wallen station	AEP (100%)
b3151.10	Rebuild the 2.5 miles of the Columbia – Gateway 69 kV line	AEP (100%)

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Required Transmission 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%)

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

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Required Transmission Enhancements	Annual Revenue Requirement	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%)

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

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Required Transmission Enhancements	Annual Revenue Requirement	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%)

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Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3269	At West New Philadelphia station, add a high side 138 kV breaker on the 138/69 kV Transformer #2 along with a 138 kV breaker on the line towards Newcomerstown	AEP (100%)
b3270	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 138/34.5 kV transformer at 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%)
b3270.1	Replace Dragoon 34.5 kV breakers “B”, “C”, and “D” with 40 kA breakers	AEP (100%)
b3271	Install a 138 kV circuit breaker at Fremont station on the line towards Fremont Center and install a 9.6 MVAR 69 kV capacitor bank at Bloom Road station	AEP (100%)
b3272	Install two 138 kV circuit switchers on the high side of 138/34.5 kV Transformers #1 and #2 at Rockhill station	AEP (100%)

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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%)

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

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Required Transmission Enhancements	Annual Revenue Requirement	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%)

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Required Transmission 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%)

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Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3282.1	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 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%)
b3282.2	Install a 138 kV 40 kA circuit breaker at North Proctorville station	AEP (100%)
b3282.3	Install a 138 kV 40 kA circuit breaker at East Huntington station	AEP (100%)
b3282.4	Convert the existing 34/12 kV North Chesapeake to a 138/12 kV station	AEP (100%)

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

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

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Required Transmission 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		AEP (100%)

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Required Transmission Enhancements		Annual Revenue Requirement	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%)

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Required Transmission Enhancements	Annual Revenue Requirement	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%)

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Required Transmission Enhancements	Annual Revenue Requirement	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 Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b3345.1	Rebuild approximately 4.2 miles of overloaded sections of the 69 kV line between Salt Fork switch and Leatherwood switch with 556 ACSR		AEP (100%)
b3345.2	Update relay settings at Broom Road station		AEP (100%)
b3346.1	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 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%)
b3346.2	Replace the line entrance spans at South Delphos station to eliminate the overloaded 4/0 Copper and 4/0 ACSR conductor		AEP (100%)
b3347.1	Rebuild approximately 20 miles of 69 kV line between Bancroft and Milton stations with 556 ACSR conductor		AEP (100%)
b3347.2	Replace the jumpers around Hurrican switch with 556 ACSR		AEP (100%)

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

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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%)

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

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

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Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b3736.1	Establish 69 kV bus and new 69 kV line Circuit Breaker at Dorton 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%)

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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%)

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Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3766.1	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 the Hayes – New Westville 138 kV line with the conductor size 795 ACSR26/7 Drake. This sub-ID includes the cost of line construction and Right of Way (ROW)	AEP (100%)
b3766.2	Hayes – Hodgins 138 kV line: Build approximately 0.05 mile of 138 kV line with the conductor size 795 ACSR26/7 Drake. This sub-ID includes the line construction, ROW, and fiber	AEP (100%)
b3766.3	Hayes 138 kV: Build a new 4-138 kV circuit breaker ring bus. This sub-ID includes the cost of new station construction, property purchase, metering, station fiber and the College Corner – Randolph 138 kV line connection	AEP (100%)

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Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3775.6	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)	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 (3.91%) / PPL (3.64%) / PSEG (3.93%) / RE (0.14%)

*Neptune Regional Transmission System, LLC

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

***Hudson Transmission Partners, LLC

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Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
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	Reliability Driver: AEP (12.38%) / Dayton (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 (3.91%) / PPL (3.64%) / PSEG (3.93%) / RE (0.14%)

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Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b3775.10	Perform a sag study on the Olive – University Park 345 kV line to increase the operating temperature to 225 F. Remediation work includes two tower replacements on the line.		Reliability Driver: AEP (100%)
			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 (3.91%) / PPL (3.64%) / PSEG (3.93%) / RE (0.14%)
b3775.11	Upgrade the limiting element at Stillwell substation to increase the rating of the Stillwell – Dumont 345 kV line to match conductor rating		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 (3.91%) / PPL (3.64%) / PSEG (3.93%) / RE (0.14%)

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Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3784.1	Replace 138 kV breaker 5 at Canal Street station with a new 3000A 63 kA breaker	AEP (100%)
b3785.1	Replace existing 3000 A wave trap at Mountaineer 765 kV, on the Belmont - Mountaineer 765 kV line, with a new 5000 A wave trap	AEP (100%)
b3786.1	Rebuild approximately 4.5 miles of 69 kV line between Abert and Reusens 69 kV substations. Update line settings at Reusens and Skimmer 69 kV substations	AEP (100%)
b3787.1	Install a Capacitor Voltage Transformer (CCVT) on 3 phase stand and remove the single phase existing CCVT on the 69 kV Coalton to Bellefonte line exit. The existing CCVT is mounted to lattice on a single phase CCVT stand, which will be replaced with the 3 phase CCVT stand. The line riser between line disconnect and line take off is being replaced. This remote end work changes the most limiting series element (MLSE) of the line section between Coalton - Princess 69 kV line section	AEP (100%)
b3788.1	Replace AEP owned station takeoff riser and breaker BB risers at OVEC owned Kyger Creek station	AEP (100%)

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Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3790.0	Replace the overdutied Olive 345 kV circuit breaker "D" with a 5000A 63 kA circuit breaker. Reuse existing cables and a splice box to support the circuit breaker install	AEP (100%)
b3836.1	Rebuild approximately 1.7 miles of line on the Chemical - Washington Street 46 kV circuit	AEP (100%)
b3837.1	Replace existing 34.5 kV, 25 kA circuit breaker B at West Huntington station with new 69 kV, 40 kA circuit breaker	AEP (100%)
b3838.1	Replace breaker A and B at Timken station with 40 kA breakers	AEP (100%)
b3839.1	Replace 69 kV breaker C at Haviland station with a new 3000A 40 kA breaker	AEP (100%)
b3840.1	Replace Structures 382-66 and 382-63 on Darrah - East Huntington 34.5 kV line to bypass 24th Street station. Retire structures 1 through 5 on Twenty Fourth Street 34.5 kV extension. Retire 24th Street Station. Remove conductors from BASF Tap to BASF	AEP (100%)
b3843.1	Rebuild the underground portion of the Ohio University - West Clark 69 kV line, approximately 0.65 miles	AEP (100%)

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Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3847.1	Add a 765 kV breaker at Baker station for the reactor on the Broadford 765 kV line	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: AEP (70.68%) / EKPC (8.12%) / PEPCO (21.20%)</p>
b3847.2	Add two 765 kV breakers to the reactors at Broadford station on the Baker and Jacksons Ferry 765 kV lines	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: AEP (36.98%) / BGE (9.18%) / Dayton (0.04%) / DEOK (0.10%) / Dominion (40.81%) / EKPC (0.05%) / PEPCO (12.84%)</p>

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Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3847.3	Add a 765 kV breaker to the reactor at Jefferson station on the Greentown 765 kV line	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: AEP (64.50%) / DEOK (27.02%) / EKPC (6.06%) / OVEC (2.42%)</p>

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Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b3851.1	Rebuild Allen – R.P. Mone 345 kV line (18.6 miles)		AEP (0.71%) / Dayton (99.28%) / OVEC (0.01%)
b3851.2	Rebuild R.P. Mone – Maddox Creek 345 kV line (9.4 miles)		AEP (78.50%) / Dayton (21.50%)
b3851.3	Replace 345 kV breakers 'B1' and 'B' at Maddox Creek station		AEP (80.97%) / Dayton (19.03%)
b3851.4	Replace two 345 kV breakers 'M' and 'M2' at East Lima station		AEP (80.97%) / Dayton (19.03%)
b3852.1	Connect and energize a second 765/345 kV bank at Vassell 765 kV station		AEP (88.81%) / Dayton (6.22%) / DEOK (4.89%) / OVEC (0.08%)
b3852.2	Replace 765 kV breaker D at Maliszewski station		<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: AEP (68.04%) / ATSI (9.61%) / Dayton (1.92%) / DL (3.35%) / Dominion (17.06%) / EKPC (0.02%)</p>
<u>b3872.1</u>	<u>Adjust the tertiary tap on the Hartford 138/69/34.5 kV transformer 1 and on Hartford 138/69/12 kV transformer 4 to eliminate the high voltage issues and avoid circulating current</u>		<u>AEP (100%)</u>

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Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

<u>b3873.1</u>	<u>Install 12 MVAR 34.5 kV cap bank at Greenleaf station</u>		<u>AEP (100%)</u>
<u>b3875.1</u>	<u>Reconductor approximately 3.95 miles of ACSR 6/1 Penguin (4/0) on the Firebrick – Jefferson Switch 69 kV line with ACSR 556.6 26/7. Remote end (line setting) would need to be updated at Firebrick and Lick. Replace 600A switches at Jefferson and replace 477 AA 19 substation conductor at Firebrick</u>		<u>AEP (100%)</u>
<u>b3876.1</u>	<u>Install a 69 kV 11.5 MVAR capacitor bank at Richlands station with a circuit switcher</u>		<u>AEP (100%)</u>
<u>b3877.1</u>	<u>Replace station conductor and switches in the 345 kV yard at Beatty that are currently limiting the 345 kV lines to Adkins and Chenoweth</u>		<u>AEP (100%)</u>
<u>b3877.2</u>	<u>Upgrade 345 kV circuit breakers 'A' and 'A1' to 4000A 63 kA breakers at Adkins station along with some station conductor that is currently limiting the 345 kV line to Beatty</u>		<u>AEP (100%)</u>
<u>b3878.1</u>	<u>Upgrade 765 kV circuit breakers 'B' and 'B2' to 5000A 50 kA breakers at Marysville station. In addition, the project will upgrade the existing wavetrap towards Sorenson</u>		<u>AEP (100%)</u>

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Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
<u>b3879.1</u>	<u>Replace line conductor, approximately 0.11 mile of 4/0 ACSR 6/1 conductor with 556.5 26/7 between South Toronto and the South Toronto Tap</u>		<u>AEP (100%)</u>
<u>b3879.2</u>	<u>Upgrade the wave trap, CCVTs, switches, and station conductor at South Toronto station currently limiting the line to South Toronto Tap</u>		<u>AEP (100%)</u>
<u>b3880.1</u>	<u>At Beatty Road substation, install a 69 kV 23 MVAR capacitor bank along with the 69 kV Cap bank breaker</u>		<u>AEP (100%)</u>
<u>b3882.1</u>	<u>Replace 138 kV circuit breaker BB with higher fault current capable counterpart</u>		<u>AEP (100%)</u>
<u>b3883.1</u>	<u>69 kV station equipment, including relays, conductor, and switches, will be replaced at Haviland station in order to address identified overloads on the lines to North Van Wert and Cavett</u>		<u>AEP (100%)</u>
<u>b3884.1</u>	<u>Replace the 69 kV circuit breaker D at Van Wert with a 40 kA breaker</u>		<u>AEP (100%)</u>
<u>b3885.1</u>	<u>Replace 69 kV circuit breakers N and M at Schroyer Avenue station with higher fault current capable counterparts</u>		<u>AEP (100%)</u>

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<u>Required Transmission Enhancements</u>	<u>Annual Revenue Requirement</u>	<u>Responsible Customer(s)</u>
<u>b3886.1</u>	<u>Replace 69 kV circuit breaker 'A' along with disconnect switches at Benwood substation with a 40 kA Circuit Breaker</u>	<u>AEP (100%)</u>
<u>b3887.1</u>	<u>Replace Greentown 138 kV circuit switcher for Transformer No. 5 with a 138 kV 63 kA circuit breaker</u>	<u>AEP (100%)</u>
<u>b3888.1</u>	<u>Preform sag study and complete mitigations on the 138 kV line between East Leipsic and the AE2-072 tap (Lammer) to allow line's conductor to operate to its maximum operating temperature (MOT)</u>	<u>AEP (100%)</u>
<u>b3889.1</u>	<u>Project will replace limiting station equipment at Tiltonsville station to increase the rating on the branch to Windsor</u>	<u>AEP (100%)</u>
<u>b3890.1</u>	<u>Replace station conductor at South Coshocton station currently limiting the branch to Ohio Central</u>	<u>AEP (100%)</u>
<u>b3891.1</u>	<u>Project will perform relay upgrades at Kenny 138 kV to raise the CT & Relay thermal limits that are currently limiting the line to Roberts</u>	<u>AEP (100%)</u>
<u>b3892.1</u>	<u>Replace 69 kV circuit breakers A and S at Mount Vernon station with 40 kA breakers</u>	<u>AEP (100%)</u>

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Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

<u>b3894.1</u>	<u>Replace limiting station conductor at Tidd on the line to Carnegie (FE)</u>		<u>AEP (100%)</u>
<u>b3895.1</u>	<u>Replace existing 138 kV, 40 kA circuit switcher L at Jacksons Ferry Station with new 138 kV, 63 kA circuit breaker</u>		<u>AEP (100%)</u>
<u>b3896.1</u>	<u>Adjust the capacitor bank voltage settings to allow the cap bank to operate as needed under N-1-1 scenarios</u>		<u>AEP (100%)</u>
<u>b3897.1</u>	<u>Replace the 138 kV 40 kA circuit switcher XT8 with a 63 kA circuit breaker</u>		<u>AEP (100%)</u>
<u>b3898.1</u>	<u>Upgrade the CT thermal limit at Buchanan station on the Buchanan - Keen Mountain 138 kV line</u>		<u>AEP (100%)</u>
<u>b3911.1</u>	<u>Rebuild the existing 1.1 mile Canal - Gay 138 kV oil filled pipe-type underground line to address overloads on the existing cable utilizing 5000 MCM XLPE cable</u>		<u>AEP (100%)</u>
<u>b3912.1</u>	<u>Rebuild the existing 2.2-mile Canal-Mound St 138 kV oil filled pipe-type underground line to address overloads on the existing cable utilizing 5000 MCM XLPE cable</u>		<u>AEP (100%)</u>

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Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

<u>b3913.1</u>	<u>Rebuild 138 kV line section between Beatty and White Road stations (approximately 4.5 miles). Update remote end relay settings as needed</u>		<u>AEP (100%)</u>
<u>b3913.2</u>	<u>Rebuild 138 kV line section between White Road and Cyprus stations (approximately 3.34 miles). Update remote end relay settings as needed</u>		<u>AEP (100%)</u>
<u>b3919.1</u>	<u>Reconfigure Maliszewski 765 kV station from 2 breakers to a 6 breaker ring bus. Install a new 765/345 kV transformer. Establish new 345 kV breakeryard with 3 string breaker and a half to include a line exit to Hyatt and a line exit to Corridor. Loop the existing Hyatt – West Millersport 345 kV line into the new established 345 kV yard at the Maliszewski station</u>		<u>AEP (85.10%) / Dayton (9.33%) / DEOK (5.48%) / OVEC (0.09%)</u>
<u>b3919.2</u>	<u>Establish a 0.18 mile double circuit 345 kV line extension to cut the existing Hyatt – West Millersport 345 kV line in and out of Corridor station</u>		<u>AEP (100%)</u>

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Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

<u>b3919.3</u>	<u>Install three new 345 kV breakers at Corridor station in order to accommodate the cut in of the Hyatt - West Millersport 345 kV line</u>		<u>AEP (100%)</u>
<u>b3919.4</u>	<u>Reconductor 10.2 miles of Maliszewski – Corridor 345 kV line</u>		<u>AEP (100%)</u>
<u>b3919.5</u>	<u>Reconductor 4.75 miles of the existing Bokes Creek – Marysville 345 kV circuit. Update the associated relay settings</u>		<u>AEP (100%)</u>
<u>b3919.6</u>	<u>Rebuild 4.4 miles of the existing Marysville – Hyatt 345 kV double circuit line where it extends into Marysville station</u>		<u>AEP (100%)</u>
<u>b3919.7</u>	<u>Upgrade 345 kV breakers K and K1 along with associated switches and conductor to 5000A at Hyatt station</u>		<u>AEP (100%)</u>
<u>b3919.8</u>	<u>Upgrade the relaying and associated equipment at West Millersport station to coordinate with the cut in work to Corridor station</u>		<u>AEP (100%)</u>
<u>b3919.9</u>	<u>Upgrade 3000A 345 kV breaker 'L2' along with associated terminal elements to 5000A at Marysville</u>		<u>AEP (100%)</u>

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Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

<u>b3919.10</u>	<u>Rebuild approximately 19.0 miles of Hyatt – Marysville 345 kV line using 4-bundled 795 ACSR conductor Bold construction (This is an EOL rebuild)</u>		<u>AEP (100%)</u>
<u>b4000.1</u>	<u>Add one 765 kV breaker at Amos Substation to expand the breaker and a half scheme to accommodate the new Amos – Welton Spring 765 kV line</u>		<p><u>Load-Ratio Share Allocation:</u> <u>AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</u></p> <hr/> <p><u>DFAX Allocation:</u> <u>APS (14.67%) / BGE (8.11%) / Dominion (66.09%) / DPL (2.15%) / PEPCO (8.98%)</u></p>

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Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

<u>b4000.200</u>	<u>Broadford 765 kV Upgrade:</u> <u>Replace Jackson's Ferry CB</u> <u>Q2</u>		<p><u>Load-Ratio Share Allocation:</u> <u>AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</u></p> <hr/> <p><u>DFAX Allocation:</u> <u>AEP (21.60%) / APS (12.36%) / BGE (8.28%) / Dominion (46.81%) / PEPCO (10.95%)</u></p>
<u>b4000.201</u>	<u>Smith Mountain 138 kV Upgrade:</u> <u>Replace 795 KCM AAC,</u> <u>37-Str. 795 KCM AAC, 37-</u> <u>Str. PH A B2S1 B2S2 BS1</u> <u>BS2</u>		<u>AEP (100%)</u>
<u>b4000.202</u>	<u>Reconductor 34 miles of</u> <u>Smith Mountain - Redeye</u> <u>138 kV line</u>		<u>AEP (100%)</u>
<u>b4000.203</u>	<u>Reconductor 34 miles of</u> <u>Redeye - Candler's</u> <u>Mountain 138 kV line</u>		<u>AEP (100%)</u>
<u>b4000.204</u>	<u>Reconductor 34 miles of</u> <u>Candler's Mountain -</u> <u>Opossum Creek 138 kV</u> <u>line</u>		<u>AEP (100%)</u>

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Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

<u>b4000.205</u>	<u>Candler's Mountain 138 kV: Replace 1590 KCM AAC, 61-Str. Replace MOAB "Y" SMITH MTN line</u>		<u>AEP (100%)</u>
<u>b4000.206</u>	<u>Opposum Creek 138 kV: Replace Opossum Creek switch</u>		<u>AEP (100%)</u>
<u>b4000.207</u>	<u>Leesville Station Upgrade 138 kV: Replace 795 KCM AAC, 37-Str. IPS Sch. 40 1272 KCM AAC, 61-Str. 1272 KCM AAC, 61-Str. PH A,B,C ALTA VISTA CB-A BUS DISC ALTA VISTA CB-A LINE DISC Wavetrap (1200A) relay thermal Limit 1356 amps</u>		<u>AEP (100%)</u>
<u>b4000.208</u>	<u>Otter 138 kV Station Upgrade: Replace 795 KCM AAC, 37-Str</u>		<u>AEP (100%)</u>
<u>b4000.209</u>	<u>Reconductor 14.4 miles of Altavista - Otter 138 kV line</u>		<u>AEP (100%)</u>
<u>b4000.210</u>	<u>Reconductor 14.4 miles of Otter - Johnson Mountain 138 kV line</u>		<u>AEP (100%)</u>
<u>b4000.211</u>	<u>Reconductor 14.4 miles of Johnson Mountain - New London 138 kV line</u>		<u>AEP (100%)</u>

*Neptune Regional Transmission System, LLC

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

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

<u>b4000.251</u>	<u>Replace the wave trap and upgrade the relay at Cloverdale 765 kV substation</u>		<p><u>Load-Ratio Share Allocation:</u> <u>AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</u></p> <hr/> <p><u>DFAX Allocation:</u> <u>AEP (3.00%) / APS (8.96%) / BGE (6.53%) / Dominion (72.75%) / PEPCO (8.76%)</u></p>
<u>b4000.252</u>	<u>Replace the wave trap and upgrade the relay at Joshua Falls 765 kV substation</u>		<p><u>Load-Ratio Share Allocation:</u> <u>AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</u></p> <hr/> <p><u>DFAX Allocation:</u> <u>AEP (3.00%) / APS (8.96%) / BGE (6.53%) / Dominion (72.75%) / PEPCO (8.76%)</u></p>

*Neptune Regional Transmission System, LLC

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

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

b4000.359	Add (2) 765 kV breakers at Joshua Falls substation. Substation expansion is required to add the additional breakers		<p><u>Load-Ratio Share Allocation:</u> <u>AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</u></p> <hr/> <p><u>DFAX Allocation:</u> <u>APS (9.11%) / BGE (6.49%) / Dominion (75.72%) / PEPCO (8.68%)</u></p>
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*Neptune Regional Transmission System, LLC

SCHEDULE 12 – APPENDIX A

(18) Duquesne Light Company

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2175.1	200 MVAR shunt reactor at Brunot Island 345 kV	DL (100%)
b2175.2	200 MVAR shunt reactor on future Brunot Island – Carson 345 kV circuit	DL (100%)
b2198	Revise the reclosing for the Brunot Island 138 kV breaker 'Z-40 COLLIER'	DL (100%)
b2199	Revise the reclosing for the Brunot Island 138 kV breaker 'Z-41 COLLIER'	DL (100%)
b2200	Revise the reclosing for the Crescent 138 kV breaker 'Z-29 Beaver'	DL (100%)
b2201	Revise the reclosing for the Crescent 138 kV breaker 'Z-82 VALLEY'	DL (100%)
b2202	Revise the reclosing for the Crescent 138 kV breaker 'Z-21 NORTH'	DL (100%)
b2203	Revise the reclosing for the Elrama 138 kV breaker 'Z18-USX CLAI'	DL (100%)
b2204	Revise the reclosing for the Elrama 138 kV breaker 'Z13-WEST MIF'	DL (100%)
b2205	Revise the reclosing for the Elrama 138 kV breaker 'Z15-DRAVOSBU'	DL (100%)
b2206	Revise the reclosing for the Woodville 138 kV breaker 'Z-106 PINEY'	DL (100%)
b2207	Revise the reclosing for the Woodville 138 kV breaker 'Z-64 COLLIER'	DL (100%)
b2208	Revise the reclosing for the Beaver Valley 138 kV breaker 'Z-28 CRESCEN'	DL (100%)

Duquesne Light Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2209	Revise the reclosing for the Cheswick 138 kV breaker Z-51 WILMERD'	DL (100%)
b2280	Replace the USAP 138 kV breaker 'XFMR'	DL (100%)
b2303	Revise the reclosing to the Dravosburg 138 kV breaker 'Z73 West Mifflin' from 5 sec to 15 sec	DL (100%)
b2563	Operate with the Crescent 345/138 kV #3 autotransformer in-service by replacing 8 overdutied 138 kV breakers at Crescent, 3 138 kV breakers at Beaver Valley, install #1 section 345 kV breaker for 331 circuit at Crescent	DL (100%)
b2632	Replace the Oakland 138 kV 'Z-101 Arsenal' breaker	DL (100%)
b2639	Replace the Crescent 138 kV 'NO3 – 4 138' breaker with a 63 kA breaker	DL (100%)
b2640	Replace the Crescent 138 kV 'Z-143 SWCKLY' breaker with a 63 kA breaker	DL (100%)
b2641	Replace the Crescent 138 kV 'Z-24 MONTOUR' breaker with a 63 kA breaker	DL (100%)
b2642	Replace the Crescent 138 kV 'Z-28 BEAVER' breaker with a 63 kA breaker	DL (100%)
b2689.1	Reconductor approximately 7 miles of the Woodville – Peters (Z-117) 138 kV circuit	AEC (0.99%)/ APS (66.14%)/ BGE (4.60%)/ Dominion (8.81%)/ DPL (5.83%)/ ECP** (0.34%)/ HTP*** (0.04%)/ NEPTUNE* (0.12%)/ PECO (3.39%)/ PEPCO (6.29%)/ PSEG (3.45%)

*Neptune Regional Transmission System, LLC

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

***Hudson Transmission Partners, LLC

Duquesne Light Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2689.2 Reconfigure West Mifflin-USS Clairton (Z-15) 138 kV circuit to establish Dravosburg-USS Clairton (Z-14) 138 kV circuit and West Mifflin-Wilson (Z-15) 138 kV circuit		AEC (0.99%)/ APS (66.14%)/ BGE (4.60%)/ Dominion (8.81%)/ DPL (5.83%)/ ECP** (0.34%)/ HTP*** (0.04%)/ NEPTUNE* (0.12%)/ PECO (3.39%)/ PEPCO (6.29%)/ PSEG (3.45%)
b3011.7 Replace the line terminal equipment and line breaker #85 at Dravosburg 138 kV substation in the Elwyn Z-70 line position/bay, with the breaker duty as 63kA		DL (100%)
b3011.8 Upgrade 138 kV breaker “Z-78 Logans” at Dravosburg		DL (100%)
b3012.2 Construct two new ties from a new FirstEnergy substation to a new Duquesne substation by using two separate structures – Duquesne portion		ATSI (38.21%) / DL (61.79%)
b3012.4 Establish the new tie line in place of the existing Elrama – Mitchell 138 kV line		DL (100%)
b3015.1 Construct new Elrama 138 kV substation and connect 7 138 kV lines to new substation		DL (100%)
b3015.2 Reconductor Elrama to Wilson 138 kV line. 4.8 miles		DL (100%)
b3015.3 Reconductor Dravosburg to West Mifflin 138 kV line. 3 miles		DL (100%)
b3015.4 Run new conductor on existing tower to establish the new Dravosburg – Elrama (Z-75) circuit. 10 miles		DL (100%)

*Neptune Regional Transmission System, LLC

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

***Hudson Transmission Partners, LLC

Duquesne Light Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3015.5	Reconductor Elrama to Mitchell 138 kV line – DL portion. 4.2 miles total. 2x795 ACSS/TW 20/7	DL (100%)
b3015.7	Reconductor Wilson to West Mifflin 138 kV line. 2 miles. 795 ACSS/TW 20/7	DL (100%)
b3061	Reconductor the West Mifflin – Dravosburg (Z-73) and Dravosburg – Elrama (Z-75) 138 kV lines	DL (100%)
b3062	Install 138 kV tie breaker at West Mifflin	DL (100%)
b3063	Reconductor the Wilson – Dravosburg (Z-72) 138 kV line (approx. 5 miles)	DL (100%)
b3064	Expand Elrama 138 kV substation to loop in existing US Steel Clariton – Piney Fork 138 kV line	DL (100%)
b3064.2	Replace the West Mifflin 138 kV breakers “Z-94”, “Z-74”, “Z-14”, and “Z-13” with 63 kA breakers	DL (100%)
b3065	Install 138 kV tie breaker at Wilson	DL (100%)
b3084	Reconductor the Oakland – Panther Hollow 138 kV line (approx. 1 mile)	DL (100%)
b3212	The Crescent 138 kV oil-type breaker “2-5 TIE” is found to be overdutied following a model review and correction to short circuit base case	DL (100%)
b3217	Reconductor Wilson - Mitchell 138 kV line - DL portion	DL (100%)

Duquesne Light Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3265	Implement slow circulation on existing underground 138 kV high pressure fluid filled (HPFF) cable between the Arsenal and Riazzi substations	DL (100%)
b3340	Replace one (1) Cheswick 138 kV breaker “Z-53 LF_3” with a 3000 A, 63 kA breaker	DL (100%)
b3717.2	Replace four structures and reconductor Duquesne Light Company’s portion of Plum-Springdale 138 kV line. Associated communication and relay setting changes at Plum and Cheswick	DL (100%)
<u>b3871.1</u>	<u>Replace two 138 kV disconnect switches with 3000 amp disconnect switches and replace a portion of the stranded conductor on the No. 2 138 kV bus with aluminum pipe bus.</u>	<u>DL (100%)</u>

SCHEDULE 12 – APPENDIX A

(20) Virginia Electric and Power Company

Required Transmission Enhancements	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 Transmission Enhancements	Annual Revenue 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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		DFAX Allocation: APS (38.57%) / Dominion (50.29%) / PEPCO (11.14%)
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%)

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

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual 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%)

Virginia Electric and Power Company (cont.)

Required Transmission 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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) 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%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2582	Rebuild the Elmont – Cunningham 500 kV line	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) DFAX Allocation: APS (6.04%) / BGE (4.98%) / Dominion (81.93%) / PEPCO (7.05%)
b2583	Install 500 kV breaker at Ox Substation to remove Ox Tx#1 from H1T561 breaker failure outage	Dominion (100%)
b2584	Relocate the Bremono load (transformer #5) to #2028 (Bremono-Charlottesville 230 kV) line and Cartersville distribution station to #2027 (Bremono-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%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual 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 MVA at 115 kV	Dominion (100%)
b2629	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 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2649.1	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	Dominion (100%)
b2649.2	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	Dominion (100%)
b2650	Rebuild Twittys Creek – Pamplin 115 kV Line #154 (17.8 miles) to current standards with summer emergency rating of 353 MVA at 115 kV	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual 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%)
b2654.34	Install a 2nd 224 MVA 230/115 kV transformer at Hathaway	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2665	Rebuild the Cunningham – Dooms 500 kV line	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) DFAX Allocation: APS (9.10%) / BGE (8.00%) / Dominion (71.52%) / PEPCO (11.38%)
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%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission 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 Shelhorn, 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%)

* Neptune Regional Transmission System, LLC

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

***Hudson Transmission Partners, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2744	Rebuild the Carson – Rogers Rd 500 kV circuit	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) DFAX Allocation: Dominion (96.17%) / PEPCO (3.83%)
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 emergency rating	Dominion (100%)
b2746.2	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%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) DFAX Allocation: Dominion (100%)
b2759	Rebuild Line #550 Mt. Storm – Valley 500 kV	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) DFAX Allocation: DL (2.99%) / Dominion (44.80%) / EKPC (52.21%)

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Virginia Electric and Power Company (cont.)

Required Transmission 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%)

Virginia Electric and Power Company (cont.)

Required Transmission 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%)

Virginia Electric and Power Company (cont.)

Required Transmission 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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) 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

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2960.1	Replace fixed series capacitors on 500 kV Line #547 at Lexington	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) DFAX Allocation: DEOK (7.65%) / Dominion (88.65%) / EKPC (3.70%)

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Virginia Electric and Power Company (cont.)

Required Transmission 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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) DFAX Allocation: DEOK (9.31%) / Dominion (87.48%) / EKPC (3.21%)
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%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2978	Install 2-125 MVAR STATCOMs at Rawlings and 1-125 MVAR STATCOM at Clover 500 kV substations	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: Dominion (100%)</p>
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%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2989	Install a second 230/115 kV Transformer (224 MVA) approximately 1 mile north of Bremono and tie 230 kV Line #2028 (Bremono – Charlottesville) and 115 kV Line #91 (Bremono - 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 Bremono 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%)

Virginia Electric and Power Company (cont.)

Required Transmission 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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) DFAX Allocation: APS (10.43%) / Dominion (89.57%)
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%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3020	Rebuild 500 kV Line #574 Ladysmith to Elmont – 26.2 miles long	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: APS (16.36%) / DEOK (11.61%) / Dominion (51.27%) / EKPC (5.30%) / PEPCO (15.46%)</p>
b3021	Rebuild 500 kV Line #581 Ladysmith to Chancellor – 15.2 miles long	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: APS (10.06%) / Dominion (89.94%)</p>
b3026	Reconductor Line #274 (Pleasant View – Ashburn – Beaumeade 230 kV) with a minimum rating of 1200 MVA. Also upgrade terminal equipment	Dominion (100%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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%)

Virginia Electric and Power Company (cont.)

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

Virginia Electric and Power Company (cont.)

Required Transmission 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3223.1	Install a second 230 kV circuit with a minimum summer emergency rating of 1047 MVA between Lanexa and Northern Next substations. The second 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 rebuild project (b3089)	Dominion (100%)
b3223.2	Expand the Northern Neck terminal from a 230 kV, 4-breaker ring bus to a 6-breaker ring bus	Dominion (100%)
b3223.3	Expand the Lanexa terminal from a 6-breaker ring bus to a breaker-and-a-half arrangement	Dominion (100%)
b3246.1	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 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%)
b3246.2	Perform substation work for the 115 kV to 230 kV line conversion at Liberty, Wellington, Godwin, Pioneer, Sandlot and Cannon Branch	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission 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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: Dominion (100%)</p>

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual 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 Bremono 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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%)
b3321	Rebuild Cranes Corner - Stafford 230 kV line	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement		Responsible Customer(s)
b3684	Rebuild 12.4 miles of 115 kV line from Earleys to Kelford with a summer emergency rating of 262 MVA. Replace structures as needed to support the new conductor. Upgrade breaker switch 13668 at Earleys from 1200 A to 2000 A		Dominion (100%)
b3685	Install a 33 MVAR cap bank at Cloud 115 kV bus along with a 115 kV breaker. Add 115 kV circuit breaker for 115 kV Line #38		Dominion (100%)
b3686	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 called Duncan Store. The new 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%)
b3687	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 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%)
b3689.1	Reconductor approximately 24.42 miles of 230 kV Line #2114 Remington CT– Elk 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPSCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		DFAX Allocation: Dominion (100%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		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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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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%)

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

***Hudson Transmission Partners, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b3718.1	Install one 500/230 kV 1440 MVA transformer at a new substation called Wishing Star. Cut and extend 500 kV Line #546 (Brambleton - Mosby) and 500 kV Line #590 (Brambleton - Mosby) to the proposed Wishing Star substation. Lines to terminate in a 500 kV breaker and a half configuration		Dominion (100%)
b3718.2	Install one 500/230 kV 1440 MVA transformer at a new substation called Mars near Dulles International Airport		Dominion (100%)
b3718.3	Construct a new 500 kV transmission line for approximately 3.5 miles along with substation upgrades at Wishing Star and Mars. New right-of-way will be needed and will share same structures with the line. New conductor to have a minimum summer normal rating of 4357 MVA		Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) <hr/> DFAX Allocation: APS (10.46%) / Dominion (89.54%)
b3718.4	Reconductor approximately 0.62 mile of 230 kV Line #2214 (Buttermilk - Roundtable) to achieve a summer rating of 1574 MVA		Dominion (100%)
b3718.5	Reconductor approximately 1.52 miles of 230 kV Line #2031 (Enterprise – Greenway - Roundtable) to achieve a summer rating of 1574 MVA		Dominion (100%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3718.6	Reconductor approximately 0.64 mile of 230 kV Line #2186 (Enterprise - Shellhorn) to achieve a summer rating of 1574 MVA	Dominion (100%)
b3718.7	Reconductor approximately 2.17 miles of 230 kV Line #2188 (Lockridge – Greenway - Shellhorn) to achieve a summer rating of 1574 MVA	Dominion (100%)
b3718.8	Reconductor approximately 0.84 mile of 230 kV Line #2223 (Lockridge - Roundtable) to achieve a summer rating of 1574 MVA	Dominion (100%)
b3718.9	Reconductor approximately 3.98 miles of 230 kV Line #2218 (Sojourner – Runway - Shellhorn) to achieve a summer rating of 1574 MVA	Dominion (100%)
b3718.10	Reconductor approximately 1.61 miles of 230 kV Line #9349 (Sojourner - Mars) to achieve a summer rating of 1574 MVA	Dominion (100%)
b3718.11	Upgrade 4 - 500 kV breakers (total) to 63 kA on either end of 500 kV Line #502 (Loudoun - Mosby)	Dominion (100%)
b3718.12	Upgrade 4 - 500 kV breakers (total) to 63 kA on either end of 500 kV Line #584 (Loudoun - Mosby)	Dominion (100%)
b3718.13	Cut and loop 230 kV Line #2079 (Sterling Park - Dranesville) into Davis Drive substation and install two GIS 230 kV breakers	Dominion (100%)
b3718.14	Construct a new 230 kV transmission line for approximately 3.5 miles along with substation upgrades at Wishing Star and Mars. New right-of-way will be needed and will share same structures with the 500 kV line. New conductor to have a minimum summer normal rating of 1573 MVA	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement		Responsible Customer(s)
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%)
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)		<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (21.09%) / BGE (6.55%) / Dominion (64.94%) / PEPCO (7.42%)</p>

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.120	Aspen substation work to terminate the new NextEra 500 kV line. Include Aspen 500 kV substation portion build	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (9.18%) / BGE (7.21%) / Dominion (72.52%) / PEPCO (11.09%)</p>
b3800.200	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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (100%)</p>
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%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

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

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (99.96%) / Dominion (0.04%)</p>
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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (99.39%) / Dominion (0.61%)</p>

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (99.39%) / Dominion (0.61%)</p>
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	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%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.218	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%)
b3800.219	Replace seven overdutied 230 kV breakers at Beaumeade substation with 80 kA breakers	Dominion (100%)
b3800.220	Replace four overdutied 230 kV breakers at BECO substation with 80 kA breakers	Dominion (100%)
b3800.221	Replace four overdutied 230 kV breakers at Belmont substation with 80 kA breakers	Dominion (100%)
b3800.222	Replace one overdutied 230 kV 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	Replace two overdutied 230 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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (5.20%) / DL (0.46%) / Dominion (91.40%) / ME (0.59%) / PEPCO (2.35%)</p>

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.234	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	Dominion (100%)
b3800.235	Replace five overdutied 230 kV breakers at Loudoun substation with 80 kA breakers	Dominion (100%)
b3800.236	Replace two overdutied 230 kV breakers at Ox substation with 63 kA breakers	Dominion (100%)
b3800.237	Replace two overdutied 230 kV breakers at Pleasant View substation with 63 kA breakers	Dominion (100%)
b3800.238	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	APS (8.09%) / BGE (8.25%) / Dominion (64.87%) / PEPCO (18.79%)
b3800.239	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	APS (8.09%) / BGE (8.25%) / Dominion (64.87%) / PEPCO (18.79%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (0.09%) / Dominion (99.89%) / PEPCO (0.02%)</p>
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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (0.08%) / Dominion (99.90%) / PEPCO (0.02%)</p>
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	<p>APS (11.45%) / BGE (14.14%) / Dominion (42.82%) / PEPCO (31.59%)</p>

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

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

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (100%)</p>
b3800.307	Install one 500 kV, 300 MVAR STATCOM and associated equipment at Mars substation	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (100%)</p>
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%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.310	Install one 500 kV, 293.8 MVAR Shunt Capacitor Bank & associated equipment at Wishing Star substation	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (100%)</p>
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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (91.07%) / PEPCO (8.93%)</p>

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (11.72%) / Dominion (88.28%)</p>
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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (13.93%) / BGE (6.86%) / Dominion (70.92%) / PEPCO (8.29%)</p>

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (41.98%) / Dominion (34.03%) / PEPCO (23.99%)</p>
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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (41.98%) / Dominion (34.03%) / PEPCO (23.99%)</p>
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	Dominion (100%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.324	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	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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.331	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	Dominion (100%)
b3800.332	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%)
b3800.333	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%)
b3800.334	Replace four overdutied 230 kV breakers at Loudoun Substation with 80 kA breakers	Dominion (100%)
b3800.335	Replace one overdutied 500 kV breaker at Ox Substation with a 63 kA breaker	Dominion (100%)
b3800.336	Upgrade and install equipment at Bristers substation to support the new conductor 5000A rating for 500 kV line No. 545	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (91.07%) / PEPCO (8.93%)</p>

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) <hr/> 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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) <hr/> DFAX Allocation: APS (11.72%) / Dominion (88.28%)
b3800.347	Revise relay settings at North Star 230 kV station	Dominion (100%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) <hr/> 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%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.353	Update relay settings at Vint Hill for 500 kV line No. 535 Vint Hill - Loudoun	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (13.93%) / BGE (6.86%) / Dominion (70.92%) / PEPCO (8.29%)</p>
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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (21.45%) / Dominion (78.55%)</p>
b3800.355	Revise relay settings at Youngs Branch 230 kV station	Dominion (100%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (21.45%) / Dominion (78.55%)</p>
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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (9.79%) / Dominion (90.21%)</p>
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	Dominion (100%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.359	Wreck and rebuild 230 kV line No. 2090 Ladysmith CT - Summit D.P. segment as a double circuit 230 kV line to achieve a summer rating of 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%)
b3800.360	Rebuild 230 kV line No. 2054 Charlottesville - Proffit DP using double-circuit capable 500/230 kV poles. (The 500 kV circuit will not be wired as part of this project)	Dominion (100%)
b3800.361	Rebuild 230 kV line No. 233 Charlottesville - Hydraulic Road - Barracks Road - Crozet-Dooms	Dominion (100%)
b3800.362	Rebuild 230 kV line No. 291 segment from Charlottesville - Barracks Road	Dominion (100%)
b3800.363	Rebuild 230 kV line No. 291 segment from Barracks Road - Crozet	Dominion (100%)
b3800.364	Rebuild 230 kV line No. 291 segment Crozet - Dooms	Dominion (100%)
b3800.365	Hollymeade substation Relay Revision for 230 kV line No. 2054 Charlottesville - Hollymeade	Dominion (100%)
b3800.366	Upgrade the terminal equipment at 230 kV Charlottesville station to 4000A for 230 kV line No. 2054 (Charlottesville - Hollymeade)	Dominion (100%)
b3800.367	Proffit DP substation Relay revision for 230 kV line No. 2054 Charlottesville - Hollymeade	Dominion (100%)
b3800.368	Barracks Road substation relay reset to accommodate the rebuilt line 230 kV lines No. 233 and No. 291	Dominion (100%)
b3800.369	Crozet substation relay reset to accommodate the rebuilt 230 kV lines No. 233 and No. 291	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.370	Charlottesville 230 kV substation terminal equipment upgrade for 230 kV lines No. 233 and No. 291 rebuild	Dominion (100%)
b3800.371	Upgrade Hydraulic Road substation equipment for 230 kV line No. 233 and No. 291 rebuild	Dominion (100%)
b3800.372	Dooms substation terminal equipment upgrade for 230 kV line No. 233 and No. 291 rebuild	Dominion (100%)
b3800.373	Wreck and rebuild approximately 7.14 miles of 230 kV line No. 256 from St. Johns to structure 256/108 to achieve a summer rating of 1573 MVA. Line switch 25666 at St. Johns to be upgraded to 4000A	Dominion (100%)
b3800.374	Reconductor approximately 5.30 miles of 230 kV line No. 256 from Ladysmith CT to structure 256/107 to achieve a summer rating of 1573 MVA. Terminal equipment at remote end substations will be upgraded to 4000A	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.375	Construct new Woodside – Goose Creek 500 kV line for approximately 3 miles on single circuit monopole structures within the Doubs – Goose Creek corridor. (Dominion Portion)	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: (APS 9.26%) / BGE (7.30%) / Dominion (72.31%) / PEPCO (11.13%)</p>

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.401	Replace Ashburn 230 kV breaker SC432 with a breaker rated 63 kA	Dominion (100%)
b3800.402	Replace Beaumeade 230 kV breaker 227T2152 with a breaker rated 80 kA	Dominion (100%)
b3800.403	Replace BECO 230 kV breakers 215012 and H12T2150 with breakers rated 63 kA	Dominion (100%)
b3800.404	Replace Belmont 230 kV breaker 227T2180 with a breaker rated 80 kA	Dominion (100%)
b3800.405	Replace Brambleton 230 kV breakers 20102, 20602, 204502, 209402, 201T2045, 206T2094 with breakers rated 80 kA	Dominion (100%)
b3800.406	Replace Gainesville 230 kV breaker 216192 with a breaker rated 80 kA	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.407	Replace Loudoun 230 kV breakers 204552, 217352 with breakers rated 80 kA	Dominion (100%)
b3800.408	Replace Ox 230 kV breakers 22042, 24342, 24842, 220T2063, 243T2097, 248T2013, H342 with breakers rated 80 kA	Dominion (100%)
b3800.409	Replace Paragon Park 230 kV breakers 208132, 215032, 2081T2206, 2150T2207 with breakers rated 80 kA	Dominion (100%)
b3800.410	Replace Reston 230 kV breaker 264T2015 with a breaker rated 63 kA	Dominion (100%)
b3800.411	Replace Stonewater 230 kV 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, 216622-5, 216622-6 with breakers rated 63 kA	Dominion (100%)
b3850.1	Rebuild approximately 13.51 miles of 500 kV Line #588 from structure 588/184 inside Yadkin substation to structure 588/254 outside of Fentress substation	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) <hr/> DFAX Allocation: Dominion (100%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3850.2	Line No. 588 terminal equipment at Yadkin substation will be upgraded to a rating of 5000A. Since the new 500 kV line will be using fiber, the wave trap will be removed and the line protection scheme will be updated	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (100%)</p>
b3850.3	At Fentress substation, since the new 500 kV line will be using fiber, the wave trap will be removed and the line protection scheme will be updated	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (100%)</p>

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3853.1	Replace over duty Ladysmith CT 230 kV circuit breakers SX1272 and SX3472 with an interrupting rating of 63 kA	Dominion (100%)
b3854.1	Replace over duty Carson 230 kV circuit breakers 200272 and 24972-3 with an interrupting rating of 63 kA	Dominion (100%)
<u>b3921.1</u>	<u>Wreck and rebuild 115 kV Line 119 from structure 119/305 (Merck No. 5 substation) to 119/411A (Port Republic Substation). The existing structures shall be replaced one for one within the existing ROW using primarily custom engineered double circuit 115 kV steel structures on concrete foundations. The line will be rebuilt with 3-phase 1-768.2 ACSS/TW/HS (20/7) 250 MOT "Maumee" conductor and two (2) DNO-11410 OPGW. The rebuild includes the installation of double circuit structures but assumes the second circuit will not be installed as part of this project, and that the vacant conductor arms should not be utilized without acquiring additional ROW. This scope assumes project GITAE2029C will be completed prior to the construction of this project. Project GITAE2029C serves to install Port Republic substation, which will split Line 119 in between existing structures 119/411 and 119/412</u>	<u>Dominion (100%)</u>

Virginia Electric and Power Company (cont.)

<u>Required Transmission Enhancements</u>	<u>Annual Revenue Requirement</u>	<u>Responsible Customer(s)</u>
<u>b3921.2</u>	<u>Uprate the 397.5 ACSR jumpers and associated equipment to meet the line conductor rating of 393 MVA</u>	<u>Dominion (100%)</u>
<u>b3922.1</u>	<u>This project serves to wreck and rebuild 115 kV line 1031 from structure 1031/220 to structure 1031/329. The existing structures to be removed are primarily single circuit wood, steel or concrete monopoles. The existing structures to be removed were primarily constructed in 1993 with the weathering steel structures being constructed in 2011. The existing structures shall be replaced one for one within the existing ROW using single circuit steel monopoles on foundations. The line will be rebuilt with single circuit 3-phase 768.2 ACSS/TW/HS (20/7) "Maumee" conductor and single (1) DNO-11410 OPGW, respectively</u>	<u>Dominion (100%)</u>
<u>b3928.1</u>	<u>Install (1) 230 kV, 50 MVAR shunt capacitor bank and associated equipment including breaker at Navy North substation</u>	<u>Dominion (100%)</u>

Virginia Electric and Power Company (cont.)

<u>Required Transmission Enhancements</u>	<u>Annual Revenue Requirement</u>	<u>Responsible Customer(s)</u>
<u>b3929.1</u>	<u>Rebuild approximately 33.09 miles of 500 kV line No. 579 from structure 579/1 inside Septa substation to structure 579/193 inside Yadkin substation</u>	<p><u>Load-Ratio Share Allocation:</u> <u>AEC (1.58%) / AEP (13.71%) /</u> <u>APS (5.49%) / ATSI (7.69%) /</u> <u>BGE (4.16%) / ComEd (13.25%) /</u> <u>Dayton (2.07%) / DEOK (3.18%) /</u> <u>DL (1.65%) / DPL (2.57%) /</u> <u>Dominion (14.20%) / EKPC</u> <u>(2.30%) / JCPL (3.80%) / ME</u> <u>(1.88%) / NEPTUNE* (0.42%) /</u> <u>OVEC (0.06%) / PECO (5.32%) /</u> <u>PENELEC (1.81%) / PEPCO</u> <u>(3.79%) / PPL (4.58%) / PSEG</u> <u>(6.24%) / RE (0.25%)</u></p> <hr/> <p><u>DFAX Allocation:</u></p> <p><u>Dominion (100%)</u></p>
<u>b3929.2</u>	<u>At Septa substation, upgrade CB (579T586), breaker switches (56288, 57985, 58688 & 57988), and line leads to 5000A rating to support Line No. 579 rebuild</u>	<p><u>Load-Ratio Share Allocation:</u> <u>AEC (1.58%) / AEP (13.71%) /</u> <u>APS (5.49%) / ATSI (7.69%) /</u> <u>BGE (4.16%) / ComEd (13.25%) /</u> <u>Dayton (2.07%) / DEOK (3.18%) /</u> <u>DL (1.65%) / DPL (2.57%) /</u> <u>Dominion (14.20%) / EKPC</u> <u>(2.30%) / JCPL (3.80%) / ME</u> <u>(1.88%) / NEPTUNE* (0.42%) /</u> <u>OVEC (0.06%) / PECO (5.32%) /</u> <u>PENELEC (1.81%) / PEPCO</u> <u>(3.79%) / PPL (4.58%) / PSEG</u> <u>(6.24%) / RE (0.25%)</u></p> <hr/> <p><u>DFAX Allocation:</u></p> <p><u>Dominion (100%)</u></p>

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

<u>Required Transmission Enhancements</u>	<u>Annual Revenue Requirement</u>	<u>Responsible Customer(s)</u>
<u>b3929.3</u>	<u>At Yadkin substation, upgrade line leads to 5000A rating to support Line No. 579 rebuild</u>	<p><u>Load-Ratio Share Allocation:</u> <u>AEC (1.58%) / AEP (13.71%) /</u> <u>APS (5.49%) / ATSI (7.69%) /</u> <u>BGE (4.16%) / ComEd (13.25%) /</u> <u>Dayton (2.07%) / DEOK (3.18%) /</u> <u>DL (1.65%) / DPL (2.57%) /</u> <u>Dominion (14.20%) / EKPC</u> <u>(2.30%) / JCPL (3.80%) / ME</u> <u>(1.88%) / NEPTUNE* (0.42%) /</u> <u>OVEC (0.06%) / PECO (5.32%) /</u> <u>PENELEC (1.81%) / PEPCO</u> <u>(3.79%) / PPL (4.58%) / PSEG</u> <u>(6.24%) / RE (0.25%)</u></p> <hr/> <p><u>DFAX Allocation:</u> <u>Dominion (100%)</u></p>
<u>b3929.4</u>	<u>Rebuild approximately 7.7 miles of 230 kV Line No. 2110 Suffolk – Thrasher that share the double circuit towers under Line No. 579</u>	<u>Dominion (100%)</u>
<u>b4000.100</u>	<u>At Ashburn substation 230 kV replace 50 kA breaker SC332 with 63 kA</u>	<u>Dominion (100%)</u>
<u>b4000.101</u>	<u>At Beaumeade substation 230 kV replace 63 kA breaker 274T2206 with 80 kA</u>	<u>Dominion (100%)</u>
<u>b4000.102</u>	<u>At Braddock substation 230 kV replace 40 kA breakers 207T294, 237T294, 237T297, 281T297 with 63 kA</u>	<u>Dominion (100%)</u>
<u>b4000.103</u>	<u>At Brambleton substation 230 kV replace 63 kA breakers 217202, 2172T2183, L102, and L202 with 80 kA</u>	<u>Dominion (100%)</u>
<u>b4000.104</u>	<u>At Bristers substation 230 kV replace 40 kA and 50 kA breakers H1TH2, H2TH3 and L1T2101 with 63 kA</u>	<u>Dominion (100%)</u>
<u>b4000.105</u>	<u>At Bull Run substation 230 kV replace 50 kA breaker H362 with 63 kA</u>	<u>Dominion (100%)</u>

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

<u>Required Transmission Enhancements</u>	<u>Annual Revenue Requirement</u>	<u>Responsible Customer(s)</u>
<u>b4000.106</u> At Buttermilk substation 230 kV replace 63 kA breakers 215212, 217012, 220312, 221412, and 2152T2203 with 80 kA		<u>Dominion (100%)</u>
<u>b4000.107</u> At Cabin Run substation 230 kV replace 63 kA breakers 209512, 221312, and T122 with 80 kA		<u>Dominion (100%)</u>
<u>b4000.108</u> At Carson substation 230 kV replace 40 kA breaker 23872 with 63 kA		<u>Dominion (100%)</u>
<u>b4000.109</u> At Clifton substation 230 kV replace 63 kA breakers 201182, SR182, and XT2011 with 80 kA		<u>Dominion (100%)</u>
<u>b4000.111</u> At Evergreen Mills substation 230 kV, replace 63 kA breakers H132, H232 with 80 kA		<u>Dominion (100%)</u>
<u>b4000.112</u> At Goose Creek substation 230 kV, replace 63 kA breaker L1T227 with 80 kA		<u>Dominion (100%)</u>
<u>b4000.113</u> At Goose Creek substation 500 kV, replace 50 kA breaker SC182 with 63 kA		<u>Dominion (100%)</u>
<u>b4000.114</u> At Ladysmith S1 substation 230 kV, replace 40 kA breakers 25672, 209072, 256T2090, GT172, GT272, GT372, GT472, GT572 with 63 kA		<u>Dominion (100%)</u>
<u>b4000.115</u> At Ladysmith substation 500 kV, replace 40 kA breaker 574T581 with 63 kA		<u>Dominion (100%)</u>
<u>b4000.116</u> At Liberty substation 230 kV, replace 50 kA breaker SC112 with 63 kA		<u>Dominion (100%)</u>
<u>b4000.117</u> At Lockridge substation 230 kV, replace 63 kA breakers 218872, H12T2188, 222372, and H12T2223 with 80 kA		<u>Dominion (100%)</u>
<u>b4000.118</u> At Loudoun substation 230 kV, replace 63 kA breakers 209452, L152, and L252 with 80 kA		<u>Dominion (100%)</u>
<u>b4000.119</u> At Loudoun Cap substation 230 kV, replace 50 kA breaker SC352 with 63 kA		<u>Dominion (100%)</u>

Virginia Electric and Power Company (cont.)

<u>Required Transmission Enhancements</u>	<u>Annual Revenue Requirement</u>	<u>Responsible Customer(s)</u>
<u>b4000.120</u> At Loudoun substation 500 kV, replace 50 kA breakers 502T535, 569T584, H1T569, H2T502, H2T584, and SC152 with 63 kA		<u>Dominion (100%)</u>
<u>b4000.121</u> At Marsh Run substation 230 kV, replace 50 kA breaker 28002, 29902, 280T2039, 299T2040, 203902, and 204002 with 63 kA		<u>Dominion (100%)</u>
<u>b4000.122</u> At Morrisville substation 230 kV, replace 50 kA breaker L1T2039, L1T2040, L2T2039, and L2T2040 with 63 kA		<u>Dominion (100%)</u>
<u>b4000.123</u> At Morrisville substation 500 kV, replace 50 kA breakers H1T541, H1T594, H2T545, H2T569, and SC122 with 63 kA		<u>Dominion (100%)</u>
<u>b4000.124</u> At Mosby substation 500 kV, replace 50 kA breakers 50272, 54672, 55972, 58472, 59072, 502T546, 559T584, SC172, SV172, SV272, and XT590 with 63 kA		<u>Dominion (100%)</u>
<u>b4000.125</u> At Mt Storm substation 500 kV, replace 40 kA breaker G3T572X with 63 kA		<u>Dominion (100%)</u>
<u>b4000.126</u> At Nimbus substation 230 kV, replace 63 kA breakers 215282, 225532-5, 225532-6, 226034 with 80 kA		<u>Dominion (100%)</u>
<u>b4000.127</u> At NIVO 1 substation 230 kV, replace 63 kA breaker 2116T2130 with 80 kA (4-breaker ring bus)		<u>Dominion (100%)</u>
<u>b4000.128</u> At North Anna substation 500 kV, replace 40 kA breakers 57502, G102-1, G102-2, G202, G2T575, and XT573 with 63 kA		<u>Dominion (100%)</u>
<u>b4000.129</u> At Ox substation 230 kV, replace 50 kA and 63 kA breakers 201342, 209742, 206342, and SC242 with 80 kA		<u>Dominion (100%)</u>

Virginia Electric and Power Company (cont.)

<u>Required Transmission Enhancements</u>	<u>Annual Revenue Requirement</u>	<u>Responsible Customer(s)</u>
<u>b4000.130</u> At Ox substation 500 kV, replace 40 kA breakers 56142, H1T539, and H2T539 with 63 kA		<u>Dominion (100%)</u>
<u>b4000.131</u> At Paragon Park substation 230 kV, replace 63 kA breakers 220632 and 220732 with 80 kA		<u>Dominion (100%)</u>
<u>b4000.132</u> At Pleasantview substation 230 kV, replace 63 kA breakers 203T274 and 274T2098 with 80 kA		<u>Dominion (100%)</u>
<u>b4000.133</u> At Pleasantview substation 500 kV, replace 40 kA breaker H322 with 63 kA		<u>Dominion (100%)</u>
<u>b4000.134</u> At Remington substation 230 kV, replace 40 kA and 50 kA breakers 211462, GT162, GT262, GT362, GT462, 2077T2086, 208662, H962, and H9T299 with 63 kA		<u>Dominion (100%)</u>
<u>b4000.135</u> At Roundtable substation 230 kV, replace 63 kA breakers 203102, 214902, 221402, 222302, 2031T2223, and 2149T2214 with 80 kA		<u>Dominion (100%)</u>
<u>b4000.136</u> At Vint Hill substation 230 kV, replace 63 kA breakers 2101T2174, 2163T2174, and 2101T2163 with 80 kA		<u>Dominion (100%)</u>
<u>b4000.137</u> At Yardley substation 230 kV, replace 63 kA breakers WT2209, WT2213, XT2209, and XT2213 with 80 kA		<u>Dominion (100%)</u>
<u>b4000.300</u> Rebuild approximately 1.71 miles of 230 kV Line 299 from the Marsh Run substation to the Remington CT substation. New conductor has a summer rating of 1573 MVA		<u>Dominion (100%)</u>
<u>b4000.301</u> Reconductor approximately 1.24 miles of 230 kV Line 280 from Remington – Marsh Run CT substation. New conductor has a summer rating of 1573 MVA		<u>Dominion (100%)</u>
<u>b4000.302</u> Uprate Line No. 299 terminal equipment, line leads, and bus at Marsh Run substation to be rated to 4000A		<u>Dominion (100%)</u>

Virginia Electric and Power Company (cont.)

<u>Required Transmission Enhancements</u>	<u>Annual Revenue Requirement</u>	<u>Responsible Customer(s)</u>
<u>b4000.303</u> <u>Upgrade Line No. 299 terminal equipment, line leads, and bus at Remington CT substation to be rated to 4000A</u>		<u>Dominion (100%)</u>
<u>b4000.304</u> <u>Partial reconductor/partial wreck & rebuild of 230 kV Line No. 2161 Gainesville – Wheeler. New conductor has a summer rating of 1573 MVA (Wheeler – Linton Tap segment)</u>		<u>Dominion (100%)</u>
<u>b4000.305</u> <u>Partial reconductor/partial wreck & rebuild of 230 kV Line No. 2161 Gainesville – Wheeler. New conductor has a summer rating of 1573 MVA (Linton Tap – Atlantic segment)</u>		<u>Dominion (100%)</u>
<u>b4000.306</u> <u>Partial reconductor/partial wreck & rebuild of 230 kV Line No. 2161 Gainesville – Wheeler. New conductor has a summer rating of 1573 MVA (Atlantic – Trident segment)</u>		<u>Dominion (100%)</u>
<u>b4000.307</u> <u>Partial reconductor/partial wreck & rebuild of 230 kV Line No. 2161 Gainesville – Wheeler. New conductor has a summer rating of 1573 MVA (Trident – Gainesville segment)</u>		<u>Dominion (100%)</u>
<u>b4000.308</u> <u>Upgrade all Line No. 2161 terminal equipment at Gainesville to 4000A. A CCVT will also be replaced due to aging</u>		<u>Dominion (100%)</u>
<u>b4000.309</u> <u>Upgrade all Line No. 2161 terminal equipment Wheeler substation to 4000A</u>		<u>Dominion (100%)</u>
<u>b4000.310</u> <u>Revise relay settings at Trident substation</u>		<u>Dominion (100%)</u>
<u>b4000.311</u> <u>Rebuild 230 kV Line No. 213 and No. 225 from Thelma – Lakeview. New conductor has a summer rating of 1573 MVA</u>		<u>Dominion (100%)</u>

Virginia Electric and Power Company (cont.)

<u>Required Transmission Enhancements</u>	<u>Annual Revenue Requirement</u>	<u>Responsible Customer(s)</u>
<u>b4000.312</u> At Thelma substation, upgrade line lead, wave traps (213WT & 225WT), circuit breaker leads to 4000A. CB switches 22535, 23235, 23238 and 21335 will also be upgrade to 4000A DEB switches. CCVTs 213P1, 213P2 and 213P3 will be replaced due to aging		<u>Dominion (100%)</u>
<u>b4000.313</u> At Lakeview substation, upgrade wave traps 213WT and 225WT, line leads, and circuit breaker leads to 4000A. Upgrade CB switches 22565 and 22564 to 4000A double-end break switches. Replace CCVTs 225P1, 225P2, and 225P3 due to aging		<u>Dominion (100%)</u>
<u>b4000.314</u> Reconductor 230 kV Line No. 2003 Chesterfield – Tyler segment. New conductor has a summer rating of 1573 MVA		<u>Dominion (100%)</u>
<u>b4000.315</u> Reconductor 230 kV Line No. 2003 Tyler – Poe segment. New conductor has a summer rating of 1573 MVA		<u>Dominion (100%)</u>
<u>b4000.316</u> At Poe substation, uprate all Line No. 2003 terminal equipment, line leads, and bus to be rated to 4000A		<u>Dominion (100%)</u>
<u>b4000.317</u> At Tyler substation, upgrade the necessary line terminal equipment to maintain 4000A at Tyler substation		<u>Dominion (100%)</u>
<u>b4000.318</u> Revise relay settings at Chesterfield substation		<u>Dominion (100%)</u>
<u>b4000.319</u> Reconductor 230 kV Line No. 2002 Carson – Poe. New conductor has a summer rating of 1573 MVA		<u>Dominion (100%)</u>

Virginia Electric and Power Company (cont.)

<u>Required Transmission Enhancements</u>	<u>Annual Revenue Requirement</u>	<u>Responsible Customer(s)</u>
<u>b4000.320</u>	<u>At Carson substation, upgrade all Line No. 2002 terminal equipment at Carson to 4000A. CCVTs will also be replaced due to aging</u>	<u>Dominion (100%)</u>
<u>b4000.321</u>	<u>At Poe substation, upgrade all Line No. 2002 terminal equipment at Carson to 4000A. CCVTs will also be replaced due to aging</u>	<u>Dominion (100%)</u>
<u>b4000.322</u>	<u>Build a new 230 kV Line from Nokesville – Hornbaker using the vacant arms of the double circuit monopole structures installed as part of previous project 993027. New conductor has a summer rating of 1573 MVA</u>	<u>Dominion (100%)</u>
<u>b4000.323</u>	<u>Upgrade terminal equipment at Nokesville substation. The project adds one more line to Nokesville, including the installation of one 230 kV breaker and two 230 kV switches</u>	<u>Dominion (100%)</u>
<u>b4000.324</u>	<u>Upgrade terminal equipment at Hornbaker substation. This project is for installing a new 230 kV 4000A rated line terminal at Hornbaker to accommodate the new line to Nokesville</u>	<u>Dominion (100%)</u>
<u>b4000.325</u>	<u>Build a new 26.38 miles 230 kV line from Elmont to Ladysmith on the existing 5-2 structures between the two stations. New conductor has a summer rating of 1573 MVA</u>	<u>Dominion (100%)</u>
<u>b4000.326</u>	<u>At Elmont substation, install/upgrade associated equipment to accommodate a 4000A line rating for the new 230 kV line between Elmont and Ladysmith</u>	<u>Dominion (100%)</u>

Virginia Electric and Power Company (cont.)

<u>Required Transmission Enhancements</u>	<u>Annual Revenue Requirement</u>	<u>Responsible Customer(s)</u>
<u>b4000.327</u>	<u>Upgrade/install equipment at Ladysmith substation to 4000A. Expansion will be required to accommodate a total of three (3) new 230 kV strings of breaker and a half scheme</u>	<u>Dominion (100%)</u>
<u>b4000.328</u>	<u>Construct a new 24.5 miles 230 kV Line 9482 from Cloverhill substation to Ox substation</u>	<u>Dominion (100%)</u>
<u>b4000.329</u>	<u>At Ox substation, install the necessary associated equipment to accommodate the new Line No. 9482 between Cloverhill and Ox. This project also includes expanding the substation with associated security level 1 fencing and super post structure needed</u>	<u>Dominion (100%)</u>
<u>b4000.330</u>	<u>At Cloverhill substation, install the necessary associated equipment to accommodate the new line between Cloverhill and Ox. This project also includes demolishing and reconstructing the existing bus system and roadway</u>	<u>Dominion (100%)</u>
<u>b4000.331</u>	<u>Construct a new 230 kV single circuit line from Raines substation to Cloud substation to solve electrical violations cause by the significant load growth in South Hill, Virginia. The scope also includes an idle 230 kV circuit being installed between these stations</u>	<u>Dominion (100%)</u>
<u>b4000.332</u>	<u>At Cloud substation, upgrade substation terminal equipment to 4000A</u>	<u>Dominion (100%)</u>
<u>b4000.333</u>	<u>At Raines substation, upgrade substation terminal equipment to 4000A</u>	<u>Dominion (100%)</u>

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

<u>b4000.334</u>	<u>Reconductor 115 kV Line No. 121 from Poe to Prince George. Specifically, Line No. 121 will be reconducted and converted to 230 kV from Poe substation to Prince George substation</u>		<u>Dominion (100%)</u>
<u>b4000.335</u>	<u>At Poe substation, install a new 230 kV six breaker ultimate ring bus which will fit the station to current 230 kV standards. The substation scope includes the installation of 230 kV breaker and half GIS bus. Work at Poe substation is associated with Line No. 121 reconductor</u>		<u>Dominion (100%)</u>
<u>b4000.336</u>	<u>Build a new 230/115 kV Prince George substation along the existing 115 or 230 kV corridor. The substation scope includes the installation of 230 kV breakers & 1-115 kV breaker along with its associated terminal equipment initially but will have provision for making it a 6-breaker ring (both 230 and 115 kV) in future. The existing 230-115 kV transformer at Prince George will be relocated to serve this new substation</u>		<u>Dominion (100%)</u>
<u>b4000.337</u>	<u>Extend a new 230 kV line approximately 7.85 miles between the existing Morrisville and Anderson Branch substations. The existing tower structures currently supporting the Bristers to Morrisville 500 kV Line No. 545 will be used to support this new line as shared tower structures</u>		<u>Dominion (100%)</u>
<u>b4000.338</u>	<u>At Morrisville substation, install/upgrade substation terminal equipment to 4000A</u>		<u>Dominion (100%)</u>

Virginia Electric and Power Company (cont.)

<u>Required Transmission Enhancements</u>	<u>Annual Revenue Requirement</u>	<u>Responsible Customer(s)</u>
<u>b4000.339</u>	<u>At Anderson Branch substation, install/upgrade substation terminal equipment to 4000A</u>	<u>Dominion (100%)</u>
<u>b4000.340</u>	<u>Upgrade existing Goose Creek 500/230 kV transformer to 1440 MVA</u>	<u>Dominion (100%)</u>
<u>b4000.341</u>	<u>Remove the 500 kV conductor previously planned to terminate into the Vint Hill 500 kV substation and extend approximately 0.2 miles of conductor to fly-over the site</u>	<p><u>Load-Ratio Share Allocation:</u> <u>AEC (1.58%) / AEP (13.71%) /</u> <u>APS (5.49%) / ATSI (7.69%) /</u> <u>BGE (4.16%) / ComEd (13.25%) /</u> <u>Dayton (2.07%) / DEOK (3.18%) /</u> <u>DL (1.65%) / DPL (2.57%) /</u> <u>Dominion (14.20%) / EKPC</u> <u>(2.30%) / JCPL (3.80%) / ME</u> <u>(1.88%) / NEPTUNE* (0.42%) /</u> <u>OVEC (0.06%) / PECO (5.32%) /</u> <u>PENELEC (1.81%) / PEPSCO</u> <u>(3.79%) / PPL (4.58%) / PSEG</u> <u>(6.24%) / RE (0.25%)</u></p> <hr/> <p><u>DFAX Allocation:</u> <u>Dominion (100.00%)</u></p>
<u>b4000.342</u>	<u>Remove the terminal equipment and substation work required for the termination of the Morrisville – Wishing Star 500 kV line into Vint Hill</u>	<p><u>Load-Ratio Share Allocation:</u> <u>AEC (1.58%) / AEP (13.71%) /</u> <u>APS (5.49%) / ATSI (7.69%) /</u> <u>BGE (4.16%) / ComEd (13.25%) /</u> <u>Dayton (2.07%) / DEOK (3.18%) /</u> <u>DL (1.65%) / DPL (2.57%) /</u> <u>Dominion (14.20%) / EKPC</u> <u>(2.30%) / JCPL (3.80%) / ME</u> <u>(1.88%) / NEPTUNE* (0.42%) /</u> <u>OVEC (0.06%) / PECO (5.32%) /</u> <u>PENELEC (1.81%) / PEPSCO</u> <u>(3.79%) / PPL (4.58%) / PSEG</u> <u>(6.24%) / RE (0.25%)</u></p> <hr/> <p><u>DFAX Allocation:</u> <u>Dominion (100.00%)</u></p>

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

<u>Required Transmission Enhancements</u>	<u>Annual Revenue Requirement</u>	<u>Responsible Customer(s)</u>
<u>b4000.343</u>	<u>Uprate bus at Brambleton to support 500 kV Line No. 558 (Aspen – Brambleton) uprate</u>	<p><u>Load-Ratio Share Allocation:</u> <u>AEC (1.58%) / AEP (13.71%) /</u> <u>APS (5.49%) / ATSI (7.69%) /</u> <u>BGE (4.16%) / ComEd (13.25%) /</u> <u>Dayton (2.07%) / DEOK (3.18%) /</u> <u>DL (1.65%) / DPL (2.57%) /</u> <u>Dominion (14.20%) / EKPC</u> <u>(2.30%) / JCPL (3.80%) / ME</u> <u>(1.88%) / NEPTUNE* (0.42%) /</u> <u>OVEC (0.06%) / PECO (5.32%) /</u> <u>PENELEC (1.81%) / PEPCO</u> <u>(3.79%) / PPL (4.58%) / PSEG</u> <u>(6.24%) / RE (0.25%)</u></p> <hr/> <p><u>DFAX Allocation:</u> <u>Dominion (100.00%)</u></p>
<u>b4000.344</u>	<u>Build a 500 kV line from North Anna substation (bypassing Ladysmith Substation) to a new substation called Kraken. New conductor to have a minimum summer normal rating of 4357 MVA</u>	<p><u>Load-Ratio Share Allocation:</u> <u>AEC (1.58%) / AEP (13.71%) /</u> <u>APS (5.49%) / ATSI (7.69%) /</u> <u>BGE (4.16%) / ComEd (13.25%) /</u> <u>Dayton (2.07%) / DEOK (3.18%) /</u> <u>DL (1.65%) / DPL (2.57%) /</u> <u>Dominion (14.20%) / EKPC</u> <u>(2.30%) / JCPL (3.80%) / ME</u> <u>(1.88%) / NEPTUNE* (0.42%) /</u> <u>OVEC (0.06%) / PECO (5.32%) /</u> <u>PENELEC (1.81%) / PEPCO</u> <u>(3.79%) / PPL (4.58%) / PSEG</u> <u>(6.24%) / RE (0.25%)</u></p> <hr/> <p><u>DFAX Allocation:</u> <u>Dominion (91.69%) / PEPCO</u> <u>(8.31%)</u></p>

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

<u>Required Transmission Enhancements</u>	<u>Annual Revenue Requirement</u>	<u>Responsible Customer(s)</u>
<u>b4000.345</u>	<u>Build a 500 kV line from a new substation called Kraken to a new substation called Yeat. New conductor to have a minimum summer normal rating of 4357 MVA</u>	<p><u>Load-Ratio Share Allocation:</u> <u>AEC (1.58%) / AEP (13.71%) /</u> <u>APS (5.49%) / ATSI (7.69%) /</u> <u>BGE (4.16%) / ComEd (13.25%) /</u> <u>Dayton (2.07%) / DEOK (3.18%) /</u> <u>DL (1.65%) / DPL (2.57%) /</u> <u>Dominion (14.20%) / EKPC</u> <u>(2.30%) / JCPL (3.80%) / ME</u> <u>(1.88%) / NEPTUNE* (0.42%) /</u> <u>OVEC (0.06%) / PECO (5.32%) /</u> <u>PENELEC (1.81%) / PEPCO</u> <u>(3.79%) / PPL (4.58%) / PSEG</u> <u>(6.24%) / RE (0.25%)</u></p> <hr/> <p><u>DFAX Allocation:</u> <u>Dominion (100.00%)</u></p>
<u>b4000.347</u>	<u>Upgrade/install equipment at North Anna substation to 5000A to support the new conductor rating</u>	<p><u>Load-Ratio Share Allocation:</u> <u>AEC (1.58%) / AEP (13.71%) /</u> <u>APS (5.49%) / ATSI (7.69%) /</u> <u>BGE (4.16%) / ComEd (13.25%) /</u> <u>Dayton (2.07%) / DEOK (3.18%) /</u> <u>DL (1.65%) / DPL (2.57%) /</u> <u>Dominion (14.20%) / EKPC</u> <u>(2.30%) / JCPL (3.80%) / ME</u> <u>(1.88%) / NEPTUNE* (0.42%) /</u> <u>OVEC (0.06%) / PECO (5.32%) /</u> <u>PENELEC (1.81%) / PEPCO</u> <u>(3.79%) / PPL (4.58%) / PSEG</u> <u>(6.24%) / RE (0.25%)</u></p> <hr/> <p><u>DFAX Allocation:</u> <u>Dominion (91.69%) / PEPCO</u> <u>(8.31%)</u></p>

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

<u>Required Transmission Enhancements</u>	<u>Annual Revenue Requirement</u>	<u>Responsible Customer(s)</u>
<u>b4000.349</u>	<u>Update relay settings at Ladysmith to change the destination of 500 kV Line No. 568 from Possum Point to Kraken</u>	<p><u>Load-Ratio Share Allocation:</u> <u>AEC (1.58%) / AEP (13.71%) /</u> <u>APS (5.49%) / ATSI (7.69%) /</u> <u>BGE (4.16%) / ComEd (13.25%) /</u> <u>Dayton (2.07%) / DEOK (3.18%) /</u> <u>DL (1.65%) / DPL (2.57%) /</u> <u>Dominion (14.20%) / EKPC</u> <u>(2.30%) / JCPL (3.80%) / ME</u> <u>(1.88%) / NEPTUNE* (0.42%) /</u> <u>OVEC (0.06%) / PECO (5.32%) /</u> <u>PENELEC (1.81%) / PEPCO</u> <u>(3.79%) / PPL (4.58%) / PSEG</u> <u>(6.24%) / RE (0.25%)</u></p> <hr/> <p><u>DFAX Allocation:</u> <u>BGE (13.28%) / Dominion</u> <u>(64.48%) / PEPCO (22.24%)</u></p>
<u>b4000.350</u>	<u>Update relay settings at Possum Point to change the destination of 500 kV Line No. 568 from Ladysmith to Kraken</u>	<p><u>Load-Ratio Share Allocation:</u> <u>AEC (1.58%) / AEP (13.71%) /</u> <u>APS (5.49%) / ATSI (7.69%) /</u> <u>BGE (4.16%) / ComEd (13.25%) /</u> <u>Dayton (2.07%) / DEOK (3.18%) /</u> <u>DL (1.65%) / DPL (2.57%) /</u> <u>Dominion (14.20%) / EKPC</u> <u>(2.30%) / JCPL (3.80%) / ME</u> <u>(1.88%) / NEPTUNE* (0.42%) /</u> <u>OVEC (0.06%) / PECO (5.32%) /</u> <u>PENELEC (1.81%) / PEPCO</u> <u>(3.79%) / PPL (4.58%) / PSEG</u> <u>(6.24%) / RE (0.25%)</u></p> <hr/> <p><u>DFAX Allocation:</u> <u>BGE (8.30%) / Dominion</u> <u>(78.64%) / PEPCO (13.06%)</u></p>

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

<u>Required Transmission Enhancements</u>	<u>Annual Revenue Requirement</u>	<u>Responsible Customer(s)</u>
<u>b4000.351</u>	<u>Cut in Line No. 568 Ladysmith – Possum Point into Kraken, creating Line No. 9517 Ladysmith to Kraken</u>	<p><u>Load-Ratio Share Allocation:</u> <u>AEC (1.58%) / AEP (13.71%) /</u> <u>APS (5.49%) / ATSI (7.69%) /</u> <u>BGE (4.16%) / ComEd (13.25%) /</u> <u>Dayton (2.07%) / DEOK (3.18%) /</u> <u>DL (1.65%) / DPL (2.57%) /</u> <u>Dominion (14.20%) / EKPC</u> <u>(2.30%) / JCPL (3.80%) / ME</u> <u>(1.88%) / NEPTUNE* (0.42%) /</u> <u>OVEC (0.06%) / PECO (5.32%) /</u> <u>PENELEC (1.81%) / PEPCO</u> <u>(3.79%) / PPL (4.58%) / PSEG</u> <u>(6.24%) / RE (0.25%)</u></p> <hr/> <p><u>DFAX Allocation:</u> <u>BGE (8.30%) / Dominion</u> <u>(78.64%) / PEPCO (13.06%)</u></p>
<u>b4000.352</u>	<u>Cut in line Ladysmith – Possum Point into Kraken, creating new Line No. 568 Kraken to Possum Point</u>	<p><u>Load-Ratio Share Allocation:</u> <u>AEC (1.58%) / AEP (13.71%) /</u> <u>APS (5.49%) / ATSI (7.69%) /</u> <u>BGE (4.16%) / ComEd (13.25%) /</u> <u>Dayton (2.07%) / DEOK (3.18%) /</u> <u>DL (1.65%) / DPL (2.57%) /</u> <u>Dominion (14.20%) / EKPC</u> <u>(2.30%) / JCPL (3.80%) / ME</u> <u>(1.88%) / NEPTUNE* (0.42%) /</u> <u>OVEC (0.06%) / PECO (5.32%) /</u> <u>PENELEC (1.81%) / PEPCO</u> <u>(3.79%) / PPL (4.58%) / PSEG</u> <u>(6.24%) / RE (0.25%)</u></p> <hr/> <p><u>DFAX Allocation:</u> <u>BGE (13.28%) / Dominion</u> <u>(64.48%) / PEPCO (22.24%)</u></p>

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

<u>Required Transmission Enhancements</u>	<u>Annual Revenue Requirement</u>	<u>Responsible Customer(s)</u>
<u>b4000.353</u>	<u>Upgrade 500 kV terminal equipment at Elmont substation</u>	<p><u>Load-Ratio Share Allocation:</u> <u>AEC (1.58%) / AEP (13.71%) /</u> <u>APS (5.49%) / ATSI (7.69%) /</u> <u>BGE (4.16%) / ComEd (13.25%) /</u> <u>Dayton (2.07%) / DEOK (3.18%) /</u> <u>DL (1.65%) / DPL (2.57%) /</u> <u>Dominion (14.20%) / EKPC</u> <u>(2.30%) / JCPL (3.80%) / ME</u> <u>(1.88%) / NEPTUNE* (0.42%) /</u> <u>OVEC (0.06%) / PECO (5.32%) /</u> <u>PENELEC (1.81%) / PEPCO</u> <u>(3.79%) / PPL (4.58%) / PSEG</u> <u>(6.24%) / RE (0.25%)</u></p> <hr/> <p><u>DFAX Allocation:</u> <u>APS (9.79%) / BGE (6.14%) /</u> <u>Dominion (75.61%) / PEPCO</u> <u>(8.46%)</u></p>
<u>b4000.354</u>	<u>Expand Ladysmith substation to add redundant circuit breakers to the middle breakers on both 500 kV strings (574T575 and 568T581). The equipment including switches 57518, 57515, and H115 will be replaced with 5000A equipment</u>	<p><u>Load-Ratio Share Allocation:</u> <u>AEC (1.58%) / AEP (13.71%) /</u> <u>APS (5.49%) / ATSI (7.69%) /</u> <u>BGE (4.16%) / ComEd (13.25%) /</u> <u>Dayton (2.07%) / DEOK (3.18%) /</u> <u>DL (1.65%) / DPL (2.57%) /</u> <u>Dominion (14.20%) / EKPC</u> <u>(2.30%) / JCPL (3.80%) / ME</u> <u>(1.88%) / NEPTUNE* (0.42%) /</u> <u>OVEC (0.06%) / PECO (5.32%) /</u> <u>PENELEC (1.81%) / PEPCO</u> <u>(3.79%) / PPL (4.58%) / PSEG</u> <u>(6.24%) / RE (0.25%)</u></p> <hr/> <p><u>DFAX Allocation:</u> <u>APS (9.79%) / BGE (6.14%) /</u> <u>Dominion (75.61%) / PEPCO</u> <u>(8.46%)</u></p>

*Neptune Regional Transmission System, LLC

SCHEDULE 12 – APPENDIX A

(23) American Transmission Systems, Inc.

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2019.2 Terminate Burger – Longview 138 kV, Burger – Brookside 138 kV, Burger – Cloverdale 138 kV #1, and Burger – Harmon 138 kV #2 into Holloway substation; Loop Burger – Harmon #1 138 kV and Burger – Knox 138 kV into Holloway substation		ATSI (100%)
b2019.3 Reconfigure Burger 138 kV substation to accommodate two 138 kV line exits and generation facilities		ATSI (100%)
b2019.4 Remove both Burger 138 kV substations (East and West 138 kV buses) and all 138 kV lines on the property		ATSI (100%)
b2019.5 Terminate and de-energize the 138 kV lines on the last structure before the Burger Plant property		ATSI (100%)
b2122.1 Reconductor the ATSI portion of the Howard – Brookside 138 kV line		ATSI (100%)
b2122.2 Upgrade terminal equipment at Brookside on the Howard – Brookside 138 kV line to achieve ratings of 252/291 (SN/SE)		ATSI (100%)
b2188 Revise the reclosing for the Bluebell 138 kV breaker '301-B-94'		ATSI (100%)
b2192 Replace the Longview 138 kV breaker '651-B-32'		ATSI (100%)
b2193 Replace the Lowellville 138 kV breaker '1-10-B 4'		ATSI (100%)

American Transmission Systems, Inc. (cont.)

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2195	Replace the Roberts 138 kV breaker '601-B-60'		ATSI (100%)
b2196	Replace the Sammis 138 kV breaker '780-B-76'		ATSI (100%)
b2262	New Castle Generating Station – Relocate 138 kV, 69 kV, and 23 kV controls from the generating station building to new control building		ATSI (100%)
b2263	Niles Generation Station – Relocate 138 kV and 23 kV controls from the generation station building to new control building		ATSI (100%)
b2265	Ashtabula Generating Station – Relocate 138 kV controls from the generating station building to new control building		ATSI (100%)
b2284	Increase the design operating temperature on the Cloverdale – Barberton 138 kV line		ATSI (100%)
b2285	Increase the design operating temperature on the Cloverdale – Star 138 kV line		ATSI (100%)
b2301	Reconductor 0.7 miles of 605 ACSR conductor on the Beaver Black River 138 kV line		ATSI (100%)
b2301.1	Wave trap and line drop replacement at Beaver (312/380 MVA SN/SE)		ATSI (100%)
b2349	Replace the East Springfield 138 kV breaker 211-B-63 with 40 kA		ATSI (100%)
b2367	Replace the East Akron 138 kV breaker 36-B-46 with 40 kA		ATSI (100%)

American Transmission Systems, Inc. (cont.)

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2413	Replace a relay at McDowell 138 kV substation		ATSI (100%)
b2434	Build a new London – Tangy 138 kV line		ATSI (100%)
b2435	Build a new East Springfield – London #2 138 kV line		ATSI (100%)
b2459	Install +260/-150 MVAR SVC at Lake Shore		ATSI (100%)
b2492	Replace the Beaver 138 kV breaker '426-B-2' with 63 kA breaker		ATSI (100%)
b2493	Replace the Hoytdale 138 kV breaker '83-B-30' with 63 kA breaker		ATSI (100%)
b2557	At Avon substation, replace the existing 345/138 kV 448 MVA #92 transformer with a 560 MVA unit		ATSI (100%)
b2558	Close normally open switch A 13404 to create a Richland J Bus – Richland K Bus 138 kV line		ATSI (100%)
b2559	Reconductor the Black River – Lorain 138 kV line and upgrade Black River and Lorain substation terminal end equipment		ATSI (100%)
b2560	Construct a second 138 kV line between West Fremont and Hayes substation on open tower position of the West Fremont –Groton –Hayes 138 kV line		ATSI (100%)
b2616	Addition of 4th 345/138 kV transformer at Harding		ATSI (100%)

American Transmission Systems, Inc. (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2673	Rebuild the existing double circuit tower line section from Beaver substation to Brownhelm Jct. approx. 2.8 miles	ATSI (100%)
b2674	Rebuild the 6.6 miles of Evergreen to Ivanhoe 138 kV circuit with 477 ACSS conductor	ATSI (100%)
b2675	Install 26.4 MVAR capacitor and associated terminal equipment at Lincoln Park 138 kV substation	ATSI (100%)
b2725	Build new 345/138 kV Lake Avenue substation w/ breaker and a half high side (2 strings), 2-345/138 kV transformers and breaker and a half (2 strings) low side (138 kV). Substation will tie Avon – Beaver 345 kV #1/#2 and Black River – Johnson #1/#2 lines	ATSI (100%)
b2725.1	Replace the Murray 138 kV breaker '453-B-4' with 40 kA breaker	ATSI (100%)
b2742	Replace the Hoytdale 138 kV '83-B-26' and '83-B-30' breakers with 63 kA breakers	ATSI (100%)
b2753.4	Double capacity for 6 wire "Burger-Cloverdale No. 2" 138 kV line and connect at Holloway and "Point A"	ATSI (100%)
b2753.5	Double capacity for 6 wire "Burger-Longview" 138 kV line and connect at Holloway and "Point A"	ATSI (100%)
b2778	Add 2nd 345/138 kV transformer at Chamberlin substation	ATSI (100%)
b2780	Replace Bruce Mansfield 345 kV breaker 'B57' with an 80 kA breaker, and associated gang-operated disconnect switches D56 and D58	ATSI (100%)

American Transmission Systems, Inc. (cont.)

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2869	Replace the Crossland 138 kV breaker "B-16" with a 40 kA breaker		ATSI (100%)
b2875	Relocate the Richland to Ridgeville 138 kV line from Richland J bus to K, extend the K bus and install a new breaker		ATSI (100%)
b2896	Rebuild/Reconductor the Black River – Lorain 138 kV circuit		ATSI (100%)
b2897	Reconductor the Avon – Lorain 138 kV section and upgrade line drop at Avon		ATSI (100%)
b2898	Reconductor the Beaver – Black River 138 kV with 954 Kcmil ACSS conductor and upgrade terminal equipment on both stations		ATSI (100%)
b2942.1	Install a 100 MVAR 345 kV shunt reactor at Hayes substation		ATSI (100%)
b2942.2	Install a 200 MVAR 345 kV shunt reactor at Bayshore substation		ATSI (100%)
b2972	Reconductor limiting span of Lallendorf – Monroe 345 kV		MISO (11.00%) / AEP (5.38%) / APS (4.27%) / ATSI (66.48%) / Dayton (2.71%) / Dominion (5.31%) / DL (4.85%)
b3031	Transfer load off of the Leroy Center - Mayfield Q2 138 kV line by reconfiguring the Pawnee substation primary source, via the existing switches, from the Leroy Center - Mayfield Q2 138 kV line to the Leroy Center - Mayfield Q1 138 kV line		ATSI (100%)

American Transmission Systems, Inc. (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3032 Greenfield - NASA 138 kV terminal upgrades: NASA substation, Greenfield exit: Revise CT tap on breaker B22 and adjust line relay settings; Greenfield substation, NASA exit: Revise CT tap on breaker B1 and adjust line relay settings; replace 336.4 ACSR line drop with 1033.5 AL		ATSI (100%)
b3033 Ottawa – Lakeview 138 kV reconductor and substation upgrades		ATSI (100%)
b3034 Lakeview – Greenfield 138 kV reconductor and substation upgrades		ATSI (100%).
b3066 Reconductor the Cranberry – Jackson 138 kV line (2.1 miles), reconductor 138 kV bus at Cranberry bus and replace 138 kV line switches at Jackson bus		ATSI (100%)
b3067 Reconductor the Jackson – Maple 138 kV line (4.7 miles), replace line switches at Jackson 138 kV and replace the line traps and relays at Maple 138 kV bus		ATSI (100%)
b3080 Reconductor the 138 kV bus at Seneca		ATSI (100%)
b3081 Replace the 138 kV breaker and reconductor the 138 kV bus at Krendale		ATSI (100%)

American Transmission Systems, Inc. (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3123 At Sammis 345 kV station: Install a new control building in the switchyard, construct a new station access road, install new switchyard power supply to separate from existing generating station power service, separate all communications circuits, and separate all protection and controls schemes		ATSI (100%)
b3124 Separate metering, station power, and communication at Bruce Mansfield 345 kV station		ATSI (100%)
b3127 At Bay Shore 138 kV station: Install new switchyard power supply to separate from existing generating station power service, separate all communications circuits, and construct a new station access road		ATSI (100%)
b3152 Reconductor the 8.4 mile section of the Leroy Center – Mayfield Q1 line between Leroy Center and Pawnee Tap to achieve a rating of at least 160 MVA / 192 MVA (SN/SE)		ATSI (100%)
b3234 Extend both the east and west 138 kV buses at Pine substation, and install one (1) 138 kV breaker, associated disconnect switches, and one (1) 100 MVAR reactor		ATSI (100%)
b3235 Extend 138 kV bus work to the west of Tangy substation for the addition of the 100 MVAR reactor bay and one (1) 138 kV 40 kA circuit breaker		ATSI (100%)
b3236 Extend the Broadview 138 kV bus by adding two (2) new breakers and associated equipment and install a 75 MVAR reactor		ATSI (100%)

American Transmission Systems, Inc. (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3260	Replace the existing breaker 501-B-251 with a new 69 kV breaker with a higher (40 kA) interrupting capability	ATSI (100%)
b3277	Replace the existing East Akron 138 kV breaker 'B-22' with 3000A continuous, 40 kA momentary current interrupting rating circuit breaker	ATSI (100%)
b3282	Install a second 345/138 kV transformer at Hayes, 448 MVA nameplate rating. Add one 345 kV circuit breaker (3000A) to provide transformer high-side connection between breaker B-18 and the new breaker. Connect the new transformer low side to the 138 kV bus. Add one 138 kV circuit breaker (3000A) at Hayes 138 kV substation between B-42 and the new breaker. Relocate the existing 138 kV No. 1 capacitor bank between B-42 and the new breaker. Protection per First Energy standard	ATSI (100%)

American Transmission Systems, Inc. (cont.)

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3678	Expand Galion 138 kV substation, Install 100 MVAR reactor, associated breaker and relaying		ATSI (100%)
b3679	Replace West Fremont 138/69 kV Transformer #2 with a transformer having additional high-side taps		ATSI (100%)
b3680	Replace limiting substation conductors on Ashtabula 138 kV exit to make transmission line conductor the limiting element at Sanborn 138 station		ATSI (100%)
b3713	Disconnect and remove five 138 kV bus tie lines and associated equipment from the Avon Lake Substation to the plant (800-B Bank, 8-AV-T Generator, 5-AV-T, 6-AV-T, and 7-AV-T). Disconnect and remove one 345 kV bus tie line and associated equipment from the Avon substation to the plant (Unit 9). Adjust relay settings at Avon Lake, Avon and Avondale substations. Removal/rerouting of fiber to the plant and install new fiber between the 345 kV and 138 kV yards for the Q4-AV-BUS relaying. Remove SCADA RTU, communications and associated equipment from plant.		ATSI (100%)

American Transmission Systems, Inc. (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3714	<p>Replace four 345 kV disconnect switches (D74, D92, D93, & D116) with 3000 A disconnect switches at Beaver station. Replace dual 954 45/7 ACSR SCCIR conductors between 5" pipe and WT with new, which meets or exceeds ratings of SN: 1542 MVA, SSTE: 1878 MVA at Beaver station. Replace 3000 SAC TL drop and 3000 SAC SCCIR between 954 ACSR and 5" bus with new, which meets or exceeds ratings of SN: 1542 MVA, SSTE: 1878 MVA at Beaver station. Upgrade BDD relays at breaker B-88 and B-115 at Beaver station. Relay settings changes at Hayes station.</p>	<p>ATSI (100%)</p>
b3720	<p>Rebuild the 69 kV Abbe – Johnson #2 Line (approximately 4.9 miles) with 556 kcmil ACSR conductor. Replace three disconnect switches (A17, D15 & D16) and line drops and revise relay settings at Abbe. Replace one disconnect switch (A159) and line drops and revise relay settings at Johnson. Replace two MOAB disconnect switches (A4 & A5), one disconnect switch (D9), and line drops at Redman</p>	<p>ATSI (100%)</p>

American Transmission Systems, Inc. (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3721	Rebuild and reconductor the Avery – Hayes 138 kV line (approximately 6.5 miles) with 795 kcmil 26/7 ACSR	ATSI (100%)
b3777	Disconnect and remove three 345 kV breakers, foundations and associated equipment from Sammis 345 kV substation. Remove nine 345 kV Capacitor voltage transformers. Remove two 345 kV disconnect switches. Install new 345 kV bus work and foundations. Install new fencing. Remove and adjust relaying at Sammis 345 kV substation	ATSI (100%)
b3789.0	A 69 kV, 60 MVAR shunt reactor will be installed at the Salt Springs substation. The reactor terminal will be connected to the existing 69 kV bus, and an independent-pole operation, 1200A circuit breaker will be installed for reactor switching	ATSI (100%)
<u>b3925.1</u>	<u>Rebuild the 7.46 miles of Avery - Shinrock 138 kV Line with 795 kcmil 26/7 ACSS (7.46 miles)</u>	<u>ATSI (100%)</u>
<u>b3925.2</u>	<u>Rebuild the 13.45 miles of Greenfield - Lakeview 138 kV Line from 2 x 336.4 kcmil 26/7 ACSR to 1 x 795 kcmil 26/7 ACSS</u>	<u>ATSI (100%)</u>
<u>b3925.3</u>	<u>Rebuild the 6.5 miles of Avery-Hayes 138 kV Line with 795 kcmil 26/7 ACSS conductor</u>	<u>ATSI (100%)</u>

American Transmission Systems, Inc. (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
<u>b3925.4</u>		<u>ATSI (100%)</u>

SCHEDULE 12 – APPENDIX A

(29) Ohio Valley Electric Corporation

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2943	Perform a LIDAR study on the Clifty Creek – Dearborn 345 kV line to increase the Summer Emergency rating above 1023 MVA	OVEC (100%)
b3788.2	Replace OVEC owned breaker AA risers, bus work, and breaker AA disconnect switches at OVEC owned Kyger Creek station	OVEC (100%)
<u>b3899.1</u>	<u>Replace OVEC owned station equipment at Kyger Creek to raise the rating of the Kyger Creek-Sporn 345 kV line. Equipment to be replaced includes station conductor and a wavetrap at Kyger Creek</u>	<u>OVEC (100%)</u>

SCHEDULE 12 – APPENDIX A

(33) Keystone Appalachian Transmission Company

Required Transmission Enhancements	Annual 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%)

Keystone Appalachian Transmission Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b2440	Replace the Cabot 138kV breaker 'C9-KISKI VLY' with 63kA		APS (100%)
b2546	Install a 51.8 MVAR (rated) 138 kV capacitor at Nyswaner 138 kV substation		APS (100%)
b2547.1	Construct a new 138 kV six breaker ring bus Hillman substation		APS (100%)
b2547.2	Loop Smith- Imperial 138 kV line into the new Hillman substation		APS (100%)
b2547.3	Install +125/-75 MVAR SVC at Hillman substation		APS (100%)
b2547.4	Install two 31.7 MVAR 138 kV capacitors		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%)
b2612.1	Relocate All Dam 6 138 kV line and the 138 kV line to AE units 1&2		APS (100%)
b2612.2	Install 138 kV, 3000A bus-tie breaker in the open bus-tie position next to the Shaffers corner 138 kV line		APS (100%)
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%)

Keystone Appalachian Transmission Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
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%)
b2666.12	Replace Yukon 138 kV breaker “Y-2(1B-BETHE)” with an 80 kA breaker	APS (100%)
b2666.13	Replace Yukon 138 kV breaker “Y-21(SHEPJ)” with an 80 kA breaker	APS (100%)
b2666.14	Replace Yukon 138 kV breaker “Y-22(SHEPHJT)” with an 80 kA breaker	APS (100%)

Keystone Appalachian Transmission Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2689.3	Upgrade terminal equipment at structure 27A	APS (100%)
b2696	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	APS (100%)
b2763	Replace the breaker risers and wave trap at Bredinville 138 kV substation on the Cabrey Junction 138 kV terminal	APS (100%)
b2965	Reconductor the Charleroi – Allenport 138 kV line with 954 ACSR conductor. Replace breaker risers at Charleroi and Allenport	APS (33.72%) / DL (66.28%)
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%)

Keystone Appalachian Transmission Company (cont.)

Required Transmission 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 reconducted 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 (60.47%) / DL (39.53%)
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 (8.19%) / DL (91.81%)
b3011.3	Upgrade terminal equipment at Yukon to increase rating on Yukon to Route 51 #1 138 kV line		DL (100%)

Keystone Appalachian Transmission Company (cont.)

Required Transmission 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 (8.19%) / DL (91.81%)
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 reconducted 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%)

Keystone Appalachian Transmission Company (cont.)

Required Transmission Enhancements Annual Revenue Requirement Responsible 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 (5.95%) / DL (94.05%)
b3214.2	Reconductor the Smithton – Shepler Hill Jct 138 kV Line		APS (8.38%) / DL (91.62%)
b3230	At Enon substation install a second 138 kV, 28.8 MVAR nameplate, capacitor and the associated 138 kV capacitor switcher		APS (100%)

Keystone Appalachian Transmission Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b3318	Reconductor the Shanor Manor - Butler 138 kV line with an upgraded circuit breaker at Butler 138 kV station		APS (100%)
b3325	Reconductor the Charleroi - Union 138 kV line and upgrade terminal equipment at Charleroi 138 kV station		APS (100%)
b3681	Upgrade the Shingletown #82 230/46 kV Transformer circuit by installing a 230 kV breaker and disconnect switches, removing existing 230 kV switches, replacing 46 kV disconnect switches, replacing limiting substation conductor, and installing/replacing relays		APS (100%)
b3710	Reconductor AA2-161 to Yukon 138 kV Lines #1 and #2 with 954 ACSS conductor		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 –Bridgeport 138 kV line		APS (100%)
b3741	Replace limiting terminal equipment on Yukon - Charleroi #1 138 kV line		APS (100%)
b3742	Replace limiting terminal equipment on Yukon - Charleroi #2 138 kV line		APS (100%)
b3744	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) 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 and Shanor Manor substations		APS (100%)

Keystone Appalachian Transmission Company (cont.)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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%)
<u>b3870.1</u>	<u>At Federal Street Substation:</u> <u>- Install (3) 138 kV CCVTs on the 138 kV bus.</u> <u>- Remove the Transformer 1 CO-6 138 kV Phase relay overcurrent relays.</u> <u>- Install (1) SEL-421 relay on the high side of Transformer 1.</u> <u>- Install foundations, conduit, and grounding for new CCVTs.</u> <u>- Install cables between CCVTs and relay.</u>		<u>APS (100%)</u>

SCHEDULE 12 – APPENDIX A

(34) Valley Link Transmission Co., LLC

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
<u>b4000.2</u>	Construct a new 175 miles Amos – Welton Spring 765 kV line (AEP Section of the line is 30 miles)	<p><u>Load-Ratio Share Allocation:</u> <u>AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</u></p> <hr/> <p><u>DFAX Allocation:</u> <u>APS (14.67%) / BGE (8.11%) / Dominion (66.09%) / DPL (2.15%) / PEPCO (8.98%)</u></p>
<u>b4000.3</u>	Construct a new 175 miles Amos – Welton Spring 765 kV line (APS/FE Section of the line is 145 miles)	<p><u>Load-Ratio Share Allocation:</u> <u>AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</u></p> <hr/> <p><u>DFAX Allocation:</u> <u>APS (14.67%) / BGE (8.11%) / Dominion (66.09%) / DPL (2.15%) / PEPCO (8.98%)</u></p>

Valley Link Transmission Co., LLC (cont.)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

<u>b4000.4</u>	<u>Construct a new 765 kV switchyard (Welton Spring)</u>		<p><u>Load-Ratio Share Allocation:</u> <u>AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</u></p> <hr/> <p><u>DFAX Allocation:</u> <u>APS (14.67%) / BGE (8.11%) / Dominion (66.09%) / DPL (2.15%) / PEPCO (8.98%)</u></p>
<u>b4000.5</u>	<u>Install four 250 MVAR shunt capacitors, and a +/-500 MVAR STATCOM at Welton Spring 765 kV substation</u>		<p><u>Load-Ratio Share Allocation:</u> <u>AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</u></p> <hr/> <p><u>DFAX Allocation:</u> <u>APS (100%)</u></p>

*Neptune Regional Transmission System, LLC

Valley Link Transmission Co., LLC (cont.)

<u>Required Transmission Enhancements</u>	<u>Annual Revenue Requirement</u>	<u>Responsible Customer(s)</u>
<u>b4000.6</u>	Construct a new 86 miles Welton Spring to Rocky Point 765 kV line (Welton Spring to DVP local area, roughly 70.7 miles)	<p><u>Load-Ratio Share Allocation:</u> <u>AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</u></p> <hr/> <p><u>DFAX Allocation:</u> <u>APS (14.67%) / BGE (8.11%) / Dominion (66.09%) / DPL (2.15%) / PEPCO (8.98%)</u></p>
<u>b4000.7</u>	Construct a new 86 miles Welton Spring to Rocky Point 765 kV line (in DVP local area/Millville to Lovettsville section, roughly 10.5 miles)	<p><u>Load-Ratio Share Allocation:</u> <u>AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</u></p> <hr/> <p><u>DFAX Allocation:</u> <u>APS (14.67%) / BGE (8.11%) / Dominion (66.09%) / DPL (2.15%) / PEPCO (8.98%)</u></p>

*Neptune Regional Transmission System, LLC

Valley Link Transmission Co., LLC (cont.)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

<u>b4000.8</u>	<u>Construct a new 86 miles Welton Spring to Rocky Point 765 kV line (DVP local area to Rocky Point, roughly 4.8 miles)</u>		<p><u>Load-Ratio Share Allocation:</u> <u>AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</u></p> <hr/> <p><u>DFAX Allocation:</u> <u>APS (14.67%) / BGE (8.11%) / Dominion (66.09%) / DPL (2.15%) / PEPCO (8.98%)</u></p>
<u>b4000.9</u>	<u>Construct a new substation called Rocky Point with a 765 kV and a 500 kV yard. Loop in the Doubs-Goose Creek 500 kV line, the Doubs-Aspen 500 kV line, and the Woodside-Goose Creek 500 kV line. Install two 765/500 kV transformer at Rocky Point substation</u>		<p><u>Load-Ratio Share Allocation:</u> <u>AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</u></p> <hr/> <p><u>DFAX Allocation:</u> <u>APS (14.99%) / BGE (8.29%) / Dominion (67.55%) / PEPCO (9.17%)</u></p>

*Neptune Regional Transmission System, LLC

Valley Link Transmission Co., LLC (cont.)**Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)**

<u>b4000.10</u>	<u>Install four 250 MVAR cap banks (two on 765 and two on 500 kV side) and a +/-500 MVAR STATCOM on the 765 kV Rocky Point yard</u>		<u>Load-Ratio Share Allocation:</u> <u>AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</u> <u>DFAX Allocation:</u> <u>APS (100%)</u>
<u>b4000.346</u>	<u>Cut-in 500 kV line from Kraken substation into Yeat substation</u>		<u>Load-Ratio Share Allocation:</u> <u>AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</u> <u>DFAX Allocation:</u> <u>Dominion (100%)</u>

***Neptune Regional Transmission System, LLC**

Valley Link Transmission Co., LLC (cont.)

<u>Required Transmission Enhancements</u>	<u>Annual Revenue Requirement</u>	<u>Responsible Customer(s)</u>
<u>b4000.348</u>	<u>Build a new 500/230kV substation called Kraken. The 500 kV, 5000A ring bus will be set up for a redundant breaker configuration. Install (2) 1400MVA 500/230 kV transformers. A new redundant breaker ring will be added at Kraken to accommodate the new 500 kV line from North Anna to Kraken</u>	<u>Dominion (100%)</u>
<u>b4000.355</u>	<u>Build a new 156 mile 765 kV line from Joshua Falls – Yeat (roughly 69.3 miles in AEP section)</u>	<u>Load-Ratio Share Allocation:</u> <u>AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</u> <hr/> <u>DFAX Allocation:</u> <u>APS (9.11%) / BGE (6.49%) / Dominion (75.72%) / PEPCO (8.68%)</u>

*Neptune Regional Transmission System, LLC

Valley Link Transmission Co., LLC (cont.)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

<u>b4000.356</u>	<u>Build a new 156 mile 765 kV line from Joshua Falls – Yeat (roughly 86.7 miles in Dominion section)</u>		<p><u>Load-Ratio Share Allocation:</u> <u>AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</u></p> <hr/> <p><u>DFAX Allocation:</u> <u>APS (9.11%) / BGE (6.49%) / Dominion (75.72%) / PEPCO (8.68%)</u></p>
<u>b4000.357</u>	<u>Build a new 765/500/230 kV substation called Yeat. Install (2) 765/500 kV transformers. Cut in 500 kV line Bristers – Ox and 500 kV line Meadowbrook – Vint Hill into Yeat</u>		<p><u>Load-Ratio Share Allocation:</u> <u>AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</u></p> <hr/> <p><u>DFAX Allocation:</u> <u>Dominion (89.71%) / PEPCO (10.29%)</u></p>
<u>b4000.358</u>	<u>Build a new 765/500/230 kV substation called Yeat. Install (1) 500/230 kV transformer. Cut in 230 kV line Vint Hill – Elk Run into Yeat substation</u>		<u>Dominion (100%)</u>

*Neptune Regional Transmission System, LLC

Attachment C

Schedule 12 – Appendix A of the PJM
Open Access Transmission Tariff

Effective June 26, 2025

(Clean Format)

SCHEDULE 12 – APPENDIX A

(1) Atlantic City Electric Company

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2123	Upgrade the 69 kV bus at Laurel	AEC (100%)
b2226	Upgrade the Tackahoe to Mill 69 kV circuit	AEC (100%)
b2227	50 MVAR shunt reactor at Mickleton 230 kV and relocate Mickleton #1 230 69 kV transformer	AEC (100%)
b2228	+150/-100 MVAR SVC at Cedar 230 kV	AEC (100%)
b2296	Replace the Mickleton 230kV breaker PCB U with 63kA breaker	AEC (100%)
b2297	Replace the Mickleton 230kV breaker PCB V with 63kA breaker	AEC (100%)
b2305	Rebuild and reconductor 1.2 miles of the US Silica to US Silica #1 69 kV circuit	AEC (100%)
b2306	Rebuild and reconductor 1.67 miles of the US Silica #1 to W1-089 TAP 69 kV circuit	AEC (100%)
b2351	Reconductor section A of Corson - Sea Isle - Swainton 69 kV line	AEC (100%)
b2353	Upgrade the overcurrent protective relaying at Middle T3 and T4 138/69 kV transformers	AEC (100%)
b2354	Install second 230/69 kV transformer and 230 kV circuit breaker at Churchtown substation	AEC (100%)

Atlantic City Electric Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2354.1	Replace Churchtown 69kV breaker 'D'	AEC (100%)
b2476	Install new Dennis 230/69 kV transformer	AEC (100%)
b2477	Upgrade 138 kV and 69 kV breakers at Corson substation	AEC (100%)
b2478	Reconductor 2.74 miles of Sherman - Lincoln 138 kV line and associated substation upgrades	AEC (100%)
b2479	New Orchard - Cardiff 230 kV line (remove, rebuild and reconfigure existing 138 kV line) and associated substation upgrades	AEC (63.54%) / JCPL (36.46%)
b2480.1	New Upper Pittsgrove - Lewis 138 kV line and associated substation upgrades	AEC (100%)
b2480.2	Relocate Monroe to Deepwater Tap 138 kV to Landis 138 kV and associated substation upgrades	AEC (100%)
b2480.3	New Landis - Lewis 138 kV line and associated substation upgrades	AEC (100%)
b2481	New Cardiff - Lewis #2 138 kV line and associated substation upgrades	AEC (100%)
b2489	Install a 100 MVAR capacitor at BL England	AEC (100%)

Atlantic City Electric Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2538	Replace the Mickleton 230kV 'MK' breaker with 63kA breaker	AEC (100%)
b2553	Replace Middle T3 138/69 kV transformer with 225 MVA nameplate	AEC (100%)
b2723.1	Replace the Mickleton 69 kV 'PCB A' breaker with 63kA breaker	AEC (100%)
b2723.2	Replace the Mickleton 69 kV 'PCB B' breaker with 63kA breaker	AEC (100%)
b2723.3	Replace the Mickleton 69 kV 'PCB C' breaker with 63kA breaker	AEC (100%)
b2723.4	Replace the Mickleton 69 kV 'PCB Q' breaker with 63kA breaker	AEC (100%)
b2839	Replace the Sickler 69 kV 'H' breaker with 63kA breaker	AEC (100%)
b2840	Replace the Sickler 69 kV 'M' breaker with 63kA breaker	AEC (100%)
b2841	Replace the Sickler 69 kV 'A' breaker with 63kA breaker	AEC (100%)
b2945.1	Rebuild the BL England – Middle Tap 138 kV line to 2000A on double circuited steel poles and new foundations	AEC (100%)
b2945.2	Reconductor BL England – Merion 138 kV (1.9 miles) line	AEC (100%)
b2945.3	Reconductor Merion – Corson 138 kV (8 miles) line	AEC (100%)

Atlantic City Electric Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3135	Install back-up relay on the 138 kV bus at Corson substation	AEC (100%)
b3226	Add 10 MVAR 69 kV capacitor bank at Swainton substation	AEC (100%)
b3227	Rebuild the Corson – Court 69 kV line to achieve ratings equivalent to 795 ACSR conductor or better	AEC (100%)
b3867.1	Upgrade a circuit switcher at Mickleton substation	AEC (100%)

SCHEDULE 12 – APPENDIX A

(2) Baltimore Gas and Electric Company

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

Baltimore Gas and Electric Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2396.1	Install a tie breaker at Mays Chapel 115 kV substation	BGE (100%)
b2567	Upgrade the Riverside 115 kV substation strain bus conductors on circuits 115012 and 115011 with double bundled 1272 ACSR to achieve ratings of 491/577 MVA SN/SE on both transformer leads	BGE (100%)
b2568	Reconductor Northwest – Northwest #2 115 kV 110574 substation tie circuit with 2167 ACSR to achieve ratings of 400/462 MVA SN/SE	BGE (100%)
b2752.6	Conastone 230 kV substation tie-in work (install a new circuit breaker at Conastone 230 kV and upgrade any required terminal equipment to terminate the new 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%)
b2752.7	Reconductor/Rebuild the two Conastone – Northwest 230 kV lines 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%)
b2752.8	Replace the Conastone 230 kV ‘2322 B5’ breaker with a 63 kA breaker	BGE (100%)

Baltimore Gas and Electric Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO 3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: AEC (0.62%) / BGE (20.33%) / Dominion (39.76%) / DPL (2.09%) / JCPL (4.64%) / NEPTUNE* (0.49%) / PECO (1.98%) / PEPCO (18.76%) / PSEG (10.91%) / RE (0.42%)</p>

*Neptune Regional Transmission System, LLC

Baltimore Gas and Electric Company (cont.)

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%)

Baltimore Gas and Electric Company (cont.)

Required Transmission Enhancements	Annual Revenue 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%) / PEPSCO (29.30%)
b3780.4	Peach Bottom to Graceton (BGE) 500 kV transmission line. New rating is 4503 MVA SN/ 5022 MVA SE	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPSCO 3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: ATSI (0.03%) / BGE (28.40%) / DPL (0.02%) / Dominion (33.36%) / JCPL (6.36%) / NEPTUNE* (0.73%) / PEPSCO (17.90%) / PSEG (12.69%) / RE (0.51%)</p>

*Neptune Regional Transmission System, LLC

Baltimore Gas and Electric Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b3780.5	Build 230 kV Solley Road substation and STATCOM. New STATCOM rating: 350 MVAR. Add 4x 230 kV breakers bays		BGE (100%)
b3780.6	Build 230 kV Granite substation and STATCOM. New STATCOM rating: 350 MVAR. Add 4x 230 kV breaker bays		BGE (100%)
b3780.7	Build Batavia Road 230 kV substation. Add 4x 230 kV breaker bays		BGE (100%)
b3780.8	Graceton 500 kV substation expansion: Add 3x 500 kV breaker bays, two 500/230 kV auto transformers, and one 250 MVAR capacitor. New transformer rating: 1559 MVA SN / 1940 MVA SE. New capacitor rating: 250 MVAR		BGE (81.92%) / PEPCO (18.08%)
b3780.9	Build Graceton to Batavia Road 230 kV double circuit line. New rating: 1331 MVA SN/ 1594 MVA SE		BGE (100%)
b3780.10	Install new 350 MVAR capacitor at Conastone 500 kV substation		Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO 3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
			DFAX Allocation: BGE (100.00%)
b3780.13	Reconductor Batavia Road to Riverside 230 kV line. New rating: 1941 MVA SN / 2181 MVA SE		BGE (51.24%) / PEPCO (48.76%)

*Neptune Regional Transmission System, LLC

Baltimore Gas and Electric Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.4	New Otter Creek to Doubs 500 kV line (MD Border - PSEG Demarcation Point). Rebuild and expand existing approximately 6 miles of Otter Creek - Conastone 230 kV line to become a double-circuit 500 kV and 230 kV lines.	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPSCO 3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (13.16%) / BGE (0.79%) / Dominion (74.28%) / DPL (0.41%) / PECO (0.77%) / PEPSCO (10.59%)</p>
b3800.26	Build High Ridge 500 kV substation - Three bay breaker and half configuration	This upgrade ID is only for tracking purpose. Cost allocation details are available from b3800.27 ~ b3800.33
b3800.27	High Ridge 500 kV substation (cut into Brighton - Waugh Chapel 500 kV line) - Waugh Chapel side	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPSCO 3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: BGE (70.66%) / PEPSCO (29.34%)</p>

*Neptune Regional Transmission System, LLC

Baltimore Gas and Electric Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.28	High Ridge 500 kV substation (cut into Brighton - Waugh Chapel 500 kV line) - Brighton side	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPSCO 3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (0.68%) / BGE (97.41%) / Dominion (1.91%)</p>
b3800.29	High Ridge termination for the North Delta - High Ridge 500 kV line	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPSCO 3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: BGE (2.58%) / Dominion (59.28%) / DPL (0.02%) / PEPSCO (28.48%) / PSEG (9.24%) / RE (0.40%)</p>
b3800.30	High Ridge - Install two 500/230 kV transformers	BGE (62.75%) / PEPSCO (37.25%)

*Neptune Regional Transmission System, LLC

Baltimore Gas and Electric Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.32	Build new North Delta – High Ridge 500 kV line (approximately 59 miles)	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPSCO 3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: BGE (2.58%) / Dominion (59.28%) / DPL (0.02%) / PEPSCO (28.48%) / PSEG (9.24%) / RE (0.40%)</p>
b3800.34	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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPSCO 3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: BGE (12.36%) / Dominion (24.57%) / DPL (25.17%) / JCPL (7.90%) / NEPTUNE* (0.88%) / PENELEC (1.60%) / PEPSCO (12.32%) / PSEG (14.57%) / RE (0.63%)</p>

*Neptune Regional Transmission System, LLC

Baltimore Gas and Electric Company (cont.)

Required Transmission Enhancements	Annual Revenue 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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO 3.79% / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: BGE (51.35%) / Dominion (32.44%) / DPL (0.01%) / JCPL (0.01%) / PEPCO (16.17%) / PSEG (0.02%)</p>
b3800.37	Replace terminal equipment limitations at Conastone 500 kV - on the existing Peach Bottom – Conastone, future Graceton – Conastone, 500 kV line	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO 3.79% / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>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%)</p>

*Neptune Regional Transmission System, LLC

Baltimore Gas and Electric Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.41	Conastone - Brighton 500 kV line (5011 line) - Replace terminal equipment limitations at Conastone 500 kV substation	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: BGE (9.65%) / Dominion (63.04%) / DPL (0.02%) / PEPCO (27.29%)</p>
b3857.1	Replace Conastone 230 kV Breaker #5	BGE (100%)
b3906.1	Construct new Marley Neck 115 kV substation. Marley Neck 115 kV portion will accommodate 10 breaker-and-a-half bays, with only 6 bays planned for initial service while accommodating 4 future bays. Two Standard 230/115 kV transformers will be connected between the 230 and 115 kV equipment with appropriate isolation methods	BGE (100%)

*Neptune Regional Transmission System, LLC

SCHEDULE 12 – APPENDIX A

(3) Delmarva Power & Light Company

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b2288	Build a new 138 kV line from Piney Grove – 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%)
b2633.7	Implement high speed relaying utilizing OPGW on Red Lion – Hope Creek 500 kV line		Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
			DFAX Allocation: AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)
b2633.10	Interconnect the new Silver Run 230 kV substation with existing Red Lion – Cartanza and Red Lion – Cedar Creek 230 kV lines		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%)

*Neptune Regional Transmission System, LLC

Delmarva Power & Light Company (cont.)

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

Delmarva Power & Light Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3143.4	Replace two (2) 1200 A disconnect switches with 2000 A disconnect switches. Replace existing 954 ACSR and 500 SDCU stranded bus with two (2) 954 ACSR stranded bus. 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%)
b3143.5	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 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%)
b3155	Rebuild approx. 12 miles of Wye Mills – Stevensville line	DPL (100%)
b3224	Replace a disconnect switch and reconductor a short span of the Mt. Pleasant – Middletown tap 138 kV line	DPL (100%)

Delmarva Power & Light Company (cont.)

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

Delmarva Power & Light Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b3749	Rebuild the New Church - Piney Grove 138 kV line		DPL (100%)
b3793.1	Reconductor Silver Run - Cedar Creek 230 kV line. Reconductor 8.8 miles of 230 kV Circuit with 1594-T11/ACCR "Lapwing" conductor and replace all insulators with high temperature hardware		DPL (100%)
b3793.2	Cedar Creek – Replace three (3) standalone CTs, disconnect switch, stranded bus, and rigid bus to achieve higher rating		DPL (100%)
b3793.3	Silver Run - Replace three(3) 1-1590 ACSR Jumpers and one(1) air disconnect switch		DPL (100%)

Delmarva Power & Light Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3846.1	Rebuild 6.25 miles of 69 kV circuit 6708 (Vienna – Mardela) with new single pole steel structures and with 954.0 45/7 "Rail" conductor. This new rebuild will be from the dead-end structure on the east side of the Nanticoke River to the Mardela Tap	DPL (100%)
b3846.2	Upgrade of disconnect switch at Vienna to increase ratings of existing Vienna - Mardela 69 kV transmission facility	DPL (100%)
b3846.3	Upgrade of three disconnect switches at Mardela station to increase ratings of existing Vienna - Mardela transmission facility	DPL (100%)
b3865.1	Upgrade 138/69 kV autotransformer, a 69 kV breaker, two disconnects and move a takeoff structure at Reybold Substation. These upgrades will require a substation expansion to move the takeoff structure and a control house expansion to move the 69 kV breaker relays from the Delaware City control house to the Reybold control house	DPL (100%)
b3866.1	Adjust relay setting at Cedar Creek 230 kV Substation	DPL (100%)
b3866.2	Change relay setting at Milford 230 kV Substation	DPL (100%)

SCHEDULE 12 – APPENDIX A

(4) Jersey Central Power & Light Company

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2234	260 MVAR reactor at West Wharton 230 kV	JCPL (100%)
b2270	Advance Raritan River - Replace G1047E breaker at the 230 kV Substation	JCPL (100%)
b2271	Advance Raritan River - Replace G1047F breaker at the 230 kV Substation	JCPL (100%)
b2272	Advance Raritan River - Replace T1034E breaker at the 230 kV Substation	JCPL (100%)
b2273	Advance Raritan River - Replace T1034F breaker at the 230 kV Substation	JCPL (100%)
b2274	Advance Raritan River - Replace I1023E breaker at the 230 kV Substation	JCPL (100%)
b2275	Advance Raritan River - Replace I1023F breaker at the 230 kV Substation	JCPL (100%)
b2289	Freneau Substation - upgrade 2.5 inch pipe to bundled 1590 ACSR conductor at the K1025 230 kV Line Terminal	JCPL (100%)
b2292	Replace the Whippany 230 kV breaker B1 (CAP) with 63 kA breaker	JCPL (100%)
b2357	Replace the East Windsor 230 kV breaker 'E1' with 63 kA breaker	JCPL (100%)

Jersey Central Power & Light Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2495	Replace transformer leads on the Glen Gardner 230/34.5 kV #1 transformer	JCPL (100%)
b2496	Replace Franklin 115/34.5 kV transformer #2 with 90 MVA transformer	JCPL (100%)
b2497	Reconductor 0.9 miles of the Captive Plastics to Morris Park 34.5 kV circuit (397ACSR) with 556 ACSR	JCPL (100%)
b2498	Extend 5.8 miles of 34.5 kV circuit from North Branch substation to Lebanon substation with 397 ACSR and install 34.5 kV breaker at Lebanon substation	JCPL (100%)
b2500	Upgrade terminal equipment at Monroe on the Englishtown to Monroe (H34) 34.5 kV circuit	JCPL (100%)
b2570	Upgrade limiting terminal facilities at Feneau, Parlin, and Williams substations	JCPL (100%)
b2571	Upgrade the limiting terminal facilities at both Jackson and North Hanover	JCPL (100%)
b2586	Upgrade the V74 34.5 kV transmission line between Allenhurst and Elberon Substations	JCPL (100%)

Jersey Central Power & Light Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2633.6	Implement high speed relaying utilizing OPGW on Deans – East Windsor 500 kV	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)</p>
b2633.6.1	Implement high speed relaying utilizing OPGW on East Windsor - New Freedom 500 kV	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)</p>

* Neptune Regional Transmission System, LLC

Jersey Central Power & Light Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b2676	Install one (1) 72 MVAR fast switched capacitor at the Englishtown 230 kV substation		JCPL (100%)
b2708	Replace the Oceanview 230/34.5 kV transformer #1		JCPL (100%)
b2709	Replace the Deep Run 230/34.5 kV transformer #1		JCPL (100%)
b2754.2	Install 5 miles of optical ground wire (OPGW) between Gilbert and Springfield 230 kV substations		JCPL (100%)
b2754.3	Install 7 miles of all-dielectric self-supporting (ADSS) fiber optic cable between Morris Park and Northwood 230 kV substations		JCPL (100%)
b2754.6	Upgrade relaying at Morris Park 230 kV		JCPL (100%)
b2754.7	Upgrade relaying at Gilbert 230 kV		JCPL (100%)
b2809	Install a bypass switch at Mount Pleasant 34.5 kV substation to allow the Mount Pleasant substation load to be removed from the N14 line and transfer to O769 line		JCPL (100%)
b3023	Replace West Wharton 115 kV breakers 'G943A' and 'G943B' with 40 kA breakers		JCPL (100%)
b3042	Replace substation conductor at Raritan River 230 kV substation on the Kilmer line terminal		JCPL (100%)

Jersey Central Power & Light Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b3130	Construct seven new 34.5 kV circuits on existing pole lines (total of 53.5 miles), rebuild/reconductor two 34.5 kV circuits (total of 5.5 miles) and install a second 115/34.5 kV transformer (Werner)		JCPL (100%)
b3130.1	Construct a new 34.5 kV circuit from Oceanview to Allenhurst 34.5 kV (4 miles)		JCPL (100%)
b3130.2	Construct a new 34.5 kV circuit from Atlantic to Red Bank 34.5 kV (12 miles)		JCPL (100%)
b3130.3	Construct a new 34.5 kV circuit from Freneau to Taylor Lane 34.5 kV (6.5 miles)		JCPL (100%)
b3130.4	Construct a new 34.5 kV circuit from Keyport to Belford 34.5 kV (6 miles)		JCPL (100%)
b3130.5	Construct a new 34.5 kV circuit from Red Bank to Belford 34.5 kV (5 miles)		JCPL (100%)
b3130.6	Construct a new 34.5 kV circuit from Werner to Clark Street (7 miles)		JCPL (100%)
b3130.7	Construct a new 34.5 kV circuit from Atlantic to Freneau (13 miles)		JCPL (100%)
b3130.8	Rebuild/reconductor the Atlantic – Camp Woods Switch Point (3.5 miles) 34.5 kV circuit		JCPL (100%)
b3130.9	Rebuild/reconductor the Allenhurst – Elberon (2 miles) 34.5 kV circuit		JCPL (100%)
b3130.10	Install 2nd 115/34.5 kV transformer at Werner substation		JCPL (100%)

Jersey Central Power & Light Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3130.11	Replace four Atlantic 34.5 kV breakers (BK1A, BK1B, BK3A and BK3B) with 63 kA rated breakers and associated equipment	JCPL (100%)
b3130.12	Replace six Werner 34.5 kV breakers (E31A_Prelim, E31B_Prelim, V48 future, W101, M39 and U99) with 40 kA rated breakers and associated equipment	JCPL (100%)
b3238	Replace seven (7) overdutied 34.5 kV breakers with 50 kA rated equipment at the Whippany substation	JCPL (100%)
b3239	Replace fourteen (14) overdutied 34.5 kV breakers with 63 kA rated equipment	JCPL (100%)
b3674	Replace five Atlantic 34.5 kV breakers (J36, BK1A, BK1B, BK3A and BK3B) with 63 kA rated breakers and associated equipment	JCPL (100%)
b3675	Replace six Werner 34.5 kV breakers (E31A_Prelim, E31B_Prelim, V48 future, W101, M39 and U99) with 40 kA rated breakers and associated equipment	JCPL (100%)
b3676	Replace Freneau 34.5 kV breaker (BK6) with 63 kA rated breakers and associated equipment	JCPL (100%)

Jersey Central Power & Light Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b3860.1	Replace the 34.5 kV bus tie breaker at Chester Substation with a new 34.5 kV breaker that has an interruption capability of 40 kA		JCPL (100%)
b3861.1	Replace the W101 34.5 kV breaker at Werner Substation with a new 34.5 kV breaker that has an interruption capability of 40 kA		JCPL (100%)

SCHEDULE 12 – APPENDIX A

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

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2006.1.1	Loop the 2026 (TMI – Hosensack 500 kV) line in to the Lauschtown	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPSCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: BGE (22.28%) / ME (1.76%) / PPL (75.96%)</p>
b2006.2.1	Upgrade relay at South Reading on the 1072 230 V line	ME (100%)
b2006.4	Replace the South Reading 69 kV ‘81342’ breaker with 40 kA breaker	ME (100%)
b2006.5	Replace the South Reading 69 kV ‘82842’ breaker with 40 kA breaker	ME (100%)
b2452	Install 2nd Hunterstown 230/115 kV transformer	APS (8.30%) / BGE (14.70%) / DEOK (0.48%) / Dominion (36.92%) / ME (23.85%) / PEPSCO (15.75%)

* Neptune Regional Transmission System, LLC

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

Required Transmission 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%)

**Mid-Atlantic Interstate Transmission, LLC for the Metropolitan Edison Company Zone
(cont.)**

Required Transmission Enhancements		Annual 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%)

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

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3671	Rebuild approximately 3.6 miles of North Boyertown - West Boyertown 69 kV line. Upgrade terminal equipment (circuit breaker, disconnect switches, substation conductor) and relays at North Boyertown and West Boyertown 69 kV substation	ME (100%)
b3715.3	Install a new Allen four breaker ring bus switchyard near the existing ME Allen substation on adjacent property presently owned by FirstEnergy. Terminate the Round Top-Allen and the Allen-PPGI (PPG Industries) 115 kV lines into the new switchyard	ME (100%)
b3768	Rebuild/Reconductor the Germantown – Lincoln 115 kV line. Upgrade limiting 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%)

**Mid-Atlantic Interstate Transmission, LLC for the Metropolitan Edison Company Zone
(cont.)**

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.2	Break the existing Three Mile Island - Peach Bottom 500 kV line and terminate into adjacent Otter Creek 500 kV switchyard	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (13.16%) / BGE (0.71%) / Dominion (74.28%) / DPL (0.36%) / PECO (0.68%) / PEPCO (10.59%) / PPL (0.22%)</p>

* Neptune Regional Transmission System, LLC

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

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.6	Replace terminal equipment at TMI Peach Bottom - TMI 500 kV line	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>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%)</p>
b3800.10	Rebuild the Germantown - Lincoln 115 kV line for 230 kV double circuit construction	ME (100%)
b3800.11	Rebuild the Hunterstown - Lincoln 115 kV line for 230 kV double circuit construction	ME (100%)
b3800.12	Rebuild the Germantown - Carroll 138 kV line for 230 kV double circuit construction (MAIT Section)	ME (100%)
b3800.14	Construct new 230 kV Hunterstown - Carroll line (MAIT Section)	APS (99.86%) / ME (0.14%)

* Neptune Regional Transmission System, LLC

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

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
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%)
b3858.1	Rebuild the Windsor Substation 115 kV yard to convert from a straight bus configuration into a six-breaker ring bus configuration. Install two (2) 21.62 MVAR, 115 kV capacitor banks. The substation fence will need to be expanded and approximately 1 acre of land will need to be purchased. No wetlands or environmental risks were identified at this time. The Tolna and Yorkana 115 kV line exits will need to be relocated.		ME (100%)

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

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
<p>b3858.2</p> <p>Rebuild the Yorkana Substation 115 kV yard converting from a straight bus configuration to a (9) breaker, breaker-and-a-half configuration. The substation fence will need to be expanded but no land acquisition will be required. The Glades, Windsor, and Redfront 115 kV Line exits will need to be relocated.</p>		<p>ME (100%)</p>

SCHEDULE 12 – APPENDIX A

(8) PECO Energy Company

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

PECO Energy Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b2550	Replace terminal equipment inside Nottingham substation on the 220-05 (Nottingham – Daleville- Bradford) 230 kV line		PECO (100%)
b2551	Replace terminal equipment inside Llanerch substation on the 130-45 (Eddystone to Llanerch) 138 kV line		PECO (100%)
b2572	Replace the Peach Bottom 500 kV ‘#225’ breaker with a 63 kA breaker		PECO (100%)
b2694	Increase ratings of Peach Bottom 500/230 kV transformer to 1479 MVA normal/1839 MVA emergency		AEC (3.97%)/ AEP (5.77%)/ APS (4.27%)/ ATSI (6.15%)/ BGE (1.63%)/ ComEd (0.72%)/ Dayton (1.06%)/ DEOK (1.97%)/ DL (2.25%)/ Dominion (0.35%)/ DPL (14.29%)/ ECP** (0.69%)/ EKPC (0.39%)/ HTP*** (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%)
b2752.2	Tie in new Furnace Run substation to Peach Bottom – TMI 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%)
b2752.3	Upgrade terminal equipment and required relay communication at Peach Bottom 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%)

*Neptune Regional Transmission System, LLC

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

***Hudson Transmission Partners, LLC

PECO Energy Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2766.2	Upgrade substation equipment at Peach Bottom 500 kV to increase facility rating to 2826 MVA normal and 3525 MVA emergency	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: DPL (100%)</p>

*Neptune Regional Transmission System, LLC

PECO Energy Company (cont.)

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

PECO Energy Company (cont.)

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

PECO Energy Company (cont.)

Required Transmission 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)	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>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%)</p>

*Neptune Regional Transmission System, LLC

PECO Energy Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3780.1	Peach Bottom North upgrades – 500 kV substation work. Add 3x 500 kV breakers to form a breaker-and-a-half bay	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		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%)
b3780.2	Peach Bottom to Graceton (PECO) new 500 kV transmission line. New rating: 4503 MVA SN/5022 MVA SE	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		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%)
b3780.3	West Cooper substation work includes 3 breaker ring, 500/230 kV transformer, control house, substation build, and reconfigure Cooper distribution station feed. New transformer rating: 1559 MVA SN/ 1940 MVA SE	DPL (41.52%) / PECO (58.48%)

*Neptune Regional Transmission System, LLC

PECO Energy Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3780.14	Reconfigure Cooper transmission feeds by establishing new Cooper - North Delta 230 kV line and rerouting existing transmissions lines by Cooper	DPL (38.25%) / PECO (61.75%)
b3780.15	Cut-in 5012 Peach Bottom - Conastone 500 kV line into North Delta 500/230 kV substation by rebuilding 5012 between new terminal at Peach Bottom South and North Delta on single circuit structures and terminating at North Delta	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: AEC (11.03%) / BGE (37.40%) / DPL (22.90%) / PECO (0.00%) / PEPCO (28.67%)</p>

*Neptune Regional Transmission System, LLC

PECO Energy Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.52	Reconfigure Peach Bottom North and South yards to allow for termination of 500 kV lines from Peach Bottom to North Delta. North Delta 500 kV termination for the new Peach Bottom - North Delta 500 kV line	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: AEC (11.03%) / BGE (37.40%) / DPL (22.90%) / PECO (0.00%) / PEPCO (28.67%)</p>
b3844.1	Replacement of relays at Macdade, Printz, and Morton stations to increase rating limits of transmission relay equipment. Line protection relays will be upgraded with latest standard relays used across the PECO system	PECO (100%)
b3845.1	Add a second 138 kV breaker next to Nottingham 895 CB to eliminate stuck breaker contingency	PECO (100%)
b3862.1	Upgrade two (2) 500 kV free standing CTs, one (1) disconnect switch, and four (4) sections of tube bus at Elroy 500 kV substation	PECO (100%)

*Neptune Regional Transmission System, LLC

PECO Energy Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b3863.1	Change tap ratios on two (2) CTs at Schuylkill 230 kV substation		PECO (100%)
b3864.1	Replace station cable at Tacony 69 kV station		PECO (100%)
b3864.2	Replace station cable at Richmond 230 kV station		PECO (100%)
b3907.1	Reconductor entire 2.5 miles of North Philadelphia to Master 230 kV line		AEC (0.76%) / JCPL (1.45%) / NEPTUNE* (0.15%) / PECO (94.22%) / PSEG (3.29%) / RE (0.13%)
b3907.2	Richmond to Waneeta 230 kV Line: Rebuild entire 0.95 miles of existing UGT, and rebuild entire 2.23 miles of existing OHT		AEC (9.99%) / JCPL (8.34%) / NEPTUNE* (0.80%) / PECO (55.62%) / PSEG (24.31%) / RE (0.94%)
b3907.3	Reconductor 2.12 miles of North Philadelphia to Waneeta 230 kV line		AEC (10.75%) / JCPL (14.26%) / NEPTUNE* (1.48%) / PECO (38.58%) / PSEG (33.62%) / RE (1.31%)

*Neptune Regional Transmission System, LLC

SCHEDULE 12 – APPENDIX A

(9) PPL Electric Utilities Corporation

Required Transmission Enhancements		Annual Revenue Requirement	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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
			DFAX Allocation: PPL (100%)
b2238	100 MVAR shunt reactor at Elimsport 230 kV		PPL (100%)

* Neptune Regional Transmission System, LLC

PPL Electric Utilities Corporation (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2269 Rebuild approximately 23.7 miles of the Susquehanna - Jenkins 230 kV circuit. This 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%)
b2406.1 Rebuild Stanton-Providence 69 kV 2&3 9.5 miles with 795 SCSR		PPL (100%)
b2406.2 Reconnector 7 miles of the Lackawanna - Providence 69 kV #1 and #2 with 795 ACSR		PPL (100%)
b2406.3 Rebuild SUB2 Tap 1 (Lackawanna - Scranton 1) 69 kV 1.5 miles 556 ACSR		PPL (100%)
b2406.4 Rebuild SUB2 Tap 2 (Lackawanna - Scranton 1) 69 kV 1.6 miles 556 ACSR		PPL (100%)
b2406.5 Create Providence - Scranton 69 kV #1 and #2, 3.5 miles with 795 ACSR		PPL (100%)
b2406.6 Rebuild Providence 69 kV switchyard		PPL (100%)
b2406.7 Install 2 - 10.8 MVAR capacitors at EYNO 69 kV		PPL (100%)
b2406.8 Rebuild Stanton 230 kV yard		PPL (100%)

PPL Electric Utilities Corporation (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	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 (80.77%) / PPL (19.23%)
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%)

PPL Electric Utilities Corporation (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2716	Add a 200 MVAR shunt reactor at Lackawanna 500 kV substation	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: PPL (100%)</p>
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%)

* Neptune Regional Transmission System, LLC

PPL Electric Utilities Corporation (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2824	Reconfigure/Expand the Lackawanna 500 kV substation by adding a third bay with three breakers	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: PPL (100%)</p>
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%)

* Neptune Regional Transmission System, LLC

PPL Electric Utilities Corporation (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	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%)

* Neptune Regional Transmission System, LLC

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

***Hudson Transmission Partners, LLC

PPL Electric Utilities Corporation (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (13.16%) / BGE (0.71%) / Dominion (74.28%) / DPL (0.36%) / PECO (0.68%) / PEPCO (10.59%) / PPL (0.22%)</p>

* Neptune Regional Transmission System, LLC

PPL Electric Utilities Corporation (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (13.16%) / BGE (0.71%) / Dominion (74.28%) / DPL (0.36%) / PECO (0.68%) / PEPCO (10.59%) / PPL (0.22%)</p>
b3800.53	Construct a double-circuit 500 kV line from the existing TMI - Peach Bottom 500 kV right-of-way to the proposed Chanceford switchyard, approximately 1.0 miles in length	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (13.37%) / Dominion (75.27%) / PEPCO (11.36%)</p>

* Neptune Regional Transmission System, LLC

PPL Electric Utilities Corporation (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3908.1	Install one 80 MVA 230 kV capacitor bank at Pocono 230 kV Substation	PPL (100.00%)
b3909.1	Juniata 500 kV yard expansion/reconfiguration to include one new bay and eliminate the line fault stuck breaker	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPSCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: PPL (100%)</p>
b3910.1	Susquehanna T10 230 kV Station Reconfiguration. Break the existing Susquehanna - Glen Brook 230 kV line and loop it 0.2 miles in and out of the Susquehanna T10 230 kV Station	PPL (100.00%)

* Neptune Regional Transmission System, LLC

SCHEDULE 12 – APPENDIX A

(12) Public Service Electric and Gas Company

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b2218	Rebuild 4 miles of overhead line from Edison - 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 at Stanley Terrace 230 kV		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		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.

Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement		Responsible Customer(s)
b2276	Eliminate the Sewaren 138 kV bus by installing a new 230 kV bay at Sewaren 230 kV		PSEG (96.26%) / RE (3.74%)
b2276.1	Convert the two 138 kV circuits from Sewaren – Metuchen to 230 kV circuits including Lafayette and Woodbridge substation		PSEG (96.26%) / RE (3.74%)
b2276.2	Reconfigure the Metuchen 230 kV station to accommodate the two converted circuits		PSEG (96.26%) / RE (3.74%)
b2290	Replace disconnect switches at Kilmer, Lake Nilson and Greenbrook 230 kV substations on the Raritan River - Middlesex (I-1023) circuit		PSEG (100%)
b2291	Replace circuit switcher at Lake Nelson 230 kV substation on the Raritan 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%)

Public Service Electric and Gas Company (cont.)

Required Transmission 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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		DFAX Allocation: PSEG (96.26%) / RE (3.74%)
b2436.21	Convert the Marion - Bayonne "L" 138 kV circuit to 345 kV and any associated substation upgrades	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		DFAX Allocation: PSEG (96.26%) / RE (3.74%)

*Neptune Regional Transmission System, LLC

Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2436.22	Convert the Marion - Bayonne "C" 138 kV circuit to 345 kV and any associated substation upgrades	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: PSEG (96.26%) / RE (3.74%)</p>
b2436.33	Construct a new Bayway – Bayonne 345 kV circuit and any associated substation upgrades	PSEG (96.26%) / RE (3.74%)
b2436.34	Construct a new North Ave – Bayonne 345 kV circuit and any associated substation upgrades	PSEG (96.26%) / RE (3.74%)

*Neptune Regional Transmission System, LLC

Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b2436.50	Construct a new North Ave - Airport 345 kV circuit and any associated substation upgrades		PSEG (96.26%) / RE (3.74%)
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 (96.26%) / RE (3.74%)
b2436.70	Construct a new Airport - Bayway 345 kV circuit and any associated substation upgrades		PSEG (96.26%) / RE (3.74%)
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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
			DFAX Allocation: PSEG (96.26%) / RE (3.74%)

*Neptune Regional Transmission System, LLC

Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2436.83	Convert the Bayway - Linden "Z" 138 kV circuit to 345 kV and any associated substation upgrades	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: PSEG (96.26%) / RE (3.74%)</p>
b2436.84	Convert the Bayway – Linden “W” 138 kV circuit to 345 kV and any associated substation upgrades	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: PSEG (96.26%) / RE (3.74%)</p>

*Neptune Regional Transmission System, LLC

Public Service Electric and Gas Company (cont.)

Required Transmission 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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: PSEG (96.26%) / RE (3.74%)</p>
b2436.90	Relocate Farragut - Hudson "B" and "C" 345 kV circuits to Marion 345 kV and any associated substation upgrades	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: PSEG (100%)</p>
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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Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2437.10	New Bergen 345/230 kV transformer and any associated substation upgrades	PSEG (96.26%) / RE (3.74%)
b2437.11	New Bergen 345/138 kV transformer #1 and any associated substation upgrades	PSEG (96.26%) / RE (3.74%)
b2437.20	New Bayway 345/138 kV transformer #1 and any associated substation upgrades	PSEG (96.26%) / RE (3.74%)
b2437.21	New Bayway 345/138 kV transformer #2 and any associated substation upgrades	PSEG (96.26%) / RE (3.74%)
b2437.30	New Linden 345/230 kV transformer and any associated substation upgrades	PSEG (96.26%) / RE (3.74%)
b2437.33	New Bayonne 345/69 kV transformer and any associated substation upgrades	PSEG (96.26%) / RE (3.74%)
b2438	Install two reactors at Tosco 230 kV	PSEG (100%)
b2439	Replace the Tosco 138 kV breaker 'CB1/2 (CBT)' with 63 kA	PSEG (100%)
b2474	Rebuild Athenia 138 kV to 80 kA	PSEG (100%)
b2589	Install a 100 MVAR 230 kV shunt reactor at Mercer station	PSEG (100%)
b2590	Install two 75 MVAR 230 kV capacitors at Sewaren station	PSEG (100%)

Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2633.3	Install an SVC at New Freedom 500 kV substation	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)</p>
b2633.4	Add a new 500 kV bay at Hope Creek (Expansion of Hope Creek substation)	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>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%)</p>

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Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements	Annual 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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		DFAX Allocation: AEC (0.01%) / DPL (99.98%) / JCPL (0.01%)

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Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements		Annual 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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
			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%)

*Neptune Regional Transmission System, LLC

Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements	Annual 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 (96.26%) / RE (3.74%)
b2810.1	Install second 230/69 kV transformer at Cedar Grove	PSEG (96.26%) / RE (3.74%)
b2810.2	Build a new 69 kV circuit from Cedar Grove to Great Notch	PSEG (96.26%) / RE (3.74%)
b2811	Build 69 kV circuit from Locust Street to Delair	PSEG (96.26%) / RE (3.74%)
b2812	Construct River Road to Tonnelle Avenue 69kV Circuit	PSEG (96.26%) / RE (3.74%)
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

Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2835.1	Convert the R-1318 and Q-1317 (Edison – Metuchen) 138 kV circuits to one 230 kV circuit (Brunswick – Meadow Road)	AEC (24.55%) / PECO (55.03%) / PSEG (19.65%) / RE (0.77%)
b2835.2	Convert the R-1318 and Q-1317 (Edison - Metuchen) 138 kV circuits to one 230 kV circuit (Meadow Road - Pierson Ave)	AEC (21.71%) / PECO (48.70%) / PSEG (28.48%) / RE (1.11%)
b2835.3	Convert the R-1318 and Q-1317 (Edison - Metuchen) 138 kV circuits to one 230 kV circuit (Pierson Ave - Metuchen)	AEC (19.36%) / PECO (43.42%) / PSEG (35.83%) / RE (1.39%)
b2836	Convert the N-1340 and T-1372/D-1330 (Brunswick – Trenton) 138 kV circuits to 230 kV circuits	See sub-IDs for cost allocations
b2836.1	Convert the N-1340 and T-1372/D-1330 (Brunswick - Trenton) 138 kV circuits to 230 kV circuits (Brunswick - Hunterglen)	AEC (12.72%) / NEPTUNE* (38.66%) / PECO (30.64%) / PSEG (17.31%) / RE (0.67%)
b2836.2	Convert the N-1340 and T-1372/D-1330 (Brunswick - Trenton) 138 kV circuits to 230 kV circuits (Hunterglen - Trenton)	AEC (0.99%) / NEPTUNE* (9.97%) / PECO (2.33%) / PSEG (83.47%) / RE (3.24%)
b2836.3	Convert the N-1340 and T-1372/D-1330 (Brunswick - Trenton) 138 kV circuits to 230 kV circuits (Brunswick - Devils Brook)	AEC (8.10%) / NEPTUNE* (70.21%) / PECO (19.26%) / PSEG (2.34%) / RE (0.09%)
b2836.4	Convert the N-1340 and T-1372/D-1330 (Brunswick - Trenton) 138 kV circuits to 230 kV circuits (Devils Brook - Trenton)	AEC (4.29%) / NEPTUNE* (19.13%) / PECO (10.19%) / PSEG (63.91%) / RE (2.48%)

* Neptune Regional Transmission System, LLC

Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2837	Convert the F-1358/Z-1326 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)	AEC (0.09%) / NEPTUNE* (10.14%) / PSEG (86.41%) / RE (3.36%)
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)	AEC (0.02%) / NEPTUNE* (8.34%) / PSEG (88.21%) / RE (3.43%)
b2837.3	Convert the N-1340 and T-1372/D-1330 (Brunswick - Trenton) 138 kV circuits to 230 kV circuits (Brunswick - Devils Brook)	AEC (0.01%) / NEPTUNE* (7.83%) / PSEG (88.71%) / RE (3.45%)
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* (6.58%) / PSEG (89.92%) / RE (3.50%)
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* (5.54%) / PSEG (90.93%) / RE (3.53%)
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)	AEC (0.29%) / NEPTUNE* (12.23%) / PSEG (84.21%) / RE (3.27%)

* Neptune Regional Transmission System, LLC

Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2837.7	Convert the F-1358/Z-1326 and K-1363/Y-1325 (Trenton - Burlington) 138 kV circuits to 230 kV circuits (Yardville - Ward Ave F)	AEC (0.06%) / NEPTUNE* (9.52%) / PSEG (87.04%) / RE (3.38%)
b2837.8	Convert the F-1358/Z-1326 and K-1363/Y-1325 (Trenton - Burlington) 138 kV circuits to 230 kV circuits (Ward Ave - Crosswicks Z)	AEC (0.06%) / NEPTUNE* (9.52%) / PSEG (87.04%) / RE (3.38%)
b2837.9	Convert the F-1358/Z-1326 and K-1363/Y-1325 (Trenton - Burlington) 138 kV circuits to 230 kV circuits (Crosswicks - Williams Z)	AEC (0.01%) / NEPTUNE* (7.61%) / PSEG (88.92%) / RE (3.46%)
b2837.10	Convert the F-1358/Z-1326 and K-1363/Y-1325 (Trenton - Burlington) 138 kV circuits to 230 kV circuits (Williams - Bustleton Z)	NEPTUNE* (6.87%) / PSEG (89.64%) / RE (3.49%)
b2837.11	Convert the F-1358/Z-1326 and K-1363/Y-1325 (Trenton - Burlington) 138 kV circuits to 230 kV circuits (Bustleton - Burlington Z)	NEPTUNE* (5.12%) / PSEG (91.33%) / RE (3.55%)
b2870	Build new 138/26 kV Newark GIS station in a building (layout #1A) located adjacent to the existing Newark Switch and demolish the existing Newark Switch	PSEG (100%)
b2933	Third Source for Springfield Rd. and Stanley Terrace Stations	PSEG (96.26%) / RE (3.74%)

* Neptune Regional Transmission System, LLC

Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2933.1	Construct a 230/69 kV station at Springfield	PSEG (96.26%) / RE (3.74%)
b2933.2	Construct a 230/69 kV station at Stanley Terrace	PSEG (96.26%) / RE (3.74%)
b2933.31	Construct a 69 kV network between Front Street, Springfield and Stanley Terrace (Front Street - Springfield)	PSEG (96.26%) / RE (3.74%)
b2933.32	Construct a 69 kV network between Front Street, Springfield and Stanley Terrace (Springfield – Stanley Terrace)	PSEG (96.26%) / RE (3.74%)
b2934	Build a new 69 kV line between Hasbrouck Heights and Carlstadt	PSEG (96.26%) / RE (3.74%)
b2935	Third Supply for Runnemede 69 kV and Woodbury 69 kV	PSEG (96.26%) / RE (3.74%)
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 (96.26%) / RE (3.74%)
b2935.2	Build a new line between Hilltop and Woodbury 69 kV providing the 3rd supply	PSEG (96.26%) / RE (3.74%)

Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements	Annual 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 (96.26%) / RE (3.74%)
b2955	Wreck and rebuild the VFT – Warinanco – Aldene 230 kV circuit with paired conductor	PSEG (96.26%) / RE (3.74%)
b2956	Replace existing cable on Cedar Grove - Jackson Rd. with 5000 kcmil XLPE cable	PSEG (96.26%) / RE (3.74%)
b2982	Construct a 230/69 kV station at Hillsdale Substation and tie to Paramus and Dumont at 69 kV	PSEG (96.26%) / RE (3.74%)
b2982.1	Install a 69 kV ring bus and one (1) 230/69 kV transformer at Hillsdale	PSEG (96.26%) / RE (3.74%)
b2982.2	Construct a 69 kV network between Paramus, Dumont, and Hillsdale Substation using existing 69 kV circuits	PSEG (96.26%) / RE (3.74%)
b2983	Convert Kuller Road to a 69/13 kV station	PSEG (96.26%) / RE (3.74%)
b2983.1	Install 69 kV ring bus and two (2) 69/13 kV transformers at Kuller Road	PSEG (96.26%) / RE (3.74%)
b2983.2	Construct a 69 kV network between Kuller Road, Passaic, Paterson, and Harvey (new Clifton area switching station)	PSEG (96.26%) / RE (3.74%)
b2986	Replace the existing Roseland – Branchburg – Pleasant Valley 230 kV corridor with new structures	See sub-IDs for cost allocations

Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2986.11	Roseland-Branchburg 230 kV corridor rebuild (Roseland - Readington)	PSEG (96.26%) / RE (3.74%)
b2986.12	Roseland-Branchburg 230 kV corridor rebuild (Readington - Branchburg)	JCPL (55.22%) / PSEG (43.10%) / RE (1.68%)
b2986.21	Branchburg-Pleasant Valley 230 kV corridor rebuild (Branchburg - East Flemington)	NEPTUNE* (0.12%) / PECO (99.61%) / PSEG (0.26%) / RE (0.01%)
b2986.22	Branchburg-Pleasant Valley 230 kV corridor rebuild (East Flemington - Pleasant Valley)	NEPTUNE* (2.54%) / PECO (91.85%) / PSEG (5.40%) / RE (0.21%)
b2986.23	Branchburg-Pleasant Valley 230 kV corridor rebuild (Pleasant Valley - Rocktown)	JCPL (30.64%) / NEPTUNE* (4.98%) / PECO (1.95%) / PSEG (60.09%) / RE (2.34%)
b2986.24	Branchburg-Pleasant Valley 230 kV corridor rebuild (the PSEG portion of Rocktown - Buckingham)	JCPL (36.52%) / NEPTUNE* (4.48%) / PECO (1.27%) / PSEG (55.57%) / RE (2.16%)
b3003	Construct a 230/69 kV station at Maywood	PSEG (96.26%) / RE (3.74%)
b3003.1	Purchase properties at Maywood to accommodate new construction	PSEG (96.26%) / RE (3.74%)
b3003.2	Extend Maywood 230 kV bus and install one (1) 230 kV breaker	PSEG (96.26%) / RE (3.74%)
b3003.3	Install one (1) 230/69 kV transformer at Maywood	PSEG (96.26%) / RE (3.74%)

* Neptune Regional Transmission System, LLC

Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b3003.4	Install Maywood 69 kV ring bus		PSEG (96.26%) / RE (3.74%)
b3003.5	Construct a 69 kV network between Spring Valley Road, Hasbrouck Heights, and Maywood		PSEG (96.26%) / RE (3.74%)
b3004	Construct a 230/69/13 kV station by tapping the Mercer – Kuser Rd 230 kV circuit		PSEG (96.26%) / RE (3.74%)
b3004.1	Install a new Clinton 230 kV ring bus with one (1) 230/69 kV transformer Mercer - Kuser Rd 230 kV circuit		PSEG (96.26%) / RE (3.74%)
b3004.2	Expand existing 69 kV ring bus at Clinton Ave with two (2) additional 69 kV breakers		PSEG (96.26%) / RE (3.74%)
b3004.3	Install two (2) 69/13 kV transformers at Clinton Ave		PSEG (96.26%) / RE (3.74%)
b3004.4	Install 18 MVAR capacitor bank at Clinton Ave 69 kV		PSEG (96.26%) / RE (3.74%)
b3025	Construct two (2) new 69/13 kV stations in the Doremus area and relocate the Doremus load to the new stations		PSEG (96.26%) / RE (3.74%)

Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3025.1	Install a new 69/13 kV station (Vauxhall) with a ring bus configuration	PSEG (96.26%) / RE (3.74%)
b3025.2	Install a new 69/13 kV station (19th Ave) with a ring bus configuration	PSEG (96.26%) / RE (3.74%)
b3025.3	Construct a 69 kV network between Stanley Terrace, Springfield Road, McCarter, Federal Square, and the two new stations (Vauxhall & 19th Ave)	PSEG (96.26%) / RE (3.74%)
b3703	Construct a third 69 kV supply line from Penns Neck substation to West Windsor substation	PSEG (100%)
b3704	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 (96.26%) / RE (3.74%)
b3705	Replace existing 230/138 kV Athenia Transformer No. 220-1	PSEG (96.26%) / RE (3.74%)
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 substation	PSEG (100%)

Public Service Electric and Gas Company (cont.)

Required Transmission 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%)
b3794.1	Replace existing Waldwick 230 kV 50 MVAR fixed shunt reactor with a 230 kV 150 MVAR variable shunt reactor		PSEG (100%)
b3794.2	Replace existing Waldwick 345 kV 100 MVAR fixed shunt reactor with a 345 kV 150 MVAR variable shunt reactor		PSEG (100%)

Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b3848.1	Open East Rutherford 69 kV tie breaker (26K)		PSEG (100%)
b3848.2	Move line U-775 (East Rutherford to Hasbrouck Heights) currently on section 2 to section 7 of the ring bus		PSEG (100%)
b3849.1	Perform all necessary engineering design and evaluation to increase Fairlawn 69 kV GIS from 50 kA to 55 kA		PSEG (100%)

Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement		Responsible Customer(s)
b3855.1	Build 4 miles new 230 kV XLPE Circuit using (345 kV rated 5000kcmil cable) from Jackson Road 230 kV station to Cedar Grove 230 kV station		PSEG (95.85%) / RE (4.15%)
b3855.2	Expand a new 230 kV bay at the existing Cedar Grove station with one line position by adding two 230 kV circuit breakers and associated disconnect switches		PSEG (95.85%) / RE (4.15%)
b3855.3	Replace the existing HPFF termination structure with a new XLPE termination structure to connect to spare GIS bay position at Jackson 230 kV station		PSEG (95.85%) / RE (4.15%)
b3868.1	Cut existing Carlstadt to River Road 69 kV line and extend Carlstadt line side to Penhorn 69 kV. Extend the other end of the line by constructing a new portion and connecting it to Kingsland 69 kV switch.		PSEG (100%)
b3868.2	Extend the other end of L-636 to Kingsland switch by constructing new 5.5 miles portion utilizing existing I-2314 Transmission towers from H-A 5/4 to H-A 2/3. New 69kV line to be routed along County Ave pass Secaucus Rd in Secaucus NJ.		PSEG (100%)

Public Service Electric and Gas Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement		Responsible Customer(s)
b3868.3	Reconfigure former River Road to Carlstadt 69 kV and Tonnelle Ave to Union City 69 kV lines at the intersection Tonnelle Ave and Granton Ave in North Bergen, NJ by connecting Union City to River Road and Tonnelle Ave to Kingsland.		PSEG (100%)
b3869.1	Relocate the Bergen Gen No. 1 point of interconnection from Bergen 138 kV to Bergen 345 kV GIS through the existing 345/138 kV transformer		PSEG (100%)
b3869.2	Remove and retire the two (2) existing Bergen 138 kV series reactors and associated ancillary equipment		PSEG (100%)

SCHEDULE 12 – APPENDIX A

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

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2117 Reconductor 0.33 miles of the Parkersburg - Belpre line and upgrade Parkersburg terminal equipment		APS (100%)
b2118 Add 44 MVAR Cap at New Martinsville		APS (100%)
b2120 Six-Wire Lake Lynn - Lardin 138 kV circuits		APS (100%)
b2142 Replace Weirton 138 kV breaker “Wylie Ridge 210” with 63 kA breaker		APS (100%)
b2143 Replace Weirton 138 kV breaker “Wylie Ridge 216” with 63 kA breaker		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%)
b2214 Albright Substation: Install a new control building in the switchyard and relocate controls and SCADA equipment from the generating station building the new control center		APS (100%)
b2215 Rivesville Switching Station: Relocate controls and SCADA equipment from the generating station building to new control building		APS (100%)

Monongahela Power Company, 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)
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 Island switching station		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 substation conductor and 1200 amp wave trap at Marlowe		APS (100%)
b2268 Reconductor 6.8 miles of 138kV 336 ACSR with 336 ACSS from Double Toll Gate to Riverton		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%)
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 31.7 MVAR capacitor		APS (100%)
b2343 Install a 31.7 MVAR capacitor at West Union 138 kV substation		APS (100%)

Monongahela Power Company, 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)
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%)
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, 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)
b2426	Replace the Oak Grove 138 kV breaker 'OG1' with 63 kA breakers	APS (100%)
b2427	Replace the Oak Grove 138 kV breaker 'OG2' with 63 kA breakers	APS (100%)
b2428	Replace the Oak Grove 138 kV breaker 'OG3' with 63 kA breakers	APS (100%)
b2429	Replace the Oak Grove 138 kV breaker 'OG4' with 63 kA breakers	APS (100%)
b2430	Replace the Oak Grove 138 kV breaker 'OG5' with 63 kA breakers	APS (100%)
b2431	Replace the Oak Grove 138 kV breaker 'OG6' with 63 kA breakers	APS (100%)
b2432	Replace the Ridgeley 138 kV breaker 'RC1' with a 40 kA rated breaker	APS (100%)
b2440	Replace the Cabot 138kV breaker 'C9-KISKI VLY' with 63kA	APS (100%)
b2472	Replace the Ringgold 138 kV breaker 'RCM1' with 40kA breakers	APS (100%)
b2473	Replace the Ringgold 138 kV breaker '#4 XMFR' with 40kA breakers	APS (100%)
b2475	Construct a new line between Oak Mound 138 kV substation and Waldo Run 138 kV substation	APS (100%)
b2545.1	Construct a new 138 kV substation (Shuman Hill substation) connected to the Fairview –Willow Island (84) 138 kV line	APS (100%)

Monongahela Power Company, 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)
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%)
b2546	Install a 51.8 MVAR (rated) 138 kV capacitor at Nyswaner 138 kV substation	APS (100%)
b2547.1	Construct a new 138 kV six breaker ring bus Hillman substation	APS (100%)
b2547.2	Loop Smith- Imperial 138 kV line into the new Hillman substation	APS (100%)
b2547.3	Install +125/-75 MVAR SVC at Hillman substation	APS (100%)
b2547.4	Install two 31.7 MVAR 138 kV capacitors	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%)
b2612.1	Relocate All Dam 6 138 kV line and the 138 kV line to AE units 1&2	APS (100%)
b2612.2	Install 138 kV, 3000A bus-tie breaker in the open bus-tie position next to the Shaffers corner 138 kV line	APS (100%)

Monongahela Power Company, 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)
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%)

Monongahela Power Company, 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)
b2666.12	Replace Yukon 138 kV breaker “Y-2(1B-BETHE)” with an 80 kA breaker		APS (100%)
b2666.13	Replace Yukon 138 kV breaker “Y-21(SHEPJ)” with an 80 kA breaker		APS (100%)
b2666.14	Replace Yukon 138 kV breaker “Y-22(SHEPHJT)” with an 80 kA breaker		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%) / PEPSCO (15.85%) / RECO (0.12%)
b2689.3	Upgrade terminal equipment at structure 27A		APS (100%)
b2696	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		APS (100%)
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%) / PEPSCO (20.88%)

Monongahela Power Company, 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)
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 – Catoclin 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%)

Monongahela Power Company, 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)
b2965	Reconductor the Charleroi – Allenport 138 kV line with 954 ACSR conductor. Replace breaker risers at Charleroi and Allenport		APS (33.72%) / DL (66.28%)
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%)

Monongahela Power Company, 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)
b2970.5	Convert Garfield 138/12.5 kV substation to 230/12.5 kV		APS (100%)
b2996	Construct new Flint Run 500/138 kV substation		See sub-IDs for cost allocations
b2996.1	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 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%)
b2996.2	Loop the Belmont – Harrison 500 kV line into and out of the new Flint Run 500 kV substation (less than 1 mile). Replace primary relaying and carrier sets on Belmont and Harrison 500 kV remote end substations		APS (100%)
b2996.3	Upgrade two (2) existing 138 kV breakers (Rider 50 and #1/4 transformer breaker) at Glen Falls with 63 kA 3000A units		APS (100%)

Monongahela Power Company, 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)
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 reconducted 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 (60.47%) / DL (39.53%)
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 (8.19%) / DL (91.81%)

Monongahela Power Company, 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)
b3011.3	Upgrade terminal equipment at Yukon to increase rating on Yukon to Route 51 #1 138 kV line		DL (100%)
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 (8.19%) / DL (91.81%)
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 reconducted portion. Install a new line terminal at APS Route 51 substation		DL (100%)

Monongahela Power Company, 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)
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%)
b3028	Upgrade substation disconnect leads at William 138 kV substation		APS (100%)
b3051.1	Ronceverte cap bank and terminal upgrades		APS (100%)
b3052	Install a 138 kV capacitor (29.7 MVAR effective) at West Winchester 138 kV		APS (100%)
b3064.3	Upgrade line relaying at Piney Fork and Bethel Park for Piney For – Elrama 138 kV line and Bethel Park – Elrama 138 kV		APS (100%)

Monongahela Power Company, 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)
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%)
b3079	Replace the Wylie Ridge 500/345 kV transformer #7		ATSI (72.30%) / DL (27.70%)
b3083	Reconductor the 138 kV bus at Butler and reconductor the 138 kV bus and replace line trap at Karns City		APS (100%)

Monongahela Power Company, 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)
b3128	Relocate 34.5 kV lines from generating station roof R. Paul Smith 138 kV station		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 (5.95%) / DL (94.05%)
b3214.2	Reconductor the Smithton – Shepler Hill Jct 138 kV Line		APS (8.38%) / DL (91.62%)
b3230	At Enon substation install a second 138 kV, 28.8 MVAR nameplate, capacitor and the associated 138 kV capacitor switcher		APS (100%)
b3240	Upgrade Cherry Run and Morgan terminals to make the transmission line the limiting component		APS (100%)
b3241	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%)
b3242	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%)
b3318	Reconductor the Shanor Manor - Butler 138 kV line with an upgraded circuit breaker at Butler 138 kV station		APS (100%)
b3325	Reconductor the Charleroi - Union 138 kV line and upgrade terminal equipment at Charleroi 138 kV station		APS (100%)

Monongahela Power Company, 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)
b3681	Upgrade the Shingletown #82 230/46 kV Transformer circuit by installing a 230 kV breaker and disconnect switches, removing existing 230 kV switches, replacing 46 kV disconnect switches, replacing limiting substation conductor, and installing/replacing relays		APS (100%)
b3683	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%)
b3701	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%)
b3717.1	Install a series reactor on Cheswick - Springdale 138 kV line		APS (23.19%) / DL (76.81%)
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 – Bridgeport 138 kV line		APS (100%)
b3741	Replace limiting terminal equipment on Yukon - Charleroi #1 138 kV line		APS (100%)

Monongahela Power Company, 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)
b3742	Replace limiting terminal equipment on Yukon - Charleroi #2 138 kV line		APS (100%)
b3743	At Bedington substation: Replace substation conductor, wave trap, Current Transformers (CT's) and upgrade relaying At Cherry Run substation: Replace substation conductor, 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%)
b3744	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) 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 and Shanor Manor substations		APS (100%)
b3745	Install redundant relaying at Carbon Center 230 kV substation		APS (100%)
b3746	Install redundant relaying at Meadow Brook 500 kV substation		APS (100%)
b3747	Install redundant relaying at Bedington 500 kV substation		APS (100%)

Monongahela Power Company, 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)
b3761	Install 138 kV breaker on the Ridgway 138/46 kV #2 Transformer		APS (100%)
b3772	Reconductor 27.3 miles of the Messick Road – Morgan 138 kV line from 556 ACSR to 954 ACSR. At Messick Road substation, replace 138 kV wave trap, circuit breaker, CT's, disconnect switch, and substation conductor and upgrade relaying. At Morgan substation, upgrade relaying		APS (100%)
b3773	Install 33 MVAR switched capacitor, 138 kV breaker, and associated relaying at McConnellsburg 138 kV substation		APS (100%)
b3782	Adjust relay settings at Riverton substation on the Riverton-Bethel Tap 138 kV line		APS (100%)

Monongahela Power Company, 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)
b3796.0	Replace the Belmont 765/500 kV transformer No. 5 with a new transformer bank consisting of three single-phase transformers and an additional single phase spare transformer. The project will also replace 500 kV disconnect switches at the Belmont substation	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: AEP (0.28%) / APS (0.15%) / Dayton (0.10%) / DEOK (0.18%) / DL (6.57%) / Dominion (92.68%) / EKPC (0.04%)</p>

*Neptune Regional Transmission System, LLC

Monongahela Power Company, 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)
b3800.128	Construct new Woodside – Goose Creek 500 kV line for approximately 15 miles on single circuit monopole structures within the Doubs – Goose Creek Corridor. (FE Portion)	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (9.26%) / BGE (7.30%) / Dominion (72.31%) / PEPCO (11.13%)</p>
b3800.129	Construct 500 kV line from existing structure MVF1-101 on the Doubs – Millville 138 kV line around Doubs substation and into the entrance of the Doubs – Goose Creek corridor. (Approximately 2 miles)	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (9.26%) / BGE (7.30%) / Dominion (72.31%) / PEPCO (11.13%)</p>

*Neptune Regional Transmission System, LLC

Monongahela Power Company, 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)
b4000.11	Expand Black Oak Substation to accommodate the connection of the 502 Jct-Woodside 500 kV line and loop the 502 Jct-Woodside 500 kV line into the Black Oak substation by constructing ~0.85 miles of new 500 kV line into and out of Black Oak 500 kV substation	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (8.93%) / BGE (13.63%) / Dominion (61.66%) / PEPCO (15.78%)</p>

*Neptune Regional Transmission System, LLC

Monongahela Power Company, 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)
b4000.12	Upgrade the terminal equipment on the Doubs No. 1 500/230 kV transformer.		APS (74.10%) / PEPCO (25.90%)
b4000.13	Terminate the Woodside - Goose Creek 500 kV line into Doubs Substation, creating the Woodside - Doubs #2 500 kV Line. Remove the Chanceford-Doubs and Rocky Point-Doubs line terminations at the Doubs substation and connects the two lines through a 0.6 mile 500 kV bypass line around the Doubs substation		Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) <hr/> DFAX Allocation: AEC (0.20%) / APS (0.06%) / BGE (0.71%) / Dominion (89.06%) / DPL (0.36%) / JCPL (0.33%) / ME (0.15%) / NEPTUNE* (0.03%) / PECO (0.73%) / PEPCO (7.93%) / PSEG (0.42%) / RE (0.02%)
b4000.110	Doubs Sub 500 kV - replace 50 kA breaker DL-59 No. 2CAP with 63 kA		APS (100%)

*Neptune Regional Transmission System, LLC

SCHEDULE 12 – APPENDIX A

(15) Commonwealth Edison Company and Commonwealth Edison Company of Indiana, Inc.

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b2141.1	Remove Byron SPS upon completion of Byron - Wayne 345 kV		ComEd (100%)
b2365	Replace 138 kV bus tie 1-2 circuit breaker, station conductor, relays, and a wave trap at TSS 55 Hegewisch substation		ComEd (100%)
b2366	Reconductor 1.4 miles of 138 kV line 0112, Kickapoo Creek - LaSalle County 138kV line		ComEd (100%)
b2415	Install a 138 kV Red Blue bus tie with underground cable and a line 15913 CB at Highland Park		ComEd (100%)
b2416	Reconductor 0.125 miles of the East Frankfort - Mokena 138 kV line L6604		ComEd (100%)
b2417	Replace Ridgeland 138 kV bus tie CB and underground cable at TSS 192 Ridgeland 138 kV substation		ComEd (100%)
b2418	Reconductor 7.5 miles of Waukegan - Gurnee 138 kV line L1607		ComEd (100%)
b2419	Reconductor 0.33 miles of 138 kV underground cable on the Sawyer - Crawford 138 kV Blue line (L1324)		ComEd (100%)
b2465	Replace the Skokie 138 kV breaker '88 L8809' with a 63 kA breaker		ComEd (100%)
b2466	Replace the Skokie 138 kV breaker '88 L8810' with 63kA breaker		ComEd (100%)
b2467	Replace the Skokie 138 kV breaker '88 L11416' with 63 kA breaker		ComEd (100%)

**Commonwealth Edison Company and Commonwealth Edison Company of Indiana, Inc.
(cont.)**

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b2468	Replace the Skokie 138 kV breaker '88 L8803' with 63kA breaker		ComEd (100%)
b2469	Replace the Des Plaines 138 kV breaker '46 11702' with 63 kA breaker		ComEd (100%)
b2561	Install a new 345 kV circuit breaker 5-7 at Elwood substation		ComEd (100%)
b2562	Remove 2.0 miles of wood poles on 138 kV line 17105, erect new steel structures, and install new 1113 kmil ACSR conductor from Roscoe Bert to Harlem		ComEd (100%)
b2613	Replace relays at Mazon substation		ComEd (100%)
b2692.1	Replace station equipment at Nelson, ESS H-471 and Quad Cities		AEC (0.18%) / AEP (18.68%) / APS (5.86%) / ATSI (7.85%) / BGE (3.32%) / ComEd (38.21%) / Dayton (2.76%) / DEOK (4.13%) / DL (2.23%) / Dominion (5.15%) / DPL (1.97%) / EKPC (1.36%) / HTP (0.05%) / JCPL (0.52%) / MetED (0.04%) / Neptune (0.04%) / PECO (1.08%) / PENELEC (1.25%) / PEPCO (3.56%) / PPL (0.45%) / PSEG (1.17%) / RECO (0.14%)

**Commonwealth Edison Company and Commonwealth Edison Company of Indiana, Inc.
(cont.)**

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2692.2	Upgrade conductor ratings of Cordova – Nelson, Quad Cities – ESS H-471 and ESS H-471 – Nelson 345 kV lines and mitigating sag limitations	AEC (0.18%) / AEP (18.68%) / APS (5.86%) / ATSI (7.85%) / BGE (3.32%) / ComEd (38.21%) / Dayton (2.76%) / DEOK (4.13%) / DL (2.23%) / Dominion (5.15%) / DPL (1.97%) / EKPC (1.36%) / HTP (0.05%) / JCPL (0.52%) / MetED (0.04%) / Neptune (0.04%) / PECO (1.08%) / PENELEC (1.25%) / PEPCO (3.56%) / PPL (0.45%) / PSEG (1.17%) / RECO (0.14%)
b2693	Replace L7815 B phase line trap at Wayne substation	ComEd (100%)
b2699.1	Replace 5 Powerton 345 kV CB's with 2 cycle IPO breakers, install one new 345 kV CB; swap line 0302 and line 0303 bus positions; reconfigure Powerton 345 kV bus as single ring configuration	ComEd (100%)
b2699.2	Remove SPS logic at Powerton that trips generators or sectionalizes bus under normal conditions; minimal SPS logic will remain	ComEd (100%)
b2721	Goodings Grove – Balance Station Load (swap bus positions for 345 kV lines 1312 & 11620 and 345 kV lines 11604 & 11622) and replace 138 kV bus tie 2-3	ComEd (100%)

**Commonwealth Edison Company and Commonwealth Edison Company of Indiana, Inc.
(cont.)**

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b2728	Mitigate sag limitations on Loretto – Wilton Center 345 kV Line and replace station conductor at Wilton Center		ATSI (3.43%) / AEP (3.34%) / ComEd (92.02%) / DLCO (1.21%)
b2732.1	Cut-in of line 93505 Tazewell – Kendall 345 kV line into Dresden		ComEd (100%)
b2732.2	Raise towers to remove the sag limitations on Pontiac – Loretto 345 kV line		ComEd (100%)
b2751	Rebuild/Resag the H440 - H440 Tap 138 kV line 16914-2 (Hays Road - SW 1403 138 kV)		ComEd (100%)
b2930	Upgrade capacity on E. Frankfort – University Park 345 kV		ComEd (100%)
b2931	Upgrade substation equipment at Pontiac Midpoint station to increase capacity on Pontiac – Brokaw 345 kV line		ComEd (100%)
b2941	Build an indoor new Elk Grove 138 kV GIS substation at the point where Rolling Meadows & Schaumburg tap off from the main lines, between Landmeier and Busse. The four 345 kV circuits in the ROW will be diverted into Gas Insulated Bus (GIB) and go through the basement of the building to provide clearance for the above ground portion of the building		ComEd (100%)
b2959	Install a new 138 kV circuit 18702 from Schauff Road to Rock Falls and install a fourth breaker and a half run at Schauff Road		ComEd (100%)

**Commonwealth Edison Company and Commonwealth Edison Company of Indiana, Inc.
(cont.)**

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b2995	Remove Davis Creek RAS		ComEd (100%)
b2997	Remove University Park North RAS		ComEd (100%)
b2998	Install a 120 MVAR 345 kV shunt inductor at Powerton (the 345 kV yard already contains an empty bus position on the ring we only need a switching breaker for the inductor)		ComEd (100%)
b2999	Rebuild the 12.36 mile Schauff Road to Nelson tap 138 kV line L15508		ComEd (100%)
b3049	Replace 345 kV breaker at Joliet substation		ComEd (100%)
b3111	Install high-speed backup clearing scheme on the E. Frankfort – Matteson 138 kV line (L6603)		ComEd (100%)
b3147	Modify 138 kV blue bus total clearing times at TSS 111 Electric Junction to eleven (11) cycles for fault on 345/138 kV Transformer 81, and to thirteen (13) cycles for faults on 138 kV Line #11106, 138 kV Line #11102 and 345/138 kV Transformer 82		ComEd (100%)
b3317	Modify backup relay clearing times at the 138 kV STA16 Waukegan station		ComEd (100%)
b3677	Rebuild a 13 mile section of 138 kV line between LaSalle and Mazon stations with 1113 ACSR or higher rated conductor		ComEd (100%)
b3711	Install 345 kV bus tie 5-20 circuit breaker in the ring at Dresden station in series with existing bus tie 5-6		ComEd (100%)

**Commonwealth Edison Company and Commonwealth Edison Company of Indiana, Inc.
(cont.)**

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3760	At Powerton substation, replace most limiting facility 800A wave trap with 2000A wave trap on the Powerton – Towerline 138 kV line terminal	AEC (0.93%) / AEP (13.17%) / APS (5.41%) / ATSI (6.91%) / BGE (3.21%) / Dayton (1.80%) / DEOK (2.68%) / DL (1.38%) / Dominion (10.80%) / DPL (1.92%) / ECP (0.14%) / EKPC (1.40%) / HTP (0.12%) / JCPL (2.22%) / ME (1.68%) / Neptune (0.50%) / OVEC (0.02%) / PECO (4.06%) / PENELEC (2.17%) / PEPCO (3.37%) / PPL (3.41%) / PSEG (4.18%) / RE (0.14%) / MISO (28.38%)
b3775.3	Rebuild ComEd’s section of 345 kV double circuit in IL from St. John to Crete (5 miles) with twin bundled 1277 ACAR conductor	Reliability Driver: ComEd (62.41%) / Dayton (37.59%)
		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 (3.91%) / PPL (3.64%) / PSEG (3.93%) / RE (0.14%)

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

***Hudson Transmission Partners, LLC

**Commonwealth Edison Company and Commonwealth Edison Company of Indiana, Inc.
(cont.)**

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3775.4	Rebuild 12.7 miles of 345 kV double circuit extending from Crete to E. Frankfort with twin bundled 1277 ACAR conductor	Reliability Driver: ComEd (100%)
		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 (3.91%) / PPL (3.64%) / PSEG (3.93%) / RE (0.14%)
b3775.5	Replace E. Frankfort 345 kV circuit breaker “9-14” with 3150A SF6 circuit breaker	Reliability Driver: ComEd (100%)
		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 (3.91%) / PPL (3.64%) / PSEG (3.93%) / RE (0.14%)

*Neptune Regional Transmission System, LLC

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

***Hudson Transmission Partners, LLC

**Commonwealth Edison Company and Commonwealth Edison Company of Indiana, Inc.
(cont.)**

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b3810.0	Add three 345 kV circuit breakers to Cherry Valley substation		ComEd (100%)
b3811.1	Expand Haumesser Road 138 kV substation as a 4 circuit breaker ring bus		ComEd (100%)
b3811.2	Add one 138 kV circuit breaker at H-452 to complete a three circuit breaker ring bus		ComEd (100%)
b3811.3	Rebuild 3 miles of 138 kV Line 11323 from Haumesser Road to the H-452 tap with double circuit towers. Cut the H-452 tap over to the 2nd circuit from Haumesser Road. Both circuits to use twisted pair 556 ACSR Parakeet conductor		ComEd (100%)
b3812.1	Reconductor 345 kV Line 11620 and 11622 from Elwood to Goodings Grove		Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) <hr/> DFAX Allocation: ComEd (100%)

*Neptune Regional Transmission System, LLC

**Commonwealth Edison Company and Commonwealth Edison Company of Indiana, Inc.
(cont.)**

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3812.2	Upgrade Goodings Grove 345 kV circuit breakers, disconnects, and associated equipment	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: ComEd (100%)</p>
b3812.3	Upgrade station conductor at Elwood 345 kV	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: ComEd (100%)</p>

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**Commonwealth Edison Company and Commonwealth Edison Company of Indiana, Inc.
(cont.)**

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b3812.4	Adjust reclosing cycle on for Goodings Grove 345 kV circuit breaker '116 9806' to eliminate the reclosing de-rating		Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) <hr/> DFAX Allocation: ComEd (100%)
b3900.1	Replace 300 copper conductor with 1113 kcmil ACSR conductor on Kewanee 138 kV Bus No. 1		ComEd (100%)
b3901.1	Reconductor 138 kV line from Electric Junction to W541		ComEd (100%)
b3901.2	Replace 2" tubular bus, 2-500 KCMIL Cu and 1113 KCMIL ACSR/AA on bus 2 and line terminal of 138 kV L11106 at TSS 111 Electric Junction with bus that meets or exceeds a minimum thermal capability of 2036/2236/2690A (487/534/643 MVA) SN/SE/SLD		ComEd (100%)
b3902.1	Replace the Wilton Center 345 kV BT 4-5 circuit breaker		ComEd (100%)

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**Commonwealth Edison Company and Commonwealth Edison Company of Indiana, Inc.
(cont.)**

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b3903.1	Replace the Kewanee 138 kV kV L7411 circuit breaker with a SF6 63 kA circuit breaker		ComEd (100%)
b3914.1	Change No-load Tap of 2 Autotransformers at Fisk from 338.25 kV to 346.5 kV		ComEd (100%)
b3914.2	Change No-load Tap of 4 Autotransformers at Crawford from 338.25 kV to 346.5 kV		ComEd (100%)
b3914.3	Change No-load Tap of 3 Autotransformers at Elmhurst from 338.25 kV to 346.5 kV		ComEd (100%)
b3914.4	Change No-load Tap of 2 Autotransformers at West Loop from 338.25 kV to 346.5 kV		ComEd (100%)
b3914.5	Change No-load Tap of 2 Autotransformers at Taylor from 338.25 kV to 346.5 kV		ComEd (100%)
b3914.6	Change No-load Tap of 4 Autotransformers at Skokie from 338.25 kV to 346.5 kV		ComEd (100%)

**Commonwealth Edison Company and Commonwealth Edison Company of Indiana, Inc.
(cont.)**

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3915.1	Reconductor 1.5 miles of 345 kV lines 1202 and 1227 from Dresden to Mulberry with two conductor bundled 1033.5 ACSS conductor. Modify and replace towers as necessary to accommodate the higher mechanical loads of the bundled conductor	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: ComEd (100%)</p>
b3915.2	Install 345 kV circuit breaker on line 1202 (Dresden-Mulberry 345 kV) and upgrade disconnects and associated equipment at Dresden 345 kV substation	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: ComEd (100%)</p>

*Neptune Regional Transmission System, LLC

**Commonwealth Edison Company and Commonwealth Edison Company of Indiana, Inc.
(cont.)**

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3915.3	Upgrade disconnects and associated equipment at Mulberry 345 kV substation	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: ComEd (100%)</p>
b3916.1	Install a new 420 MVA 345/138 kV autotransformer and associated 345 kV and 138 kV circuit breakers at Itasca substation	ComEd (100%)

*Neptune Regional Transmission System, LLC

SCHEDULE 12 – APPENDIX A

(16) The Dayton Power and Light Company

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2540	Increase rating of Shelby-E. Sidney-Quincy-Logan 138 kV line to 224 MVA by replace/raise three pole swing out structure; push/pull/retension conductors on two spans; lower eight spans of single phase	Dayton (100%)
b2541	As needed in PJM Operations connect two 30 MVAR mobile shunts to Eldean and Sidney 69 kV buses; Block LTCs for Eldean 138/69 kV and Sidney 138/69 kV transformers after loss of Shelby-Sidney 138 kV line	Dayton (100%)
b2879.1	Replace wavetrap at the Stuart 345 kV substation	Dayton (100%)
b3108.1	Install 100 MVAR reactor at Miami 138 kV substation	Dayton (100%)
b3108.2	Install 100 MVAR reactor at Sugarcreek 138 kV substation	Dayton (100%)
b3108.3	Install 100 MVAR reactor at Hutchings 138 kV substation	Dayton (100%)

The Dayton Power and Light Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3133	Move the existing Botkins 69 kV capacitor from the Sidney - Botkins side of the existing breaker at Botkins to the Botkins - Jackson center side. This will keep the capacitor in-service for the loss of Sidney - Botkins. This reduces the voltage drop to less than 3% and also resolves the overload on the Blue Jacket Tap - Huntsville 69 kV line	Dayton (100%)
b3316	Replace 138 kV 40 kA breaker GJ-138C with a 63 kA breaker at Greene substation	Dayton (100%)
b3341.1	Install two 69 kV 16.6 MVAR cap banks; Install five 69 kV circuit breakers at the Marysville substation; Upgrade station relaying; Replace 600 A wave trap on the Marysville - Kings Creek 69 kV (6660) circuit	Dayton (100%)
b3341.2	Upgrade remote end relaying at Darby 69 kV substation	Dayton (100%)
b3341.3	Upgrade remote end relaying at Kings Creek 69 kV substation	Dayton (100%)

The Dayton Power and Light Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3766.4	New Westville – AEP Hodgin 138 kV line: Construct a 138 kV 1.86 miles single circuit transmission line. This transmission line will help loop the radial load served at New Westville as part of the overall effort to improve reliability in this area. Also, it provides a source to feed New Westville load while the 138 kV tie is built back into the AES Ohio system	Dayton (100%)
b3766.5	New Westville – West Manchester 138 kV line: Construct a new approximately 11 miles single circuit 138 kV line from New Westville to the Lewisburg tap off 6656 line. Convert a portion of 6656 West Manchester – Garage Rd 69 kV line between West Manchester - Lewisburg to 138 kV operation (circuit is built to 138 kV). This will utilize part of the line already built to 138 kV and will take the place of the 3302 line that currently feeds New Westville. The 3302 line will be retired as part of this project	Dayton (100%)

The Dayton Power and Light Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3766.6 West Manchester substation: The West Manchester Substation will be expanded to a double bus double breaker design where AES Ohio will install one 138 kV circuit breaker, a 138/69 kV transformer, and eight new 69 kV circuit breakers. These upgrades will help improve a non-standard bus arrangement where there is only one bus tie today and will improve the switching arrangement for the West Sonora Delivery Point		Dayton (100%)
b3904.1 Rebuild and reconductor 7.7 miles of 69 kV line with standard 1351 AAC conductor from Rockford substation to the POI		Dayton (100%)
b3918.1 Add one additional breaker, a 2nd 138/69 kV transformer, replace five 69 kV breakers and four 138 kV breakers		Dayton (100%)

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 Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: AEP (0.01%) / APS (39.54%) / BGE (26.64%) / PEPCO (33.81%)</p>

*Neptune Regional Transmission System, LLC

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 (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1797.1	Reconductor the AEP portion of the Cloverdale - Lexington 500 kV line with 2-1780 ACSS	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: AEP (0.02%) / APS (18.21%) / BGE (13.33%) / Dayton (0.01%) / DEOK (0.03%) / Dominion (51.47%) / EKPC (0.02%) / PEPCO (16.91%)</p>
b2055	Upgrade relay at Brues station	AEP (100%)
b2122.3	Upgrade terminal equipment at Howard on 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 kV line	AEP (100%)
b2229	Install a 300 MVAR reactor at Dequine 345 kV	AEP (100%)

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Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2230	Replace existing 150 MVAR reactor at Amos 765 kV substation on Amos - N. Proctorville - Hanging Rock with 300 MVAR reactor	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: AEP (100%)</p>
b2231	Install 765 kV reactor breaker at Dumont 765 kV substation on the Dumont - Wilton Center line	AEP (100%)
b2232	Install 765 kV reactor breaker at Marysville 765 kV substation on the Marysville - Maliszewski line	AEP (100%)
b2233	Change transformer tap settings for the Baker 765/345 kV transformer	AEP (100%)
b2252	Loop the North Muskingum - Crooksville 138 kV line into AEP's Philo 138 kV station which lies approximately 0.4 miles from the line	AEP (100%)

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Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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

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 (cont.)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

b2286	Rebuild 4.7 miles of Muskingum River - Wolf Creek 138 kV line and remove the 138/138 kV transformer at Wolf Creek Station		AEP (100%)
b2287	Loop in the Meadow Lake - Olive 345 kV circuit into Reynolds 765/345 kV station		AEP (100%)

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Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

b2344.1	Establish a new 138/12 kV station, transfer and consolidate load from its Nicholasville and Marcellus 34.5 kV stations at this new station		AEP (100%)
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%)
b2344.3	From this station, construct a new 138 kV line (~1.95 miles) to REA’s Marcellus station		AEP (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 Nicholasville 34.5/12 kV stations and also the Marcellus – Valley 34.5 kV line		AEP (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 tap switch to 69 kV (~12 miles)		AEP (100%)

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Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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

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

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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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
			DFAX Allocation: AEP (100%)

*Neptune Regional Transmission System, LLC

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Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

b2444	Willow - Eureka 138 kV line: Reconductor 0.26 mile of 4/0 CU with 336 ACSS		AEP (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%)
b2462	Add two 138 kV circuit breakers at Fremont station to fix tower contingency '408_2'		AEP (100%)
b2501	Construct a new 138/69 kV Yager station by tapping 2-138 kV FE circuits (Nottingham-Cloverdale, Nottingham-Harmon)		AEP (100%)
b2501.2	Build a new 138 kV line from new Yager station to Azalea station		AEP (100%)
b2501.3	Close the 138 kV loop back into Yager 138 kV by converting part of local 69 kV facilities to 138 kV		AEP (100%)
b2501.4	Build 2 new 69 kV exits to reinforce 69 kV facilities and upgrade conductor between Irish Run 69 kV Switch and Bowerstown 69 kV Switch		AEP (100%)

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Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2502.1	Construct new 138 kV switching station Nottingham tapping 6-138 kV FE circuits (Holloway-Brookside, Holloway-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 138 kV	AEP (100%)
b2502.3	Rebuild/convert Freebyrd-South Cadiz 69 kV circuit to 138 kV	AEP (100%)
b2502.4	Upgrade South Cadiz to 138 kV breaker and a half	AEP (100%)
b2530	Replace the Sporn 138 kV breaker 'G1' with 80 kA breaker	AEP (100%)
b2531	Replace the Sporn 138 kV breaker 'D' with 80 kA breaker	AEP (100%)
b2532	Replace the Sporn 138 kV breaker 'O1' with 80 kA breaker	AEP (100%)
b2533	Replace the Sporn 138 kV breaker 'P2' with 80 kA breaker	AEP (100%)
b2534	Replace the Sporn 138 kV breaker 'U' with 80 kA breaker	AEP (100%)
b2535	Replace the Sporn 138 kV breaker 'O' with 80 kA breaker	AEP (100%)

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Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

b2536	Replace the Sporn 138 kV breaker 'O2' with 80 kA breaker		AEP (100%)
b2537	Replace the Robinson Park 138 kV breakers A1, A2, B1, B2, C1, C2, D1, D2, E1, E2, and F1 with 63 kA breakers		AEP (100%)
b2555	Reconductor 0.5 miles Tiltonsville – Windsor 138 kV and string the vacant side of the 4.5 mile section using 556 ACSR in a six wire configuration		AEP (100%)
b2556	Install two 138 kV prop structures to increase the maximum operating temperature of the Clinch River- Clinch Field 138 kV line		AEP (100%)
b2581	Temporary operating 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%)

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Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

b2591	Construct 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%)
b2592	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%)
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%)
b2594	Rebuild 1.0 mile of Brantley – Bridge Street 69 kV Line with 1033 ACSR overhead conductor		AEP (100%)
b2595.1	Rebuild 7.82 mile Elkhorn City – Haysi S.S 69 kV line utilizing 1033 ACSR built to 138 kV standards		AEP (100%)
b2595.2	Rebuild 5.18 mile Moss – Haysi SS 69 kV line utilizing 1033 ACSR built to 138 kV standards		AEP (100%)
b2596	Move load from the 34.5 kV bus to the 138 kV bus by installing a new 138/12 kV XF at New Carlisle station in Indiana		AEP (100%)

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Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2597	Rebuild approximately 1 mi. section of Dragoon-Virgil Street 34.5 kV line between Dragoon and Dodge Tap switch and replace Dodge switch MOAB to increase thermal capability of Dragoon-Dodge Tap branch	AEP (100%)
b2598	Rebuild approximately 1 mile section of the Kline-Virgil Street 34.5 kV line between Kline and Virgil Street tap. Replace MOAB switches at Beiger, risers at Kline, switches and bus at Virgil Street	AEP (100%)
b2599	Rebuild approximately 0.1 miles of 69 kV line between Albion and Albion tap	AEP (100%)
b2600	Rebuild Fremont – Pound line as 138 kV	AEP (100%)
b2601	Fremont Station 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%)
b2601.4	Re-use Breaker A as high side protection on transformer #1	AEP (100%)

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Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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

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.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2604.1	Remove approximately 11.32 miles of the 69 kV line between Millbrook Park and Franklin Furnace	AEP (100%)
b2604.2	At Millbrook Park station, add a new 138/69 kV Transformer #2 (90 MVA) with 3000 A 40 kA breakers 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%)
b2604.3	Replace Sciotoville 69 kV station with a new 138/12 kV in-out station (Cottrell) with 2000 A line MOABs facing Millbrook Park and East Wheelersburg 138 kV station	AEP (100%)
b2604.4	Tie Cottrell switch into the Millbrook Park – East Wheelersburg 138 kV circuit by constructing 0.50 mile of line using 795 ACSR 26/7 Drake (SE 359 MVA)	AEP (100%)
b2604.5	Install a new 2000 A 3-way 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%)

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Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2604.7	Build approximately 1.4 miles of new 138 kV line using 795 ACSR 26/7 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 Hayport Road switch	AEP (100%)
b2604.9	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 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%)
b2604.10	Build a new station (Althea) 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	AEP (100%)

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Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2605	Rebuild and reconductor Kammer – George Washington 69 kV circuit and George Washington – Moundville ckt #1, designed for 138 kV. Upgrade limiting equipment at remote ends and at tap stations	AEP (100%)
b2606	Convert Bane – Hammondsville from 23 kV to 69 kV operation	AEP (100%)
b2607	Pine Gap Relay Limit Increase	AEP (100%)
b2608	Richlands Relay Upgrade	AEP (100%)
b2609	Thorofare – Goff Run – Powell Mountain 138 kV Build	AEP (100%)
b2610	Rebuild Pax Branch – Scaraboro as 138 kV	AEP (100%)
b2611	Skin Fork Area Improvements	AEP (100%)
b2611.1	New 138/46 kV station near Skin Fork and other components	AEP (100%)
b2611.2	Construct 3.2 miles of 1033 ACSR double circuit from new Station to cut into Sundial-Baileysville 138 kV line	AEP (100%)
b2634.1	Replace metering BCT on Tanners Creek CB T2 with a 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%)

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Required Transmission Enhancements Annual Revenue 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 (100%)
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%)

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Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2687.1	Install a +/- 450 MVAR SVC at Jacksons Ferry 765 kV substation	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: AEP (100%)</p>

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Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2687.2	Install a 300 MVAR shunt line reactor on the Broadford end of the Broadford – Jacksons Ferry 765 kV line	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: AEP (100%)</p>
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%)
b2697.2	Replace terminal equipment at AEP's Danville and East Danville substations to 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)

b2698	Replace relays at AEP's Cloverdale and Jackson's Ferry substations to improve the thermal capacity of Cloverdale – Jackson's Ferry 765 kV line		AEP (100%)
b2701.1	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%)
b2701.2	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%)
b2701.3	Install 1-138 kV CB at Blue Racer to terminate new Herlan circuit		AEP (100%)
b2714	Rebuild/upgrade line between Glencoe and Willow Grove Switch 69 kV		AEP (100%)
b2715	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%)
b2727	Replace the South Canton 138 kV breakers 'K', 'J', 'J1', and 'J2' with 80 kA breakers		AEP (100%)

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Required Transmission Enhancements 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%)
b2733	Replace South Canton 138 kV breakers ‘L’ and ‘L2’ with 80 kA rated breakers		AEP (100%)
b2750.1	Retire Betsy Layne 138/69/43 kV station and replace it with the greenfield Stanville station about a half mile north of the existing Betsy Layne station		AEP (100%)
b2750.2	Relocate the Betsy Layne capacitor bank to the Stanville 69 kV bus and increase the size to 14.4 MVAR		AEP (100%)
b2753.1	Replace existing George Washington station 138 kV yard with GIS 138 kV breaker and a half yard in existing station footprint. Install 138 kV revenue metering for new IPP connection		AEP (100%)
b2753.2	Replace Dilles Bottom 69/4 kV Distribution station as breaker and a half 138 kV yard design including AEP Distribution facilities but initial configuration will constitute a 3 breaker ring bus		AEP (100%)

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Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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%)
b2753.6	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%)
b2753.7	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 – West Bellaire 69 kV circuit		AEP (100%)
b2753.8	Rebuild existing 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 go past with future plans to cut in		AEP (100%)

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Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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 – Wooten 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 (100%)
b2777	Reconductor the entire Dequine – Eugene 345 kV circuit #1		AEP (100%)
b2779.1	Construct a new 138 kV station, Campbell Road, tapping into the Grabill – South Hicksville 138 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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Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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%)

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Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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

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Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b2790	Install a 3 MVAR, 34.5 kV cap bank at Caldwell substation		AEP (100%)
b2791	Rebuild Tiffin – Howard, new transformer at Chatfield		AEP (100%)
b2791.1	Rebuild portions of the East Tiffin - Howard 69 kV line from East Tiffin to West Rockaway Switch (0.8 miles) using 795 ACSR Drake conductor (129 MVA rating, 50% loading)		AEP (100%)
b2791.2	Rebuild Tiffin - Howard 69 kV line from St. Stephen's Switch to Hinesville (14.7 miles) using 795 ACSR Drake conductor (90 MVA rating, non-conductor limited, 38% loading)		AEP (100%)
b2791.3	New 138/69 kV transformer with 138/69 kV protection at Chatfield		AEP (100%)
b2791.4	New 138/69 kV protection at existing Chatfield transformer		AEP (100%)
b2792	Replace the Elliott transformer with a 130 MVA unit, reconductor 0.42 miles 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%)

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Required Transmission 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 Transmission Enhancements	Annual Revenue Requirement	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%)

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

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Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
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 (41.48%) / Dayton (33.23%) / DEOK (25.29%)
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 (81.56%) / Dayton (18.44%)
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%)

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Required Transmission 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%)

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

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Required Transmission Enhancements	Annual 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%)

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

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Required Transmission Enhancements	Annual Revenue Requirement	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 Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2988	Replace the Twin Branch 345 kV breaker “JM” with 63 kA breaker and associated substation works including switches, bus leads, control cable and new DICM	AEP (100%)
b2993	Rebuild the Torrey – South Gambrinus Switch – 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%)

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Required Transmission Enhancements	Annual 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%)

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

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

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

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

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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%)

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Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(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%)

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

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Required Transmission 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 all 34.5 kV equipment and install one (1) 69 kV circuit breaker for the new Whitley line entrance	AEP (100%)
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 at 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	AEP (100%)
b3151.9	Remove 34.5 kV circuit breaker “AD” at Wallen station	AEP (100%)
b3151.10	Rebuild the 2.5 miles of the Columbia – Gateway 69 kV line	AEP (100%)

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Required Transmission 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%)

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

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Required Transmission Enhancements	Annual Revenue Requirement	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%)

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

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Required Transmission Enhancements	Annual Revenue Requirement	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%)

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Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3269	At West New Philadelphia station, add a high side 138 kV breaker on the 138/69 kV Transformer #2 along with a 138 kV breaker on the line towards Newcomerstown	AEP (100%)
b3270	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 138/34.5 kV transformer at 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%)
b3270.1	Replace Dragoon 34.5 kV breakers “B”, “C”, and “D” with 40 kA breakers	AEP (100%)
b3271	Install a 138 kV circuit breaker at Fremont station on the line towards Fremont Center and install a 9.6 MVAR 69 kV capacitor bank at Bloom Road station	AEP (100%)
b3272	Install two 138 kV circuit switchers on the high side of 138/34.5 kV Transformers #1 and #2 at Rockhill station	AEP (100%)

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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%)

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

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Required Transmission Enhancements	Annual Revenue Requirement	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%)

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Required Transmission 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%)

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Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3282.1	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 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%)
b3282.2	Install a 138 kV 40 kA circuit breaker at North Proctorville station	AEP (100%)
b3282.3	Install a 138 kV 40 kA circuit breaker at East Huntington station	AEP (100%)
b3282.4	Convert the existing 34/12 kV North Chesapeake to a 138/12 kV station	AEP (100%)

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

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

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Required Transmission 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		AEP (100%)

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Required Transmission Enhancements		Annual Revenue Requirement	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%)

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Required Transmission Enhancements	Annual Revenue Requirement	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%)

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Required Transmission Enhancements	Annual Revenue Requirement	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 Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b3345.1	Rebuild approximately 4.2 miles of overloaded sections of the 69 kV line between Salt Fork switch and Leatherwood switch with 556 ACSR		AEP (100%)
b3345.2	Update relay settings at Broom Road station		AEP (100%)
b3346.1	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 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%)
b3346.2	Replace the line entrance spans at South Delphos station to eliminate the overloaded 4/0 Copper and 4/0 ACSR conductor		AEP (100%)
b3347.1	Rebuild approximately 20 miles of 69 kV line between Bancroft and Milton stations with 556 ACSR conductor		AEP (100%)
b3347.2	Replace the jumpers around Hurrican switch with 556 ACSR		AEP (100%)

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

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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%)

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

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

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Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b3736.1	Establish 69 kV bus and new 69 kV line Circuit Breaker at Dorton 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%)

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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%)

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Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3766.1	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 the Hayes – New Westville 138 kV line with the conductor size 795 ACSR26/7 Drake. This sub-ID includes the cost of line construction and Right of Way (ROW)	AEP (100%)
b3766.2	Hayes – Hodgins 138 kV line: Build approximately 0.05 mile of 138 kV line with the conductor size 795 ACSR26/7 Drake. This sub-ID includes the line construction, ROW, and fiber	AEP (100%)
b3766.3	Hayes 138 kV: Build a new 4-138 kV circuit breaker ring bus. This sub-ID includes the cost of new station construction, property purchase, metering, station fiber and the College Corner – Randolph 138 kV line connection	AEP (100%)

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Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3775.6	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)	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 (3.91%) / PPL (3.64%) / PSEG (3.93%) / RE (0.14%)

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Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
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	Reliability Driver: AEP (12.38%) / Dayton (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 (3.91%) / PPL (3.64%) / PSEG (3.93%) / RE (0.14%)

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Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b3775.10	Perform a sag study on the Olive – University Park 345 kV line to increase the operating temperature to 225 F. Remediation work includes two tower replacements on the line.		Reliability Driver: AEP (100%)
			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 (3.91%) / PPL (3.64%) / PSEG (3.93%) / RE (0.14%)
b3775.11	Upgrade the limiting element at Stillwell substation to increase the rating of the Stillwell – Dumont 345 kV line to match conductor rating		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 (3.91%) / PPL (3.64%) / PSEG (3.93%) / RE (0.14%)

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Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3784.1	Replace 138 kV breaker 5 at Canal Street station with a new 3000A 63 kA breaker	AEP (100%)
b3785.1	Replace existing 3000 A wave trap at Mountaineer 765 kV, on the Belmont - Mountaineer 765 kV line, with a new 5000 A wave trap	AEP (100%)
b3786.1	Rebuild approximately 4.5 miles of 69 kV line between Abert and Reusens 69 kV substations. Update line settings at Reusens and Skimmer 69 kV substations	AEP (100%)
b3787.1	Install a Capacitor Voltage Transformer (CCVT) on 3 phase stand and remove the single phase existing CCVT on the 69 kV Coalton to Bellefonte line exit. The existing CCVT is mounted to lattice on a single phase CCVT stand, which will be replaced with the 3 phase CCVT stand. The line riser between line disconnect and line take off is being replaced. This remote end work changes the most limiting series element (MLSE) of the line section between Coalton - Princess 69 kV line section	AEP (100%)
b3788.1	Replace AEP owned station takeoff riser and breaker BB risers at OVEC owned Kyger Creek station	AEP (100%)

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Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b3790.0	Replace the overdutied Olive 345 kV circuit breaker "D" with a 5000A 63 kA circuit breaker. Reuse existing cables and a splice box to support the circuit breaker install		AEP (100%)
b3836.1	Rebuild approximately 1.7 miles of line on the Chemical - Washington Street 46 kV circuit		AEP (100%)
b3837.1	Replace existing 34.5 kV, 25 kA circuit breaker B at West Huntington station with new 69 kV, 40 kA circuit breaker		AEP (100%)
b3838.1	Replace breaker A and B at Timken station with 40 kA breakers		AEP (100%)
b3839.1	Replace 69 kV breaker C at Haviland station with a new 3000A 40 kA breaker		AEP (100%)
b3840.1	Replace Structures 382-66 and 382-63 on Darrah - East Huntington 34.5 kV line to bypass 24th Street station. Retire structures 1 through 5 on Twenty Fourth Street 34.5 kV extension. Retire 24th Street Station. Remove conductors from BASF Tap to BASF		AEP (100%)
b3843.1	Rebuild the underground portion of the Ohio University - West Clark 69 kV line, approximately 0.65 miles		AEP (100%)

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Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3847.1	Add a 765 kV breaker at Baker station for the reactor on the Broadford 765 kV line	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: AEP (70.68%) / EKPC (8.12%) / PEPCO (21.20%)</p>
b3847.2	Add two 765 kV breakers to the reactors at Broadford station on the Baker and Jacksons Ferry 765 kV lines	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: AEP (36.98%) / BGE (9.18%) / Dayton (0.04%) / DEOK (0.10%) / Dominion (40.81%) / EKPC (0.05%) / PEPCO (12.84%)</p>

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Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3847.3	Add a 765 kV breaker to the reactor at Jefferson station on the Greentown 765 kV line	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: AEP (64.50%) / DEOK (27.02%) / EKPC (6.06%) / OVEC (2.42%)</p>

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Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b3851.1	Rebuild Allen – R.P. Mone 345 kV line (18.6 miles)		AEP (0.71%) / Dayton (99.28%) / OVEC (0.01%)
b3851.2	Rebuild R.P. Mone – Maddox Creek 345 kV line (9.4 miles)		AEP (78.50%) / Dayton (21.50%)
b3851.3	Replace 345 kV breakers 'B1' and 'B' at Maddox Creek station		AEP (80.97%) / Dayton (19.03%)
b3851.4	Replace two 345 kV breakers 'M' and 'M2' at East Lima station		AEP (80.97%) / Dayton (19.03%)
b3852.1	Connect and energize a second 765/345 kV bank at Vassell 765 kV station		AEP (88.81%) / Dayton (6.22%) / DEOK (4.89%) / OVEC (0.08%)
b3852.2	Replace 765 kV breaker D at Maliszewski station		<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: AEP (68.04%) / ATSI (9.61%) / Dayton (1.92%) / DL (3.35%) / Dominion (17.06%) / EKPC (0.02%)</p>
b3872.1	Adjust the tertiary tap on the Hartford 138/69/34.5 kV transformer 1 and on Hartford 138/69/12 kV transformer 4 to eliminate the high voltage issues and avoid circulating current		AEP (100%)

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Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

b3873.1	Install 12 MVAR 34.5 kV cap bank at Greenleaf station		AEP (100%)
b3875.1	Reconductor approximately 3.95 miles of ACSR 6/1 Penguin (4/0) on the Firebrick – Jefferson Switch 69 kV line with ACSR 556.6 26/7. Remote end (line setting) would need to be updated at Firebrick and Lick. Replace 600A switches at Jefferson and replace 477 AA 19 substation conductor at Firebrick		AEP (100%)
b3876.1	Install a 69 kV 11.5 MVAR capacitor bank at Richlands station with a circuit switcher		AEP (100%)
b3877.1	Replace station conductor and switches in the 345 kV yard at Beatty that are currently limiting the 345 kV lines to Adkins and Chenoweth		AEP (100%)
b3877.2	Upgrade 345 kV circuit breakers 'A' and 'A1' to 4000A 63 kA breakers at Adkins station along with some station conductor that is currently limiting the 345 kV line to Beatty		AEP (100%)
b3878.1	Upgrade 765 kV circuit breakers 'B' and 'B2' to 5000A 50 kA breakers at Marysville station. In addition, the project will upgrade the existing wavetrap towards Sorenson		AEP (100%)

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Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b3879.1	Replace line conductor, approximately 0.11 mile of 4/0 ACSR 6/1 conductor with 556.5 26/7 between South Toronto and the South Toronto Tap		AEP (100%)
b3879.2	Upgrade the wave trap, CCVTs, switches, and station conductor at South Toronto station currently limiting the line to South Toronto Tap		AEP (100%)
b3880.1	At Beatty Road substation, install a 69 kV 23 MVAR capacitor bank along with the 69 kV Cap bank breaker		AEP (100%)
b3882.1	Replace 138 kV circuit breaker BB with higher fault current capable counterpart		AEP (100%)
b3883.1	69 kV station equipment, including relays, conductor, and switches, will be replaced at Haviland station in order to address identified overloads on the lines to North Van Wert and Cavett		AEP (100%)
b3884.1	Replace the 69 kV circuit breaker D at Van Wert with a 40 kA breaker		AEP (100%)
b3885.1	Replace 69 kV circuit breakers N and M at Schroyer Avenue station with higher fault current capable counterparts		AEP (100%)

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Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3886.1	Replace 69 kV circuit breaker 'A' along with disconnect switches at Benwood substation with a 40 kA Circuit Breaker	AEP (100%)
b3887.1	Replace Greentown 138 kV circuit switcher for Transformer No. 5 with a 138 kV 63 kA circuit breaker	AEP (100%)
b3888.1	Preform sag study and complete mitigations on the 138 kV line between East Leipsic and the AE2-072 tap (Lammer) to allow line's conductor to operate to its maximum operating temperature (MOT)	AEP (100%)
b3889.1	Project will replace limiting station equipment at Tiltonsville station to increase the rating on the branch to Windsor	AEP (100%)
b3890.1	Replace station conductor at South Coshocton station currently limiting the branch to Ohio Central	AEP (100%)
b3891.1	Project will perform relay upgrades at Kenny 138 kV to raise the CT & Relay thermal limits that are currently limiting the line to Roberts	AEP (100%)
b3892.1	Replace 69 kV circuit breakers A and S at Mount Vernon station with 40 kA breakers	AEP (100%)

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Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b3894.1	Replace limiting station conductor at Tidd on the line to Carnegie (FE)		AEP (100%)
b3895.1	Replace existing 138 kV, 40 kA circuit switcher L at Jacksons Ferry Station with new 138 kV, 63 kA circuit breaker		AEP (100%)
b3896.1	Adjust the capacitor bank voltage settings to allow the cap bank to operate as needed under N-1-1 scenarios		AEP (100%)
b3897.1	Replace the 138 kV 40 kA circuit switcher XT8 with a 63 kA circuit breaker		AEP (100%)
b3898.1	Upgrade the CT thermal limit at Buchanan station on the Buchanan - Keen Mountain 138 kV line		AEP (100%)
b3911.1	Rebuild the existing 1.1 mile Canal - Gay 138 kV oil filled pipe-type underground line to address overloads on the existing cable utilizing 5000 MCM XLPE cable		AEP (100%)
b3912.1	Rebuild the existing 2.2-mile Canal-Mound St 138 kV oil filled pipe-type underground line to address overloads on the existing cable utilizing 5000 MCM XLPE cable		AEP (100%)

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

Required Transmission Enhancements	Annual Revenue Requirement		Responsible Customer(s)
b3913.1	Rebuild 138 kV line section between Beatty and White Road stations (approximately 4.5 miles). Update remote end relay settings as needed		AEP (100%)
b3913.2	Rebuild 138 kV line section between White Road and Cyprus stations (approximately 3.34 miles). Update remote end relay settings as needed		AEP (100%)
b3919.1	Reconfigure Maliszewski 765 kV station from 2 breakers to a 6 breaker ring bus. Install a new 765/345 kV transformer. Establish new 345 kV breakeryard with 3 string breaker and a half to include a line exit to Hyatt and a line exit to Corridor. Loop the existing Hyatt – West Millersport 345 kV line into the new established 345 kV yard at the Maliszewski station		AEP (85.10%) / Dayton (9.33%) / DEOK (5.48%) / OVEC (0.09%)
b3919.2	Establish a 0.18 mile double circuit 345 kV line extension to cut the existing Hyatt – West Millersport 345 kV line in and out of Corridor station		AEP (100%)

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

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3919.3	Install three new 345 kV breakers at Corridor station in order to accommodate the cut in of the Hyatt - West Millersport 345 kV line	AEP (100%)
b3919.4	Reconductor 10.2 miles of Maliszewski – Corridor 345 kV line	AEP (100%)
b3919.5	Reconductor 4.75 miles of the existing Bokes Creek – Marysville 345 kV circuit. Update the associated relay settings	AEP (100%)
b3919.6	Rebuild 4.4 miles of the existing Marysville – Hyatt 345 kV double circuit line where it extends into Marysville station	AEP (100%)
b3919.7	Upgrade 345 kV breakers K and K1 along with associated switches and conductor to 5000A at Hyatt station	AEP (100%)
b3919.8	Upgrade the relaying and associated equipment at West Millersport station to coordinate with the cut in work to Corridor station	AEP (100%)
b3919.9	Upgrade 3000A 345 kV breaker 'L2' along with associated terminal elements to 5000A at Marysville	AEP (100%)

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

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3919.10	Rebuild approximately 19.0 miles of Hyatt – Marysville 345 kV line using 4-bundled 795 ACSR conductor Bold construction (This is an EOL rebuild)	AEP (100%)
b4000.1	Add one 765 kV breaker at Amos Substation to expand the breaker and a half scheme to accommodate the new Amos – Welton Spring 765 kV line	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (14.67%) / BGE (8.11%) / Dominion (66.09%) / DPL (2.15%) / PEPCO (8.98%)</p>

*Neptune Regional Transmission System, LLC

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Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

b4000.200	Broadford 765 kV Upgrade: Replace Jackson's Ferry CB Q2		Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) <hr/> DFAX Allocation: AEP (21.60%) / APS (12.36%) / BGE (8.28%) / Dominion (46.81%) / PEPCO (10.95%)
b4000.201	Smith Mountain 138 kV Upgrade: Replace 795 KCM AAC, 37-Str. 795 KCM AAC, 37-Str. PH A B2S1 B2S2 BS1 BS2		AEP (100%)
b4000.202	Reconductor 34 miles of Smith Mountain - Redeye 138 kV line		AEP (100%)
b4000.203	Reconductor 34 miles of Redeye - Candler's Mountain 138 kV line		AEP (100%)
b4000.204	Reconductor 34 miles of Candler's Mountain - Opossum Creek 138 kV line		AEP (100%)

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Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b4000.205	Candler's Mountain 138 kV: Replace 1590 KCM AAC, 61-Str. Replace MOAB "Y" SMITH MTN line	AEP (100%)
b4000.206	Opposum Creek 138 kV: Replace Opossum Creek switch	AEP (100%)
b4000.207	Leesville Station Upgrade 138 kV: Replace 795 KCM AAC, 37-Str. IPS Sch. 40 1272 KCM AAC, 61-Str. 1272 KCM AAC, 61-Str. PH A,B,C ALTA VISTA CB-A BUS DISC ALTA VISTA CB-A LINE DISC Wavetrap (1200A) relay thermal Limit 1356 amps	AEP (100%)
b4000.208	Otter 138 kV Station Upgrade: Replace 795 KCM AAC, 37-Str	AEP (100%)
b4000.209	Reconductor 14.4 miles of Altavista - Otter 138 kV line	AEP (100%)
b4000.210	Reconductor 14.4 miles of Otter - Johnson Mountain 138 kV line	AEP (100%)
b4000.211	Reconductor 14.4 miles of Johnson Mountain - New London 138 kV line	AEP (100%)

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Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b4000.251	Replace the wave trap and upgrade the relay at Cloverdale 765 kV substation	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: AEP (3.00%) / APS (8.96%) / BGE (6.53%) / Dominion (72.75%) / PEPCO (8.76%)</p>
b4000.252	Replace the wave trap and upgrade the relay at Joshua Falls 765 kV substation	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: AEP (3.00%) / APS (8.96%) / BGE (6.53%) / Dominion (72.75%) / PEPCO (8.76%)</p>

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Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b4000.359	Add (2) 765 kV breakers at Joshua Falls substation. Substation expansion is required to add the additional breakers	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (9.11%) / BGE (6.49%) / Dominion (75.72%) / PEPCO (8.68%)</p>

*Neptune Regional Transmission System, LLC

SCHEDULE 12 – APPENDIX A

(18) Duquesne Light Company

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2175.1	200 MVAR shunt reactor at Brunot Island 345 kV	DL (100%)
b2175.2	200 MVAR shunt reactor on future Brunot Island – Carson 345 kV circuit	DL (100%)
b2198	Revise the reclosing for the Brunot Island 138 kV breaker 'Z-40 COLLIER'	DL (100%)
b2199	Revise the reclosing for the Brunot Island 138 kV breaker 'Z-41 COLLIER'	DL (100%)
b2200	Revise the reclosing for the Crescent 138 kV breaker 'Z-29 Beaver'	DL (100%)
b2201	Revise the reclosing for the Crescent 138 kV breaker 'Z-82 VALLEY'	DL (100%)
b2202	Revise the reclosing for the Crescent 138 kV breaker 'Z-21 NORTH'	DL (100%)
b2203	Revise the reclosing for the Elrama 138 kV breaker 'Z18-USX CLAI'	DL (100%)
b2204	Revise the reclosing for the Elrama 138 kV breaker 'Z13-WEST MIF'	DL (100%)
b2205	Revise the reclosing for the Elrama 138 kV breaker 'Z15-DRAVOSBU'	DL (100%)
b2206	Revise the reclosing for the Woodville 138 kV breaker 'Z-106 PINEY'	DL (100%)
b2207	Revise the reclosing for the Woodville 138 kV breaker 'Z-64 COLLIER'	DL (100%)
b2208	Revise the reclosing for the Beaver Valley 138 kV breaker 'Z-28 CRESCEN'	DL (100%)

Duquesne Light Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2209	Revise the reclosing for the Cheswick 138 kV breaker Z-51 WILMERD'	DL (100%)
b2280	Replace the USAP 138 kV breaker 'XFMR'	DL (100%)
b2303	Revise the reclosing to the Dravosburg 138 kV breaker 'Z73 West Mifflin' from 5 sec to 15 sec	DL (100%)
b2563	Operate with the Crescent 345/138 kV #3 autotransformer in-service by replacing 8 overdutied 138 kV breakers at Crescent, 3 138 kV breakers at Beaver Valley, install #1 section 345 kV breaker for 331 circuit at Crescent	DL (100%)
b2632	Replace the Oakland 138 kV 'Z-101 Arsenal' breaker	DL (100%)
b2639	Replace the Crescent 138 kV 'NO3 – 4 138' breaker with a 63 kA breaker	DL (100%)
b2640	Replace the Crescent 138 kV 'Z-143 SWCKLY' breaker with a 63 kA breaker	DL (100%)
b2641	Replace the Crescent 138 kV 'Z-24 MONTOUR' breaker with a 63 kA breaker	DL (100%)
b2642	Replace the Crescent 138 kV 'Z-28 BEAVER' breaker with a 63 kA breaker	DL (100%)
b2689.1	Reconductor approximately 7 miles of the Woodville – Peters (Z-117) 138 kV circuit	AEC (0.99%)/ APS (66.14%)/ BGE (4.60%)/ Dominion (8.81%)/ DPL (5.83%)/ ECP** (0.34%)/ HTP*** (0.04%)/ NEPTUNE* (0.12%)/ PECO (3.39%)/ PEPCO (6.29%)/ PSEG (3.45%)

*Neptune Regional Transmission System, LLC

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

***Hudson Transmission Partners, LLC

Duquesne Light Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2689.2	Reconfigure West Mifflin-USS Clairton (Z-15) 138 kV circuit to establish Dravosburg-USS Clairton (Z-14) 138 kV circuit and West Mifflin-Wilson (Z-15) 138 kV circuit	AEC (0.99%)/ APS (66.14%)/ BGE (4.60%)/ Dominion (8.81%)/ DPL (5.83%)/ ECP** (0.34%)/ HTP*** (0.04%)/ NEPTUNE* (0.12%)/ PECO (3.39%)/ PEPCO (6.29%)/ PSEG (3.45%)
b3011.7	Replace the line terminal equipment and line breaker #85 at Dravosburg 138 kV substation in the Elwyn Z-70 line position/bay, with the breaker duty as 63kA	DL (100%)
b3011.8	Upgrade 138 kV breaker “Z-78 Logans” at Dravosburg	DL (100%)
b3012.2	Construct two new ties from a new FirstEnergy substation to a new Duquesne substation by using two separate structures – Duquesne portion	ATSI (38.21%) / DL (61.79%)
b3012.4	Establish the new tie line in place of the existing Elrama – Mitchell 138 kV line	DL (100%)
b3015.1	Construct new Elrama 138 kV substation and connect 7 138 kV lines to new substation	DL (100%)
b3015.2	Reconductor Elrama to Wilson 138 kV line. 4.8 miles	DL (100%)
b3015.3	Reconductor Dravosburg to West Mifflin 138 kV line. 3 miles	DL (100%)
b3015.4	Run new conductor on existing tower to establish the new Dravosburg – Elrama (Z-75) circuit. 10 miles	DL (100%)

*Neptune Regional Transmission System, LLC

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

***Hudson Transmission Partners, LLC

Duquesne Light Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3015.5	Reconductor Elrama to Mitchell 138 kV line – DL portion. 4.2 miles total. 2x795 ACSS/TW 20/7	DL (100%)
b3015.7	Reconductor Wilson to West Mifflin 138 kV line. 2 miles. 795 ACSS/TW 20/7	DL (100%)
b3061	Reconductor the West Mifflin – Dravosburg (Z-73) and Dravosburg – Elrama (Z-75) 138 kV lines	DL (100%)
b3062	Install 138 kV tie breaker at West Mifflin	DL (100%)
b3063	Reconductor the Wilson – Dravosburg (Z-72) 138 kV line (approx. 5 miles)	DL (100%)
b3064	Expand Elrama 138 kV substation to loop in existing US Steel Clariton – Piney Fork 138 kV line	DL (100%)
b3064.2	Replace the West Mifflin 138 kV breakers “Z-94”, “Z-74”, “Z-14”, and “Z-13” with 63 kA breakers	DL (100%)
b3065	Install 138 kV tie breaker at Wilson	DL (100%)
b3084	Reconductor the Oakland – Panther Hollow 138 kV line (approx. 1 mile)	DL (100%)
b3212	The Crescent 138 kV oil-type breaker “2-5 TIE” is found to be overdutied following a model review and correction to short circuit base case	DL (100%)
b3217	Reconductor Wilson - Mitchell 138 kV line - DL portion	DL (100%)

Duquesne Light Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3265	Implement slow circulation on existing underground 138 kV high pressure fluid filled (HPFF) cable between the Arsenal and Riazzi substations	DL (100%)
b3340	Replace one (1) Cheswick 138 kV breaker “Z-53 LF_3” with a 3000 A, 63 kA breaker	DL (100%)
b3717.2	Replace four structures and reconductor Duquesne Light Company’s portion of Plum-Springdale 138 kV line. Associated communication and relay setting changes at Plum and Cheswick	DL (100%)
b3871.1	Replace two 138 kV disconnect switches with 3000 amp disconnect switches and replace a portion of the stranded conductor on the No. 2 138 kV bus with aluminum pipe bus.	DL (100%)

SCHEDULE 12 – APPENDIX A

(20) Virginia Electric and Power Company

Required Transmission Enhancements	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 Transmission Enhancements	Annual Revenue 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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		DFAX Allocation: APS (38.57%) / Dominion (50.29%) / PEPCO (11.14%)
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%)

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

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual 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%)

Virginia Electric and Power Company (cont.)

Required Transmission 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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) 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%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2582	Rebuild the Elmont – Cunningham 500 kV line	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) DFAX Allocation: APS (6.04%) / BGE (4.98%) / Dominion (81.93%) / PEPCO (7.05%)
b2583	Install 500 kV breaker at Ox Substation to remove Ox Tx#1 from H1T561 breaker failure outage	Dominion (100%)
b2584	Relocate the Bremono load (transformer #5) to #2028 (Bremono-Charlottesville 230 kV) line and Cartersville distribution station to #2027 (Bremono-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%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual 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 MVA at 115 kV	Dominion (100%)
b2629	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 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2649.1	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	Dominion (100%)
b2649.2	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	Dominion (100%)
b2650	Rebuild Twittys Creek – Pamplin 115 kV Line #154 (17.8 miles) to current standards with summer emergency rating of 353 MVA at 115 kV	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual 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%)
b2654.4	Install a 2nd 224 MVA 230/115 kV transformer at Hathaway	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2665	Rebuild the Cunningham – Dooms 500 kV line	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) DFAX Allocation: APS (9.10%) / BGE (8.00%) / Dominion (71.52%) / PEPCO (11.38%)
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%)

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Virginia Electric and Power Company (cont.)

Required Transmission 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 Shelhorn, 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%)

* Neptune Regional Transmission System, LLC

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

***Hudson Transmission Partners, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2744	Rebuild the Carson – Rogers Rd 500 kV circuit	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) DFAX Allocation: Dominion (96.17%) / PEPCO (3.83%)
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 emergency rating	Dominion (100%)
b2746.2	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%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) DFAX Allocation: Dominion (100%)
b2759	Rebuild Line #550 Mt. Storm – Valley 500 kV	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) DFAX Allocation: DL (2.99%) / Dominion (44.80%) / EKPC (52.21%)

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Virginia Electric and Power Company (cont.)

Required Transmission 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%)

Virginia Electric and Power Company (cont.)

Required Transmission 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%)

Virginia Electric and Power Company (cont.)

Required Transmission 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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) 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

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2960.1	Replace fixed series capacitors on 500 kV Line #547 at Lexington	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: DEOK (7.65%) / Dominion (88.65%) / EKPC (3.70%)</p>

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Virginia Electric and Power Company (cont.)

Required Transmission 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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) DFAX Allocation: DEOK (9.31%) / Dominion (87.48%) / EKPC (3.21%)
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%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2978	Install 2-125 MVAR STATCOMs at Rawlings and 1-125 MVAR STATCOM at Clover 500 kV substations	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: Dominion (100%)</p>
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%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2989	Install a second 230/115 kV Transformer (224 MVA) approximately 1 mile north of Bremono and tie 230 kV Line #2028 (Bremono – Charlottesville) and 115 kV Line #91 (Bremono - 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 Bremono 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%)

Virginia Electric and Power Company (cont.)

Required Transmission 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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) DFAX Allocation: APS (10.43%) / Dominion (89.57%)
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%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3020	Rebuild 500 kV Line #574 Ladysmith to Elmont – 26.2 miles long	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: APS (16.36%) / DEOK (11.61%) / Dominion (51.27%) / EKPC (5.30%) / PEPCO (15.46%)</p>
b3021	Rebuild 500 kV Line #581 Ladysmith to Chancellor – 15.2 miles long	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: APS (10.06%) / Dominion (89.94%)</p>
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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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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%)

Virginia Electric and Power Company (cont.)

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

Virginia Electric and Power Company (cont.)

Required Transmission 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3223.1	Install a second 230 kV circuit with a minimum summer emergency rating of 1047 MVA between Lanexa and Northern Next substations. The second 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 rebuild project (b3089)	Dominion (100%)
b3223.2	Expand the Northern Neck terminal from a 230 kV, 4-breaker ring bus to a 6-breaker ring bus	Dominion (100%)
b3223.3	Expand the Lanexa terminal from a 6-breaker ring bus to a breaker-and-a-half arrangement	Dominion (100%)
b3246.1	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 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%)
b3246.2	Perform substation work for the 115 kV to 230 kV line conversion at Liberty, Wellington, Godwin, Pioneer, Sandlot and Cannon Branch	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission 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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPSCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: Dominion (100%)</p>

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual 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 Bremono 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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%)
b3321	Rebuild Cranes Corner - Stafford 230 kV line	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3684	Rebuild 12.4 miles of 115 kV line from Earleys to Kelford with a summer emergency rating of 262 MVA. Replace structures as needed to support the new conductor. Upgrade breaker switch 13668 at Earleys from 1200 A to 2000 A	Dominion (100%)
b3685	Install a 33 MVAR cap bank at Cloud 115 kV bus along with a 115 kV breaker. Add 115 kV circuit breaker for 115 kV Line #38	Dominion (100%)
b3686	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 called Duncan Store. The new 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%)
b3687	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 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%)
b3689.1	Reconductor approximately 24.42 miles of 230 kV Line #2114 Remington CT– Elk 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPSCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		DFAX Allocation: Dominion (100%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		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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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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%)

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

***Hudson Transmission Partners, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3718.1	Install one 500/230 kV 1440 MVA transformer at a new substation called Wishing Star. Cut and extend 500 kV Line #546 (Brambleton - Mosby) and 500 kV Line #590 (Brambleton - Mosby) to the proposed Wishing Star substation. Lines to terminate in a 500 kV breaker and a half configuration	Dominion (100%)
b3718.2	Install one 500/230 kV 1440 MVA transformer at a new substation called Mars near Dulles International Airport	Dominion (100%)
b3718.3	Construct a new 500 kV transmission line for approximately 3.5 miles along with substation upgrades at Wishing Star and Mars. New right-of-way will be needed and will share same structures with the line. New conductor to have a minimum summer normal rating of 4357 MVA	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) <hr/> DFAX Allocation: APS (10.46%) / Dominion (89.54%)
b3718.4	Reconductor approximately 0.62 mile of 230 kV Line #2214 (Buttermilk - Roundtable) to achieve a summer rating of 1574 MVA	Dominion (100%)
b3718.5	Reconductor approximately 1.52 miles of 230 kV Line #2031 (Enterprise – Greenway - Roundtable) to achieve a summer rating of 1574 MVA	Dominion (100%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3718.6	Reconductor approximately 0.64 mile of 230 kV Line #2186 (Enterprise - Shellhorn) to achieve a summer rating of 1574 MVA	Dominion (100%)
b3718.7	Reconductor approximately 2.17 miles of 230 kV Line #2188 (Lockridge – Greenway - Shellhorn) to achieve a summer rating of 1574 MVA	Dominion (100%)
b3718.8	Reconductor approximately 0.84 mile of 230 kV Line #2223 (Lockridge - Roundtable) to achieve a summer rating of 1574 MVA	Dominion (100%)
b3718.9	Reconductor approximately 3.98 miles of 230 kV Line #2218 (Sojourner – Runway - Shellhorn) to achieve a summer rating of 1574 MVA	Dominion (100%)
b3718.10	Reconductor approximately 1.61 miles of 230 kV Line #9349 (Sojourner - Mars) to achieve a summer rating of 1574 MVA	Dominion (100%)
b3718.11	Upgrade 4 - 500 kV breakers (total) to 63 kA on either end of 500 kV Line #502 (Loudoun - Mosby)	Dominion (100%)
b3718.12	Upgrade 4 - 500 kV breakers (total) to 63 kA on either end of 500 kV Line #584 (Loudoun - Mosby)	Dominion (100%)
b3718.13	Cut and loop 230 kV Line #2079 (Sterling Park - Dranesville) into Davis Drive substation and install two GIS 230 kV breakers	Dominion (100%)
b3718.14	Construct a new 230 kV transmission line for approximately 3.5 miles along with substation upgrades at Wishing Star and Mars. New right-of-way will be needed and will share same structures with the 500 kV line. New conductor to have a minimum summer normal rating of 1573 MVA	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement		Responsible Customer(s)
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%)
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)		<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (21.09%) / BGE (6.55%) / Dominion (64.94%) / PEPCO (7.42%)</p>

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.120	Aspen substation work to terminate the new NextEra 500 kV line. Include Aspen 500 kV substation portion build	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (9.18%) / BGE (7.21%) / Dominion (72.52%) / PEPCO (11.09%)</p>
b3800.200	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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (100%)</p>
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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Virginia Electric and Power Company (cont.)

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

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (99.96%) / Dominion (0.04%)</p>
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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (99.39%) / Dominion (0.61%)</p>

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (99.39%) / Dominion (0.61%)</p>
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	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%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.218	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%)
b3800.219	Replace seven overdutied 230 kV breakers at Beaumeade substation with 80 kA breakers	Dominion (100%)
b3800.220	Replace four overdutied 230 kV breakers at BECO substation with 80 kA breakers	Dominion (100%)
b3800.221	Replace four overdutied 230 kV breakers at Belmont substation with 80 kA breakers	Dominion (100%)
b3800.222	Replace one overdutied 230 kV 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	Replace two overdutied 230 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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (5.20%) / DL (0.46%) / Dominion (91.40%) / ME (0.59%) / PEPCO (2.35%)</p>

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.234	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	Dominion (100%)
b3800.235	Replace five overdutied 230 kV breakers at Loudoun substation with 80 kA breakers	Dominion (100%)
b3800.236	Replace two overdutied 230 kV breakers at Ox substation with 63 kA breakers	Dominion (100%)
b3800.237	Replace two overdutied 230 kV breakers at Pleasant View substation with 63 kA breakers	Dominion (100%)
b3800.238	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	APS (8.09%) / BGE (8.25%) / Dominion (64.87%) / PEPCO (18.79%)
b3800.239	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	APS (8.09%) / BGE (8.25%) / Dominion (64.87%) / PEPCO (18.79%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (0.09%) / Dominion (99.89%) / PEPCO (0.02%)</p>
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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (0.08%) / Dominion (99.90%) / PEPCO (0.02%)</p>
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	<p>APS (11.45%) / BGE (14.14%) / Dominion (42.82%) / PEPCO (31.59%)</p>

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Virginia Electric and Power Company (cont.)

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

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (100%)</p>
b3800.307	Install one 500 kV, 300 MVAR STATCOM and associated equipment at Mars substation	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (100%)</p>
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%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.310	Install one 500 kV, 293.8 MVAR Shunt Capacitor Bank & associated equipment at Wishing Star substation	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (100%)</p>
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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (91.07%) / PEPCO (8.93%)</p>

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (11.72%) / Dominion (88.28%)</p>
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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (13.93%) / BGE (6.86%) / Dominion (70.92%) / PEPCO (8.29%)</p>

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (41.98%) / Dominion (34.03%) / PEPCO (23.99%)</p>
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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (41.98%) / Dominion (34.03%) / PEPCO (23.99%)</p>
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	Dominion (100%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.324	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	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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.331	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	Dominion (100%)
b3800.332	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%)
b3800.333	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%)
b3800.334	Replace four overdutied 230 kV breakers at Loudoun Substation with 80 kA breakers	Dominion (100%)
b3800.335	Replace one overdutied 500 kV breaker at Ox Substation with a 63 kA breaker	Dominion (100%)
b3800.336	Upgrade and install equipment at Bristers substation to support the new conductor 5000A rating for 500 kV line No. 545	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (91.07%) / PEPCO (8.93%)</p>

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (11.72%) / Dominion (88.28%)</p>
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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (11.72%) / Dominion (88.28%)</p>
b3800.347	Revise relay settings at North Star 230 kV station	Dominion (100%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) <hr/> 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%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.353	Update relay settings at Vint Hill for 500 kV line No. 535 Vint Hill - Loudoun	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (13.93%) / BGE (6.86%) / Dominion (70.92%) / PEPCO (8.29%)</p>
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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (21.45%) / Dominion (78.55%)</p>
b3800.355	Revise relay settings at Youngs Branch 230 kV station	Dominion (100%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (21.45%) / Dominion (78.55%)</p>
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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (9.79%) / Dominion (90.21%)</p>
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	Dominion (100%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.359	Wreck and rebuild 230 kV line No. 2090 Ladysmith CT - Summit D.P. segment as a double circuit 230 kV line to achieve a summer rating of 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%)
b3800.360	Rebuild 230 kV line No. 2054 Charlottesville - Proffit DP using double-circuit capable 500/230 kV poles. (The 500 kV circuit will not be wired as part of this project)	Dominion (100%)
b3800.361	Rebuild 230 kV line No. 233 Charlottesville - Hydraulic Road - Barracks Road - Crozet-Dooms	Dominion (100%)
b3800.362	Rebuild 230 kV line No. 291 segment from Charlottesville - Barracks Road	Dominion (100%)
b3800.363	Rebuild 230 kV line No. 291 segment from Barracks Road - Crozet	Dominion (100%)
b3800.364	Rebuild 230 kV line No. 291 segment Crozet - Dooms	Dominion (100%)
b3800.365	Hollymeade substation Relay Revision for 230 kV line No. 2054 Charlottesville - Hollymeade	Dominion (100%)
b3800.366	Upgrade the terminal equipment at 230 kV Charlottesville station to 4000A for 230 kV line No. 2054 (Charlottesville - Hollymeade)	Dominion (100%)
b3800.367	Proffit DP substation Relay revision for 230 kV line No. 2054 Charlottesville - Hollymeade	Dominion (100%)
b3800.368	Barracks Road substation relay reset to accommodate the rebuilt line 230 kV lines No. 233 and No. 291	Dominion (100%)
b3800.369	Crozet substation relay reset to accommodate the rebuilt 230 kV lines No. 233 and No. 291	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.370	Charlottesville 230 kV substation terminal equipment upgrade for 230 kV lines No. 233 and No. 291 rebuild	Dominion (100%)
b3800.371	Upgrade Hydraulic Road substation equipment for 230 kV line No. 233 and No. 291 rebuild	Dominion (100%)
b3800.372	Dooms substation terminal equipment upgrade for 230 kV line No. 233 and No. 291 rebuild	Dominion (100%)
b3800.373	Wreck and rebuild approximately 7.14 miles of 230 kV line No. 256 from St. Johns to structure 256/108 to achieve a summer rating of 1573 MVA. Line switch 25666 at St. Johns to be upgraded to 4000A	Dominion (100%)
b3800.374	Reconductor approximately 5.30 miles of 230 kV line No. 256 from Ladysmith CT to structure 256/107 to achieve a summer rating of 1573 MVA. Terminal equipment at remote end substations will be upgraded to 4000A	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.375	Construct new Woodside – Goose Creek 500 kV line for approximately 3 miles on single circuit monopole structures within the Doubs – Goose Creek corridor. (Dominion Portion)	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: (APS 9.26%) / BGE (7.30%) / Dominion (72.31%) / PEPCO (11.13%)</p>

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.401	Replace Ashburn 230 kV breaker SC432 with a breaker rated 63 kA	Dominion (100%)
b3800.402	Replace Beaumeade 230 kV breaker 227T2152 with a breaker rated 80 kA	Dominion (100%)
b3800.403	Replace BECO 230 kV breakers 215012 and H12T2150 with breakers rated 63 kA	Dominion (100%)
b3800.404	Replace Belmont 230 kV breaker 227T2180 with a breaker rated 80 kA	Dominion (100%)
b3800.405	Replace Brambleton 230 kV breakers 20102, 20602, 204502, 209402, 201T2045, 206T2094 with breakers rated 80 kA	Dominion (100%)
b3800.406	Replace Gainesville 230 kV breaker 216192 with a breaker rated 80 kA	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.407	Replace Loudoun 230 kV breakers 204552, 217352 with breakers rated 80 kA	Dominion (100%)
b3800.408	Replace Ox 230 kV breakers 22042, 24342, 24842, 220T2063, 243T2097, 248T2013, H342 with breakers rated 80 kA	Dominion (100%)
b3800.409	Replace Paragon Park 230 kV breakers 208132, 215032, 2081T2206, 2150T2207 with breakers rated 80 kA	Dominion (100%)
b3800.410	Replace Reston 230 kV breaker 264T2015 with a breaker rated 63 kA	Dominion (100%)
b3800.411	Replace Stonewater 230 kV 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, 216622-5, 216622-6 with breakers rated 63 kA	Dominion (100%)
b3850.1	Rebuild approximately 13.51 miles of 500 kV Line #588 from structure 588/184 inside Yadkin substation to structure 588/254 outside of Fentress substation	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) <hr/> DFAX Allocation: Dominion (100%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3850.2	Line No. 588 terminal equipment at Yadkin substation will be upgraded to a rating of 5000A. Since the new 500 kV line will be using fiber, the wave trap will be removed and the line protection scheme will be updated	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (100%)</p>
b3850.3	At Fentress substation, since the new 500 kV line will be using fiber, the wave trap will be removed and the line protection scheme will be updated	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (100%)</p>

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement		Responsible Customer(s)
b3853.1	Replace over duty Ladysmith CT 230 kV circuit breakers SX1272 and SX3472 with an interrupting rating of 63 kA		Dominion (100%)
b3854.1	Replace over duty Carson 230 kV circuit breakers 200272 and 24972-3 with an interrupting rating of 63 kA		Dominion (100%)
b3921.1	Wreck and rebuild 115 kV Line 119 from structure 119/305 (Merck No. 5 substation) to 119/411A (Port Republic Substation). The existing structures shall be replaced one for one within the existing ROW using primarily custom engineered double circuit 115 kV steel structures on concrete foundations. The line will be rebuilt with 3-phase 1-768.2 ACSS/TW/HS (20/7) 250 MOT "Maumee" conductor and two (2) DNO-11410 OPGW. The rebuild includes the installation of double circuit structures but assumes the second circuit will not be installed as part of this project, and that the vacant conductor arms should not be utilized without acquiring additional ROW. This scope assumes project GITAE2029C will be completed prior to the construction of this project. Project GITAE2029C serves to install Port Republic substation, which will split Line 119 in between existing structures 119/411 and 119/412		Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement		Responsible Customer(s)
b3921.2	Uprate the 397.5 ACSR jumpers and associated equipment to meet the line conductor rating of 393 MVA		Dominion (100%)
b3922.1	This project serves to wreck and rebuild 115 kV line 1031 from structure 1031/220 to structure 1031/329. The existing structures to be removed are primarily single circuit wood, steel or concrete monopoles. The existing structures to be removed were primarily constructed in 1993 with the weathering steel structures being constructed in 2011. The existing structures shall be replaced one for one within the existing ROW using single circuit steel monopoles on foundations. The line will be rebuilt with single circuit 3-phase 768.2 ACSS/TW/HS (20/7) "Maumee" conductor and single (1) DNO-11410 OPGW, respectively		Dominion (100%)
b3928.1	Install (1) 230 kV, 50 MVAR shunt capacitor bank and associated equipment including breaker at Navy North substation		Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3929.1	Rebuild approximately 33.09 miles of 500 kV line No. 579 from structure 579/1 inside Septa substation to structure 579/193 inside Yadkin substation	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPSCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (100%)</p>
b3929.2	At Septa substation, upgrade CB (579T586), breaker switches (56288, 57985, 58688 & 57988), and line leads to 5000A rating to support Line No. 579 rebuild	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPSCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (100%)</p>

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3929.3	At Yadkin substation, upgrade line leads to 5000A rating to support Line No. 579 rebuild	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPSCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) <hr/> DFAX Allocation: Dominion (100%)
b3929.4	Rebuild approximately 7.7 miles of 230 kV Line No. 2110 Suffolk – Thrasher that share the double circuit towers under Line No. 579	Dominion (100%)
b4000.100	At Ashburn substation 230 kV replace 50 kA breaker SC332 with 63 kA	Dominion (100%)
b4000.101	At Beaumeade substation 230 kV replace 63 kA breaker 274T2206 with 80 kA	Dominion (100%)
b4000.102	At Braddock substation 230 kV replace 40 kA breakers 207T294, 237T294, 237T297, 281T297 with 63 kA	Dominion (100%)
b4000.103	At Brambleton substation 230 kV replace 63 kA breakers 217202, 2172T2183, L102, and L202 with 80 kA	Dominion (100%)
b4000.104	At Bristers substation 230 kV replace 40 kA and 50 kA breakers H1TH2, H2TH3 and L1T2101 with 63 kA	Dominion (100%)
b4000.105	At Bull Run substation 230 kV replace 50 kA breaker H362 with 63 kA	Dominion (100%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b4000.106	At Buttermilk substation 230 kV replace 63 kA breakers 215212, 217012, 220312, 221412, and 2152T2203 with 80 kA	Dominion (100%)
b4000.107	At Cabin Run substation 230 kV replace 63 kA breakers 209512, 221312, and T122 with 80 kA	Dominion (100%)
b4000.108	At Carson substation 230 kV replace 40 kA breaker 23872 with 63 kA	Dominion (100%)
b4000.109	At Clifton substation 230 kV replace 63 kA breakers 201182, SR182, and XT2011 with 80 kA	Dominion (100%)
b4000.111	At Evergreen Mills substation 230 kV, replace 63 kA breakers H132, H232 with 80 kA	Dominion (100%)
b4000.112	At Goose Creek substation 230 kV, replace 63 kA breaker L1T227 with 80 kA	Dominion (100%)
b4000.113	At Goose Creek substation 500 kV, replace 50 kA breaker SC182 with 63 kA	Dominion (100%)
b4000.114	At Ladysmith S1 substation 230 kV, replace 40 kA breakers 25672, 209072, 256T2090, GT172, GT272, GT372, GT472, GT572 with 63 kA	Dominion (100%)
b4000.115	At Ladysmith substation 500 kV, replace 40 kA breaker 574T581 with 63 kA	Dominion (100%)
b4000.116	At Liberty substation 230 kV, replace 50 kA breaker SC112 with 63 kA	Dominion (100%)
b4000.117	At Lockridge substation 230 kV, replace 63 kA breakers 218872, H12T2188, 222372, and H12T2223 with 80 kA	Dominion (100%)
b4000.118	At Loudoun substation 230 kV, replace 63 kA breakers 209452, L152, and L252 with 80 kA	Dominion (100%)
b4000.119	At Loudoun Cap substation 230 kV, replace 50 kA breaker SC352 with 63 kA	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b4000.120	At Loudoun substation 500 kV, replace 50 kA breakers 502T535, 569T584, H1T569, H2T502, H2T584, and SC152 with 63 kA	Dominion (100%)
b4000.121	At Marsh Run substation 230 kV, replace 50 kA breaker 28002, 29902, 280T2039, 299T2040, 203902, and 204002 with 63 kA	Dominion (100%)
b4000.122	At Morrisville substation 230 kV, replace 50 kA breaker L1T2039, L1T2040, L2T2039, and L2T2040 with 63 kA	Dominion (100%)
b4000.123	At Morrisville substation 500 kV, replace 50 kA breakers H1T541, H1T594, H2T545, H2T569, and SC122 with 63 kA	Dominion (100%)
b4000.124	At Mosby substation 500 kV, replace 50 kA breakers 50272, 54672, 55972, 58472, 59072, 502T546, 559T584, SC172, SV172, SV272, and XT590 with 63 kA	Dominion (100%)
b4000.125	At Mt Storm substation 500 kV, replace 40 kA breaker G3T572X with 63 kA	Dominion (100%)
b4000.126	At Nimbus substation 230 kV, replace 63 kA breakers 215282, 225532-5, 225532-6, 226034 with 80 kA	Dominion (100%)
b4000.127	At NIVO 1 substation 230 kV, replace 63 kA breaker 2116T2130 with 80 kA (4-breaker ring bus)	Dominion (100%)
b4000.128	At North Anna substation 500 kV, replace 40 kA breakers 57502, G102-1, G102-2, G202, G2T575, and XT573 with 63 kA	Dominion (100%)
b4000.129	At Ox substation 230 kV, replace 50 kA and 63 kA breakers 201342, 209742, 206342, and SC242 with 80 kA	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b4000.130	At Ox substation 500 kV, replace 40 kA breakers 56142, H1T539, and H2T539 with 63 kA	Dominion (100%)
b4000.131	At Paragon Park substation 230 kV, replace 63 kA breakers 220632 and 220732 with 80 kA	Dominion (100%)
b4000.132	At Pleasantview substation 230 kV, replace 63 kA breakers 203T274 and 274T2098 with 80 kA	Dominion (100%)
b4000.133	At Pleasantview substation 500 kV, replace 40 kA breaker H322 with 63 kA	Dominion (100%)
b4000.134	At Remington substation 230 kV, replace 40 kA and 50 kA breakers 211462, GT162, GT262, GT362, GT462, 2077T2086, 208662, H962, and H9T299 with 63 kA	Dominion (100%)
b4000.135	At Roundtable substation 230 kV, replace 63 kA breakers 203102, 214902, 221402, 222302, 2031T2223, and 2149T2214 with 80 kA	Dominion (100%)
b4000.136	At Vint Hill substation 230 kV, replace 63 kA breakers 2101T2174, 2163T2174, and 2101T2163 with 80 kA	Dominion (100%)
b4000.137	At Yardley substation 230 kV, replace 63 kA breakers WT2209, WT2213, XT2209, and XT2213 with 80 kA	Dominion (100%)
b4000.300	Rebuild approximately 1.71 miles of 230 kV Line 299 from the Marsh Run substation to the Remington CT substation. New conductor has a summer rating of 1573 MVA	Dominion (100%)
b4000.301	Reconductor approximately 1.24 miles of 230 kV Line 280 from Remington – Marsh Run CT substation. New conductor has a summer rating of 1573 MVA	Dominion (100%)
b4000.302	Uprate Line No. 299 terminal equipment, line leads, and bus at Marsh Run substation to be rated to 4000A	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b4000.303	Uprate Line No. 299 terminal equipment, line leads, and bus at Remington CT substation to be rated to 4000A	Dominion (100%)
b4000.304	Partial reconductor/partial wreck & rebuild of 230 kV Line No. 2161 Gainesville – Wheeler. New conductor has a summer rating of 1573 MVA (Wheeler – Linton Tap segment)	Dominion (100%)
b4000.305	Partial reconductor/partial wreck & rebuild of 230 kV Line No. 2161 Gainesville – Wheeler. New conductor has a summer rating of 1573 MVA (Linton Tap – Atlantic segment)	Dominion (100%)
b4000.306	Partial reconductor/partial wreck & rebuild of 230 kV Line No. 2161 Gainesville – Wheeler. New conductor has a summer rating of 1573 MVA (Atlantic – Trident segment)	Dominion (100%)
b4000.307	Partial reconductor/partial wreck & rebuild of 230 kV Line No. 2161 Gainesville – Wheeler. New conductor has a summer rating of 1573 MVA (Trident – Gainesville segment)	Dominion (100%)
b4000.308	Upgrade all Line No. 2161 terminal equipment at Gainesville to 4000A. A CCVT will also be replaced due to aging	Dominion (100%)
b4000.309	Upgrade all Line No. 2161 terminal equipment Wheeler substation to 4000A	Dominion (100%)
b4000.310	Revise relay settings at Trident substation	Dominion (100%)
b4000.311	Rebuild 230 kV Line No. 213 and No. 225 from Thelma – Lakeview. New conductor has a summer rating of 1573 MVA	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b4000.312	At Thelma substation, upgrade line lead, wave traps (213WT & 225WT), circuit breaker leads to 4000A. CB switches 22535, 23235, 23238 and 21335 will also be upgrade to 4000A DEB switches. CCVTs 213P1, 213P2 and 213P3 will be replaced due to aging	Dominion (100%)
b4000.313	At Lakeview substation, upgrade wave traps 213WT and 225WT, line leads, and circuit breaker leads to 4000A. Upgrade CB switches 22565 and 22564 to 4000A double-end break switches. Replace CCVTs 225P1, 225P2, and 225P3 due to aging	Dominion (100%)
b4000.314	Reconductor 230 kV Line No. 2003 Chesterfield – Tyler segment. New conductor has a summer rating of 1573 MVA	Dominion (100%)
b4000.315	Reconductor 230 kV Line No. 2003 Tyler – Poe segment. New conductor has a summer rating of 1573 MVA	Dominion (100%)
b4000.316	At Poe substation, uprate all Line No. 2003 terminal equipment, line leads, and bus to be rated to 4000A	Dominion (100%)
b4000.317	At Tyler substation, upgrade the necessary line terminal equipment to maintain 4000A at Tyler substation	Dominion (100%)
b4000.318	Revise relay settings at Chesterfield substation	Dominion (100%)
b4000.319	Reconductor 230 kV Line No. 2002 Carson – Poe. New conductor has a summer rating of 1573 MVA	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b4000.320	At Carson substation, upgrade all Line No. 2002 terminal equipment at Carson to 4000A. CCVTs will also be replaced due to aging	Dominion (100%)
b4000.321	At Poe substation, upgrade all Line No. 2002 terminal equipment at Carson to 4000A. CCVTs will also be replaced due to aging	Dominion (100%)
b4000.322	Build a new 230 kV Line from Nokesville – Hornbaker using the vacant arms of the double circuit monopole structures installed as part of previous project 993027. New conductor has a summer rating of 1573 MVA	Dominion (100%)
b4000.323	Upgrade terminal equipment at Nokesville substation. The project adds one more line to Nokesville, including the installation of one 230 kV breaker and two 230 kV switches	Dominion (100%)
b4000.324	Upgrade terminal equipment at Hornbaker substation. This project is for installing a new 230 kV 4000A rated line terminal at Hornbaker to accommodate the new line to Nokesville	Dominion (100%)
b4000.325	Build a new 26.38 miles 230 kV line from Elmont to Ladysmith on the existing 5-2 structures between the two stations. New conductor has a summer rating of 1573 MVA	Dominion (100%)
b4000.326	At Elmont substation, install/upgrade associated equipment to accommodate a 4000A line rating for the new 230 kV line between Elmont and Ladysmith	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b4000.327	Upgrade/install equipment at Ladysmith substation to 4000A. Expansion will be required to accommodate a total of three (3) new 230 kV strings of breaker and a half scheme	Dominion (100%)
b4000.328	Construct a new 24.5 miles 230 kV Line 9482 from Cloverhill substation to Ox substation	Dominion (100%)
b4000.329	At Ox substation, install the necessary associated equipment to accommodate the new Line No. 9482 between Cloverhill and Ox. This project also includes expanding the substation with associated security level 1 fencing and super post structure needed	Dominion (100%)
b4000.330	At Cloverhill substation, install the necessary associated equipment to accommodate the new line between Cloverhill and Ox. This project also includes demolishing and reconstructing the existing bus system and roadway	Dominion (100%)
b4000.331	Construct a new 230 kV single circuit line from Raines substation to Cloud substation to solve electrical violations cause by the significant load growth in South Hill, Virginia. The scope also includes an idle 230 kV circuit being installed between these stations	Dominion (100%)
b4000.332	At Cloud substation, upgrade substation terminal equipment to 4000A	Dominion (100%)
b4000.333	At Raines substation, upgrade substation terminal equipment to 4000A	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b4000.334	Reconductor 115 kV Line No. 121 from Poe to Prince George. Specifically, Line No. 121 will be reconducted and converted to 230 kV from Poe substation to Prince George substation	Dominion (100%)
b4000.335	At Poe substation, install a new 230 kV six breaker ultimate ring bus which will fit the station to current 230 kV standards. The substation scope includes the installation of 230 kV breaker and half GIS bus. Work at Poe substation is associated with Line No. 121 reconductor	Dominion (100%)
b4000.336	Build a new 230/115 kV Prince George substation along the existing 115 or 230 kV corridor. The substation scope includes the installation of 230 kV breakers & 1-115 kV breaker along with its associated terminal equipment initially but will have provision for making it a 6-breaker ring (both 230 and 115 kV) in future. The existing 230-115 kV transformer at Prince George will be relocated to serve this new substation	Dominion (100%)
b4000.337	Extend a new 230 kV line approximately 7.85 miles between the existing Morrisville and Anderson Branch substations. The existing tower structures currently supporting the Bristers to Morrisville 500 kV Line No. 545 will be used to support this new line as shared tower structures	Dominion (100%)
b4000.338	At Morrisville substation, install/upgrade substation terminal equipment to 4000A	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b4000.339	At Anderson Branch substation, install/upgrade substation terminal equipment to 4000A	Dominion (100%)
b4000.340	Upgrade existing Goose Creek 500/230 kV transformer to 1440 MVA	Dominion (100%)
b4000.341	Remove the 500 kV conductor previously planned to terminate into the Vint Hill 500 kV substation and extend approximately 0.2 miles of conductor to fly-over the site	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (100.00%)</p>
b4000.342	Remove the terminal equipment and substation work required for the termination of the Morrisville – Wishing Star 500 kV line into Vint Hill	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (100.00%)</p>

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b4000.343	Uprate bus at Brambleton to support 500 kV Line No. 558 (Aspen – Brambleton) uprate	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (100.00%)</p>
b4000.344	Build a 500 kV line from North Anna substation (bypassing Ladysmith Substation) to a new substation called Kraken. New conductor to have a minimum summer normal rating of 4357 MVA	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (91.69%) / PEPCO (8.31%)</p>

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b4000.345	Build a 500 kV line from a new substation called Kraken to a new substation called Yeat. New conductor to have a minimum summer normal rating of 4357 MVA	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPSCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (100.00%)</p>
b4000.347	Upgrade/install equipment at North Anna substation to 5000A to support the new conductor rating	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPSCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (91.69%) / PEPSCO (8.31%)</p>

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b4000.349	Update relay settings at Ladysmith to change the destination of 500 kV Line No. 568 from Possum Point to Kraken	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: BGE (13.28%) / Dominion (64.48%) / PEPCO (22.24%)</p>
b4000.350	Update relay settings at Possum Point to change the destination of 500 kV Line No. 568 from Ladysmith to Kraken	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: BGE (8.30%) / Dominion (78.64%) / PEPCO (13.06%)</p>

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b4000.351	Cut in Line No. 568 Ladysmith – Possum Point into Kraken, creating Line No. 9517 Ladysmith to Kraken	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: BGE (8.30%) / Dominion (78.64%) / PEPCO (13.06%)</p>
b4000.352	Cut in line Ladysmith – Possum Point into Kraken, creating new Line No. 568 Kraken to Possum Point	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: BGE (13.28%) / Dominion (64.48%) / PEPCO (22.24%)</p>

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b4000.353	Upgrade 500 kV terminal equipment at Elmont substation	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (9.79%) / BGE (6.14%) / Dominion (75.61%) / PEPCO (8.46%)</p>
b4000.354	Expand Ladysmith substation to add redundant circuit breakers to the middle breakers on both 500 kV strings (574T575 and 568T581). The equipment including switches 57518, 57515, and H115 will be replaced with 5000A equipment	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (9.79%) / BGE (6.14%) / Dominion (75.61%) / PEPCO (8.46%)</p>

*Neptune Regional Transmission System, LLC

SCHEDULE 12 – APPENDIX A

(23) American Transmission Systems, Inc.

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2019.2 Terminate Burger – Longview 138 kV, Burger – Brookside 138 kV, Burger – Cloverdale 138 kV #1, and Burger – Harmon 138 kV #2 into Holloway substation; Loop Burger – Harmon #1 138 kV and Burger – Knox 138 kV into Holloway substation		ATSI (100%)
b2019.3 Reconfigure Burger 138 kV substation to accommodate two 138 kV line exits and generation facilities		ATSI (100%)
b2019.4 Remove both Burger 138 kV substations (East and West 138 kV buses) and all 138 kV lines on the property		ATSI (100%)
b2019.5 Terminate and de-energize the 138 kV lines on the last structure before the Burger Plant property		ATSI (100%)
b2122.1 Reconductor the ATSI portion of the Howard – Brookside 138 kV line		ATSI (100%)
b2122.2 Upgrade terminal equipment at Brookside on the Howard – Brookside 138 kV line to achieve ratings of 252/291 (SN/SE)		ATSI (100%)
b2188 Revise the reclosing for the Bluebell 138 kV breaker '301-B-94'		ATSI (100%)
b2192 Replace the Longview 138 kV breaker '651-B-32'		ATSI (100%)
b2193 Replace the Lowellville 138 kV breaker '1-10-B 4'		ATSI (100%)

American Transmission Systems, Inc. (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2195	Replace the Roberts 138 kV breaker '601-B-60'	ATSI (100%)
b2196	Replace the Sammis 138 kV breaker '780-B-76'	ATSI (100%)
b2262	New Castle Generating Station – Relocate 138 kV, 69 kV, and 23 kV controls from the generating station building to new control building	ATSI (100%)
b2263	Niles Generation Station – Relocate 138 kV and 23 kV controls from the generation station building to new control building	ATSI (100%)
b2265	Ashtabula Generating Station – Relocate 138 kV controls from the generating station building to new control building	ATSI (100%)
b2284	Increase the design operating temperature on the Cloverdale – Barberton 138 kV line	ATSI (100%)
b2285	Increase the design operating temperature on the Cloverdale – Star 138 kV line	ATSI (100%)
b2301	Reconductor 0.7 miles of 605 ACSR conductor on the Beaver Black River 138 kV line	ATSI (100%)
b2301.1	Wave trap and line drop replacement at Beaver (312/380 MVA SN/SE)	ATSI (100%)
b2349	Replace the East Springfield 138 kV breaker 211-B-63 with 40 kA	ATSI (100%)
b2367	Replace the East Akron 138 kV breaker 36-B-46 with 40 kA	ATSI (100%)

American Transmission Systems, Inc. (cont.)

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2413	Replace a relay at McDowell 138 kV substation		ATSI (100%)
b2434	Build a new London – Tangy 138 kV line		ATSI (100%)
b2435	Build a new East Springfield – London #2 138 kV line		ATSI (100%)
b2459	Install +260/-150 MVAR SVC at Lake Shore		ATSI (100%)
b2492	Replace the Beaver 138 kV breaker '426-B-2' with 63 kA breaker		ATSI (100%)
b2493	Replace the Hoytdale 138 kV breaker '83-B-30' with 63 kA breaker		ATSI (100%)
b2557	At Avon substation, replace the existing 345/138 kV 448 MVA #92 transformer with a 560 MVA unit		ATSI (100%)
b2558	Close normally open switch A 13404 to create a Richland J Bus – Richland K Bus 138 kV line		ATSI (100%)
b2559	Reconductor the Black River – Lorain 138 kV line and upgrade Black River and Lorain substation terminal end equipment		ATSI (100%)
b2560	Construct a second 138 kV line between West Fremont and Hayes substation on open tower position of the West Fremont –Groton –Hayes 138 kV line		ATSI (100%)
b2616	Addition of 4th 345/138 kV transformer at Harding		ATSI (100%)

American Transmission Systems, Inc. (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2673	Rebuild the existing double circuit tower line section from Beaver substation to Brownhelm Jct. approx. 2.8 miles	ATSI (100%)
b2674	Rebuild the 6.6 miles of Evergreen to Ivanhoe 138 kV circuit with 477 ACSS conductor	ATSI (100%)
b2675	Install 26.4 MVAR capacitor and associated terminal equipment at Lincoln Park 138 kV substation	ATSI (100%)
b2725	Build new 345/138 kV Lake Avenue substation w/ breaker and a half high side (2 strings), 2-345/138 kV transformers and breaker and a half (2 strings) low side (138 kV). Substation will tie Avon – Beaver 345 kV #1/#2 and Black River – Johnson #1/#2 lines	ATSI (100%)
b2725.1	Replace the Murray 138 kV breaker '453-B-4' with 40 kA breaker	ATSI (100%)
b2742	Replace the Hoytdale 138 kV '83-B-26' and '83-B-30' breakers with 63 kA breakers	ATSI (100%)
b2753.4	Double capacity for 6 wire "Burger-Cloverdale No. 2" 138 kV line and connect at Holloway and "Point A"	ATSI (100%)
b2753.5	Double capacity for 6 wire "Burger-Longview" 138 kV line and connect at Holloway and "Point A"	ATSI (100%)
b2778	Add 2nd 345/138 kV transformer at Chamberlin substation	ATSI (100%)
b2780	Replace Bruce Mansfield 345 kV breaker 'B57' with an 80 kA breaker, and associated gang-operated disconnect switches D56 and D58	ATSI (100%)

American Transmission Systems, Inc. (cont.)

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2869	Replace the Crossland 138 kV breaker "B-16" with a 40 kA breaker		ATSI (100%)
b2875	Relocate the Richland to Ridgeville 138 kV line from Richland J bus to K, extend the K bus and install a new breaker		ATSI (100%)
b2896	Rebuild/Reconductor the Black River – Lorain 138 kV circuit		ATSI (100%)
b2897	Reconductor the Avon – Lorain 138 kV section and upgrade line drop at Avon		ATSI (100%)
b2898	Reconductor the Beaver – Black River 138 kV with 954 Kcmil ACSS conductor and upgrade terminal equipment on both stations		ATSI (100%)
b2942.1	Install a 100 MVAR 345 kV shunt reactor at Hayes substation		ATSI (100%)
b2942.2	Install a 200 MVAR 345 kV shunt reactor at Bayshore substation		ATSI (100%)
b2972	Reconductor limiting span of Lallendorf – Monroe 345 kV		MISO (11.00%) / AEP (5.38%) / APS (4.27%) / ATSI (66.48%) / Dayton (2.71%) / Dominion (5.31%) / DL (4.85%)
b3031	Transfer load off of the Leroy Center - Mayfield Q2 138 kV line by reconfiguring the Pawnee substation primary source, via the existing switches, from the Leroy Center - Mayfield Q2 138 kV line to the Leroy Center - Mayfield Q1 138 kV line		ATSI (100%)

American Transmission Systems, Inc. (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3032 Greenfield - NASA 138 kV terminal upgrades: NASA substation, Greenfield exit: Revise CT tap on breaker B22 and adjust line relay settings; Greenfield substation, NASA exit: Revise CT tap on breaker B1 and adjust line relay settings; replace 336.4 ACSR line drop with 1033.5 AL		ATSI (100%)
b3033 Ottawa – Lakeview 138 kV reconductor and substation upgrades		ATSI (100%)
b3034 Lakeview – Greenfield 138 kV reconductor and substation upgrades		ATSI (100%).
b3066 Reconductor the Cranberry – Jackson 138 kV line (2.1 miles), reconductor 138 kV bus at Cranberry bus and replace 138 kV line switches at Jackson bus		ATSI (100%)
b3067 Reconductor the Jackson – Maple 138 kV line (4.7 miles), replace line switches at Jackson 138 kV and replace the line traps and relays at Maple 138 kV bus		ATSI (100%)
b3080 Reconductor the 138 kV bus at Seneca		ATSI (100%)
b3081 Replace the 138 kV breaker and reconductor the 138 kV bus at Krendale		ATSI (100%)

American Transmission Systems, Inc. (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3123 At Sammis 345 kV station: Install a new control building in the switchyard, construct a new station access road, install new switchyard power supply to separate from existing generating station power service, separate all communications circuits, and separate all protection and controls schemes		ATSI (100%)
b3124 Separate metering, station power, and communication at Bruce Mansfield 345 kV station		ATSI (100%)
b3127 At Bay Shore 138 kV station: Install new switchyard power supply to separate from existing generating station power service, separate all communications circuits, and construct a new station access road		ATSI (100%)
b3152 Reconductor the 8.4 mile section of the Leroy Center – Mayfield Q1 line between Leroy Center and Pawnee Tap to achieve a rating of at least 160 MVA / 192 MVA (SN/SE)		ATSI (100%)
b3234 Extend both the east and west 138 kV buses at Pine substation, and install one (1) 138 kV breaker, associated disconnect switches, and one (1) 100 MVAR reactor		ATSI (100%)
b3235 Extend 138 kV bus work to the west of Tangy substation for the addition of the 100 MVAR reactor bay and one (1) 138 kV 40 kA circuit breaker		ATSI (100%)
b3236 Extend the Broadview 138 kV bus by adding two (2) new breakers and associated equipment and install a 75 MVAR reactor		ATSI (100%)

American Transmission Systems, Inc. (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3260	Replace the existing breaker 501-B-251 with a new 69 kV breaker with a higher (40 kA) interrupting capability	ATSI (100%)
b3277	Replace the existing East Akron 138 kV breaker 'B-22' with 3000A continuous, 40 kA momentary current interrupting rating circuit breaker	ATSI (100%)
b3282	Install a second 345/138 kV transformer at Hayes, 448 MVA nameplate rating. Add one 345 kV circuit breaker (3000A) to provide transformer high-side connection between breaker B-18 and the new breaker. Connect the new transformer low side to the 138 kV bus. Add one 138 kV circuit breaker (3000A) at Hayes 138 kV substation between B-42 and the new breaker. Relocate the existing 138 kV No. 1 capacitor bank between B-42 and the new breaker. Protection per First Energy standard	ATSI (100%)

American Transmission Systems, Inc. (cont.)

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3678	Expand Galion 138 kV substation, Install 100 MVAR reactor, associated breaker and relaying		ATSI (100%)
b3679	Replace West Fremont 138/69 kV Transformer #2 with a transformer having additional high-side taps		ATSI (100%)
b3680	Replace limiting substation conductors on Ashtabula 138 kV exit to make transmission line conductor the limiting element at Sanborn 138 station		ATSI (100%)
b3713	Disconnect and remove five 138 kV bus tie lines and associated equipment from the Avon Lake Substation to the plant (800-B Bank, 8-AV-T Generator, 5-AV-T, 6-AV-T, and 7-AV-T). Disconnect and remove one 345 kV bus tie line and associated equipment from the Avon substation to the plant (Unit 9). Adjust relay settings at Avon Lake, Avon and Avondale substations. Removal/rerouting of fiber to the plant and install new fiber between the 345 kV and 138 kV yards for the Q4-AV-BUS relaying. Remove SCADA RTU, communications and associated equipment from plant.		ATSI (100%)

American Transmission Systems, Inc. (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
<p>b3714 Replace four 345 kV disconnect switches (D74, D92, D93, & D116) with 3000 A disconnect switches at Beaver station. Replace dual 954 45/7 ACSR SCCIR conductors between 5" pipe and WT with new, which meets or exceeds ratings of SN: 1542 MVA, SSTE: 1878 MVA at Beaver station. Replace 3000 SAC TL drop and 3000 SAC SCCIR between 954 ACSR and 5" bus with new, which meets or exceeds ratings of SN: 1542 MVA, SSTE: 1878 MVA at Beaver station. Upgrade BDD relays at breaker B-88 and B-115 at Beaver station. Relay settings changes at Hayes station.</p>		<p>ATSI (100%)</p>
<p>b3720 Rebuild the 69 kV Abbe – Johnson #2 Line (approximately 4.9 miles) with 556 kcmil ACSR conductor. Replace three disconnect switches (A17, D15 & D16) and line drops and revise relay settings at Abbe. Replace one disconnect switch (A159) and line drops and revise relay settings at Johnson. Replace two MOAB disconnect switches (A4 & A5), one disconnect switch (D9), and line drops at Redman</p>		<p>ATSI (100%)</p>

American Transmission Systems, Inc. (cont.)

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3721	Rebuild and reconductor the Avery – Hayes 138 kV line (approximately 6.5 miles) with 795 kcmil 26/7 ACSR		ATSI (100%)
b3777	Disconnect and remove three 345 kV breakers, foundations and associated equipment from Sammis 345 kV substation. Remove nine 345 kV Capacitor voltage transformers. Remove two 345 kV disconnect switches. Install new 345 kV bus work and foundations. Install new fencing. Remove and adjust relaying at Sammis 345 kV substation		ATSI (100%)
b3789.0	A 69 kV, 60 MVAR shunt reactor will be installed at the Salt Springs substation. The reactor terminal will be connected to the existing 69 kV bus, and an independent-pole operation, 1200A circuit breaker will be installed for reactor switching		ATSI (100%)
b3925.1	Rebuild the 7.46 miles of Avery - Shinrock 138 kV Line with 795 kcmil 26/7 ACSS (7.46 miles)		ATSI (100%)
b3925.2	Rebuild the 13.45 miles of Greenfield - Lakeview 138 kV Line from 2 x 336.4 kcmil 26/7 ACSR to 1 x 795 kcmil 26/7 ACSS		ATSI (100%)
b3925.3	Rebuild the 6.5 miles of Avery-Hayes 138 kV Line with 795 kcmil 26/7 ACSS conductor		ATSI (100%)

American Transmission Systems, Inc. (cont.)

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3925.4	Rebuild the Greenfield - Beaver 138 kV corridor (32 miles) with 795 kcmil 26/7 ACSS. This corridor encompasses multiple 138 kV lines that are constructed on common towers		ATSI (100%)

SCHEDULE 12 – APPENDIX A

(29) Ohio Valley Electric Corporation

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2943 Perform a LIDAR study on the Clifty Creek – Dearborn 345 kV line to increase the Summer Emergency rating above 1023 MVA		OVEC (100%)
b3788.2 Replace OVEC owned breaker AA risers, bus work, and breaker AA disconnect switches at OVEC owned Kyger Creek station		OVEC (100%)
b3899.1 Replace OVEC owned station equipment at Kyger Creek to raise the rating of the Kyger Creek-Sporn 345 kV line. Equipment to be replaced includes station conductor and a wavetrap at Kyger Creek		OVEC (100%)

SCHEDULE 12 – APPENDIX A

(33) Keystone Appalachian Transmission Company

Required Transmission Enhancements	Annual 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%)

Keystone Appalachian Transmission Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b2440	Replace the Cabot 138kV breaker 'C9-KISKI VLY' with 63kA		APS (100%)
b2546	Install a 51.8 MVAR (rated) 138 kV capacitor at Nyswaner 138 kV substation		APS (100%)
b2547.1	Construct a new 138 kV six breaker ring bus Hillman substation		APS (100%)
b2547.2	Loop Smith- Imperial 138 kV line into the new Hillman substation		APS (100%)
b2547.3	Install +125/-75 MVAR SVC at Hillman substation		APS (100%)
b2547.4	Install two 31.7 MVAR 138 kV capacitors		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%)
b2612.1	Relocate All Dam 6 138 kV line and the 138 kV line to AE units 1&2		APS (100%)
b2612.2	Install 138 kV, 3000A bus-tie breaker in the open bus-tie position next to the Shaffers corner 138 kV line		APS (100%)
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%)

Keystone Appalachian Transmission Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
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%)
b2666.12 Replace Yukon 138 kV breaker “Y-2(1B-BETHE)” with an 80 kA breaker		APS (100%)
b2666.13 Replace Yukon 138 kV breaker “Y-21(SHEPJ)” with an 80 kA breaker		APS (100%)
b2666.14 Replace Yukon 138 kV breaker “Y-22(SHEPHJT)” with an 80 kA breaker		APS (100%)

Keystone Appalachian Transmission Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b2689.3	Upgrade terminal equipment at structure 27A		APS (100%)
b2696	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		APS (100%)
b2763	Replace the breaker risers and wave trap at Bredinville 138 kV substation on the Cabrey Junction 138 kV terminal		APS (100%)
b2965	Reconductor the Charleroi – Allenport 138 kV line with 954 ACSR conductor. Replace breaker risers at Charleroi and Allenport		APS (33.72%) / DL (66.28%)
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%)

Keystone Appalachian Transmission Company (cont.)

Required Transmission 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 reconducted 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 (60.47%) / DL (39.53%)
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 (8.19%) / DL (91.81%)
b3011.3	Upgrade terminal equipment at Yukon to increase rating on Yukon to Route 51 #1 138 kV line		DL (100%)

Keystone Appalachian Transmission Company (cont.)

Required Transmission 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 (8.19%) / DL (91.81%)
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 reconducted 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%)

Keystone Appalachian Transmission Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible 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 (5.95%) / DL (94.05%)
b3214.2	Reconductor the Smithton – Shepler Hill Jct 138 kV Line		APS (8.38%) / DL (91.62%)
b3230	At Enon substation install a second 138 kV, 28.8 MVAR nameplate, capacitor and the associated 138 kV capacitor switcher		APS (100%)

Keystone Appalachian Transmission Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b3318	Reconductor the Shanor Manor - Butler 138 kV line with an upgraded circuit breaker at Butler 138 kV station		APS (100%)
b3325	Reconductor the Charleroi - Union 138 kV line and upgrade terminal equipment at Charleroi 138 kV station		APS (100%)
b3681	Upgrade the Shingletown #82 230/46 kV Transformer circuit by installing a 230 kV breaker and disconnect switches, removing existing 230 kV switches, replacing 46 kV disconnect switches, replacing limiting substation conductor, and installing/replacing relays		APS (100%)
b3710	Reconductor AA2-161 to Yukon 138 kV Lines #1 and #2 with 954 ACSS conductor		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 –Bridgeport 138 kV line		APS (100%)
b3741	Replace limiting terminal equipment on Yukon - Charleroi #1 138 kV line		APS (100%)
b3742	Replace limiting terminal equipment on Yukon - Charleroi #2 138 kV line		APS (100%)
b3744	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) 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 and Shanor Manor substations		APS (100%)

Keystone Appalachian Transmission Company (cont.)

Required Transmission Enhancements Annual Revenue Requirement Responsible Customer(s)

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%)
b3870.1	At Federal Street Substation: - Install (3) 138 kV CCVTs on the 138 kV bus. - Remove the Transformer 1 CO-6 138 kV Phase relay overcurrent relays. - Install (1) SEL-421 relay on the high side of Transformer 1. - Install foundations, conduit, and grounding for new CCVTs. - Install cables between CCVTs and relay.		APS (100%)

SCHEDULE 12 – APPENDIX A

(34) Valley Link Transmission Co., LLC

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b4000.2	Construct a new 175 miles Amos – Welton Spring 765 kV line (AEP Section of the line is 30 miles)	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (14.67%) / BGE (8.11%) / Dominion (66.09%) / DPL (2.15%) / PEPCO (8.98%)</p>
b4000.3	Construct a new 175 miles Amos – Welton Spring 765 kV line (APS/FE Section of the line is 145 miles)	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (14.67%) / BGE (8.11%) / Dominion (66.09%) / DPL (2.15%) / PEPCO (8.98%)</p>

Valley Link Transmission Co., LLC (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b4000.4	Construct a new 765 kV switchyard (Welton Spring)	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (14.67%) / BGE (8.11%) / Dominion (66.09%) / DPL (2.15%) / PEPCO (8.98%)</p>
b4000.5	Install four 250 MVAR shunt capacitors, and a +/-500 MVAR STATCOM at Welton Spring 765 kV substation	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (100%)</p>

*Neptune Regional Transmission System, LLC

Valley Link Transmission Co., LLC (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b4000.6	Construct a new 86 miles Welton Spring to Rocky Point 765 kV line (Welton Spring to DVP local area, roughly 70.7 miles)	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (14.67%) / BGE (8.11%) / Dominion (66.09%) / DPL (2.15%) / PEPCO (8.98%)</p>
b4000.7	Construct a new 86 miles Welton Spring to Rocky Point 765 kV line (in DVP local area/Millville to Lovettsville section, roughly 10.5 miles)	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (14.67%) / BGE (8.11%) / Dominion (66.09%) / DPL (2.15%) / PEPCO (8.98%)</p>

*Neptune Regional Transmission System, LLC

Valley Link Transmission Co., LLC (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b4000.8	Construct a new 86 miles Welton Spring to Rocky Point 765 kV line (DVP local area to Rocky Point, roughly 4.8 miles)	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (14.67%) / BGE (8.11%) / Dominion (66.09%) / DPL (2.15%) / PEPCO (8.98%)</p>
b4000.9	Construct a new substation called Rocky Point with a 765 kV and a 500 kV yard. Loop in the Doubs-Goose Creek 500 kV line, the Doubs-Aspen 500 kV line, and the Woodside-Goose Creek 500 kV line. Install two 765/500 kV transformer at Rocky Point substation	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (14.99%) / BGE (8.29%) / Dominion (67.55%) / PEPCO (9.17%)</p>

*Neptune Regional Transmission System, LLC

Valley Link Transmission Co., LLC (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b4000.10	Install four 250 MVAR cap banks (two on 765 and two on 500 kV side) and a +/-500 MVAR STATCOM on the 765 kV Rocky Point yard	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (100%)</p>
b4000.346	Cut-in 500 kV line from Kraken substation into Yeat substation	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (100%)</p>

*Neptune Regional Transmission System, LLC

Valley Link Transmission Co., LLC (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b4000.348	Build a new 500/230kV substation called Kraken. The 500 kV, 5000A ring bus will be set up for a redundant breaker configuration. Install (2) 1400MVA 500/230 kV transformers. A new redundant breaker ring will be added at Kraken to accommodate the new 500 kV line from North Anna to Kraken	Dominion (100%)
b4000.355	Build a new 156 mile 765 kV line from Joshua Falls – Yeat (roughly 69.3 miles in AEP section)	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (9.11%) / BGE (6.49%) / Dominion (75.72%) / PEPCO (8.68%)</p>

*Neptune Regional Transmission System, LLC

Valley Link Transmission Co., LLC (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b4000.356	Build a new 156 mile 765 kV line from Joshua Falls – Yeat (roughly 86.7 miles in Dominion section)	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (9.11%) / BGE (6.49%) / Dominion (75.72%) / PEPCO (8.68%)</p>
b4000.357	Build a new 765/500/230 kV substation called Yeat. Install (2) 765/500 kV transformers. Cut in 500 kV line Bristers – Ox and 500 kV line Meadowbrook – Vint Hill into Yeat	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (89.71%) / PEPCO (10.29%)</p>
b4000.358	Build a new 765/500/230 kV substation called Yeat. Install (1) 500/230 kV transformer. Cut in 230 kV line Vint Hill – Elk Run into Yeat substation	<p>Dominion (100%)</p>

*Neptune Regional Transmission System, LLC

Attachment D

Schedule 12 – Appendix A of the PJM
Open Access Transmission Tariff

Effective January 1, 2025

(Marked / Redline Format)

SCHEDULE 12 – APPENDIX

(20) Virginia Electric and Power Company

Required Transmission Enhancements		Annual Revenue Requirement*** Responsible Customer(s)	
b0217	Upgrade Mt. Storm - Doubs 500 kV		Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
			DFAX Allocation: APS (16.95%) / BGE (6.83%) / Dominion (67.11%) / <u>DPL (1.97%)</u> / PEPCO (7.14%)
b0222	Install 150 MVAR capacitor at Loudoun 500 kV		Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
			DFAX Allocation: APS (5.40%) / BGE (5.96%) / Dominion (80.60%) / PEPCO (8.04%)

* Neptune Regional Transmission System, LLC

*** 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.

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b0223	Install 150 MVAR capacitor at Asburn 230 kV		Dominion (100%)
b0224	Install 150 MVAR capacitor at Dranesville 230 kV		Dominion (100%)
b0225	Install 33 MVAR capacitor at Possum Pt. 115 kV		Dominion (100%)
b0226	Install 500/230 kV transformer at Clifton and Clifton 500 kV 150 MVAR capacitor	As specified in Attachment 7 to Appendix A of Attachment H-16A and under the procedures detailed in Attachment H-16B	APS (3.69%) / BGE (3.54%) / Dominion (85.73%) / PEPCO (7.04%)
b0227	Install 500/230 kV transformer at Bristers; build new 230 kV Bristers-Gainsville circuit, upgrade two Loudoun-Brambleton circuits		AEC (0.71%) / APS (3.36%) / BGE (10.93%) / DPL (1.66%) / Dominion (67.38%) / ME (0.89%) / PECO (2.33%) / PEPCO (12.20%) / PPL (0.54%)
b0227.1	Loudoun Sub – upgrade 6-230 kV breakers		Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b0231	Install 500 kV breakers & 500 kV bus work at Suffolk		Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
			DFAX Allocation: Dominion (100%)
b0231.2	Install 500/230 kV Transformer, 230 kV breakers, & 230 kV bus work at Suffolk		Dominion (100%)
b0232	Install 150 MVAR capacitor at Lynnhaven 230 kV		Dominion (100%)
b0233	Install 150 MVAR capacitor at Landstown 230 kV		Dominion (100%)
b0234	Install 150 MVAR capacitor at Greenwich 230 kV		Dominion (100%)
b0235	Install 150 MVAR capacitor at Fentress 230 kV		Dominion (100%)

* Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b0307	Reconductor Endless Caverns – Mt. Jackson 115 kV		Dominion (100%)
b0308	Replace L breaker and switches at Endless Caverns 115 kV		Dominion (100%)
b0309	Install SPS at Earleys 115 kV		Dominion (100%)
b0310	Reconductor Club House – South Hill and Chase City – South Hill 115 kV		Dominion (100%)
b0311	Reconductor Idylwood to Arlington 230 kV		Dominion (100%)
b0312	Reconductor Gallows to Ox 230 kV		Dominion (100%)
b0325	Install a 2 nd Everetts 230/115 kV transformer		Dominion (100%)
b0326	Uprate/resag Remington-Brandywine-Culppr 115 kV		Dominion (100%)
b0327	Build 2 nd Harrisonburg – Valley 230 kV		APS (19.79%) / Dominion (76.18%) / PEPCO (4.03%)
b0328.1	Build new Meadow Brook – Loudoun 500 kV circuit (30 of 50 miles)		Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
			DFAX Allocation: APS (5.40%) / BGE (5.96%) / Dominion (80.60%) / PEPCO (8.04%)

* Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0328.3	Upgrade Mt. Storm 500 kV substation	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		DFAX Allocation: APS (19.21%) / BGE (7.36%) / Dominion (63.32%) / PEPCO (10.11%)
b0328.4	Upgrade Loudoun 500 kV substation	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		DFAX Allocation: APS (5.40%) / BGE (5.96%) / Dominion (80.60%) / PEPCO (8.04%)

* Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0329	Build Carson – Suffolk 500 kV, install 2 nd Suffolk 500/230 kV transformer & build Suffolk – Fentress 230 kV circuit	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: Dominion (100%)</p>
b0329.1	Replace Thole Street 115 kV breaker ‘48T196’	Dominion (100%)
b0329.2	Replace Chesapeake 115 kV breaker ‘T242’	Dominion (100%)
b0329.3	Replace Chesapeake 115 kV breaker ‘8722’	Dominion (100%)
b0329.4	Replace Chesapeake 115 kV breaker ‘16422’	Dominion (100%)
b0329.5	Install 2 nd Suffolk 500/230 kV transformer & build Suffolk – Thrasher 230 kV circuit	Dominion (100%)††
b0330	Install Crewe 115 kV breaker and shift load from line 158 to 98	Dominion (100%)
b0331	Upgrade/resag Shell Bank – Whealton 115 kV (Line 165)	Dominion (100%)

* Neptune Regional Transmission System, LLC

††Cost allocations associated with below 500 kV elements of the project

Virginia Electric and Power Company (cont.)

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0332	Uprate/resag Chesapeake – Cradock 115 kV		Dominion (100%)
b0333	Replace wave trap on Elmont – Replace (Line #231)		Dominion (100%)
b0334	Uprate/resag Iron Bridge-Walmsley-Southwest 230 kV		Dominion (100%)
b0335	Build Chase City – Clarksville 115 kV		Dominion (100%)
b0336	Reconductor one span of Chesapeake – Dozier 115 kV close to Dozier substation		Dominion (100%)
b0337	Build Lexington 230 kV ring bus		Dominion (100%)
b0338	Replace Gordonsville 230/115 kV transformer for larger one		Dominion (100%)
b0339	Install Breaker at Dooms 230 kV Sub		Dominion (100%)
b0340	Reconductor one span Peninsula – Magruder 115 kV close to Magruder substation		Dominion (100%)
b0341	Install a breaker at Northern Neck 115 kV		Dominion (100%)
b0342	Replace Trowbridge 230/115 kV transformer		Dominion (100%)
b0403	2 nd Dooms 500/230 kV transformer addition		APS (3.35%) / BGE (4.22%) / DPL (1.10%) / Dominion (83.94%) / PEPCO (7.39%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0412	Retension Pruntytown – Mt. Storm 500 kV to a 3502 MVA rating	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		DFAX Allocation: APS (19.89%) / BGE (13.55%) / Dominion (49.16%) / PEPCO (17.40%)
b0450	Install 150 MVAR Capacitor at Fredricksburg 230 kV	Dominion (100%)
b0451	Install 25 MVAR Capacitor at Somerset 115 kV	Dominion (100%)
b0452	Install 150 MVAR Capacitor at Northwest 230 kV	Dominion (100%)
b0453.1	Convert Remington – Sowego 115 kV to 230 kV	APS (0.31%) / BGE (3.01%) / DPL (0.04%) / Dominion (92.75%) / ME (0.03%) / PEPCO (3.86%)
b0453.2	Add Sowego – Gainsville 230 kV	APS (0.31%) / BGE (3.01%) / DPL (0.04%) / Dominion (92.75%) / ME (0.03%) / PEPCO (3.86%)
b0453.3	Add Sowego 230/115 kV transformer	APS (0.31%) / BGE (3.01%) / DPL (0.04%) / Dominion (92.75%) / ME (0.03%) / PEPCO (3.86%)
b0454	Reconductor 2.4 miles of Newport News – Chuckatuck 230 kV	Dominion (100%)

* Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0455	Add 2 nd Endless Caverns 230/115 kV transformer	APS (32.70%) / BGE (7.01%) / DPL (1.80%) / Dominion (50.82%) / PEPCO (7.67%)
b0456	Reconductor 9.4 miles of Edinburg – Mt. Jackson 115 kV	APS (33.69%) / BGE (12.18%) / Dominion (40.08%) / PEPCO (14.05%)
b0457	Replace both wave traps on Doods – Lexington 500 kV	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		DFAX Allocation: BGE (6.26%) / Dominion (85.52%) / EKPC (0.05%) / PEPCO (8.17%)
b0467.2	Reconductor the Dickerson – Pleasant View 230 kV circuit	AEC (1.75%) / APS (19.70%) / BGE (22.13%) / DPL (3.70%) / JCPL (0.71%) / ME (2.48%) / NEPTUNE* (0.06%) / PECO (5.54%) / PEPCO (41.86%) / PPL (2.07%)

* Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0492.6	Replace Mount Storm 500 kV breaker 55072	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		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%)
b0492.7	Replace Mount Storm 500 kV breaker 55172	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		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%)

* Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0492.8	Replace Mount Storm 500 kV breaker H1172- 2	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		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%)
b0492.9	Replace Mount Storm 500 kV breaker G2T550	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		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%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0492.10	Replace Mount Storm 500 kV breaker G2T554	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		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%)
b0492.11	Replace Mount Storm 500 kV breaker G1T551	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		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%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0492.12	Upgrade nameplate rating of Mount Storm 500 kV breakers 55472, 57272, SX172, G3TSX1, G1TH11, G3T572, and SX22	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		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%)
b0512	MAPP Project – install new 500 kV transmission from Possum Point to Calvert Cliffs and install a DC line from Calvert Cliffs to Vienna and a DC line from Calvert Cliffs to Indian River	AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0512.5	Advance n0716 (Ox - Replace 230 kV breaker L242)	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: AEC (3.94%) / APS (0.33%) / BGE (34.54%) / DPL (14.69%) / Dominion (0.30%) / JCPL (9.43%) / ME (2.16%) / NEPTUNE* (0.90%) / PECO (10.52%) / PEPCO (2.44%) / PPL (5.50%) / PSEG (14.71%) / RE (0.54%)</p>
b0512.6	Advance n0717 (Possum Point - Replace 230 kV breaker SC192)	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: AEC (3.94%) / APS (0.33%) / BGE (34.54%) / DPL (14.69%) / Dominion (0.30%) / JCPL (9.43%) / ME (2.16%) / NEPTUNE* (0.90%) / PECO (10.52%) / PEPCO (2.44%) / PPL (5.50%) / PSEG (14.71%) / RE (0.54%)</p>

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b0583	Install dual primary protection schemes on Gosport lines 62 and 51 at the remote terminals (Chesapeake on the 62 line and Reeves Ave on the 51 line)		Dominion (100%)
b0756	Install a second 500/115 kV autotransformer at Chancellor 500 kV		Dominion (100%)
b0756.1	Install two 500 kV breakers at Chancellor 500 kV		Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
			DFAX Allocation: Dominion (100%)

* Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0757	Reconductor one mile of Chesapeake – Reeves Avenue 115 kV line	Dominion (100%)
b0758	Install a second Fredericksburg 230/115 kV autotransformer	Dominion (100%)
b0760	Build 115 kV line from Kitty Hawk to Colington 115 kV (Colington on the existing line and Nag's Head and Light House DP on new line)	Dominion (100%)
b0761	Install a second 230/115 kV transformer at Possum Point	Dominion (100%)
b0762	Build a new Elko station and transfer load from Turner and Providence Forge stations	Dominion (100%)
b0763	Rebuild 17.5 miles of the line for a new summer rating of 262 MVA	Dominion (100%)
b0764	Increase the rating on 2.56 miles of the line between Greenwich and Thompson Corner; new rating to be 257 MVA	Dominion (100%)
b0765	Add a second Bull Run 230/115 kV autotransformer	Dominion (100%)
b0766	Increase the rating of the line between Loudoun and Cedar Grove to at least 150 MVA	Dominion (100%)
b0767	Extend the line from Old Church – Chickahominy 230 kV	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0768	Loop line #251 Idylwood – Arlington into the GIS sub	Dominion (100%)
b0769	Re-tension 15 miles of the line for a new summer rating of 216 MVA	Dominion (100%)
b0770	Add a second 230/115 kV autotransformer at Lanexa	Dominion (100%)
b0770.1	Replace Lanexa 115 kV breaker ‘8532’	Dominion (100%)
b0770.2	Replace Lanexa 115 kV breaker ‘9232’	Dominion (100%)
b0771	Build a parallel Chickahominy – Lanexa 230 kV line	Dominion (100%)
b0772	Install a second Elmont 230/115 kV autotransformer	Dominion (100%)
b0772.1	Replace Elmont 115 kV breaker ‘7392’	Dominion (100%)
b0774	Install a 33 MVAR capacitor at Bremo 115 kV	Dominion (100%)
b0775	Reconductor the Greenwich – Virginia Beach line to bring it up to a summer rating of 261 MVA; Reconductor the Greenwich – Amphibious Base line to bring it up to 291 MVA	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0776	Re-build Trowbridge – Winfall 115 kV	Dominion (100%)
b0777	Terminate the Thelma – Carolina 230 kV circuit into Lakeview 230 kV	Dominion (100%)
b0778	Install 29.7 MVAR capacitor at Lebanon 115 kV	Dominion (100%)
b0779	Build a new 230 kV line from Yorktown to Hayes but operate at 115 kV initially	Dominion (100%)
b0780	Reconductor Chesapeake – Yadkin 115 kV line	Dominion (100%)
b0781	Reconductor and replace terminal equipment on line 17 and replace the wave trap on line 88	Dominion (100%)
b0782	Install a new 115 kV capacitor at Dupont Waynesboro substation	Dominion (100%)
b0784	Replace wave traps on North Anna to Ladysmith 500 kV	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		DFAX Allocation: Dominion (92.39%) / PEPCO (7.61%)
b0785	Rebuild the Chase City – Crewe 115 kV line	Dominion (100%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b0786	Reconductor the Moran DP – Crewe 115 kV segment		Dominion (100%)
b0787	Upgrade the Chase City – Twitty’s Creek 115 kV segment		Dominion (100%)
b0788	Reconductor the line from Farmville – Pamplin 115 kV		Dominion (100%)
b0793	Close switch 145T183 to network the lines. Rebuild the section of the line #145 between Possum Point – Minnieville DP 115 kV		Dominion (100%)
b0815	Replace Elmont 230 kV breaker '22192'		Dominion (100%)
b0816	Replace Elmont 230 kV breaker '21692'		Dominion (100%)
b0817	Replace Elmont 230 kV breaker '200992'		Dominion (100%)
b0818	Replace Elmont 230 kV breaker '2009T2032'		Dominion (100%)
b0837	At Mt. Storm, replace the existing MOD on the 500 kV side of the transformer with a circuit breaker		Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
			DFAX Allocation: Dominion (100%)

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Virginia Electric and Power Company (cont.)

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0888	Replace Loudoun 230 kV Cap breaker 'SC352'		Dominion (100%)
b0892	Replace Chesapeake 115 kV breaker SX522		Dominion (100%)
b0893	Replace Chesapeake 115 kV breaker T202		Dominion (100%)
b0894	Replace Possum Point 115 kV breaker SX-32		Dominion (100%)
b0895	Replace Possum Point 115 kV breaker L92-1		Dominion (100%)
b0896	Replace Possum Point 115 kV breaker L92-2		Dominion (100%)
b0897	Replace Suffolk 115 kV breaker T202		Dominion (100%)
b0898	Replace Peninsula 115 kV breaker SC202		Dominion (100%)
b0921	Reconductor Brambleton - Cochran Mill 230 kV line with 201 Yukon conductor		Dominion (100%)
b0923	Install 50-100 MVAR variable reactor banks at Carson 230 kV		Dominion (100%)
b0924	Install 50-100 MVAR variable reactor banks at Dooms 230 kV		Dominion (100%)
b0925	Install 50-100 MVAR variable reactor banks at Garrisonville 230 kV		Dominion (100%)
b0926	Install 50-100 MVAR variable reactor banks at Hamilton 230 kV		Dominion (100%)
b0927	Install 50-100 MVAR variable reactor banks at Yadkin 230 kV		Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0928	Install 50-100 MVAR variable reactor banks at Carolina, Dooms, Everetts, Idylwood, N. Alexandria, N. Anna, Suffolk and Valley 230 kV substations	Dominion (100%)
b1056	Build a 2nd Shawboro – Elizabeth City 230 kV line	Dominion (100%)
b1058	Add a third 230/115 kV transformer at Suffolk substation	Dominion (100%)
b1058.1	Replace Suffolk 115 kV breaker ‘T122’ with a 40 kA breaker	Dominion (100%)
b1058.2	Convert Suffolk 115 kV straight bus to a ring bus for the three 230/115 kV transformers and three 115 kV lines	Dominion (100%)
b1071	Rebuild the existing 115 kV corridor between Landstown - Va Beach Substation for a double circuit arrangement (230 kV & 115 kV)	Dominion (100%)
b1076	Replace existing North Anna 500-230 kV transformer with larger unit	Dominion (100%)
b1087	Replace Cannon Branch 230-115 kV with larger transformer	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1088	Build new Radnor Heights Sub, add new underground circuit from Ballston - Radnor Heights, Tap the Glebe - Davis line and create circuits from Davis - Radnor Heights and Glebe - Radnor Heights		Dominion (100%)
b1089	Install 2nd Burke to Sideburn 230 kV underground cable		Dominion (100%)
b1090	Install a 150 MVAR 230 kV capacitor and one 230 kV breaker at Northwest		Dominion (100%)
b1095	Reconductor Chase City 115 kV bus and add a new tie breaker		Dominion (100%)
b1096	Construct 10 mile double ckt. 230 kV tower line from Loudoun to Middleburg		Dominion (100%)
b1102	Replace Bremo 115 kV breaker '9122'		Dominion (100%)
b1103	Replace Bremo 115 kV breaker '822'		Dominion (100%)
b1172	Build a 4-6 mile long 230 kV line from Hopewell to Bull Hill (Ft Lee) and install a 230-115 kV Tx		Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1188	Build new Brambleton 500 kV three breaker ring bus connected to the Loudoun to Pleasant View 500 kV line	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		DFAX Allocation: Dominion (100%)
b1188.1	Replace Loudoun 230 kV breaker '200852' with a 63 kA breaker	Dominion (100%)
b1188.2	Replace Loudoun 230 kV breaker '2008T2094' with a 63 kA breaker	Dominion (100%)
b1188.3	Replace Loudoun 230 kV breaker '204552' with a 63 kA breaker	Dominion (100%)
b1188.4	Replace Loudoun 230 kV breaker '209452' with a 63 kA breaker	Dominion (100%)
b1188.5	Replace Loudoun 230 kV breaker 'WT2045' with a 63 kA breaker	Dominion (100%)
b1188.6	Install one 500/230 kV transformer and two 230 kV breakers at Brambleton	AEC (0.22%) / BGE (7.90%) / DPL (0.59%) / Dominion (75.58%) / ME (0.22%) / PECO (0.73%) / PEPCO (14.76%)

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Virginia Electric and Power Company (cont.)

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1224	Install 2nd Clover 500/230 kV transformer and a 150 MVar capacitor		BGE (7.56%) / DPL (1.03%) / Dominion (78.21%) / ME (0.77%) / PECO (1.39%) / PEPCO (11.04%)
b1225	Replace Yorktown 115 kV breaker 'L982-1'		Dominion (100%)
b1226	Replace Yorktown 115 kV breaker 'L982-2'		Dominion (100%)
b1279	Line #69 Uprate – Increase rating on Locks – Purdy 115 kV to serve additional load at the Reams delivery point		Dominion (100%)
b1306	Reconfigure 115 kV bus at Endless Caverns substation such that the existing two 230/115 kV transformers at Endless Caverns operate in		Dominion (100%)
b1307	Install a 2nd 230/115 kV transformer at Northern Neck Substation		Dominion (100%)
b1308	Improve LSE's power factor in zone to .973 PF, adjust LTC's at Gordonsville and Remington, move existing shunt capacitor banks		Dominion (100%)
b1309	Install a 230 kV line from Lakeside to Northwest utilizing the idle line and 60 line ROW's and reconductor the existing 221 line between Elmont and Northwest		Dominion (100%)

Virginia Electric and Power Company (cont.)

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1310	Install a 115 kV breaker at Broadnax substation on the South Hill side of Broadnax		Dominion (100%)
b1311	Install a 230 kV 3000 amp breaker at Cranes Corner substation to sectionalize the 2104 line into two lines		Dominion (100%)
b1312	Loop the 2054 line in and out of Hollymeade and place a 230 kV breaker at Hollymeade. This creates two lines: Charlottesville - Hollymeade		Dominion (100%)
b1313	Resag wire to 125C from Chesterfield – Shockoe and replace line switch 1799 with 1200 amp switch. The new rating would be 231 MVA		Dominion (100%)
b1314	Rebuild the 6.8 mile line #100 from Chesterfield to Harrowgate 115 kV for a minimum 300 MBA rating		Dominion (100%)

Virginia Electric and Power Company (cont.)

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1315	Convert line #64 Trowbridge to Winfall to 230 kV and install a 230 kV capacitor bank at Winfall		Dominion (100%)
b1316	Rebuild 10.7 miles of 115 kV line #80, Battleboro – Heartsease DP		Dominion (100%)
b1317	LSE load power factor on the #47 line will need to meet MOA requirements of .973 in 2015 to further resolve this issue through at least 2019		Dominion (100%)
b1318	Install a 115 kV bus tie breaker at Acca substation between the Line #60 and Line #95 breakers		Dominion (100%)
b1319	Resag line #222 to 150 C and upgrade any associated equipment to a 2000A rating to achieve a 706 MVA summer line rating		Dominion (100%)
b1320	Install a 230 kV, 150 MVAR capacitor bank at Southwest substation		Dominion (100%)
b1321	Build a new 230 kV line North Anna – Oak Green and install a 224 MVA 230/115 kV transformer at Oak Green		BGE (0.85%) / Dominion (97.96%) / PEPCO (1.19%)
b1322	Rebuild the 39 Line (Dooms – Sherwood) and the 91 Line (Sherwood – Bremono)		Dominion (100%)
b1323	Install a 224 MVA 230/115 kV transformer at Staunton. Rebuild the 115 kV line #43 section Staunton - Verona		Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1324	Install a 115 kV capacitor bank at Oak Ridge. Install a capacitor bank at New Bohemia. Upgrade 230/34.5 kV transformer #3 at Kings Fork	Dominion (100%)
b1325	Rebuild 15 miles of line #2020 Winfall – Elizabeth City with a minimum 900 MVA rating	Dominion (100%)
b1326	Install a third 168 MVA 230/115 kV transformer at Kitty Hawk with a normally open 230 kV breaker and a low side 115 kV breaker	Dominion (100%)
b1327	Rebuild the 20 mile section of line #22 between Kerr Dam – Eatons Ferry substations	Dominion (100%)
b1328	Uprate the 3.63 mile line section between Possum and Dumfries substations, replace the 1600 amp wave trap at Possum Point	AEC (0.66%) / APS (3.59%) / DPL (0.91%) / Dominion (92.94%) / PECO (1.90%)
b1329	Install line-tie breakers at Sterling Park substation and BECO substation	Dominion (100%)
b1330	Install a five breaker ring bus at the expanded Dulles substation to accommodate the existing Dulles Arrangement and support the Metrorail	Dominion (100%)
b1331	Build a 230 kV line from Shawboro to Aydlett tap and connect Aydlett to the new line	Dominion (100%)
b1332	Build Cannon Branch to Nokesville 230 kV line	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b1333	Advance n1728 (Replace Possum Point 230 kV breaker H9T237 with an 80 kA breaker)		Dominion (100%)
b1334	Advance n1748 (Replace Ox 230 kV breaker 22042 with a 63 kA breaker)		Dominion (100%)
b1335	Advance n1749 (Replace Ox 230 kV breaker 220T2603 with a 63 kA breaker)		Dominion (100%)
b1336	Advance n1750 (Replace Ox 230 kV breaker 24842 with a 63 kA breaker)		Dominion (100%)
b1337	Advance n1751 (Replace Ox 230 kV breaker 248T2013 with a 63 kA breaker)		Dominion (100%)
b1503.1	Loop Line #2095 in and out of Waxpool approximately 1.5 miles		Dominion (100%)
b1503.2	Construct a new 230 kV line from Brambleton to BECO Substation of approximately 11 miles with approximately 10 miles utilizing the vacant side of existing Line #2095 structures		Dominion (100%)
b1503.3	Install a one 230 kV breaker, Future 230 kV ring-bus at Waxpool Substation		Dominion (100%)
b1503.4	The new Brambleton - BECO line will feed Shellhorn Substation load and Greenway TX's #2&3 load		Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1506.1	At Gainesville Substation, create two 115 kV straight-buses with a normally open tie-breaker	Dominion (100%)
b1506.2	Upgrade Line 124 (radial from Loudoun) to a minimum continuous rating of 500 MVA and network it into the 115 kV bus feeding NOVEC's DP at Gainesville	Dominion (100%)
b1506.3	Install two additional 230 kV breakers in the ring at Gainesville (may require substation expansion) to accommodate conversion of NOVEC's Gainesville to Wheeler line	Dominion (100%)
b1506.4	Convert NOVEC's Gainesville-Wheeler line from 115 kV to 230 kV (will require Gainesville DP Upgrade replacement of three transformers total at Atlantic and Wheeler Substations)	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1507	Rebuild Mt Storm – Doubs 500 kV	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: APS (16.95%) / BGE (6.83%) / Dominion (67.11%) / DPL (1.97%) / PEPCO (7.14%)</p>
b1508.1	Build a 2nd 230 kV Line Harrisonburg to Endless Caverns	APS (37.05%) / Dominion (62.95%)
b1508.2	Install a 3rd 230-115 kV Tx at Endless Caverns	APS (37.05%) / Dominion (62.95%)
b1508.3	Upgrade a 115 kV shunt capacitor banks at Merck and Edinburg	APS (37.05%) / Dominion (62.95%)
b1536	Advance n1752 (Replace OX 230 breaker 24342 with an (63 kA breaker)	Dominion (100%)
b1537	Advance n1753 (Replace OX 230 breaker 243T2097 with an 63 kA breaker)	Dominion (100%)

* Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b1538	Replace Loudoun 230 kV breaker '29552'		Dominion (100%)
b1571	Replace Acca 115 kV breaker '6072' with 40 kA		Dominion (100%)
b1647	Upgrade the name plate rating at Morrisville 500 kV breaker 'H1T573' with 50 kA breaker		Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
			DFAX Allocation: Dominion (100%)
b1648	Upgrade name plate rating at Morrisville 500 kV breaker 'H2T545' with 50 kA breaker		Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
			DFAX Allocation: Dominion (100%)

* Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1649	Replace Morrisville 500 kV breaker 'H1T580' with 50 kA breaker	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: Dominion (100%)</p>
b1650	Replace Morrisville 500 kV breaker 'H2T569' with 50 kA breaker	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: Dominion (100%)</p>
b1651	Replace Loudoun 230 kV breaker '295T2030' with 63 kA breaker	Dominion (100%)

* Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1652	Replace Ox 230 kV breaker '209742' with 63 kA breaker	Dominion (100%)
b1653	Replace Clifton 230 kV breaker '26582' with 63 kA breaker	Dominion (100%)
b1654	Replace Clifton 230 kV breaker '26682' with 63 kA breaker	Dominion (100%)
b1655	Replace Clifton 230 kV breaker '205182' with 63 kA breaker	Dominion (100%)
b1656	Replace Clifton 230 kV breaker '265T266' with 63 kA breaker	Dominion (100%)
b1657	Replace Clifton 230 kV breaker '2051T2063' with 63 kA breaker	Dominion (100%)
b1694	Rebuild Loudoun - Brambleton 500 kV	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		DFAX Allocation: APS (25.77%) / Dominion (74.23%)
b1696	Install a breaker and a half scheme with a minimum of eight 230 kV breakers for five existing lines at Idylwood 230 kV	AEC (0.46%) / APS (4.18%) / BGE (2.02%) / DPL (0.80%) / Dominion (88.45%) / JCPL (0.64%) / ME (0.50%) / NEPTUNE* (0.06%) / PECO (1.55%) / PEPCO (1.34%)

* Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1697	Build a 2nd Clark - Idylwood 230 kV line and install 230 kV gas-hybrid breakers at Clark	AEC (1.35%) / APS (15.65%) / BGE (10.53%) / DPL (2.59%) / Dominion (46.97%) / JCPL (2.36%) / ME (1.91%) / NEPTUNE* (0.23%) / PECO (4.48%) / PEPCO (11.23%) / PSEG (2.59%) / RE (0.11%)
b1698	Install a 2nd 500/230 kV transformer at Brambleton	APS (4.21%) / BGE (13.28%) / DPL (1.09%) / Dominion (59.38%) / PEPCO (22.04%)
b1698.1	Install a 500 kV breaker at Brambleton	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		DFAX Allocation: Dominion (100%)

* Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1698.6	Replace Brambleton 230 kV breaker '2094T2095'	Dominion (100%)
b1699	Reconfigure Line #203 to feed Edwards Ferry sub radial from Pleasant View 230 kV and install new breaker bay at Pleasant View Sub	Dominion (100%)
b1700	Install a 230/115 kV transformer at the new Liberty substation to relieve Gainesville Transformer #3	Dominion (100%)
b1701	Reconductor line #2104 (Fredericksburg - Cranes Corner 230 kV)	APS (8.66%) / BGE (10.95%) / Dominion (63.30%) / PEPCO (17.09%)
b1724	Install a 2nd 138/115 kV transformer at Edinburg	Dominion (100%)
b1728	Replace the 115/34.5 kV transformer #1 at Hickory with a 230/34.5 kV transformer	Dominion (100%)
b1729	Add 4 breaker ring bus at Burton 115 kV substation and construct a 115 kV line approximately 3.5 miles from Oakwood 115 kV substation to Burton 115 kV substation	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1730	Install a 230/115 kV transformer at a new Liberty substation		Dominion (100%)
b1731	Uprate or rebuild Four Rivers – Kings Dominion 115 kV line or Install capacitors or convert load from 115 kV system to 230 kV system		Dominion (100%)
b1790	Split Wharton 115 kV capacitor bank into two smaller units and add additional reactive support in area by correcting power factor at Pantego 115 kV DP and FivePoints 115 kV DP to minimum of 0.973		Dominion (100%)
b1791	Wreck and rebuild 2.1 mile section of Line #11 section between Gordonsville and Somerset		APS (5.83%) / BGE (6.25%) / Dominion (78.38%) / PEPCO (9.54%)
b1792	Rebuild line #33 Halifax to Chase City, 26 miles. Install 230 kV 4 breaker ring bus		Dominion (100%)
b1793	Wreck and rebuild remaining section of Line #22, 19.5 miles and replace two pole H frame construction built in 1930		Dominion (100%)
b1794	Split 230 kV Line #2056 (Hornertown - Rocky Mount) and double tap line to Battleboro Substation. Expand station, install a 230 kV 3 breaker ring bus and install a 230/115 kV transformer		Dominion (100%)

Virginia Electric and Power Company (cont.)

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1795	Reconductor segment of Line #54 (Carolina to Woodland 115 kV) to a minimum of 300 MVA		Dominion (100%)
b1796	Install 115 kV 25 MVAR capacitor bank at Kitty Hawk Substation		Dominion (100%)
b1797	Wreck and rebuild 7 miles of the Dominion owned section of Cloverdale - Lexington 500 kV		Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
			DFAX Allocation: APS (18.21%) / BGE (13.33%) / Dayton (0.02%) / DEOK (0.04%) / Dominion (51.47%) / EKPC (0.02%) / PEPCO (16.91%)
b1798	Build a 450 MVAR SVC and 300 MVAR switched shunt at Loudoun 500 kV		Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
			DFAX Allocation: APS (5.40%) / BGE (5.96%) / Dominion (80.60%) / PEPCO (8.04%)

* Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1799	Build 150 MVAR Switched Shunt at Pleasant View 500 kV	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: Dominion (89.13%) / PEPCO (10.87%)</p>
b1805	Install a 250 MVAR SVC at the existing Mt. Storm 500 kV substation	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: APS (26.26%) / BGE (12.54%) / Dominion (44.37%) / PEPCO (16.83%)</p>
b1809	Replace Brambleton 230 kV Breaker '22702'	Dominion (100%)
b1810	Replace Brambleton 230 kV Breaker '227T2094'	Dominion (100%)

* Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1905.1	Surry to Skiffes Creek 500 kV Line (7 miles overhead)	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: Dominion (100%)</p>
b1905.2	Surry 500 kV Station Work	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: Dominion (100%)</p>
b1905.3	Skiffes Creek 500-230 kV Tx and Switching Station	Dominion (99.84%) / PEPCO (0.16%)
b1905.4	New Skiffes Creek - Whealton 230 kV line	Dominion (99.84%) / PEPCO (0.16%)
b1905.5	Whealton 230 kV breakers	Dominion (99.84%) / PEPCO (0.16%)

* Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1905.6	Yorktown 230 kV work	Dominion (99.84%) / PEPCO (0.16%)
b1905.7	Lanexa 115 kV work	Dominion (99.84%) / PEPCO (0.16%)
b1905.8	Surry 230 kV work	Dominion (99.84%) / PEPCO (0.16%)
b1905.9	Kings Mill, Peninmen, Toano, Waller, Warwick	Dominion (99.84%) / PEPCO (0.16%)
b1906.1	At Yadkin 500 kV, install six 500 kV breakers	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		DFAX Allocation: Dominion (100%)
b1906.2	Install a 2nd 230/115 kV TX at Yadkin	Dominion (100%)
b1906.3	Install a 2nd 230/115 kV TX at Chesapeake	Dominion (100%)
b1906.4	Uprate Yadkin – Chesapeake 115 kV	Dominion (100%)
b1906.5	Install a third 500/230 kV TX at Yadkin	Dominion (100%)
b1907	Install a 3rd 500/230 kV TX at Clover	APS (5.83%) / BGE (4.74%) / Dominion (81.79%) / PEPCO (7.64%)

* Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1908	Rebuild Lexington – Dooms 500 kV	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: BGE (6.26%) / Dominion (85.52%) / EKPC (0.05%) / PEPCO (8.17%)</p>
b1909	Uprate Bremono – Midlothian 230 kV to its maximum operating temperature	APS (6.31%) / BGE (3.81%) / Dominion (81.90%) / PEPCO (7.98%)
b1910	Build a Suffolk – Yadkin 230 kV line (14 miles) and install 4 breakers	Dominion (100%)
b1911	Add a second Valley 500/230 kV TX	APS (14.85%) / BGE (3.10%) / Dominion (74.12%) / PEPCO (7.93%)
b1912	Install a 500 MVAR SVC at Landstown 230 kV	DEOK (0.46%) / Dominion (99.54%)
b2053	Rebuild 28 mile line	AEP (100%)
b2125	Install four additional 230 kV 100 MVAR variable shunt reactor banks at Clifton, Gallows Road, Garrisonville, and Virginia Hills substations	Dominion (100%)
b2126	Install two additional 230 kV 100 MVAR variable shunt reactor banks at Churchland and Shawboro substations	Dominion (100%)

* Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2181	Add a motor to an existing switch at Prince George to allow for Sectionalizing scheme for line #2124 and allow for Brickhouse DP to be re-energized from the 115 kV source	Dominion (100%)
b2182	Install 230 kV 4-breaker ring at Enterprise 230 kV to isolate load from transmission system when substation initially built	Dominion (100%)
b2183	Add a motor to an existing switch at Keene Mill to allow for a sectionalizing scheme	Dominion (100%)
b2184	Install a 230 kV breaker at Tarboro to split line #229. Each will feed an autotransformer at Tarboro. Install switches on each autotransformer	Dominion (100%)
b2185	Uprate Line #69 segment Reams DP to Purdy (19 miles) from 41 MVA to 162 MVA by replacing 5 structures and re-sagging the line from 50C to 75C	Dominion (100%)
b2186	Install a 2nd 230-115 kV transformer at Earleys connected to the existing 115 kV and 230 kV ring busses. Add a 115 kV breaker and 230 kV breaker to the ring busses	Dominion (100%)
b2187	Install 4 - 230 kV breakers at Shellhorn 230 kV to isolate load	Dominion (100%)

SCHEDULE 12 – APPENDIX A

(20) Virginia Electric and Power Company

Required Transmission Enhancements	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 Transmission Enhancements	Annual Revenue 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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		DFAX Allocation: APS (38.57%) / Dominion (50.29%) / PEPCO (11.14%)
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%)

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

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual 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%)

Virginia Electric and Power Company (cont.)

Required Transmission 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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) 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%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2582	Rebuild the Elmont – Cunningham 500 kV line	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) DFAX Allocation: APS (6.04%) / BGE (4.98%) / Dominion (81.93%) / PEPCO (7.05%)
b2583	Install 500 kV breaker at Ox Substation to remove Ox Tx#1 from H1T561 breaker failure outage	Dominion (100%)
b2584	Relocate the Bremono load (transformer #5) to #2028 (Bremono-Charlottesville 230 kV) line and Cartersville distribution station to #2027 (Bremono-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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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual 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 MVA at 115 kV	Dominion (100%)
b2629	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 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2649.1	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	Dominion (100%)
b2649.2	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	Dominion (100%)
b2650	Rebuild Twittys Creek – Pamplin 115 kV Line #154 (17.8 miles) to current standards with summer emergency rating of 353 MVA at 115 kV	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual 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%)
b2654.34	Install a 2nd 224 MVA 230/115 kV transformer at Hathaway	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2665	Rebuild the Cunningham – Dooms 500 kV line	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) DFAX Allocation: APS (9.10%) / BGE (8.00%) / Dominion (71.52%) / PEPCO (11.38%)
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%)

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Virginia Electric and Power Company (cont.)

Required Transmission 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 Shelhorn, 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%)

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

***Hudson Transmission Partners, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2744	Rebuild the Carson – Rogers Rd 500 kV circuit	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) DFAX Allocation: Dominion (96.17%) / PEPCO (3.83%)
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 emergency rating	Dominion (100%)
b2746.2	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%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) DFAX Allocation: Dominion (100%)
b2759	Rebuild Line #550 Mt. Storm – Valley 500 kV	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) DFAX Allocation: DL (2.99%) / Dominion (44.80%) / EKPC (52.21%)

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Virginia Electric and Power Company (cont.)

Required Transmission 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%)

Virginia Electric and Power Company (cont.)

Required Transmission 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%)

Virginia Electric and Power Company (cont.)

Required Transmission 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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPSCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) 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

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2960.1	Replace fixed series capacitors on 500 kV Line #547 at Lexington	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) DFAX Allocation: DEOK (7.65%) / Dominion (88.65%) / EKPC (3.70%)

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Virginia Electric and Power Company (cont.)

Required Transmission 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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) DFAX Allocation: DEOK (9.31%) / Dominion (87.48%) / EKPC (3.21%)
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%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2978	Install 2-125 MVAR STATCOMs at Rawlings and 1-125 MVAR STATCOM at Clover 500 kV substations	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: Dominion (100%)</p>
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%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2989	Install a second 230/115 kV Transformer (224 MVA) approximately 1 mile north of Bremono and tie 230 kV Line #2028 (Bremono – Charlottesville) and 115 kV Line #91 (Bremono - 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 Bremono 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%)

Virginia Electric and Power Company (cont.)

Required Transmission 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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) DFAX Allocation: APS (10.43%) / Dominion (89.57%)
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%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3020	Rebuild 500 kV Line #574 Ladysmith to Elmont – 26.2 miles long	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: APS (16.36%) / DEOK (11.61%) / Dominion (51.27%) / EKPC (5.30%) / PEPCO (15.46%)</p>
b3021	Rebuild 500 kV Line #581 Ladysmith to Chancellor – 15.2 miles long	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: APS (10.06%) / Dominion (89.94%)</p>
b3026	Reconductor Line #274 (Pleasant View – Ashburn – Beaumeade 230 kV) with a minimum rating of 1200 MVA. Also upgrade terminal equipment	Dominion (100%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3060	Rebuild 4.6 mile Ellick – 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%)

Virginia Electric and Power Company (cont.)

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

Virginia Electric and Power Company (cont.)

Required Transmission 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3223.1	Install a second 230 kV circuit with a minimum summer emergency rating of 1047 MVA between Lanexa and Northern Next substations. The second 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 rebuild project (b3089)	Dominion (100%)
b3223.2	Expand the Northern Neck terminal from a 230 kV, 4-breaker ring bus to a 6-breaker ring bus	Dominion (100%)
b3223.3	Expand the Lanexa terminal from a 6-breaker ring bus to a breaker-and-a-half arrangement	Dominion (100%)
b3246.1	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 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%)
b3246.2	Perform substation work for the 115 kV to 230 kV line conversion at Liberty, Wellington, Godwin, Pioneer, Sandlot and Cannon Branch	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission 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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: Dominion (100%)</p>

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual 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 Bremono 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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%)
b3321	Rebuild Cranes Corner - Stafford 230 kV line	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement		Responsible Customer(s)
b3684	Rebuild 12.4 miles of 115 kV line from Earleys to Kelford with a summer emergency rating of 262 MVA. Replace structures as needed to support the new conductor. Upgrade breaker switch 13668 at Earleys from 1200 A to 2000 A		Dominion (100%)
b3685	Install a 33 MVAR cap bank at Cloud 115 kV bus along with a 115 kV breaker. Add 115 kV circuit breaker for 115 kV Line #38		Dominion (100%)
b3686	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 called Duncan Store. The new 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%)
b3687	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 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%)
b3689.1	Reconductor approximately 24.42 miles of 230 kV Line #2114 Remington CT– Elk 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		DFAX Allocation: Dominion (100%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		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%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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%)

*Neptune Regional Transmission System, LLC

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

***Hudson Transmission Partners, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3718.1	Install one 500/230 kV 1440 MVA transformer at a new substation called Wishing Star. Cut and extend 500 kV Line #546 (Brambleton - Mosby) and 500 kV Line #590 (Brambleton - Mosby) to the proposed Wishing Star substation. Lines to terminate in a 500 kV breaker and a half configuration	Dominion (100%)
b3718.2	Install one 500/230 kV 1440 MVA transformer at a new substation called Mars near Dulles International Airport	Dominion (100%)
b3718.3	Construct a new 500 kV transmission line for approximately 3.5 miles along with substation upgrades at Wishing Star and Mars. New right-of-way will be needed and will share same structures with the line. New conductor to have a minimum summer normal rating of 4357 MVA	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) <hr/> DFAX Allocation: APS (10.46%) / Dominion (89.54%)
b3718.4	Reconductor approximately 0.62 mile of 230 kV Line #2214 (Buttermilk - Roundtable) to achieve a summer rating of 1574 MVA	Dominion (100%)
b3718.5	Reconductor approximately 1.52 miles of 230 kV Line #2031 (Enterprise – Greenway - Roundtable) to achieve a summer rating of 1574 MVA	Dominion (100%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3718.6	Reconductor approximately 0.64 mile of 230 kV Line #2186 (Enterprise - Shellhorn) to achieve a summer rating of 1574 MVA	Dominion (100%)
b3718.7	Reconductor approximately 2.17 miles of 230 kV Line #2188 (Lockridge – Greenway - Shellhorn) to achieve a summer rating of 1574 MVA	Dominion (100%)
b3718.8	Reconductor approximately 0.84 mile of 230 kV Line #2223 (Lockridge - Roundtable) to achieve a summer rating of 1574 MVA	Dominion (100%)
b3718.9	Reconductor approximately 3.98 miles of 230 kV Line #2218 (Sojourner – Runway - Shellhorn) to achieve a summer rating of 1574 MVA	Dominion (100%)
b3718.10	Reconductor approximately 1.61 miles of 230 kV Line #9349 (Sojourner - Mars) to achieve a summer rating of 1574 MVA	Dominion (100%)
b3718.11	Upgrade 4 - 500 kV breakers (total) to 63 kA on either end of 500 kV Line #502 (Loudoun - Mosby)	Dominion (100%)
b3718.12	Upgrade 4 - 500 kV breakers (total) to 63 kA on either end of 500 kV Line #584 (Loudoun - Mosby)	Dominion (100%)
b3718.13	Cut and loop 230 kV Line #2079 (Sterling Park - Dranesville) into Davis Drive substation and install two GIS 230 kV breakers	Dominion (100%)
b3718.14	Construct a new 230 kV transmission line for approximately 3.5 miles along with substation upgrades at Wishing Star and Mars. New right-of-way will be needed and will share same structures with the 500 kV line. New conductor to have a minimum summer normal rating of 1573 MVA	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement		Responsible Customer(s)
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%)
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)		<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (21.09%) / BGE (6.55%) / Dominion (64.94%) / PEPCO (7.42%)</p>

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.120	Aspen substation work to terminate the new NextEra 500 kV line. Include Aspen 500 kV substation portion build	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (9.18%) / BGE (7.21%) / Dominion (72.52%) / PEPCO (11.09%)</p>
b3800.200	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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (100%)</p>
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%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

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

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (99.96%) / Dominion (0.04%)</p>
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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (99.39%) / Dominion (0.61%)</p>

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (99.39%) / Dominion (0.61%)</p>
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	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%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.218	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%)
b3800.219	Replace seven overdutied 230 kV breakers at Beaumeade substation with 80 kA breakers	Dominion (100%)
b3800.220	Replace four overdutied 230 kV breakers at BECO substation with 80 kA breakers	Dominion (100%)
b3800.221	Replace four overdutied 230 kV breakers at Belmont substation with 80 kA breakers	Dominion (100%)
b3800.222	Replace one overdutied 230 kV 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	Replace two overdutied 230 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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (5.20%) / DL (0.46%) / Dominion (91.40%) / ME (0.59%) / PEPCO (2.35%)</p>

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.234	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	Dominion (100%)
b3800.235	Replace five overdutied 230 kV breakers at Loudoun substation with 80 kA breakers	Dominion (100%)
b3800.236	Replace two overdutied 230 kV breakers at Ox substation with 63 kA breakers	Dominion (100%)
b3800.237	Replace two overdutied 230 kV breakers at Pleasant View substation with 63 kA breakers	Dominion (100%)
b3800.238	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	APS (8.09%) / BGE (8.25%) / Dominion (64.87%) / PEPCO (18.79%)
b3800.239	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	APS (8.09%) / BGE (8.25%) / Dominion (64.87%) / PEPCO (18.79%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (0.09%) / Dominion (99.89%) / PEPCO (0.02%)</p>
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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (0.08%) / Dominion (99.90%) / PEPCO (0.02%)</p>
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	<p>APS (11.45%) / BGE (14.14%) / Dominion (42.82%) / PEPCO (31.59%)</p>

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Virginia Electric and Power Company (cont.)

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

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (100%)</p>
b3800.307	Install one 500 kV, 300 MVAR STATCOM and associated equipment at Mars substation	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (100%)</p>
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%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.310	Install one 500 kV, 293.8 MVAR Shunt Capacitor Bank & associated equipment at Wishing Star substation	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (100%)</p>
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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (91.07%) / PEPCO (8.93%)</p>

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (11.72%) / Dominion (88.28%)</p>
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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (13.93%) / BGE (6.86%) / Dominion (70.92%) / PEPCO (8.29%)</p>

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (41.98%) / Dominion (34.03%) / PEPCO (23.99%)</p>
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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (41.98%) / Dominion (34.03%) / PEPCO (23.99%)</p>
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	Dominion (100%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.324	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	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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.331	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	Dominion (100%)
b3800.332	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%)
b3800.333	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%)
b3800.334	Replace four overdutied 230 kV breakers at Loudoun Substation with 80 kA breakers	Dominion (100%)
b3800.335	Replace one overdutied 500 kV breaker at Ox Substation with a 63 kA breaker	Dominion (100%)
b3800.336	Upgrade and install equipment at Bristers substation to support the new conductor 5000A rating for 500 kV line No. 545	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (91.07%) / PEPCO (8.93%)</p>

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (11.72%) / Dominion (88.28%)</p>
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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (11.72%) / Dominion (88.28%)</p>
b3800.347	Revise relay settings at North Star 230 kV station	Dominion (100%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) <hr/> 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%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.353	Update relay settings at Vint Hill for 500 kV line No. 535 Vint Hill - Loudoun	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (13.93%) / BGE (6.86%) / Dominion (70.92%) / PEPCO (8.29%)</p>
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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (21.45%) / Dominion (78.55%)</p>
b3800.355	Revise relay settings at Youngs Branch 230 kV station	Dominion (100%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (21.45%) / Dominion (78.55%)</p>
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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (9.79%) / Dominion (90.21%)</p>
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	Dominion (100%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.359	Wreck and rebuild 230 kV line No. 2090 Ladysmith CT - Summit D.P. segment as a double circuit 230 kV line to achieve a summer rating of 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%)
b3800.360	Rebuild 230 kV line No. 2054 Charlottesville - Proffit DP using double-circuit capable 500/230 kV poles. (The 500 kV circuit will not be wired as part of this project)	Dominion (100%)
b3800.361	Rebuild 230 kV line No. 233 Charlottesville - Hydraulic Road - Barracks Road - Crozet-Dooms	Dominion (100%)
b3800.362	Rebuild 230 kV line No. 291 segment from Charlottesville - Barracks Road	Dominion (100%)
b3800.363	Rebuild 230 kV line No. 291 segment from Barracks Road - Crozet	Dominion (100%)
b3800.364	Rebuild 230 kV line No. 291 segment Crozet - Dooms	Dominion (100%)
b3800.365	Hollymeade substation Relay Revision for 230 kV line No. 2054 Charlottesville - Hollymeade	Dominion (100%)
b3800.366	Upgrade the terminal equipment at 230 kV Charlottesville station to 4000A for 230 kV line No. 2054 (Charlottesville - Hollymeade)	Dominion (100%)
b3800.367	Proffit DP substation Relay revision for 230 kV line No. 2054 Charlottesville - Hollymeade	Dominion (100%)
b3800.368	Barracks Road substation relay reset to accommodate the rebuilt line 230 kV lines No. 233 and No. 291	Dominion (100%)
b3800.369	Crozet substation relay reset to accommodate the rebuilt 230 kV lines No. 233 and No. 291	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.370	Charlottesville 230 kV substation terminal equipment upgrade for 230 kV lines No. 233 and No. 291 rebuild	Dominion (100%)
b3800.371	Upgrade Hydraulic Road substation equipment for 230 kV line No. 233 and No. 291 rebuild	Dominion (100%)
b3800.372	Dooms substation terminal equipment upgrade for 230 kV line No. 233 and No. 291 rebuild	Dominion (100%)
b3800.373	Wreck and rebuild approximately 7.14 miles of 230 kV line No. 256 from St. Johns to structure 256/108 to achieve a summer rating of 1573 MVA. Line switch 25666 at St. Johns to be upgraded to 4000A	Dominion (100%)
b3800.374	Reconductor approximately 5.30 miles of 230 kV line No. 256 from Ladysmith CT to structure 256/107 to achieve a summer rating of 1573 MVA. Terminal equipment at remote end substations will be upgraded to 4000A	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.375	Construct new Woodside – Goose Creek 500 kV line for approximately 3 miles on single circuit monopole structures within the Doubs – Goose Creek corridor. (Dominion Portion)	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: (APS 9.26%) / BGE (7.30%) / Dominion (72.31%) / PEPCO (11.13%)</p>

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.401	Replace Ashburn 230 kV breaker SC432 with a breaker rated 63 kA	Dominion (100%)
b3800.402	Replace Beaumeade 230 kV breaker 227T2152 with a breaker rated 80 kA	Dominion (100%)
b3800.403	Replace BECO 230 kV breakers 215012 and H12T2150 with breakers rated 63 kA	Dominion (100%)
b3800.404	Replace Belmont 230 kV breaker 227T2180 with a breaker rated 80 kA	Dominion (100%)
b3800.405	Replace Brambleton 230 kV breakers 20102, 20602, 204502, 209402, 201T2045, 206T2094 with breakers rated 80 kA	Dominion (100%)
b3800.406	Replace Gainesville 230 kV breaker 216192 with a breaker rated 80 kA	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.407	Replace Loudoun 230 kV breakers 204552, 217352 with breakers rated 80 kA	Dominion (100%)
b3800.408	Replace Ox 230 kV breakers 22042, 24342, 24842, 220T2063, 243T2097, 248T2013, H342 with breakers rated 80 kA	Dominion (100%)
b3800.409	Replace Paragon Park 230 kV breakers 208132, 215032, 2081T2206, 2150T2207 with breakers rated 80 kA	Dominion (100%)
b3800.410	Replace Reston 230 kV breaker 264T2015 with a breaker rated 63 kA	Dominion (100%)
b3800.411	Replace Stonewater 230 kV 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, 216622-5, 216622-6 with breakers rated 63 kA	Dominion (100%)
b3850.1	Rebuild approximately 13.51 miles of 500 kV Line #588 from structure 588/184 inside Yadkin substation to structure 588/254 outside of Fentress substation	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) <hr/> DFAX Allocation: Dominion (100%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3850.2	Line No. 588 terminal equipment at Yadkin substation will be upgraded to a rating of 5000A. Since the new 500 kV line will be using fiber, the wave trap will be removed and the line protection scheme will be updated	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (100%)</p>
b3850.3	At Fentress substation, since the new 500 kV line will be using fiber, the wave trap will be removed and the line protection scheme will be updated	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (100%)</p>

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3853.1	Replace over duty Ladysmith CT 230 kV circuit breakers SX1272 and SX3472 with an interrupting rating of 63 kA	Dominion (100%)
b3854.1	Replace over duty Carson 230 kV circuit breakers 200272 and 24972-3 with an interrupting rating of 63 kA	Dominion (100%)

Attachment E

Schedule 12 – Appendix A of the PJM
Open Access Transmission Tariff

Effective January 1, 2025

(Clean Format)

SCHEDULE 12 – APPENDIX

(20) Virginia Electric and Power Company

Required Transmission Enhancements		Annual Revenue Requirement*** Responsible Customer(s)	
b0217	Upgrade Mt. Storm - Doubs 500 kV		Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
			DFAX Allocation: APS (16.95%) / BGE (6.83%) / Dominion (67.11%) / DPL (1.97%) / PEPCO (7.14%)
b0222	Install 150 MVAR capacitor at Loudoun 500 kV		Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
			DFAX Allocation: APS (5.40%) / BGE (5.96%) / Dominion (80.60%) / PEPCO (8.04%)

* Neptune Regional Transmission System, LLC

*** 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.

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b0223	Install 150 MVAR capacitor at Asburn 230 kV		Dominion (100%)
b0224	Install 150 MVAR capacitor at Dranesville 230 kV		Dominion (100%)
b0225	Install 33 MVAR capacitor at Possum Pt. 115 kV		Dominion (100%)
b0226	Install 500/230 kV transformer at Clifton and Clifton 500 kV 150 MVAR capacitor	As specified in Attachment 7 to Appendix A of Attachment H-16A and under the procedures detailed in Attachment H-16B	APS (3.69%) / BGE (3.54%) / Dominion (85.73%) / PEPSCO (7.04%)
b0227	Install 500/230 kV transformer at Bristers; build new 230 kV Bristers-Gainsville circuit, upgrade two Loudoun-Brambleton circuits		AEC (0.71%) / APS (3.36%) / BGE (10.93%) / DPL (1.66%) / Dominion (67.38%) / ME (0.89%) / PECO (2.33%) / PEPSCO (12.20%) / PPL (0.54%)
b0227.1	Loudoun Sub – upgrade 6-230 kV breakers		Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b0231	Install 500 kV breakers & 500 kV bus work at Suffolk		Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
			DFAX Allocation: Dominion (100%)
b0231.2	Install 500/230 kV Transformer, 230 kV breakers, & 230 kV bus work at Suffolk		Dominion (100%)
b0232	Install 150 MVAR capacitor at Lynnhaven 230 kV		Dominion (100%)
b0233	Install 150 MVAR capacitor at Landstown 230 kV		Dominion (100%)
b0234	Install 150 MVAR capacitor at Greenwich 230 kV		Dominion (100%)
b0235	Install 150 MVAR capacitor at Fentress 230 kV		Dominion (100%)

* Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b0307	Reconductor Endless Caverns – Mt. Jackson 115 kV		Dominion (100%)
b0308	Replace L breaker and switches at Endless Caverns 115 kV		Dominion (100%)
b0309	Install SPS at Earleys 115 kV		Dominion (100%)
b0310	Reconductor Club House – South Hill and Chase City – South Hill 115 kV		Dominion (100%)
b0311	Reconductor Idylwood to Arlington 230 kV		Dominion (100%)
b0312	Reconductor Gallows to Ox 230 kV		Dominion (100%)
b0325	Install a 2 nd Everetts 230/115 kV transformer		Dominion (100%)
b0326	Uprate/resag Remington-Brandywine-Culppr 115 kV		Dominion (100%)
b0327	Build 2 nd Harrisonburg – Valley 230 kV		APS (19.79%) / Dominion (76.18%) / PEPSCO (4.03%)
b0328.1	Build new Meadow Brook – Loudoun 500 kV circuit (30 of 50 miles)		Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPSCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
			DFAX Allocation: APS (5.40%) / BGE (5.96%) / Dominion (80.60%) / PEPSCO (8.04%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0328.3	Upgrade Mt. Storm 500 kV substation	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		DFAX Allocation: APS (19.21%) / BGE (7.36%) / Dominion (63.32%) / PEPCO (10.11%)
b0328.4	Upgrade Loudoun 500 kV substation	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		DFAX Allocation: APS (5.40%) / BGE (5.96%) / Dominion (80.60%) / PEPCO (8.04%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0329	Build Carson – Suffolk 500 kV, install 2 nd Suffolk 500/230 kV transformer & build Suffolk – Fentress 230 kV circuit	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		DFAX Allocation: Dominion (100%)
b0329.1	Replace Thole Street 115 kV breaker ‘48T196’	Dominion (100%)
b0329.2	Replace Chesapeake 115 kV breaker ‘T242’	Dominion (100%)
b0329.3	Replace Chesapeake 115 kV breaker ‘8722’	Dominion (100%)
b0329.4	Replace Chesapeake 115 kV breaker ‘16422’	Dominion (100%)
b0329.5	Install 2 nd Suffolk 500/230 kV transformer & build Suffolk – Thrasher 230 kV circuit	Dominion (100%)††
b0330	Install Crewe 115 kV breaker and shift load from line 158 to 98	Dominion (100%)
b0331	Upgrade/resag Shell Bank – Whealton 115 kV (Line 165)	Dominion (100%)

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††Cost allocations associated with below 500 kV elements of the project

Virginia Electric and Power Company (cont.)

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0332	Uprate/resag Chesapeake – Cradock 115 kV		Dominion (100%)
b0333	Replace wave trap on Elmont – Replace (Line #231)		Dominion (100%)
b0334	Uprate/resag Iron Bridge-Walmsley-Southwest 230 kV		Dominion (100%)
b0335	Build Chase City – Clarksville 115 kV		Dominion (100%)
b0336	Reconductor one span of Chesapeake – Dozier 115 kV close to Dozier substation		Dominion (100%)
b0337	Build Lexington 230 kV ring bus		Dominion (100%)
b0338	Replace Gordonsville 230/115 kV transformer for larger one		Dominion (100%)
b0339	Install Breaker at Dooms 230 kV Sub		Dominion (100%)
b0340	Reconductor one span Peninsula – Magruder 115 kV close to Magruder substation		Dominion (100%)
b0341	Install a breaker at Northern Neck 115 kV		Dominion (100%)
b0342	Replace Trowbridge 230/115 kV transformer		Dominion (100%)
b0403	2 nd Dooms 500/230 kV transformer addition		APS (3.35%) / BGE (4.22%) / DPL (1.10%) / Dominion (83.94%) / PEPCO (7.39%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0412	Retension Pruntytown – Mt. Storm 500 kV to a 3502 MVA rating	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		DFAX Allocation: APS (19.89%) / BGE (13.55%) / Dominion (49.16%) / PEPCO (17.40%)
b0450	Install 150 MVAR Capacitor at Fredricksburg 230 kV	Dominion (100%)
b0451	Install 25 MVAR Capacitor at Somerset 115 kV	Dominion (100%)
b0452	Install 150 MVAR Capacitor at Northwest 230 kV	Dominion (100%)
b0453.1	Convert Remington – Sowego 115 kV to 230 kV	APS (0.31%) / BGE (3.01%) / DPL (0.04%) / Dominion (92.75%) / ME (0.03%) / PEPCO (3.86%)
b0453.2	Add Sowego – Gainsville 230 kV	APS (0.31%) / BGE (3.01%) / DPL (0.04%) / Dominion (92.75%) / ME (0.03%) / PEPCO (3.86%)
b0453.3	Add Sowego 230/115 kV transformer	APS (0.31%) / BGE (3.01%) / DPL (0.04%) / Dominion (92.75%) / ME (0.03%) / PEPCO (3.86%)
b0454	Reconductor 2.4 miles of Newport News – Chuckatuck 230 kV	Dominion (100%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0455	Add 2 nd Endless Caverns 230/115 kV transformer	APS (32.70%) / BGE (7.01%) / DPL (1.80%) / Dominion (50.82%) / PEPCO (7.67%)
b0456	Reconductor 9.4 miles of Edinburg – Mt. Jackson 115 kV	APS (33.69%) / BGE (12.18%) / Dominion (40.08%) / PEPCO (14.05%)
b0457	Replace both wave traps on Doods – Lexington 500 kV	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		DFAX Allocation: BGE (6.26%) / Dominion (85.52%) / EKPC (0.05%) / PEPCO (8.17%)
b0467.2	Reconductor the Dickerson – Pleasant View 230 kV circuit	AEC (1.75%) / APS (19.70%) / BGE (22.13%) / DPL (3.70%) / JCPL (0.71%) / ME (2.48%) / NEPTUNE* (0.06%) / PECO (5.54%) / PEPCO (41.86%) / PPL (2.07%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0492.6	Replace Mount Storm 500 kV breaker 55072	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		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%)
b0492.7	Replace Mount Storm 500 kV breaker 55172	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		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%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0492.8	Replace Mount Storm 500 kV breaker H1172- 2	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		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%)
b0492.9	Replace Mount Storm 500 kV breaker G2T550	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		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%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0492.10	Replace Mount Storm 500 kV breaker G2T554	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		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%)
b0492.11	Replace Mount Storm 500 kV breaker G1T551	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		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%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0492.12	Upgrade nameplate rating of Mount Storm 500 kV breakers 55472, 57272, SX172, G3TSX1, G1TH11, G3T572, and SX22	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		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%)
b0512	MAPP Project – install new 500 kV transmission from Possum Point to Calvert Cliffs and install a DC line from Calvert Cliffs to Vienna and a DC line from Calvert Cliffs to Indian River	AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0512.5	Advance n0716 (Ox - Replace 230 kV breaker L242)	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		DFAX Allocation: AEC (3.94%) / APS (0.33%) / BGE (34.54%) / DPL (14.69%) / Dominion (0.30%) / JCPL (9.43%) / ME (2.16%) / NEPTUNE* (0.90%) / PECO (10.52%) / PEPCO (2.44%) / PPL (5.50%) / PSEG (14.71%) / RE (0.54%)
b0512.6	Advance n0717 (Possum Point - Replace 230 kV breaker SC192)	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		DFAX Allocation: AEC (3.94%) / APS (0.33%) / BGE (34.54%) / DPL (14.69%) / Dominion (0.30%) / JCPL (9.43%) / ME (2.16%) / NEPTUNE* (0.90%) / PECO (10.52%) / PEPCO (2.44%) / PPL (5.50%) / PSEG (14.71%) / RE (0.54%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b0583	Install dual primary protection schemes on Gosport lines 62 and 51 at the remote terminals (Chesapeake on the 62 line and Reeves Ave on the 51 line)		Dominion (100%)
b0756	Install a second 500/115 kV autotransformer at Chancellor 500 kV		Dominion (100%)
b0756.1	Install two 500 kV breakers at Chancellor 500 kV		Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
			DFAX Allocation: Dominion (100%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0757	Reconductor one mile of Chesapeake – Reeves Avenue 115 kV line	Dominion (100%)
b0758	Install a second Fredericksburg 230/115 kV autotransformer	Dominion (100%)
b0760	Build 115 kV line from Kitty Hawk to Colington 115 kV (Colington on the existing line and Nag's Head and Light House DP on new line)	Dominion (100%)
b0761	Install a second 230/115 kV transformer at Possum Point	Dominion (100%)
b0762	Build a new Elko station and transfer load from Turner and Providence Forge stations	Dominion (100%)
b0763	Rebuild 17.5 miles of the line for a new summer rating of 262 MVA	Dominion (100%)
b0764	Increase the rating on 2.56 miles of the line between Greenwich and Thompson Corner; new rating to be 257 MVA	Dominion (100%)
b0765	Add a second Bull Run 230/115 kV autotransformer	Dominion (100%)
b0766	Increase the rating of the line between Loudoun and Cedar Grove to at least 150 MVA	Dominion (100%)
b0767	Extend the line from Old Church – Chickahominy 230 kV	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0768	Loop line #251 Idylwood – Arlington into the GIS sub	Dominion (100%)
b0769	Re-tension 15 miles of the line for a new summer rating of 216 MVA	Dominion (100%)
b0770	Add a second 230/115 kV autotransformer at Lanexa	Dominion (100%)
b0770.1	Replace Lanexa 115 kV breaker '8532'	Dominion (100%)
b0770.2	Replace Lanexa 115 kV breaker '9232'	Dominion (100%)
b0771	Build a parallel Chickahominy – Lanexa 230 kV line	Dominion (100%)
b0772	Install a second Elmont 230/115 kV autotransformer	Dominion (100%)
b0772.1	Replace Elmont 115 kV breaker '7392'	Dominion (100%)
b0774	Install a 33 MVAR capacitor at Bremo 115 kV	Dominion (100%)
b0775	Reconductor the Greenwich – Virginia Beach line to bring it up to a summer rating of 261 MVA; Reconductor the Greenwich – Amphibious Base line to bring it up to 291 MVA	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0776	Re-build Trowbridge – Winfall 115 kV	Dominion (100%)
b0777	Terminate the Thelma – Carolina 230 kV circuit into Lakeview 230 kV	Dominion (100%)
b0778	Install 29.7 MVAR capacitor at Lebanon 115 kV	Dominion (100%)
b0779	Build a new 230 kV line from Yorktown to Hayes but operate at 115 kV initially	Dominion (100%)
b0780	Reconductor Chesapeake – Yadkin 115 kV line	Dominion (100%)
b0781	Reconductor and replace terminal equipment on line 17 and replace the wave trap on line 88	Dominion (100%)
b0782	Install a new 115 kV capacitor at Dupont Waynesboro substation	Dominion (100%)
b0784	Replace wave traps on North Anna to Ladysmith 500 kV	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		DFAX Allocation: Dominion (92.39%) / PEPCO (7.61%)
b0785	Rebuild the Chase City – Crewe 115 kV line	Dominion (100%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b0786	Reconductor the Moran DP – Crewe 115 kV segment		Dominion (100%)
b0787	Upgrade the Chase City – Twitty’s Creek 115 kV segment		Dominion (100%)
b0788	Reconductor the line from Farmville – Pamplin 115 kV		Dominion (100%)
b0793	Close switch 145T183 to network the lines. Rebuild the section of the line #145 between Possum Point – Minnieville DP 115 kV		Dominion (100%)
b0815	Replace Elmont 230 kV breaker '22192'		Dominion (100%)
b0816	Replace Elmont 230 kV breaker '21692'		Dominion (100%)
b0817	Replace Elmont 230 kV breaker '200992'		Dominion (100%)
b0818	Replace Elmont 230 kV breaker '2009T2032'		Dominion (100%)
b0837	At Mt. Storm, replace the existing MOD on the 500 kV side of the transformer with a circuit breaker		Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
			DFAX Allocation: Dominion (100%)

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Virginia Electric and Power Company (cont.)

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0888	Replace Loudoun 230 kV Cap breaker 'SC352'		Dominion (100%)
b0892	Replace Chesapeake 115 kV breaker SX522		Dominion (100%)
b0893	Replace Chesapeake 115 kV breaker T202		Dominion (100%)
b0894	Replace Possum Point 115 kV breaker SX-32		Dominion (100%)
b0895	Replace Possum Point 115 kV breaker L92-1		Dominion (100%)
b0896	Replace Possum Point 115 kV breaker L92-2		Dominion (100%)
b0897	Replace Suffolk 115 kV breaker T202		Dominion (100%)
b0898	Replace Peninsula 115 kV breaker SC202		Dominion (100%)
b0921	Reconductor Brambleton - Cochran Mill 230 kV line with 201 Yukon conductor		Dominion (100%)
b0923	Install 50-100 MVAR variable reactor banks at Carson 230 kV		Dominion (100%)
b0924	Install 50-100 MVAR variable reactor banks at Dooms 230 kV		Dominion (100%)
b0925	Install 50-100 MVAR variable reactor banks at Garrisonville 230 kV		Dominion (100%)
b0926	Install 50-100 MVAR variable reactor banks at Hamilton 230 kV		Dominion (100%)
b0927	Install 50-100 MVAR variable reactor banks at Yadkin 230 kV		Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b0928	Install 50-100 MVAR variable reactor banks at Carolina, Dooms, Everetts, Idylwood, N. Alexandria, N. Anna, Suffolk and Valley 230 kV substations	Dominion (100%)
b1056	Build a 2nd Shawboro – Elizabeth City 230 kV line	Dominion (100%)
b1058	Add a third 230/115 kV transformer at Suffolk substation	Dominion (100%)
b1058.1	Replace Suffolk 115 kV breaker ‘T122’ with a 40 kA breaker	Dominion (100%)
b1058.2	Convert Suffolk 115 kV straight bus to a ring bus for the three 230/115 kV transformers and three 115 kV lines	Dominion (100%)
b1071	Rebuild the existing 115 kV corridor between Landstown - Va Beach Substation for a double circuit arrangement (230 kV & 115 kV)	Dominion (100%)
b1076	Replace existing North Anna 500-230 kV transformer with larger unit	Dominion (100%)
b1087	Replace Cannon Branch 230-115 kV with larger transformer	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1088	Build new Radnor Heights Sub, add new underground circuit from Ballston - Radnor Heights, Tap the Glebe - Davis line and create circuits from Davis - Radnor Heights and Glebe - Radnor Heights		Dominion (100%)
b1089	Install 2nd Burke to Sideburn 230 kV underground cable		Dominion (100%)
b1090	Install a 150 MVAR 230 kV capacitor and one 230 kV breaker at Northwest		Dominion (100%)
b1095	Reconductor Chase City 115 kV bus and add a new tie breaker		Dominion (100%)
b1096	Construct 10 mile double ckt. 230 kV tower line from Loudoun to Middleburg		Dominion (100%)
b1102	Replace Bremo 115 kV breaker '9122'		Dominion (100%)
b1103	Replace Bremo 115 kV breaker '822'		Dominion (100%)
b1172	Build a 4-6 mile long 230 kV line from Hopewell to Bull Hill (Ft Lee) and install a 230-115 kV Tx		Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1188	Build new Brambleton 500 kV three breaker ring bus connected to the Loudoun to Pleasant View 500 kV line	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		DFAX Allocation: Dominion (100%)
b1188.1	Replace Loudoun 230 kV breaker '200852' with a 63 kA breaker	Dominion (100%)
b1188.2	Replace Loudoun 230 kV breaker '2008T2094' with a 63 kA breaker	Dominion (100%)
b1188.3	Replace Loudoun 230 kV breaker '204552' with a 63 kA breaker	Dominion (100%)
b1188.4	Replace Loudoun 230 kV breaker '209452' with a 63 kA breaker	Dominion (100%)
b1188.5	Replace Loudoun 230 kV breaker 'WT2045' with a 63 kA breaker	Dominion (100%)
b1188.6	Install one 500/230 kV transformer and two 230 kV breakers at Brambleton	AEC (0.22%) / BGE (7.90%) / DPL (0.59%) / Dominion (75.58%) / ME (0.22%) / PECO (0.73%) / PEPCO (14.76%)

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Virginia Electric and Power Company (cont.)

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1224	Install 2nd Clover 500/230 kV transformer and a 150 MVar capacitor		BGE (7.56%) / DPL (1.03%) / Dominion (78.21%) / ME (0.77%) / PECO (1.39%) / PEPCO (11.04%)
b1225	Replace Yorktown 115 kV breaker 'L982-1'		Dominion (100%)
b1226	Replace Yorktown 115 kV breaker 'L982-2'		Dominion (100%)
b1279	Line #69 Uprate – Increase rating on Locks – Purdy 115 kV to serve additional load at the Reams delivery point		Dominion (100%)
b1306	Reconfigure 115 kV bus at Endless Caverns substation such that the existing two 230/115 kV transformers at Endless Caverns operate in		Dominion (100%)
b1307	Install a 2nd 230/115 kV transformer at Northern Neck Substation		Dominion (100%)
b1308	Improve LSE's power factor in zone to .973 PF, adjust LTC's at Gordonsville and Remington, move existing shunt capacitor banks		Dominion (100%)
b1309	Install a 230 kV line from Lakeside to Northwest utilizing the idle line and 60 line ROW's and reconductor the existing 221 line between Elmont and Northwest		Dominion (100%)

Virginia Electric and Power Company (cont.)

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1310	Install a 115 kV breaker at Broadnax substation on the South Hill side of Broadnax		Dominion (100%)
b1311	Install a 230 kV 3000 amp breaker at Cranes Corner substation to sectionalize the 2104 line into two lines		Dominion (100%)
b1312	Loop the 2054 line in and out of Hollymeade and place a 230 kV breaker at Hollymeade. This creates two lines: Charlottesville - Hollymeade		Dominion (100%)
b1313	Resag wire to 125C from Chesterfield – Shockoe and replace line switch 1799 with 1200 amp switch. The new rating would be 231 MVA		Dominion (100%)
b1314	Rebuild the 6.8 mile line #100 from Chesterfield to Harrowgate 115 kV for a minimum 300 MBA rating		Dominion (100%)

Virginia Electric and Power Company (cont.)

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1315	Convert line #64 Trowbridge to Winfall to 230 kV and install a 230 kV capacitor bank at Winfall		Dominion (100%)
b1316	Rebuild 10.7 miles of 115 kV line #80, Battleboro – Heartsease DP		Dominion (100%)
b1317	LSE load power factor on the #47 line will need to meet MOA requirements of .973 in 2015 to further resolve this issue through at least 2019		Dominion (100%)
b1318	Install a 115 kV bus tie breaker at Acca substation between the Line #60 and Line #95 breakers		Dominion (100%)
b1319	Resag line #222 to 150 C and upgrade any associated equipment to a 2000A rating to achieve a 706 MVA summer line rating		Dominion (100%)
b1320	Install a 230 kV, 150 MVAR capacitor bank at Southwest substation		Dominion (100%)
b1321	Build a new 230 kV line North Anna – Oak Green and install a 224 MVA 230/115 kV transformer at Oak Green		BGE (0.85%) / Dominion (97.96%) / PEPCO (1.19%)
b1322	Rebuild the 39 Line (Dooms – Sherwood) and the 91 Line (Sherwood – Bremono)		Dominion (100%)
b1323	Install a 224 MVA 230/115 kV transformer at Staunton. Rebuild the 115 kV line #43 section Staunton - Verona		Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1324	Install a 115 kV capacitor bank at Oak Ridge. Install a capacitor bank at New Bohemia. Upgrade 230/34.5 kV transformer #3 at Kings Fork	Dominion (100%)
b1325	Rebuild 15 miles of line #2020 Winfall – Elizabeth City with a minimum 900 MVA rating	Dominion (100%)
b1326	Install a third 168 MVA 230/115 kV transformer at Kitty Hawk with a normally open 230 kV breaker and a low side 115 kV breaker	Dominion (100%)
b1327	Rebuild the 20 mile section of line #22 between Kerr Dam – Eatons Ferry substations	Dominion (100%)
b1328	Uprate the 3.63 mile line section between Possum and Dumfries substations, replace the 1600 amp wave trap at Possum Point	AEC (0.66%) / APS (3.59%) / DPL (0.91%) / Dominion (92.94%) / PECO (1.90%)
b1329	Install line-tie breakers at Sterling Park substation and BECO substation	Dominion (100%)
b1330	Install a five breaker ring bus at the expanded Dulles substation to accommodate the existing Dulles Arrangement and support the Metrorail	Dominion (100%)
b1331	Build a 230 kV line from Shawboro to Aydlett tap and connect Aydlett to the new line	Dominion (100%)
b1332	Build Cannon Branch to Nokesville 230 kV line	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b1333	Advance n1728 (Replace Possum Point 230 kV breaker H9T237 with an 80 kA breaker)		Dominion (100%)
b1334	Advance n1748 (Replace Ox 230 kV breaker 22042 with a 63 kA breaker)		Dominion (100%)
b1335	Advance n1749 (Replace Ox 230 kV breaker 220T2603 with a 63 kA breaker)		Dominion (100%)
b1336	Advance n1750 (Replace Ox 230 kV breaker 24842 with a 63 kA breaker)		Dominion (100%)
b1337	Advance n1751 (Replace Ox 230 kV breaker 248T2013 with a 63 kA breaker)		Dominion (100%)
b1503.1	Loop Line #2095 in and out of Waxpool approximately 1.5 miles		Dominion (100%)
b1503.2	Construct a new 230 kV line from Brambleton to BECO Substation of approximately 11 miles with approximately 10 miles utilizing the vacant side of existing Line #2095 structures		Dominion (100%)
b1503.3	Install a one 230 kV breaker, Future 230 kV ring-bus at Waxpool Substation		Dominion (100%)
b1503.4	The new Brambleton - BECO line will feed Shellhorn Substation load and Greenway TX's #2&3 load		Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1506.1	At Gainesville Substation, create two 115 kV straight-buses with a normally open tie-breaker	Dominion (100%)
b1506.2	Upgrade Line 124 (radial from Loudoun) to a minimum continuous rating of 500 MVA and network it into the 115 kV bus feeding NOVEC's DP at Gainesville	Dominion (100%)
b1506.3	Install two additional 230 kV breakers in the ring at Gainesville (may require substation expansion) to accommodate conversion of NOVEC's Gainesville to Wheeler line	Dominion (100%)
b1506.4	Convert NOVEC's Gainesville-Wheeler line from 115 kV to 230 kV (will require Gainesville DP Upgrade replacement of three transformers total at Atlantic and Wheeler Substations)	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1507	Rebuild Mt Storm – Doubs 500 kV	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: APS (16.95%) / BGE (6.83%) / Dominion (67.11%) / DPL (1.97%) / PEPCO (7.14%)</p>
b1508.1	Build a 2nd 230 kV Line Harrisonburg to Endless Caverns	APS (37.05%) / Dominion (62.95%)
b1508.2	Install a 3rd 230-115 kV Tx at Endless Caverns	APS (37.05%) / Dominion (62.95%)
b1508.3	Upgrade a 115 kV shunt capacitor banks at Merck and Edinburg	APS (37.05%) / Dominion (62.95%)
b1536	Advance n1752 (Replace OX 230 breaker 24342 with an (63 kA breaker)	Dominion (100%)
b1537	Advance n1753 (Replace OX 230 breaker 243T2097 with an 63 kA breaker)	Dominion (100%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements		Annual Revenue Requirement	Responsible Customer(s)
b1538	Replace Loudoun 230 kV breaker '29552'		Dominion (100%)
b1571	Replace Acca 115 kV breaker '6072' with 40 kA		Dominion (100%)
b1647	Upgrade the name plate rating at Morrisville 500 kV breaker 'H1T573' with 50 kA breaker		Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
			DFAX Allocation: Dominion (100%)
b1648	Upgrade name plate rating at Morrisville 500 kV breaker 'H2T545' with 50 kA breaker		Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
			DFAX Allocation: Dominion (100%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1649	Replace Morrisville 500 kV breaker 'H1T580' with 50 kA breaker	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: Dominion (100%)</p>
b1650	Replace Morrisville 500 kV breaker 'H2T569' with 50 kA breaker	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: Dominion (100%)</p>
b1651	Replace Loudoun 230 kV breaker '295T2030' with 63 kA breaker	Dominion (100%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1652	Replace Ox 230 kV breaker '209742' with 63 kA breaker	Dominion (100%)
b1653	Replace Clifton 230 kV breaker '26582' with 63 kA breaker	Dominion (100%)
b1654	Replace Clifton 230 kV breaker '26682' with 63 kA breaker	Dominion (100%)
b1655	Replace Clifton 230 kV breaker '205182' with 63 kA breaker	Dominion (100%)
b1656	Replace Clifton 230 kV breaker '265T266' with 63 kA breaker	Dominion (100%)
b1657	Replace Clifton 230 kV breaker '2051T2063' with 63 kA breaker	Dominion (100%)
b1694	Rebuild Loudoun - Brambleton 500 kV	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		DFAX Allocation: APS (25.77%) / Dominion (74.23%)
b1696	Install a breaker and a half scheme with a minimum of eight 230 kV breakers for five existing lines at Idylwood 230 kV	AEC (0.46%) / APS (4.18%) / BGE (2.02%) / DPL (0.80%) / Dominion (88.45%) / JCPL (0.64%) / ME (0.50%) / NEPTUNE* (0.06%) / PECO (1.55%) / PEPCO (1.34%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1697	Build a 2nd Clark - Idylwood 230 kV line and install 230 kV gas-hybrid breakers at Clark	AEC (1.35%) / APS (15.65%) / BGE (10.53%) / DPL (2.59%) / Dominion (46.97%) / JCPL (2.36%) / ME (1.91%) / NEPTUNE* (0.23%) / PECO (4.48%) / PEPCO (11.23%) / PSEG (2.59%) / RE (0.11%)
b1698	Install a 2nd 500/230 kV transformer at Brambleton	APS (4.21%) / BGE (13.28%) / DPL (1.09%) / Dominion (59.38%) / PEPCO (22.04%)
b1698.1	Install a 500 kV breaker at Brambleton	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		DFAX Allocation: Dominion (100%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1698.6	Replace Brambleton 230 kV breaker '2094T2095'	Dominion (100%)
b1699	Reconfigure Line #203 to feed Edwards Ferry sub radial from Pleasant View 230 kV and install new breaker bay at Pleasant View Sub	Dominion (100%)
b1700	Install a 230/115 kV transformer at the new Liberty substation to relieve Gainesville Transformer #3	Dominion (100%)
b1701	Reconductor line #2104 (Fredericksburg - Cranes Corner 230 kV)	APS (8.66%) / BGE (10.95%) / Dominion (63.30%) / PEPCO (17.09%)
b1724	Install a 2nd 138/115 kV transformer at Edinburg	Dominion (100%)
b1728	Replace the 115/34.5 kV transformer #1 at Hickory with a 230/34.5 kV transformer	Dominion (100%)
b1729	Add 4 breaker ring bus at Burton 115 kV substation and construct a 115 kV line approximately 3.5 miles from Oakwood 115 kV substation to Burton 115 kV substation	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1730	Install a 230/115 kV transformer at a new Liberty substation		Dominion (100%)
b1731	Uprate or rebuild Four Rivers – Kings Dominion 115 kV line or Install capacitors or convert load from 115 kV system to 230 kV system		Dominion (100%)
b1790	Split Wharton 115 kV capacitor bank into two smaller units and add additional reactive support in area by correcting power factor at Pantego 115 kV DP and FivePoints 115 kV DP to minimum of 0.973		Dominion (100%)
b1791	Wreck and rebuild 2.1 mile section of Line #11 section between Gordonsville and Somerset		APS (5.83%) / BGE (6.25%) / Dominion (78.38%) / PEPCO (9.54%)
b1792	Rebuild line #33 Halifax to Chase City, 26 miles. Install 230 kV 4 breaker ring bus		Dominion (100%)
b1793	Wreck and rebuild remaining section of Line #22, 19.5 miles and replace two pole H frame construction built in 1930		Dominion (100%)
b1794	Split 230 kV Line #2056 (Hornertown - Rocky Mount) and double tap line to Battleboro Substation. Expand station, install a 230 kV 3 breaker ring bus and install a 230/115 kV transformer		Dominion (100%)

Virginia Electric and Power Company (cont.)

Required	Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1795	Reconductor segment of Line #54 (Carolina to Woodland 115 kV) to a minimum of 300 MVA		Dominion (100%)
b1796	Install 115 kV 25 MVAR capacitor bank at Kitty Hawk Substation		Dominion (100%)
b1797	Wreck and rebuild 7 miles of the Dominion owned section of Cloverdale - Lexington 500 kV		Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
			DFAX Allocation: APS (18.21%) / BGE (13.33%) / Dayton (0.02%) / DEOK (0.04%) / Dominion (51.47%) / EKPC (0.02%) / PEPCO (16.91%)
b1798	Build a 450 MVAR SVC and 300 MVAR switched shunt at Loudoun 500 kV		Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
			DFAX Allocation: APS (5.40%) / BGE (5.96%) / Dominion (80.60%) / PEPCO (8.04%)

* Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1799	Build 150 MVAR Switched Shunt at Pleasant View 500 kV	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: Dominion (89.13%) / PEPCO (10.87%)</p>
b1805	Install a 250 MVAR SVC at the existing Mt. Storm 500 kV substation	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: APS (26.26%) / BGE (12.54%) / Dominion (44.37%) / PEPCO (16.83%)</p>
b1809	Replace Brambleton 230 kV Breaker '22702'	Dominion (100%)
b1810	Replace Brambleton 230 kV Breaker '227T2094'	Dominion (100%)

* Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1905.1	Surry to Skiffes Creek 500 kV Line (7 miles overhead)	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: Dominion (100%)</p>
b1905.2	Surry 500 kV Station Work	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: Dominion (100%)</p>
b1905.3	Skiffes Creek 500-230 kV Tx and Switching Station	Dominion (99.84%) / PEPCO (0.16%)
b1905.4	New Skiffes Creek - Whealton 230 kV line	Dominion (99.84%) / PEPCO (0.16%)
b1905.5	Whealton 230 kV breakers	Dominion (99.84%) / PEPCO (0.16%)

* Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1905.6	Yorktown 230 kV work	Dominion (99.84%) / PEPCO (0.16%)
b1905.7	Lanexa 115 kV work	Dominion (99.84%) / PEPCO (0.16%)
b1905.8	Surry 230 kV work	Dominion (99.84%) / PEPCO (0.16%)
b1905.9	Kings Mill, Peninmen, Toano, Waller, Warwick	Dominion (99.84%) / PEPCO (0.16%)
b1906.1	At Yadkin 500 kV, install six 500 kV breakers	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		DFAX Allocation: Dominion (100%)
b1906.2	Install a 2nd 230/115 kV TX at Yadkin	Dominion (100%)
b1906.3	Install a 2nd 230/115 kV TX at Chesapeake	Dominion (100%)
b1906.4	Uprate Yadkin – Chesapeake 115 kV	Dominion (100%)
b1906.5	Install a third 500/230 kV TX at Yadkin	Dominion (100%)
b1907	Install a 3rd 500/230 kV TX at Clover	APS (5.83%) / BGE (4.74%) / Dominion (81.79%) / PEPCO (7.64%)

* Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b1908	Rebuild Lexington – Dooms 500 kV	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: BGE (6.26%) / Dominion (85.52%) / EKPC (0.05%) / PEPCO (8.17%)</p>
b1909	Uprate Bremono – Midlothian 230 kV to its maximum operating temperature	APS (6.31%) / BGE (3.81%) / Dominion (81.90%) / PEPCO (7.98%)
b1910	Build a Suffolk – Yadkin 230 kV line (14 miles) and install 4 breakers	Dominion (100%)
b1911	Add a second Valley 500/230 kV TX	APS (14.85%) / BGE (3.10%) / Dominion (74.12%) / PEPCO (7.93%)
b1912	Install a 500 MVAR SVC at Landstown 230 kV	DEOK (0.46%) / Dominion (99.54%)
b2053	Rebuild 28 mile line	AEP (100%)
b2125	Install four additional 230 kV 100 MVAR variable shunt reactor banks at Clifton, Gallows Road, Garrisonville, and Virginia Hills substations	Dominion (100%)
b2126	Install two additional 230 kV 100 MVAR variable shunt reactor banks at Churchland and Shawboro substations	Dominion (100%)

* Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2181	Add a motor to an existing switch at Prince George to allow for Sectionalizing scheme for line #2124 and allow for Brickhouse DP to be re-energized from the 115 kV source	Dominion (100%)
b2182	Install 230 kV 4-breaker ring at Enterprise 230 kV to isolate load from transmission system when substation initially built	Dominion (100%)
b2183	Add a motor to an existing switch at Keene Mill to allow for a sectionalizing scheme	Dominion (100%)
b2184	Install a 230 kV breaker at Tarboro to split line #229. Each will feed an autotransformer at Tarboro. Install switches on each autotransformer	Dominion (100%)
b2185	Uprate Line #69 segment Reams DP to Purdy (19 miles) from 41 MVA to 162 MVA by replacing 5 structures and re-sagging the line from 50C to 75C	Dominion (100%)
b2186	Install a 2nd 230-115 kV transformer at Earleys connected to the existing 115 kV and 230 kV ring busses. Add a 115 kV breaker and 230 kV breaker to the ring busses	Dominion (100%)
b2187	Install 4 - 230 kV breakers at Shellhorn 230 kV to isolate load	Dominion (100%)

SCHEDULE 12 – APPENDIX A

(20) Virginia Electric and Power Company

Required Transmission Enhancements		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 Transmission Enhancements	Annual Revenue 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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		DFAX Allocation: APS (38.57%) / Dominion (50.29%) / PEPCO (11.14%)
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%)

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

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual 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%)

Virginia Electric and Power Company (cont.)

Required Transmission 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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPSCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) 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%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2582	Rebuild the Elmont – Cunningham 500 kV line	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) DFAX Allocation: APS (6.04%) / BGE (4.98%) / Dominion (81.93%) / PEPCO (7.05%)
b2583	Install 500 kV breaker at Ox Substation to remove Ox Tx#1 from H1T561 breaker failure outage	Dominion (100%)
b2584	Relocate the Bremono load (transformer #5) to #2028 (Bremono-Charlottesville 230 kV) line and Cartersville distribution station to #2027 (Bremono-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%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual 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 MVA at 115 kV	Dominion (100%)
b2629	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 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2649.1	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	Dominion (100%)
b2649.2	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	Dominion (100%)
b2650	Rebuild Twittys Creek – Pamplin 115 kV Line #154 (17.8 miles) to current standards with summer emergency rating of 353 MVA at 115 kV	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual 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%)
b2654.4	Install a 2nd 224 MVA 230/115 kV transformer at Hathaway	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2665	Rebuild the Cunningham – Dooks 500 kV line	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: APS (9.10%) / BGE (8.00%) / Dominion (71.52%) / PEPCO (11.38%)</p>
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%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission 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 Shelhorn, 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%)

* Neptune Regional Transmission System, LLC

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

***Hudson Transmission Partners, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2744	Rebuild the Carson – Rogers Rd 500 kV circuit	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) DFAX Allocation: Dominion (96.17%) / PEPCO (3.83%)
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 emergency rating	Dominion (100%)
b2746.2	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%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2757	Install a +/-125 MVA _r Statcom at Colington 230 kV	Dominion (100%)
b2758	Rebuild Line #549 Dooms – Valley 500 kV	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) DFAX Allocation: Dominion (100%)
b2759	Rebuild Line #550 Mt. Storm – Valley 500 kV	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) DFAX Allocation: DL (2.99%) / Dominion (44.80%) / EKPC (52.21%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission 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%)

Virginia Electric and Power Company (cont.)

Required Transmission 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%)

Virginia Electric and Power Company (cont.)

Required Transmission 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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPSCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) 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

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2960.1	Replace fixed series capacitors on 500 kV Line #547 at Lexington	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) DFAX Allocation: DEOK (7.65%) / Dominion (88.65%) / EKPC (3.70%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission 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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) DFAX Allocation: DEOK (9.31%) / Dominion (87.48%) / EKPC (3.21%)
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%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2978	Install 2-125 MVAR STATCOMs at Rawlings and 1-125 MVAR STATCOM at Clover 500 kV substations	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: Dominion (100%)</p>
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%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b2989	Install a second 230/115 kV Transformer (224 MVA) approximately 1 mile north of Bremono and tie 230 kV Line #2028 (Bremono – Charlottesville) and 115 kV Line #91 (Bremono - 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 Bremono 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%)

Virginia Electric and Power Company (cont.)

Required Transmission 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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) DFAX Allocation: APS (10.43%) / Dominion (89.57%)
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%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3020	Rebuild 500 kV Line #574 Ladysmith to Elmont – 26.2 miles long	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: APS (16.36%) / DEOK (11.61%) / Dominion (51.27%) / EKPC (5.30%) / PEPCO (15.46%)</p>
b3021	Rebuild 500 kV Line #581 Ladysmith to Chancellor – 15.2 miles long	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: APS (10.06%) / Dominion (89.94%)</p>
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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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3060	Rebuild 4.6 mile Ellick – 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%)

Virginia Electric and Power Company (cont.)

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

Virginia Electric and Power Company (cont.)

Required Transmission 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3223.1	Install a second 230 kV circuit with a minimum summer emergency rating of 1047 MVA between Lanexa and Northern Next substations. The second 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 rebuild project (b3089)	Dominion (100%)
b3223.2	Expand the Northern Neck terminal from a 230 kV, 4-breaker ring bus to a 6-breaker ring bus	Dominion (100%)
b3223.3	Expand the Lanexa terminal from a 6-breaker ring bus to a breaker-and-a-half arrangement	Dominion (100%)
b3246.1	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 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%)
b3246.2	Perform substation work for the 115 kV to 230 kV line conversion at Liberty, Wellington, Godwin, Pioneer, Sandlot and Cannon Branch	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission 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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <p>DFAX Allocation: Dominion (100%)</p>

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual 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 Bremono 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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%)
b3321	Rebuild Cranes Corner - Stafford 230 kV line	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3684	Rebuild 12.4 miles of 115 kV line from Earleys to Kelford with a summer emergency rating of 262 MVA. Replace structures as needed to support the new conductor. Upgrade breaker switch 13668 at Earleys from 1200 A to 2000 A	Dominion (100%)
b3685	Install a 33 MVAR cap bank at Cloud 115 kV bus along with a 115 kV breaker. Add 115 kV circuit breaker for 115 kV Line #38	Dominion (100%)
b3686	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 called Duncan Store. The new 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%)
b3687	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 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%)
b3689.1	Reconductor approximately 24.42 miles of 230 kV Line #2114 Remington CT– Elk 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		DFAX Allocation: Dominion (100%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)
		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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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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%)

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

***Hudson Transmission Partners, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3718.1	Install one 500/230 kV 1440 MVA transformer at a new substation called Wishing Star. Cut and extend 500 kV Line #546 (Brambleton - Mosby) and 500 kV Line #590 (Brambleton - Mosby) to the proposed Wishing Star substation. Lines to terminate in a 500 kV breaker and a half configuration	Dominion (100%)
b3718.2	Install one 500/230 kV 1440 MVA transformer at a new substation called Mars near Dulles International Airport	Dominion (100%)
b3718.3	Construct a new 500 kV transmission line for approximately 3.5 miles along with substation upgrades at Wishing Star and Mars. New right-of-way will be needed and will share same structures with the line. New conductor to have a minimum summer normal rating of 4357 MVA	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) <hr/> DFAX Allocation: APS (10.46%) / Dominion (89.54%)
b3718.4	Reconductor approximately 0.62 mile of 230 kV Line #2214 (Buttermilk - Roundtable) to achieve a summer rating of 1574 MVA	Dominion (100%)
b3718.5	Reconductor approximately 1.52 miles of 230 kV Line #2031 (Enterprise – Greenway - Roundtable) to achieve a summer rating of 1574 MVA	Dominion (100%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3718.6	Reconductor approximately 0.64 mile of 230 kV Line #2186 (Enterprise - Shellhorn) to achieve a summer rating of 1574 MVA	Dominion (100%)
b3718.7	Reconductor approximately 2.17 miles of 230 kV Line #2188 (Lockridge – Greenway - Shellhorn) to achieve a summer rating of 1574 MVA	Dominion (100%)
b3718.8	Reconductor approximately 0.84 mile of 230 kV Line #2223 (Lockridge - Roundtable) to achieve a summer rating of 1574 MVA	Dominion (100%)
b3718.9	Reconductor approximately 3.98 miles of 230 kV Line #2218 (Sojourner – Runway - Shellhorn) to achieve a summer rating of 1574 MVA	Dominion (100%)
b3718.10	Reconductor approximately 1.61 miles of 230 kV Line #9349 (Sojourner - Mars) to achieve a summer rating of 1574 MVA	Dominion (100%)
b3718.11	Upgrade 4 - 500 kV breakers (total) to 63 kA on either end of 500 kV Line #502 (Loudoun - Mosby)	Dominion (100%)
b3718.12	Upgrade 4 - 500 kV breakers (total) to 63 kA on either end of 500 kV Line #584 (Loudoun - Mosby)	Dominion (100%)
b3718.13	Cut and loop 230 kV Line #2079 (Sterling Park - Dranesville) into Davis Drive substation and install two GIS 230 kV breakers	Dominion (100%)
b3718.14	Construct a new 230 kV transmission line for approximately 3.5 miles along with substation upgrades at Wishing Star and Mars. New right-of-way will be needed and will share same structures with the 500 kV line. New conductor to have a minimum summer normal rating of 1573 MVA	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement		Responsible Customer(s)
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%)
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)		<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (21.09%) / BGE (6.55%) / Dominion (64.94%) / PEPCO (7.42%)</p>

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.120	Aspen substation work to terminate the new NextEra 500 kV line. Include Aspen 500 kV substation portion build	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (9.18%) / BGE (7.21%) / Dominion (72.52%) / PEPCO (11.09%)</p>
b3800.200	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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (100%)</p>
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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Virginia Electric and Power Company (cont.)

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

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (99.96%) / Dominion (0.04%)</p>
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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (99.39%) / Dominion (0.61%)</p>

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (99.39%) / Dominion (0.61%)</p>
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	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%)

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.218	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%)
b3800.219	Replace seven overdutied 230 kV breakers at Beaumeade substation with 80 kA breakers	Dominion (100%)
b3800.220	Replace four overdutied 230 kV breakers at BECO substation with 80 kA breakers	Dominion (100%)
b3800.221	Replace four overdutied 230 kV breakers at Belmont substation with 80 kA breakers	Dominion (100%)
b3800.222	Replace one overdutied 230 kV 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	Replace two overdutied 230 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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (5.20%) / DL (0.46%) / Dominion (91.40%) / ME (0.59%) / PEPCO (2.35%)</p>

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.234	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	Dominion (100%)
b3800.235	Replace five overdutied 230 kV breakers at Loudoun substation with 80 kA breakers	Dominion (100%)
b3800.236	Replace two overdutied 230 kV breakers at Ox substation with 63 kA breakers	Dominion (100%)
b3800.237	Replace two overdutied 230 kV breakers at Pleasant View substation with 63 kA breakers	Dominion (100%)
b3800.238	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	APS (8.09%) / BGE (8.25%) / Dominion (64.87%) / PEPCO (18.79%)
b3800.239	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	APS (8.09%) / BGE (8.25%) / Dominion (64.87%) / PEPCO (18.79%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (0.09%) / Dominion (99.89%) / PEPCO (0.02%)</p>
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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (0.08%) / Dominion (99.90%) / PEPCO (0.02%)</p>
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	<p>APS (11.45%) / BGE (14.14%) / Dominion (42.82%) / PEPCO (31.59%)</p>

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

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

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (100%)</p>
b3800.307	Install one 500 kV, 300 MVAR STATCOM and associated equipment at Mars substation	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (100%)</p>
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%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.310	Install one 500 kV, 293.8 MVAR Shunt Capacitor Bank & associated equipment at Wishing Star substation	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (100%)</p>
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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (91.07%) / PEPCO (8.93%)</p>

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (11.72%) / Dominion (88.28%)</p>
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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (13.93%) / BGE (6.86%) / Dominion (70.92%) / PEPCO (8.29%)</p>

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (41.98%) / Dominion (34.03%) / PEPCO (23.99%)</p>
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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (41.98%) / Dominion (34.03%) / PEPCO (23.99%)</p>
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	Dominion (100%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.324	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	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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.331	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	Dominion (100%)
b3800.332	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%)
b3800.333	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%)
b3800.334	Replace four overdutied 230 kV breakers at Loudoun Substation with 80 kA breakers	Dominion (100%)
b3800.335	Replace one overdutied 500 kV breaker at Ox Substation with a 63 kA breaker	Dominion (100%)
b3800.336	Upgrade and install equipment at Bristers substation to support the new conductor 5000A rating for 500 kV line No. 545	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (91.07%) / PEPCO (8.93%)</p>

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (11.72%) / Dominion (88.28%)</p>
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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (11.72%) / Dominion (88.28%)</p>
b3800.347	Revise relay settings at North Star 230 kV station	Dominion (100%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
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 (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) <hr/> 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%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.353	Update relay settings at Vint Hill for 500 kV line No. 535 Vint Hill - Loudoun	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (13.93%) / BGE (6.86%) / Dominion (70.92%) / PEPCO (8.29%)</p>
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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (21.45%) / Dominion (78.55%)</p>
b3800.355	Revise relay settings at Youngs Branch 230 kV station	Dominion (100%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue 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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (21.45%) / Dominion (78.55%)</p>
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	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / Dominion (14.20%) / DPL (2.57%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: APS (9.79%) / Dominion (90.21%)</p>
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	Dominion (100%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.359	Wreck and rebuild 230 kV line No. 2090 Ladysmith CT - Summit D.P. segment as a double circuit 230 kV line to achieve a summer rating of 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%)
b3800.360	Rebuild 230 kV line No. 2054 Charlottesville - Proffit DP using double-circuit capable 500/230 kV poles. (The 500 kV circuit will not be wired as part of this project)	Dominion (100%)
b3800.361	Rebuild 230 kV line No. 233 Charlottesville - Hydraulic Road - Barracks Road - Crozet-Dooms	Dominion (100%)
b3800.362	Rebuild 230 kV line No. 291 segment from Charlottesville - Barracks Road	Dominion (100%)
b3800.363	Rebuild 230 kV line No. 291 segment from Barracks Road - Crozet	Dominion (100%)
b3800.364	Rebuild 230 kV line No. 291 segment Crozet - Dooms	Dominion (100%)
b3800.365	Hollymeade substation Relay Revision for 230 kV line No. 2054 Charlottesville - Hollymeade	Dominion (100%)
b3800.366	Upgrade the terminal equipment at 230 kV Charlottesville station to 4000A for 230 kV line No. 2054 (Charlottesville - Hollymeade)	Dominion (100%)
b3800.367	Proffit DP substation Relay revision for 230 kV line No. 2054 Charlottesville - Hollymeade	Dominion (100%)
b3800.368	Barracks Road substation relay reset to accommodate the rebuilt line 230 kV lines No. 233 and No. 291	Dominion (100%)
b3800.369	Crozet substation relay reset to accommodate the rebuilt 230 kV lines No. 233 and No. 291	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.370	Charlottesville 230 kV substation terminal equipment upgrade for 230 kV lines No. 233 and No. 291 rebuild	Dominion (100%)
b3800.371	Upgrade Hydraulic Road substation equipment for 230 kV line No. 233 and No. 291 rebuild	Dominion (100%)
b3800.372	Dooms substation terminal equipment upgrade for 230 kV line No. 233 and No. 291 rebuild	Dominion (100%)
b3800.373	Wreck and rebuild approximately 7.14 miles of 230 kV line No. 256 from St. Johns to structure 256/108 to achieve a summer rating of 1573 MVA. Line switch 25666 at St. Johns to be upgraded to 4000A	Dominion (100%)
b3800.374	Reconductor approximately 5.30 miles of 230 kV line No. 256 from Ladysmith CT to structure 256/107 to achieve a summer rating of 1573 MVA. Terminal equipment at remote end substations will be upgraded to 4000A	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.375	Construct new Woodside – Goose Creek 500 kV line for approximately 3 miles on single circuit monopole structures within the Doubs – Goose Creek corridor. (Dominion Portion)	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: (APS 9.26%) / BGE (7.30%) / Dominion (72.31%) / PEPCO (11.13%)</p>

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.401	Replace Ashburn 230 kV breaker SC432 with a breaker rated 63 kA	Dominion (100%)
b3800.402	Replace Beaumeade 230 kV breaker 227T2152 with a breaker rated 80 kA	Dominion (100%)
b3800.403	Replace BECO 230 kV breakers 215012 and H12T2150 with breakers rated 63 kA	Dominion (100%)
b3800.404	Replace Belmont 230 kV breaker 227T2180 with a breaker rated 80 kA	Dominion (100%)
b3800.405	Replace Brambleton 230 kV breakers 20102, 20602, 204502, 209402, 201T2045, 206T2094 with breakers rated 80 kA	Dominion (100%)
b3800.406	Replace Gainesville 230 kV breaker 216192 with a breaker rated 80 kA	Dominion (100%)

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3800.407	Replace Loudoun 230 kV breakers 204552, 217352 with breakers rated 80 kA	Dominion (100%)
b3800.408	Replace Ox 230 kV breakers 22042, 24342, 24842, 220T2063, 243T2097, 248T2013, H342 with breakers rated 80 kA	Dominion (100%)
b3800.409	Replace Paragon Park 230 kV breakers 208132, 215032, 2081T2206, 2150T2207 with breakers rated 80 kA	Dominion (100%)
b3800.410	Replace Reston 230 kV breaker 264T2015 with a breaker rated 63 kA	Dominion (100%)
b3800.411	Replace Stonewater 230 kV 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, 216622-5, 216622-6 with breakers rated 63 kA	Dominion (100%)
b3850.1	Rebuild approximately 13.51 miles of 500 kV Line #588 from structure 588/184 inside Yadkin substation to structure 588/254 outside of Fentress substation	Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%) <hr/> DFAX Allocation: Dominion (100%)

*Neptune Regional Transmission System, LLC

Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3850.2	Line No. 588 terminal equipment at Yadkin substation will be upgraded to a rating of 5000A. Since the new 500 kV line will be using fiber, the wave trap will be removed and the line protection scheme will be updated	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (100%)</p>
b3850.3	At Fentress substation, since the new 500 kV line will be using fiber, the wave trap will be removed and the line protection scheme will be updated	<p>Load-Ratio Share Allocation: AEC (1.58%) / AEP (13.71%) / APS (5.49%) / ATSI (7.69%) / BGE (4.16%) / ComEd (13.25%) / Dayton (2.07%) / DEOK (3.18%) / DL (1.65%) / DPL (2.57%) / Dominion (14.20%) / EKPC (2.30%) / JCPL (3.80%) / ME (1.88%) / NEPTUNE* (0.42%) / OVEC (0.06%) / PECO (5.32%) / PENELEC (1.81%) / PEPCO (3.79%) / PPL (4.58%) / PSEG (6.24%) / RE (0.25%)</p> <hr/> <p>DFAX Allocation: Dominion (100%)</p>

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Virginia Electric and Power Company (cont.)

Required Transmission Enhancements	Annual Revenue Requirement	Responsible Customer(s)
b3853.1	Replace over duty Ladysmith CT 230 kV circuit breakers SX1272 and SX3472 with an interrupting rating of 63 kA	Dominion (100%)
b3854.1	Replace over duty Carson 230 kV circuit breakers 200272 and 24972-3 with an interrupting rating of 63 kA	Dominion (100%)