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November 3, 2022

Honorable Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E., Room 1A
Washington, D.C. 20426

*Re: PJM Interconnection, L.L.C., Docket No. ER23-364-000
Revisions to Incorporate Cost Responsibility Assignments for Regional Transmission
Expansion Plan Baseline Upgrades; **30-Day Comment Period Requested***

Dear Secretary Bose:

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 16 baseline upgrades in the recent update to the Regional Transmission Expansion Plan (“RTEP”) approved by the PJM Board of Managers (“PJM Board”) on October 4, 2022.³ PJM requests that the revised Tariff sections become effective on February 1, 2023, 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 October 4, 2022, the PJM Board approved 16 baseline upgrades. The 16 new upgrades have estimated costs resulting in a net increase in the amount of \$651.62 million. However, as a result of the cancellation of an existing RTEP project resulting in an \$8.79 million net decrease, the net overall increase approved by the PJM Board totaled \$642.83 million.

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

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, section (b)(viii).

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

⁷ See Tariff, Schedule 12, section (b)(viii).

on October 4, 2022.⁸ The revised Tariff sections containing new language, including new cost responsibility assignments, are reflected in redline and clean format in Attachments B and C, respectively, to this filing.⁹

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 one (1) new transmission enhancement or expansion that will operate at or above 500 kV (“Regional Facilities”) included in the most recent update to the RTEP approved by the PJM Board on October 4, 2022.¹⁰

The cost responsibility assignment for the Regional 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 are allocated on a region-wide postage stamp basis while the other 50 percent is allocated to specifically-identified beneficiaries.¹²

⁸ The new transmission enhancements or expansions included in this most recent update to the RTEP approved by the PJM Board on October 4, 2022 are not impacted by the Tariff revisions filed in Docket No. ER22-1606-000. In that docket, subject to refund and paper hearing procedures, the Commission accepted and suspended, to become effective June 11, 2022, Tariff revisions to the *de minimis* threshold as applied to the results of the solution-based distribution factor, or DFAX, methodology set forth in Tariff, Schedule 12, section (b)(iii). Such revisions revise the *de minimis* threshold such that it will not be applied to the host zone. See *PPL Electric Utilities Corp.*, 179 FERC ¶ 61,176 (2022). Additionally, the U.S. Court of Appeals for the District of Columbia Circuit recently issued an opinion that also seems to impact the *de minimis* threshold. See *Consol. Edison Co. of N.Y., Inc. v. FERC*, 45 F.4th 265 (D.C. Cir. 2022).

⁹ 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.

¹⁰ The Regional Facility included in the RTEP upgrades is b3718.3.

¹¹ *PJM Interconnection, L.L.C.*, 142 FERC ¶ 61,214, at PP 411, 448 (2013) (accepting revisions to Schedule 12 modifying the cost allocation methodologies for transmission projects included in the RTEP, effective February 1, 2013).

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”). PJM Tariff, Schedule 12(b)(i)(A)(2).

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 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 2021 peak loads.¹⁴

The Regional Facility is a reliability project; therefore, the second 50 percent of the costs of the Regional Facility is allocated using the "solution-based" distribution factor, or DFAX, methodology set forth in Tariff, Schedule 12, section (b)(iii). This 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

¹³ See PJM Tariff, Schedule 12, section (b)(i)(A).

¹⁴ See *PJM Interconnection, L.L.C.*, 2021 Annual RTEP Cost Allocation Update, Docket No. ER22-702-000 (Dec. 21, 2021) (requesting an effective date of January 1, 2022) ("2021 Update Filing"). See also *PJM Interconnection, L.L.C.*, 178 FERC ¶ 61,113 (2022) (accepting 2021 Update Filing).

transmission facilities. These distribution factors represent a measure of the relative use 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 Costing More 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 Thirteen enhancements or expansions¹⁷ included in this filing, approved by the PJM Board on October 4, 2022, are Lower Voltage Facilities required to address reliability needs for which PJM applied the solution-based DFAX analysis described in Tariff, Schedule 12, section (b)(iii).

3. *Cost Responsibility Assignments that Address Spare Parts, Replacement Equipment and Circuit Breakers Independently Included in the RTEP*

Tariff, Schedule 12, section (b)(iv)(C), provides that cost responsibility for circuit breakers and associated equipment 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 breakers and associated equipment, if the owner of the circuit breakers and associated equipment is a Transmission Owner listed in Tariff, Attachment J. PJM proposes revisions to Tariff, Schedule 12-Appendix A to include cost

¹⁵ See PJM Tariff, Schedule 12, section (b)(iii).

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

¹⁷ The Lower Voltage Facilities include the following: b3717.1; b3717.2; b3718.1; b3718.2; b3718.4; b3718.5; b3718.6; b3718.7; b3718.8; b3718.9; b3718.10; b3718.13; and b3718.14.

responsibility assignment for two (2) circuit breakers and associated equipment independently included in the RTEP that are not part of the design specifications of a transmission element of a Required Transmission Enhancement.¹⁸ Therefore, consistent with Tariff, Schedule 12, section (b)(iv)(C), cost responsibility for such enhancements shall be allocated 100 percent to the zone of the Transmission Owner of the circuit breaker and associated equipment.

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 October 4, 2022. 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.

II. COMMENT PERIOD

Tariff, Schedule 12, section (b)(viii) provides that customers designated to be responsible for assignments of cost responsibility shall have 30 days from the date of such filing to seek review regarding the proposed cost responsibility assignments. Consistent with this provision, PJM requests that the comment date for this filing be set as December 5, 2022, 30 days from the date of this filing.¹⁹ To accommodate such a comment date, PJM requests an effective date of

¹⁸ The enhancements and expansions allocated pursuant to Tariff, Schedule 12, section (b)(iv) include the following: b3718.11 and b3718.12.

¹⁹ Thirty days from today's date is Saturday, December 3, 2022. PJM requests that the Commission establish the comment deadline on the next business day, which is Monday, December 5, 2022. *See* 18 C.F.R. § 385.2007(a)(2) (2022).

February 1, 2023 (90 days from the date of this filing) for all revised Tariff sections submitted in this docket.²⁰

III. 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); and
4. Attachment C – Revised Tariff, Schedule 12-Appendix A (in clean form).

IV. CORRESPONDENCE AND COMMUNICATIONS

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

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²⁰ See, e.g., *PJM Interconnection, L.L.C.*, Errata Notice of Extending Comment Period, Docket No. ER22-788-000 (Jan. 13, 2022) (granting extension of time for filing protests or comments to accommodate Tariff, Schedule 12 of the PJM Tariff); *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. 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,²¹ PJM will post a copy of this filing to the FERC filings section of its internet site, located at the following link: <http://www.pjm.com/documents/ferc-manuals/fercfilings.aspx> 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 Region²² 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.

²¹ See 18 C.F.R. §§ 35.2(e) and 385.2010(f)(3) (2022).

²² PJM already maintains, updates and regularly uses e-mail lists for all PJM Members and affected state commissions.

VI. CONCLUSION

For the reasons set forth above, PJM respectfully requests that the Commission issue an order accepting the revised Tariff sections to be effective on February 1, 2023.

Respectfully submitted,

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Attachment A

Cost Responsibility Assignment Summary Sheets

Baseline Upgrade b3717.1

- Overview of Reliability Problem
 - Criteria Violation: Overload of Collier - Erwin #1 and #2 138 kV lines, Forbes - Oakland 138 kV line, Carson - Oakland 138 kV line
 - Contingency: Multiple contingencies
 - Criteria Test: N-1-1 Thermal
- Overview of Reliability Solution
 - Description of Upgrade: Install a series reactor on Cheswick - Springdale 138 kV line
 - Required Upgrade In-Service Date: December 31, 2024
 - Estimated Upgrade Cost: \$ 9.00 M
 - Construction Responsibility: DL
- Cost Allocation
 - Only DL zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated 100% to DL

Baseline Upgrade b3717.2

- Overview of Reliability Problem
 - Criteria Violation: Overload of Collier - Erwin #1 and #2 138 kV lines, Forbes - Oakland 138 kV line, Carson - Oakland 138 kV line
 - Contingency: Multiple contingencies
 - Criteria Test: N-1-1 Thermal
- Overview of Reliability Solution
 - Description of Upgrade: Replace four structures and reconductor Duquesne Light Company's portion of Plum-Springdale 138 kV line. Associated communication and relay setting changes are also needed at Plum and Cheswick
 - Required Upgrade In-Service Date: December 31, 2024
 - Estimated Upgrade Cost: \$ 15.00 M
 - Construction Responsibility: DL
- Cost Allocation
 - Only DL zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated 100% to DL

Baseline Upgrade b3718.1

- Overview of Reliability Problem
 - Criteria Violation: Multiple overloads in the Data Center Alley area
 - Contingency: N-1 and N-1-1 contingencies
 - Criteria Test: N-1 and N-1-1 Summer 2025

- Overview of Reliability Solution
 - Description of Upgrade: 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
 - Required Upgrade In-Service Date: June 01, 2025
 - Estimated Upgrade Cost: \$ 111.28 M
 - Construction Responsibility: Dominion

- Cost Allocation
 - No zone except Dominion has greater than 1% distribution factor. The cost for this baseline upgrade is allocated 100% to Dominion

Baseline Upgrade b3718.2

- Overview of Reliability Problem
 - Criteria Violation: Multiple overloads in the Data Center Alley area
 - Contingency: N-1 and N-1-1 contingencies
 - Criteria Test: N-1 and N-1-1 Summer 2025

- Overview of Reliability Solution
 - Description of Upgrade: Install one 500/230 kV 1440 MVA transformer at a new substation called Mars near Dulles International Airport
 - Required Upgrade In-Service Date: June 01, 2025
 - Estimated Upgrade Cost: \$ 114.04 M
 - Construction Responsibility: Dominion

- Cost Allocation
 - No zone except Dominion has greater than 1% distribution factor. The cost for this baseline upgrade is allocated 100% to Dominion

Baseline Upgrade b3718.3

- Overview of Reliability Problem
 - Criteria Violation: Multiple overloads in the Data Center Alley area
 - Contingency: N-1 and N-1-1 contingencies
 - Criteria Test: N-1 and N-1-1 Summer 2025

- Overview of Reliability Solution
 - Description of Upgrade: 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
 - Required Upgrade In-Service Date: June 01, 2025
 - Estimated Upgrade Cost: \$ 267.00 M
 - Construction Responsibility: Dominion

- Cost Allocation
 - The cost for this upgrade is allocated 50% using the solution-based DFAX methodology and 50% using the load ratio share cost allocation methodology.

Transmission Zone	Planned Load (MW)	DFAX	%Flow	DFAX Allocation
Dominion	23,681	3.21%	*	100.00%

*Direction flow is not needed due only one zone has DFAX higher than threshold

Transmission Zone	2021 Peak Load (MW)	2022 Load Ratio Allocation (%)
AEC	2,631	1.67%
AEP	21,925	13.94%
APS	8,865	5.64%
ATSI	12,604	8.02%
BGE	6,486	4.12%
ComEd	21,167	13.46%
Dayton	3,330	2.12%
DEOK	5,306	3.37%
DL	2,759	1.76%
Dominion	20,405	12.97%
DPL	4,006	2.55%
EKPC	2,851	1.81%
JCPL	6,169	3.92%
ME	3,072	1.95%
NEPTUNE*	382.6	0.24%
OVEC	106	0.07%
PECO	8,479	5.39%
PENELEC	2,900	1.84%
PEPCO	5,829	3.71%
PPL	7,517	4.78%
PSEG	10,064	6.40%
RE	427.4	0.27%

Baseline Upgrade b3718.4

- Overview of Reliability Problem
 - Criteria Violation: Overload of 230 kV Line #2214 (Buttermilk - Roundtable)
 - Contingency: N-1 contingency
 - Criteria Test: N-1, Generator Deliverability Summer 2025

- Overview of Reliability Solution
 - Description of Upgrade: Reconductor approximately 0.62 mile of 230 kV Line #2214 (Buttermilk - Roundtable) to achieve a summer rating of 1574 MVA
 - Required Upgrade In-Service Date: June 01, 2025
 - Estimated Upgrade Cost: \$ 4.79 M
 - Construction Responsibility: Dominion

- Cost Allocation
 - No zone except Dominion has greater than 1% distribution factor. The cost for this baseline upgrade is allocated 100% to Dominion

Baseline Upgrade b3718.5

- Overview of Reliability Problem
 - Criteria Violation: Overload of 230 kV Line #2031 (Enterprise - Greenway - Roundtable)
 - Contingency: N-1 contingency
 - Criteria Test: N-1, Generator Deliverability Summer 2025
- Overview of Reliability Solution
 - Description of Upgrade: Reconductor approximately 1.52 miles of 230 kV Line #2031 (Enterprise – Greenway - Roundtable) to achieve a summer rating of 1574 MVA
 - Required Upgrade In-Service Date: June 01, 2025
 - Estimated Upgrade Cost: \$ 5.89 M
 - Construction Responsibility: Dominion
- Cost Allocation
 - No zone except Dominion has greater than 1% distribution factor. The cost for this baseline upgrade is allocated 100% to Dominion

Baseline Upgrade b3718.6

- Overview of Reliability Problem
 - Criteria Violation: Overload of 230 kV Line #2186 (Enterprise - Shellhorn)
 - Contingency: N-1 contingency
 - Criteria Test: N-1, Generator Deliverability Summer 2025

- Overview of Reliability Solution
 - Description of Upgrade: Reconductor approximately 0.64 mile of 230 kV Line #2186 (Enterprise - Shellhorn) to achieve a summer rating of 1574 MVA
 - Required Upgrade In-Service Date: June 01, 2025
 - Estimated Upgrade Cost: \$ 3.96 M
 - Construction Responsibility: Dominion

- Cost Allocation
 - No zone except Dominion has greater than 1% distribution factor. The cost for this baseline upgrade is allocated 100% to Dominion

Baseline Upgrade b3718.7

- Overview of Reliability Problem
 - Criteria Violation: Overload of 230 kV Line #2188 (Lockridge – Greenway - Shellhorn)
 - Contingency: N-1 contingency
 - Criteria Test: N-1, Generator Deliverability Summer 2025

- Overview of Reliability Solution
 - Description of Upgrade: Reconductor approximately 2.17 miles of 230 kV Line #2188 (Lockridge – Greenway - Shellhorn) to achieve a summer rating of 1574 MVA
 - Required Upgrade In-Service Date: June 01, 2025
 - Estimated Upgrade Cost: \$ 3.80 M
 - Construction Responsibility: Dominion

- Cost Allocation
 - No zone except Dominion has greater than 1% distribution factor. The cost for this baseline upgrade is allocated 100% to Dominion

Baseline Upgrade b3718.8

- Overview of Reliability Problem
 - Criteria Violation: Overload of 230 kV Line #2223 (Lockridge - Roundtable)
 - Contingency: N-1 contingency
 - Criteria Test: N-1, Generator Deliverability Summer 2025

- Overview of Reliability Solution
 - Description of Upgrade: Reconductor approximately 0.84 mile of 230 kV Line #2223 (Lockridge - Roundtable) to achieve a summer rating of 1574 MVA
 - Required Upgrade In-Service Date: June 01, 2025
 - Estimated Upgrade Cost: \$ 2.59 M
 - Construction Responsibility: Dominion

- Cost Allocation
 - No zone except Dominion has greater than 1% distribution factor. The cost for this baseline upgrade is allocated 100% to Dominion

Baseline Upgrade b3718.9

- Overview of Reliability Problem
 - Criteria Violation: Overload of 230 kV Line #2218 (Sojourner – Runway - Shellhorn)
 - Contingency: N-1 contingency
 - Criteria Test: N-1, Generator Deliverability Summer 2025

- Overview of Reliability Solution
 - Description of Upgrade: Reconductor approximately 3.98 miles of 230 kV Line #2218 (Sojourner – Runway - Shellhorn) to achieve a summer rating of 1574 MVA
 - Required Upgrade In-Service Date: June 01, 2025
 - Estimated Upgrade Cost: \$ 6.51 M
 - Construction Responsibility: Dominion

- Cost Allocation
 - No zone except Dominion has greater than 1% distribution factor. The cost for this baseline upgrade is allocated 100% to Dominion

Baseline Upgrade b3718.10

- Overview of Reliability Problem
 - Criteria Violation: Overload of 230 kV Line #9349 (Sojourner - Mars)
 - Contingency: N-1 contingency
 - Criteria Test: N-1, Generator Deliverability Summer 2025

- Overview of Reliability Solution
 - Description of Upgrade: Reconductor approximately 1.61 miles of 230 kV Line #9349 (Sojourner - Mars) to achieve a summer rating of 1574 MVA
 - Required Upgrade In-Service Date: June 01, 2025
 - Estimated Upgrade Cost: \$ 1.43 M
 - Construction Responsibility: Dominion

- Cost Allocation
 - No zone except Dominion has greater than 1% distribution factor. The cost for this baseline upgrade is allocated 100% to Dominion

Baseline Upgrade b3718.11

- Overview of Reliability Problem
 - Criteria Violation: Terminal equipment limitation of breakers on either end of 500 kV Line #502
 - Contingency: N-1 contingency
 - Criteria Test: Generator Deliverability Summer 2025
- Overview of Reliability Solution
 - Description of Upgrade: Upgrade 4 - 500 kV breakers (total) to 63 kA on either end of 500 kV Line #502 (Loudoun - Mosby)
 - Required Upgrade In-Service Date: June 01, 2025
 - Estimated Upgrade Cost: \$ 6.27 M
 - Construction Responsibility: Dominion
- Cost Allocation
 - The cost for this baseline upgrade is allocated 100% to Dominion

Baseline Upgrade b3718.12

- Overview of Reliability Problem
 - Criteria Violation: Terminal equipment limitation of breakers on either end of 500 kV Line #584
 - Contingency: N-1 contingency
 - Criteria Test: Generator Deliverability Summer 2025
- Overview of Reliability Solution
 - Description of Upgrade: Upgrade 4 - 500 kV breakers (total) to 63 kA on either end of 500 kV Line #584 (Loudoun - Mosby)
 - Required Upgrade In-Service Date: June 01, 2025
 - Estimated Upgrade Cost: \$ 6.38 M
 - Construction Responsibility: Dominion
- Cost Allocation
 - The cost for this baseline upgrade is allocated 100% to Dominion

Baseline Upgrade b3718.13

- Overview of Reliability Problem
 - Criteria Violation: >300 MW load loss
 - Contingency: N-1-1 contingency
 - Criteria Test: N-1-1 Summer 2025

- Overview of Reliability Solution
 - Description of Upgrade: Cut and loop 230 kV Line #2079 (Sterling Park - Dranesville) into Davis Drive substation and install two GIS 230 kV breakers
 - Required Upgrade In-Service Date: June 01, 2025
 - Estimated Upgrade Cost: \$ 15.00 M
 - Construction Responsibility: Dominion

- Cost Allocation
 - No zone has greater than 1% distribution factor. The cost for this baseline upgrade is allocated 100% to Dominion

Baseline Upgrade b3718.14

- Overview of Reliability Problem
 - Criteria Violation: Multiple thermal overloads in the Data Center Alley area
 - Contingency: N-1 and N-1-1 contingencies
 - Criteria Test: N-1 and N-1-1 Summer 2025

- Overview of Reliability Solution
 - Description of Upgrade: 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
 - Required Upgrade In-Service Date: June 01, 2025
 - Estimated Upgrade Cost: \$ 78.68 M
 - Construction Responsibility: Dominion

- Cost Allocation
 - No zone except Dominion has greater than 1% distribution factor. The cost for this baseline upgrade is allocated 100% to Dominion

Attachment B

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

(Marked / Redline Format)

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	APS (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

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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		DL (100%)
b3340		DL (100%)
<u>b3717.1</u>		<u>DL (100%)</u>
<u>b3717.2</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	<p>Load-Ratio Share Allocation: AEC (1.67%) / AEP (13.94%) / APS (5.64%) / ATSI (8.02%) / BGE (4.12%) / ComEd (13.46%) / Dayton (2.12%) / DEOK (3.37%) / DL (1.76%) / DPL (2.55%) / Dominion (12.97%) / EKPC (1.81%) / JCPL (3.92%) / ME (1.95%) / NEPTUNE* (0.24%) / OVEC (0.07%) / PECO (5.39%) / PENELEC (1.84%) / PEPCO (3.71%) / PPL (4.78%) / PSEG (6.40%) / RE (0.27%)</p> <p>DFAX Allocation: APS (20.07%) / Dominion (79.93%)</p>
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%) / PEPSCO (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%) / PEPSCO (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	<p>Load-Ratio Share Allocation: AEC (1.67%) / AEP (13.94%) / APS (5.64%) / ATSI (8.02%) / BGE (4.12%) / ComEd (13.46%) / Dayton (2.12%) / DEOK (3.37%) / DL (1.76%) / DPL (2.55%) / Dominion (12.97%) / EKPC (1.81%) / JCPL (3.92%) / ME (1.95%) / NEPTUNE* (0.24%) / OVEC (0.07%) / PECO (5.39%) / PENELEC (1.84%) / PEPCO (3.71%) / PPL (4.78%) / PSEG (6.40%) / RE (0.27%)</p> <p>DFAX Allocation: Dominion (100%)</p>
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	<p>Load-Ratio Share Allocation: AEC (1.67%) / AEP (13.94%) / APS (5.64%) / ATSI (8.02%) / BGE (4.12%) / ComEd (13.46%) / Dayton (2.12%) / DEOK (3.37%) / DL (1.76%) / DPL (2.55%) / Dominion (12.97%) / EKPC (1.81%) / JCPL (3.92%) / ME (1.95%) / NEPTUNE* (0.24%) / OVEC (0.07%) / PECO (5.39%) / PENELEC (1.84%) / PEPCO (3.71%) / PPL (4.78%) / PSEG (6.40%) / RE (0.27%)</p> <p>DFAX Allocation: BGE (6.10%) / Dominion (84.49%) / PEPCO (9.41%)</p>
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%)
b2654.3	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	<p>Load-Ratio Share Allocation: AEC (1.67%) / AEP (13.94%) / APS (5.64%) / ATSI (8.02%) / BGE (4.12%) / ComEd (13.46%) / Dayton (2.12%) / DEOK (3.37%) / DL (1.76%) / DPL (2.55%) / Dominion (12.97%) / EKPC (1.81%) / JCPL (3.92%) / ME (1.95%) / NEPTUNE* (0.24%) / OVEC (0.07%) / PECO (5.39%) / PENELEC (1.84%) / PEPCO (3.71%) / PPL (4.78%) / PSEG (6.40%) / RE (0.27%)</p> <p>DFAX Allocation: Dominion (72.18%) / PEPCO (27.82%)</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	<p>Load-Ratio Share Allocation: AEC (1.67%) / AEP (13.94%) / APS (5.64%) / ATSI (8.02%) / BGE (4.12%) / ComEd (13.46%) / Dayton (2.12%) / DEOK (3.37%) / DL (1.76%) / DPL (2.55%) / Dominion (12.97%) / EKPC (1.81%) / JCPL (3.92%) / ME (1.95%) / NEPTUNE* (0.24%) / OVEC (0.07%) / PECO (5.39%) / PENELEC (1.84%) / PEPCO (3.71%) / PPL (4.78%) / PSEG (6.40%) / RE (0.27%)</p> <p>DFAX Allocation: Dominion (94.47%) / EKPC (0.22%) / PEPCO (5.31%)</p>
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 MVar Statcom at Colington 230 kV	Dominion (100%)
b2758	Rebuild Line #549 Dooms – Valley 500 kV	<p>Load-Ratio Share Allocation: AEC (1.67%) / AEP (13.94%) / APS (5.64%) / ATSI (8.02%) / BGE (4.12%) / ComEd (13.46%) / Dayton (2.12%) / DEOK (3.37%) / DL (1.76%) / DPL (2.55%) / Dominion (12.97%) / EKPC (1.81%) / JCPL (3.92%) / ME (1.95%) / NEPTUNE* (0.24%) / OVEC (0.07%) / PECO (5.39%) / PENELEC (1.84%) / PEPCO (3.71%) / PPL (4.78%) / PSEG (6.40%) / RE (0.27%)</p> <p>DFAX Allocation: Dominion (100%)</p>
b2759	Rebuild Line #550 Mt. Storm – Valley 500 kV	<p>Load-Ratio Share Allocation: AEC (1.67%) / AEP (13.94%) / APS (5.64%) / ATSI (8.02%) / BGE (4.12%) / ComEd (13.46%) / Dayton (2.12%) / DEOK (3.37%) / DL (1.76%) / DPL (2.55%) / Dominion (12.97%) / EKPC (1.81%) / JCPL (3.92%) / ME (1.95%) / NEPTUNE* (0.24%) / OVEC (0.07%) / PECO (5.39%) / PENELEC (1.84%) / PEPCO (3.71%) / PPL (4.78%) / PSEG (6.40%) / RE (0.27%)</p> <p>DFAX Allocation: APS (87.50%) / ATSI (0.37%) / DL (0.19%) / Dominion (1.04%) / EKPC (10.90%)</p>

*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	<p>Load-Ratio Share Allocation: AEC (1.67%) / AEP (13.94%) / APS (5.64%) / ATSI (8.02%) / BGE (4.12%) / ComEd (13.46%) / Dayton (2.12%) / DEOK (3.37%) / DL (1.76%) / DPL (2.55%) / Dominion (12.97%) / EKPC (1.81%) / JCPL (3.92%) / ME (1.95%) / NEPTUNE* (0.24%) / OVEC (0.07%) / PECO (5.39%) / PENELEC (1.84%) / PEPCO (3.71%) / PPL (4.78%) / PSEG (6.40%) / RE (0.27%)</p> <p>DFAX Allocation: Dominion (100%)</p>
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 (1.67%) / AEP (13.94%) / APS (5.64%) / ATSI (8.02%) / BGE (4.12%) / ComEd (13.46%) / Dayton (2.12%) / DEOK (3.37%) / DL (1.76%) / DPL (2.55%) / Dominion (12.97%) / EKPC (1.81%) / JCPL (3.92%) / ME (1.95%) / NEPTUNE* (0.24%) / OVEC (0.07%) / PECO (5.39%) / PENELEC (1.84%) / PEPCO (3.71%) / PPL (4.78%) / PSEG (6.40%) / RE (0.27%)</p> <p>DFAX Allocation: DEOK (1.39%) / Dominion (21.26%) / EKPC (0.82%) / PEPCO (76.53%)</p>

*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	<p>Load-Ratio Share Allocation: AEC (1.67%) / AEP (13.94%) / APS (5.64%) / ATSI (8.02%) / BGE (4.12%) / ComEd (13.46%) / Dayton (2.12%) / DEOK (3.37%) / DL (1.76%) / DPL (2.55%) / Dominion (12.97%) / EKPC (1.81%) / JCPL (3.92%) / ME (1.95%) / NEPTUNE* (0.24%) / OVEC (0.07%) / PECO (5.39%) / PENELEC (1.84%) / PEPCO (3.71%) / PPL (4.78%) / PSEG (6.40%) / RE (0.27%)</p> <p>DFAX Allocation: DEOK (20.11%) / Dominion (67.22%) / EKPC (9.17%) / PEPCO (3.50%)</p>
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 (1.67%) / AEP (13.94%) / APS (5.64%) / ATSI (8.02%) / BGE (4.12%) / ComEd (13.46%) / Dayton (2.12%) / DEOK (3.37%) / DL (1.76%) / DPL (2.55%) / Dominion (12.97%) / EKPC (1.81%) / JCPL (3.92%) / ME (1.95%) / NEPTUNE* (0.24%) / OVEC (0.07%) / PECO (5.39%) / PENELEC (1.84%) / PEPCO (3.71%) / PPL (4.78%) / PSEG (6.40%) / RE (0.27%)</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	<p>Load-Ratio Share Allocation: AEC (1.67%) / AEP (13.94%) / APS (5.64%) / ATSI (8.02%) / BGE (4.12%) / ComEd (13.46%) / Dayton (2.12%) / DEOK (3.37%) / DL (1.76%) / DPL (2.55%) / Dominion (12.97%) / EKPC (1.81%) / JCPL (3.92%) / ME (1.95%) / NEPTUNE* (0.24%) / OVEC (0.07%) / PECO (5.39%) / PENELEC (1.84%) / PEPCO (3.71%) / PPL (4.78%) / PSEG (6.40%) / RE (0.27%)</p> <p>DFAX Allocation: Dominion (93.48%) / PEPCO (6.52%)</p>
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 (1.67%) / AEP (13.94%) / APS (5.64%) / ATSI (8.02%) / BGE (4.12%) / ComEd (13.46%) / Dayton (2.12%) / DEOK (3.37%) / DL (1.76%) / DPL (2.55%) / Dominion (12.97%) / EKPC (1.81%) / JCPL (3.92%) / ME (1.95%) / NEPTUNE* (0.24%) / OVEC (0.07%) / PECO (5.39%) / PENELEC (1.84%) / PEPCO (3.71%) / PPL (4.78%) / PSEG (6.40%) / RE (0.27%)</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 (1.67%) / AEP (13.94%) / APS (5.64%) / ATSI (8.02%) / BGE (4.12%) / ComEd (13.46%) / Dayton (2.12%) / DEOK (3.37%) / DL (1.76%) / DPL (2.55%) / Dominion (12.97%) / EKPC (1.81%) / JCPL (3.92%) / ME (1.95%) / NEPTUNE* (0.24%) / OVEC (0.07%) / PECO (5.39%) / PENELEC (1.84%) / PEPCO (3.71%) / PPL (4.78%) / PSEG (6.40%) / RE (0.27%)</p> <p>DFAX Allocation: Dominion (100%)</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 (1.67%) / AEP (13.94%) / APS (5.64%) / ATSI (8.02%) / BGE (4.12%) / ComEd (13.46%) / Dayton (2.12%) / DEOK (3.37%) / DL (1.76%) / DPL (2.55%) / Dominion (12.97%) / EKPC (1.81%) / JCPL (3.92%) / ME (1.95%) / NEPTUNE* (0.24%) / OVEC (0.07%) / PECO (5.39%) / PENELEC (1.84%) / PEPCO (3.71%) / PPL (4.78%) / PSEG (6.40%) / RE (0.27%)</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 Brems 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%)

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	<p>Load-Ratio Share Allocation: AEC (1.67%) / AEP (13.94%) / APS (5.64%) / ATSI (8.02%) / BGE (4.12%) / ComEd (13.46%) / Dayton (2.12%) / DEOK (3.37%) / DL (1.76%) / DPL (2.55%) / Dominion (12.97%) / EKPC (1.81%) / JCPL (3.92%) / ME (1.95%) / NEPTUNE* (0.24%) / OVEC (0.07%) / PECO (5.39%) / PENELEC (1.84%) / PEPSCO (3.71%) / PPL (4.78%) / PSEG (6.40%) / RE (0.27%)</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)
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	<p>Load-Ratio Share Allocation: AEC (1.67%) / AEP (13.94%) / APS (5.64%) / ATSI (8.02%) / BGE (4.12%) / ComEd (13.46%) / Dayton (2.12%) / DEOK (3.37%) / DL (1.76%) / DPL (2.55%) / Dominion (12.97%) / EKPC (1.81%) / JCPL (3.92%) / ME (1.95%) / NEPTUNE* (0.24%) / OVEC (0.07%) / PECO (5.39%) / PENELEC (1.84%) / PEPCO (3.71%) / PPL (4.78%) / PSEG (6.40%) / RE (0.27%)</p> <p>DFAX Allocation: Dominion (100%)</p>
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)	<p>Dominion (100%)</p>

*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%)
<u>b3718.1</u>	<u>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</u>	<u>Dominion (100%)</u>

*Neptune Regional Transmission System, LLC

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

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Virginia Electric and Power Company (cont.)

<u>Required Transmission Enhancements</u>	<u>Annual Revenue Requirement</u>	<u>Responsible Customer(s)</u>
<u>b3718.2</u>	<u>Install one 500/230 kV 1440 MVA transformer at a new substation called Mars near Dulles International Airport</u>	<u>Dominion (100%)</u>
<u>b3718.3</u>	<u>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</u>	<p><u>Load-Ratio Share Allocation:</u> <u>AEC (1.67%) / AEP (13.94%) / APS (5.64%) / ATSI (8.02%) / BGE (4.12%) / ComEd (13.46%) / Dayton (2.12%) / DEOK (3.37%) / DL (1.76%) / DPL (2.55%) / Dominion (12.97%) / EKPC (1.81%) / JCPL (3.92%) / ME (1.95%) / NEPTUNE* (0.24%) / OVEC (0.07%) / PECO (5.39%) / PENELEC (1.84%) / PEPSCO (3.71%) / PPL (4.78%) / PSEG (6.40%) / RE (0.27%)</u></p> <p><u>DFAX Allocation:</u> <u>Dominion (100%)</u></p>
<u>b3718.4</u>	<u>Reconductor approximately 0.62 mile of 230 kV Line #2214 (Buttermilk - Roundtable) to achieve a summer rating of 1574 MVA</u>	<u>Dominion (100%)</u>
<u>b3718.5</u>	<u>Reconductor approximately 1.52 miles of 230 kV Line #2031 (Enterprise – Greenway - Roundtable) to achieve a summer rating of 1574 MVA</u>	<u>Dominion (100%)</u>
<u>b3718.6</u>	<u>Reconductor approximately 0.64 mile of 230 kV Line #2186 (Enterprise - Shellhorn) to achieve a summer rating of 1574 MVA</u>	<u>Dominion (100%)</u>
<u>b3718.7</u>	<u>Reconductor approximately 2.17 miles of 230 kV Line #2188 (Lockridge – Greenway - Shellhorn) to achieve a summer rating of 1574 MVA</u>	<u>Dominion (100%)</u>
<u>b3718.8</u>	<u>Reconductor approximately 0.84 mile of 230 kV Line #2223 (Lockridge - Roundtable) to achieve a summer rating of 1574 MVA</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>b3718.9</u>	<u>Reconductor approximately 3.98 miles of 230 kV Line #2218 (Sojourner – Runway - Shellhorn) to achieve a summer rating of 1574 MVA</u>	<u>Dominion (100%)</u>
<u>b3718.10</u>	<u>Reconductor approximately 1.61 miles of 230 kV Line #9349 (Sojourner - Mars) to achieve a summer rating of 1574 MVA</u>	<u>Dominion (100%)</u>
<u>b3718.11</u>	<u>Upgrade 4 - 500 kV breakers (total) to 63 kA on either end of 500 kV Line #502 (Loudoun - Mosby)</u>	<u>Dominion (100%)</u>
<u>b3718.12</u>	<u>Upgrade 4 - 500 kV breakers (total) to 63 kA on either end of 500 kV Line #584 (Loudoun - Mosby)</u>	<u>Dominion (100%)</u>
<u>b3718.13</u>	<u>Cut and loop 230 kV Line #2079 (Sterling Park - Dranesville) into Davis Drive substation and install two GIS 230 kV breakers</u>	<u>Dominion (100%)</u>
<u>b3718.14</u>	<u>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</u>	<u>Dominion (100%)</u>

Attachment C

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

(Clean Format)

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	APS (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%)
b3717.1	Install a series reactor on Cheswick - Springdale 138 kV line	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%)

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 (1.67%) / AEP (13.94%) / APS (5.64%) / ATSI (8.02%) / BGE (4.12%) / ComEd (13.46%) / Dayton (2.12%) / DEOK (3.37%) / DL (1.76%) / DPL (2.55%) / Dominion (12.97%) / EKPC (1.81%) / JCPL (3.92%) / ME (1.95%) / NEPTUNE* (0.24%) / OVEC (0.07%) / PECO (5.39%) / PENELEC (1.84%) / PEPCO (3.71%) / PPL (4.78%) / PSEG (6.40%) / RE (0.27%)
		DFAX Allocation: APS (20.07%) / Dominion (79.93%)
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	<p>Load-Ratio Share Allocation: AEC (1.67%) / AEP (13.94%) / APS (5.64%) / ATSI (8.02%) / BGE (4.12%) / ComEd (13.46%) / Dayton (2.12%) / DEOK (3.37%) / DL (1.76%) / DPL (2.55%) / Dominion (12.97%) / EKPC (1.81%) / JCPL (3.92%) / ME (1.95%) / NEPTUNE* (0.24%) / OVEC (0.07%) / PECO (5.39%) / PENELEC (1.84%) / PEPCO (3.71%) / PPL (4.78%) / PSEG (6.40%) / RE (0.27%)</p> <p>DFAX Allocation: Dominion (100%)</p>
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	<p>Load-Ratio Share Allocation: AEC (1.67%) / AEP (13.94%) / APS (5.64%) / ATSI (8.02%) / BGE (4.12%) / ComEd (13.46%) / Dayton (2.12%) / DEOK (3.37%) / DL (1.76%) / DPL (2.55%) / Dominion (12.97%) / EKPC (1.81%) / JCPL (3.92%) / ME (1.95%) / NEPTUNE* (0.24%) / OVEC (0.07%) / PECO (5.39%) / PENELEC (1.84%) / PEPCO (3.71%) / PPL (4.78%) / PSEG (6.40%) / RE (0.27%)</p> <p>DFAX Allocation: BGE (6.10%) / Dominion (84.49%) / PEPCO (9.41%)</p>
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	
b2623	Rebuild Line #4 between Bremono and Structure 8474 (4.5 miles) to current standards with a summer emergency rating of 261 MVA at 115 kV	
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	
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	
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	
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	

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%)
b2654.3	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	<p>Load-Ratio Share Allocation: AEC (1.67%) / AEP (13.94%) / APS (5.64%) / ATSI (8.02%) / BGE (4.12%) / ComEd (13.46%) / Dayton (2.12%) / DEOK (3.37%) / DL (1.76%) / DPL (2.55%) / Dominion (12.97%) / EKPC (1.81%) / JCPL (3.92%) / ME (1.95%) / NEPTUNE* (0.24%) / OVEC (0.07%) / PECO (5.39%) / PENELEC (1.84%) / PEPCO (3.71%) / PPL (4.78%) / PSEG (6.40%) / RE (0.27%)</p> <p>DFAX Allocation: Dominion (72.18%) / PEPCO (27.82%)</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%)

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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	<p>Load-Ratio Share Allocation: AEC (1.67%) / AEP (13.94%) / APS (5.64%) / ATSI (8.02%) / BGE (4.12%) / ComEd (13.46%) / Dayton (2.12%) / DEOK (3.37%) / DL (1.76%) / DPL (2.55%) / Dominion (12.97%) / EKPC (1.81%) / JCPL (3.92%) / ME (1.95%) / NEPTUNE* (0.24%) / OVEC (0.07%) / PECO (5.39%) / PENELEC (1.84%) / PEPCO (3.71%) / PPL (4.78%) / PSEG (6.40%) / RE (0.27%)</p> <p>DFAX Allocation: Dominion (94.47%) / EKPC (0.22%) / PEPCO (5.31%)</p>
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 Doods – Valley 500 kV	<p>Load-Ratio Share Allocation: AEC (1.67%) / AEP (13.94%) / APS (5.64%) / ATSI (8.02%) / BGE (4.12%) / ComEd (13.46%) / Dayton (2.12%) / DEOK (3.37%) / DL (1.76%) / DPL (2.55%) / Dominion (12.97%) / EKPC (1.81%) / JCPL (3.92%) / ME (1.95%) / NEPTUNE* (0.24%) / OVEC (0.07%) / PECO (5.39%) / PENELEC (1.84%) / PEPCO (3.71%) / PPL (4.78%) / PSEG (6.40%) / RE (0.27%)</p> <p>DFAX Allocation: Dominion (100%)</p>
b2759	Rebuild Line #550 Mt. Storm – Valley 500 kV	<p>Load-Ratio Share Allocation: AEC (1.67%) / AEP (13.94%) / APS (5.64%) / ATSI (8.02%) / BGE (4.12%) / ComEd (13.46%) / Dayton (2.12%) / DEOK (3.37%) / DL (1.76%) / DPL (2.55%) / Dominion (12.97%) / EKPC (1.81%) / JCPL (3.92%) / ME (1.95%) / NEPTUNE* (0.24%) / OVEC (0.07%) / PECO (5.39%) / PENELEC (1.84%) / PEPCO (3.71%) / PPL (4.78%) / PSEG (6.40%) / RE (0.27%)</p> <p>DFAX Allocation: APS (87.50%) / ATSI (0.37%) / DL (0.19%) / Dominion (1.04%) / EKPC (10.90%)</p>

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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	<p>Load-Ratio Share Allocation: AEC (1.67%) / AEP (13.94%) / APS (5.64%) / ATSI (8.02%) / BGE (4.12%) / ComEd (13.46%) / Dayton (2.12%) / DEOK (3.37%) / DL (1.76%) / DPL (2.55%) / Dominion (12.97%) / EKPC (1.81%) / JCPL (3.92%) / ME (1.95%) / NEPTUNE* (0.24%) / OVEC (0.07%) / PECO (5.39%) / PENELEC (1.84%) / PEPCO (3.71%) / PPL (4.78%) / PSEG (6.40%) / RE (0.27%)</p> <p>DFAX Allocation: Dominion (100%)</p>
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 (1.67%) / AEP (13.94%) / APS (5.64%) / ATSI (8.02%) / BGE (4.12%) / ComEd (13.46%) / Dayton (2.12%) / DEOK (3.37%) / DL (1.76%) / DPL (2.55%) / Dominion (12.97%) / EKPC (1.81%) / JCPL (3.92%) / ME (1.95%) / NEPTUNE* (0.24%) / OVEC (0.07%) / PECO (5.39%) / PENELEC (1.84%) / PEPCO (3.71%) / PPL (4.78%) / PSEG (6.40%) / RE (0.27%)</p> <p>DFAX Allocation: DEOK (1.39%) / Dominion (21.26%) / EKPC (0.82%) / PEPCO (76.53%)</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	<p>Load-Ratio Share Allocation: AEC (1.67%) / AEP (13.94%) / APS (5.64%) / ATSI (8.02%) / BGE (4.12%) / ComEd (13.46%) / Dayton (2.12%) / DEOK (3.37%) / DL (1.76%) / DPL (2.55%) / Dominion (12.97%) / EKPC (1.81%) / JCPL (3.92%) / ME (1.95%) / NEPTUNE* (0.24%) / OVEC (0.07%) / PECO (5.39%) / PENELEC (1.84%) / PEPCO (3.71%) / PPL (4.78%) / PSEG (6.40%) / RE (0.27%)</p> <p>DFAX Allocation: DEOK (20.11%) / Dominion (67.22%) / EKPC (9.17%) / PEPCO (3.50%)</p>
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 (1.67%) / AEP (13.94%) / APS (5.64%) / ATSI (8.02%) / BGE (4.12%) / ComEd (13.46%) / Dayton (2.12%) / DEOK (3.37%) / DL (1.76%) / DPL (2.55%) / Dominion (12.97%) / EKPC (1.81%) / JCPL (3.92%) / ME (1.95%) / NEPTUNE* (0.24%) / OVEC (0.07%) / PECO (5.39%) / PENELEC (1.84%) / PEPCO (3.71%) / PPL (4.78%) / PSEG (6.40%) / RE (0.27%)</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	<p>Load-Ratio Share Allocation: AEC (1.67%) / AEP (13.94%) / APS (5.64%) / ATSI (8.02%) / BGE (4.12%) / ComEd (13.46%) / Dayton (2.12%) / DEOK (3.37%) / DL (1.76%) / DPL (2.55%) / Dominion (12.97%) / EKPC (1.81%) / JCPL (3.92%) / ME (1.95%) / NEPTUNE* (0.24%) / OVEC (0.07%) / PECO (5.39%) / PENELEC (1.84%) / PEPCO (3.71%) / PPL (4.78%) / PSEG (6.40%) / RE (0.27%)</p> <p>DFAX Allocation: Dominion (93.48%) / PEPCO (6.52%)</p>
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 (1.67%) / AEP (13.94%) / APS (5.64%) / ATSI (8.02%) / BGE (4.12%) / ComEd (13.46%) / Dayton (2.12%) / DEOK (3.37%) / DL (1.76%) / DPL (2.55%) / Dominion (12.97%) / EKPC (1.81%) / JCPL (3.92%) / ME (1.95%) / NEPTUNE* (0.24%) / OVEC (0.07%) / PECO (5.39%) / PENELEC (1.84%) / PEPCO (3.71%) / PPL (4.78%) / PSEG (6.40%) / RE (0.27%)</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 (1.67%) / AEP (13.94%) / APS (5.64%) / ATSI (8.02%) / BGE (4.12%) / ComEd (13.46%) / Dayton (2.12%) / DEOK (3.37%) / DL (1.76%) / DPL (2.55%) / Dominion (12.97%) / EKPC (1.81%) / JCPL (3.92%) / ME (1.95%) / NEPTUNE* (0.24%) / OVEC (0.07%) / PECO (5.39%) / PENELEC (1.84%) / PEPCO (3.71%) / PPL (4.78%) / PSEG (6.40%) / RE (0.27%)</p> <p>DFAX Allocation: Dominion (100%)</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 Elclick	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 (1.67%) / AEP (13.94%) / APS (5.64%) / ATSI (8.02%) / BGE (4.12%) / ComEd (13.46%) / Dayton (2.12%) / DEOK (3.37%) / DL (1.76%) / DPL (2.55%) / Dominion (12.97%) / EKPC (1.81%) / JCPL (3.92%) / ME (1.95%) / NEPTUNE* (0.24%) / OVEC (0.07%) / PECO (5.39%) / PENELEC (1.84%) / PEPCO (3.71%) / PPL (4.78%) / PSEG (6.40%) / RE (0.27%)</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%)

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	<p>Load-Ratio Share Allocation: AEC (1.67%) / AEP (13.94%) / APS (5.64%) / ATSI (8.02%) / BGE (4.12%) / ComEd (13.46%) / Dayton (2.12%) / DEOK (3.37%) / DL (1.76%) / DPL (2.55%) / Dominion (12.97%) / EKPC (1.81%) / JCPL (3.92%) / ME (1.95%) / NEPTUNE* (0.24%) / OVEC (0.07%) / PECO (5.39%) / PENELEC (1.84%) / PEPCO (3.71%) / PPL (4.78%) / PSEG (6.40%) / RE (0.27%)</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)
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	<p>Load-Ratio Share Allocation: AEC (1.67%) / AEP (13.94%) / APS (5.64%) / ATSI (8.02%) / BGE (4.12%) / ComEd (13.46%) / Dayton (2.12%) / DEOK (3.37%) / DL (1.76%) / DPL (2.55%) / Dominion (12.97%) / EKPC (1.81%) / JCPL (3.92%) / ME (1.95%) / NEPTUNE* (0.24%) / OVEC (0.07%) / PECO (5.39%) / PENELEC (1.84%) / PEPCO (3.71%) / PPL (4.78%) / PSEG (6.40%) / RE (0.27%)</p> <p>DFAX Allocation: Dominion (100%)</p>
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)	<p>Dominion (100%)</p>

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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%)
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%)

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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)
b3718.2	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	<p>Load-Ratio Share Allocation: AEC (1.67%) / AEP (13.94%) / APS (5.64%) / ATSI (8.02%) / BGE (4.12%) / ComEd (13.46%) / Dayton (2.12%) / DEOK (3.37%) / DL (1.76%) / DPL (2.55%) / Dominion (12.97%) / EKPC (1.81%) / JCPL (3.92%) / ME (1.95%) / NEPTUNE* (0.24%) / OVEC (0.07%) / PECO (5.39%) / PENELEC (1.84%) / PEPSCO (3.71%) / PPL (4.78%) / PSEG (6.40%) / RE (0.27%)</p> <p>DFAX Allocation: Dominion (100%)</p>
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%)
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%)

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Virginia Electric and Power Company (cont.)

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